CORODUR
Das Original
FÜLLDRAHT GMBH

QUALITY | EXPERIENCE | SUCCESS

CONTENT

fon +49 (0) 2154 8879 – 0 fax +49 (0) 2154 8879 – 79

	Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others	Hardness	DIN EN 14700
WORK HARDENING AUST HARDFACING	CORODUR® 200 K	0,1	0,4	6,0	19,0	8,5						R		180–200 HB hard. 400 HB	T Fe 10-200-CKNPZ
	CORODUR® 240 K	1,1	0,3	14,0	4,0	0,6						R		200–230 HB hard. 450 HB	T Fe 9-250-KNP
	CORODUR® 250 K	0,5	0,4	16,0	14,0	0,8	0,5			0,2		R		220–250 HB hard. 500 HB	T Fe 9-250-KNP
	CORODUR® 270 K	1,0	0,8	16,0	8,0				3,0			R		220–250 HB hard. 500 HB	T Fe 9-200-KNP
	CORODUR® 300	0,1	0,5	2,0	2,5		0,3					B	Ti +	280–325	HB T Fe 1-300-P
IMPACT RESISTANT APPLICATIONS	CORODUR® 310	0,14	1,0	1,0	13,0	3,5	1,2		0,2	1,5		B		43–45 HRc	T Fe 7-45-PRT
	CORODUR® 356	0,1	0,3	0,8	17,0	4,8	1,0		0,2	0,3		B		40–42 HRc	T Fe 7-40-CPT
	CORODUR® 400	0,2	0,6	2,0	3,0		0,3					B	Ti +	38–42 HRc	T Fe 1-40-P
	CORODUR® 450	0,3	0,8	1,0	4,5		0,4			0,2		B		42–45 HRc	T Fe 2-45-PT
	CORODUR® 476	0,3	0,3	0,8	16,0	4,0	1,5	1,5		1,0	1,0	B		48–50 HRc	T Z Fe 7-50-CPT
	CORODUR® 495	0,1	0,7	0,4	15,0	+	3,2	14,0				B		48–50 HRc Work hard. 53 HRc	T Z Fe 8-50-CTZW
	CORODUR® 580	0,35	0,6	2,0	6,5		1,5			0,5	1,2	B		48–52 HRc	T Fe 8-50-PT
	CORODUR® 600 TIC	1,8	1,6	1,4	7,0		1,4					B	Ti 5,0	56–58 HRc	T Fe 8-60-GP
	CORODUR® 607 TIC	2,4–3,6	+	+	6,0–10,0		1,0–2,0					B	Ti <10,0 +	58–60 HRc	T Fe 8
	CORODUR® 601	0,5	1,0	3,0	6,5		1,5			1,5	1,0	B		55–58 HRc	T Fe 6-60-PT
	CORODUR® 609	0,5	2,8	1,2	9,5	0,3						B		55–57 HRc	T Fe 8-55-CGP
	CORODUR® 710	1,4	1,0	1,0	8,0		1,0			1,0		B	B 1,0	62–65 HRc	T Z Fe 13-60 GPT
	CORODUR® 720	0,7	1,0	2,0		2,0						B	B 4,5	65–68 HR	T Fe 13-70-G
	CORODUR® 721	1,5	1,0	1,6		16,0						B	B 3,5	64–66 HRc	T Z Fe 15-65-G
	CORODUR® 733	4,0	0,8	1,5	19,0	4,0						B	B 1,5	66–68 HRc	T Z Fe 15-70-GT
	CORODUR® 760	1,4	0,7	1,3	7,0		0,8		8,0	1,0	1,2	B		55–57 HRc	T Fe 8-55-GP
	CORODUR® 766	1,4	0,9	0,9	6,5	0,8	0,2		9,0		0,3	B		57–62HRc	T Fe 8-60-GP
TOOL STEEL ALLOYS	CORODUR® WZ 30	0,14	0,6	0,9	5,6					0,2	0,2	R		50–54 HRc Heat treat. 53–55 HRc	T Fe 3-55-ST
	CORODUR® WZ 50	0,3	0,6	0,4	3,0					0,6	4,5	R		48–50 HRc Heat treat. 50–52 HRc	T Fe 3-50-ST
	CORODUR® WZ 55	0,35	0,8	1,2	3,0			2,0		0,5	7,0	R		53–56 HRc Heat treat. 56–58 HRc	T Fe 3-55-STW
	CORODUR® WZ 57	0,35	0,8	0,8	13,0		2,2	10,0		0,3	5,5	R		50–53 HRc Heat treat. 55–57 HRc	T Fe 4-60-STW
	CORODUR® WZ 59	0,5	0,6	1,2	5,0		3,5				3,5	R		57–59 HRc Heat treat. 59–61 HRc	T Fe 3-60-ST
	CORODUR® WZ 60	0,8	0,8	0,8	4,5		8,0			1,5	2,0	R		59–62 HRc Heat treat. 63–65 HRc	T Fe 4-60-ST
ABRASION RESISTANT APPLICATIONS	CORODUR® 42	1,9	1,0	1,0	28,0	3,0	0,8					R		41–44 HRc	T Fe 14-45-CGT
	CORODUR® 50	3,2	1,8	1,8	16,0							R		50–54 HRc	TZ Fe 16-50-G
	CORODUR® 51	4,5	1,2	0,4	21,0							R	B+	58–59 HRc	T Fe 15-55-G
	CORODUR® 55	4,8	1,2	0,6	29,0							R		55–59 HRc	T Fe 14-60-GC
	CORODUR® 55 Mo	5,0	1,7	0,4	27,0		1,2					R		57–60 HRc	T Fe 15-60-G
	CORODUR® 56	5,4	1,0	0,4	30,0							R	B+	58–62 HRc	T Fe 15-60-G
	CORODUR® 59	5,0	1,2	0,4	33,0							R		59–61 HRc	T Fe 14-60-GC
	CORODUR® 59 L	3,8	1,2	0,6	33,0		0,5					R		56–59 HRc	T Fe 14-60-CGT
	CORODUR® 59 XL	3,0	1,3	0,6	32,0	3,0	0,5					R		53–56 HRc	T Fe 14-55-CGT
	CORODUR® 60	5,2	1,1	0,4	22,0				7,0			R		61–63 HRc	T Fe 16-60-G
	CORODUR® 61	5,2	1,3	0,4	22,0				7,0			R	B 1,0	62–65 HRc	T Fe 15-65-G
	CORODUR® 62	5,4	1,2	0,4	29,0				3,0			R		60–63 HRc	T Fe 15-60-G
	CORODUR® 64	4,5	1,0	1,6	24,0					0,8	0,8	R	B 1,0	63–65 HRc (up to 800°C)	T Fe 16-65-GZ
	CORODUR® 65	5,2	1,0	0,4	21,0		7,0		7,0	1,0	2,0	R		63–65 HRc (up to 800°C)	T Fe 16-65-GZ
	CORODUR® 67	5,4	1,0	0,4	21,0					10,0		R		64–67 HRc	T Fe 16-65-GZ
	CORODUR® 68	5,0	0,8	0,4	38,0							R	B 2,0	66–68 HRc (up to 750°C)	T Fe 15-70-CGZ
	CORODUR® 69	5,2	0,8	0,4	32,5				5,8			R	B 1,8	64–67 HRc	T Fe 16-65-GCZ
	CORODUR® 70	5,2	1,0	0,4	27,0					6,0		R		62–65 HRc	T Fe 16-65-G
	CORODUR® 75	5,0	1,2	0,6	22,0		4,5		6,4	0,8	1,2	R		62–64 HRc (up to 700°C)	T Fe 16-65-GZ
	CORODUR® 78	5,0	1,3	0,5	16,0				6,5	6,5		R	B 1,0	64–68HRc	T Fe 16-70-GZ

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others	Hardness	DIN EN 14700	
CORODUR® 79	4,8 –5,2	0,9 –1,2		19,0 –22,0				6,5 –7,3	2,4 –2,7		R	B 1,0 –1,5	64–68HRc	T Fe 16–70–GZ	ABRASION RESISTANT APPLICATIONS
CORODUR® 80	4,0			16,0		4,0	4,0	4,0	0,7	1,5	R	B 0,9	65–68HRc up to 850°C	T Fe 16–70–GTZ	
CORODUR® 134	2,9	1,7	1,3	23,0		4,2			0,6		R		55–57HRc	T Z Fe 14–60–CGT	
CORODUR® 143	5,0	1,5	0,4	30,0				1,5			R	B 0,8	60–62HRc	T Z Fe 15–60–G	
CORODUR® 160	5,2	1,1	0,4	22,0				7,0			R	+	62–66HRc	T Fe 15–65–G	
CORODUR® 670	3,5	1,6	1,2	6,0		2,1			13,0		R		58–62HRc	Z T Fe 16–60–GZ	
CORODUR® 739	1,2			22,0	0,5	4,0		3,5		6,5	R	B 4,5	68–70HRc	T Fe 16–70–GP	
COROLIT 1	2,4	0,7	0,4	29,0			Base			11,5	<3,0		52–55 HRc	T Co 3–55–CGTZ	COBALT – BASE ALLOYS
COROLIT 6	1,1	1,0	1,0	28,0			Base			4,5	<3,0		40–43 HRc	T Co 20–55–CGTZ	
COROLIT 6 LC	0,8	1,0	0,8	28,0			Base			4,5	<3,0		36–39 HRc	T Co 2–40–CTZ	
COROLIT 6 HC	1,3	1,0	0,8	29,0			Base			4,5	<3,0		43–46 HRc	T Co 2–45–CTZ	
COROLIT 12	1,4	1,0	0,8	29,0			Base			8,0	<3,0		45–48 HRc	T Co 3–50–CTZ	
COROLIT 21	0,25	1,0	1,0	27,0	2,5	5,0	Base				<3,0		300–330 HB hard. 45 HRc	T Co 1–350–CKTZ	
COROLIT 25	0,12	0,8	1,0	20,0	10,5		Base	15,0			<3,0		250–280 HB	T Co 1–300–CKTZ	
COROLIT Forge	0,18	1,0	1,0	28,0	2,5	5,5	Base				<3,0		300–330 HB hard. 45 HRc	T Co1–300–CKTZ	
COROLOY 520 W	0,05			20,0	Bas	6,0	10,0			4,0		Ti 3, Al 2	32–35 HRc hard. up to 45 HRc	T Ni 4–40–CKPTZ	NICKEL–BASE ALLOYS
COROLOY Co	0,08			16,0	Bas	16,0	2,5		0,35	4,5	<5,0		260–280 HB hardened 420 HB	T Ni 2–250–CKNPTZ	
COROLOY SE 1/58	0,75	4,7		20,0	Bas						<5,0	B 3,2	55–60 HRc	T Ni 1–60–CGTZ	
COROLOY SE 6/40	0,35	4,5		22,0	Bas					2,0	<5,0	B 1,6	41–43 HRc	T Ni 1–45–CGTZ	
COROLOY SE 12/50	0,6	4,9		20,0	Bas	2,5					<5,0	B 2,8	50–54 HRc	T Ni 1–50–CGTZ	
COROLOY SE 21/35	0,4	4,5		20,0	Bas	2,0					<5,0	B 0,7	34–36 HRc	T Ni 1–35–CTZ	
COROLOY 182	0,01	0,3		20,0	Bas.	2,0								T Ni 6 182	
CORODUR® NIFE 36	max. 0,1	<1,0	3,0		36,0						Bas.	Cu +	140–160 HB	1.3912	CAST IRON ALLOYS
Corodur® NIFE 60/40	max. 0,1	<1,0	4,0		Bas.						40,0	Cu+	160–190 HB	NiFeC1	
CORODUR® 45–GG	2,2	3,8	0,3								Bas.		35–45 HRc anneal.	Spezial alloy	
Corocarb Ni	Ni–Si–B–Matrix + 62 % FTC (2400 HV)												Matr. 55 HRc	T Ni 20–55–CGTZ	TUNGSTEN CARBIDE
Corocarb Fe	Fe–C–W–Matrix + 62 % FTC (2400 HV)												Matr. 65 HRc	T Fe 20–65–GZ	
Corocarb Fe 40+	Alloyed Fe–Matrix + 40% FTC (2400 HV)												60 – 62 HRC	T Fe 20–65–GZ	
Corocarb CS	Ductile nickel silver matrix													C NI 20 CGTZ	
Corocarb E	FTC in Fe												55 – 58 HRC	E Fe 20–60–CG	
Corocarb Ni A	FTC in Ni–Cr–B–Si												ca. 2400 HV FTC	T Ni 20–55–CG	
CORODUR® CrMo 1	0,07	0,7	1,5	1,3		0,5					B		280–320 HB	T 121–T5K4	SPECIAL ALLOYS
CORODUR® NiCrMo22	0,06	0,6	1,6	0,4	2,2	0,5					B		280–320 HB	T FE 13–300–P	
CORODUR® 295HY	0,25	2,8	10,0	20,0			10,0				B	N +	280–300 HB Work hard. 450–500 HB	Special alloy	
CORODUR® SER	<0,1	4,5	4,8	18,0	8,5	5,5		1,0			B		46–50 HRc therm. h.. up to 56 HRc	T Fe 11–50–CHT	
CORODUR® 341	<0,1	0,3	1,6	2,6	0,6	2,5			0,4		B		39–42 HRc	T Fe 3–40–PT	
CORODUR® 356 N	0,1	0,3	0,8	17,0	4,8	1,0		0,2	0,3		B	N +	40–42 HRc	T Fe 7–40–CPT	
CORODUR® 370 N	0,05	0,6	0,5	15,5	5,2	0,5		0,2	0,3		B	N +	43–45 HRc	T Fe 7–45–CPT	
CORODUR® 502	0,3			13,5		1,5			1,5	1,2	B		48–50 HRc	T Fe 8–50–PCT	
CORODUR® 622	0,6	0,6	2,0	6,0	0,5	1,2		3,6			B		55–58 HRc	T Z Fe 6–60–PT	
CORODUR® 35	0,1	1,3	1,0	29,0							B	B 3,0	38–43 HRc	Special alloy	
CORODUR® 35 T	0,1	1,1	1,0	29,0							B	B 4,0	38–43 HRc	Special alloy	
CORODUR® 4009	0,12	0,8	1,2	14,5	+						B	Ti +	300–360 HB	T Fe 8–400–CT	
CORODUR® 4015	0,1			17,0							B		220–240 HB	T Fe 8–250–CT	
CORODUR® 4028	0,3		0,8	14,0	0,4						B		46–48 HRc	T Fe 8–50–CT	
CORODUR® 4115	0,2			17,0	0,4	1,0					B		42–44 HRc	T Fe 8–45–CT	
CORODUR® 4122	0,4			17,0	0 ,4	1,0			+		B		48–50 HRc	T Fe 8–50–CT	
CORODUR® 4122Nb	1,2			17,0	0,4	1,0		8,0	0,3		B		48–51 HRc	Special alloy	
CORODUR® 4351HY	0,02	0,7	0,9	12,5	4,7	0,55					B	S/ P 0,01	38–43 HRc	T Fe 7	
CORODUR® 4351	0,05	0,9	1,1	14,0	5,0	0,75					B	N+	38–43 HRc	AWS 410 NiMo	
CORODUR® 160	5,2	1,1	0,4	22,0				7,0			B	+	62–66 HRc	Special alloy	

WE SOLVE YOUR WEAR PROBLEMS

CORODUR Fülldraht GmbH, has been an industry leader in the area of wear protection for 30 years.

We specialise in the manufacture of high quality consumables for arc-welding and for thermal spraying. The product range includes flux cored wires for OPEN ARC (FCAW), MIG (MGAW), submerged arc (SAW) and lasercladding.

We also manufacture stick electrodes of equivalent composition as well as a range of powders for plasma transferred arc (PTA), flame spraying and laser cladding.
For the most extreme wear conditions, we have also manufactured a very comprehensive range of tungsten carbide products.
To complement our offerings, we provide consultancy and a full-service component surfacing facility exclusively featuring CORODUR products.

APPLICATIONS

STEEL INDUSTRY

NEARLY ALL COMPONENTS IN STEEL MANUFACTURE ARE SUBJECT TO EXTREME CONDITIONS SUCH AS IMPACT, TEMPERATURE, CORROSION, FUMES WHICH CAUSE A CONSTANT WEAR.

FORGING INDUSTRY:

EVEN UNDER THE TOUGHEST WORKING CONDITIONS CORODUR® FLUX CORED WIRES INCREASING THE LIFETIME OF HOT WORKING TOOLS AND REDUCING MAINTENANCE DOWNTIME

CEMENT:

THE WORLD'S MOST WIDELY USED BUILDING MATERIAL WITH ITS COMPONENTS CAUSES A CONSTANT ABRASION IN THE PRODUCTION PROCESS.

MINING:

CONSTRUCTION AND EARTHMOVING EQUIPMENT MUST WORK PROPERLY ON A DAILY BASE AND PROVIDE THE HIGHEST OPERATIONAL PERFORMANCE.

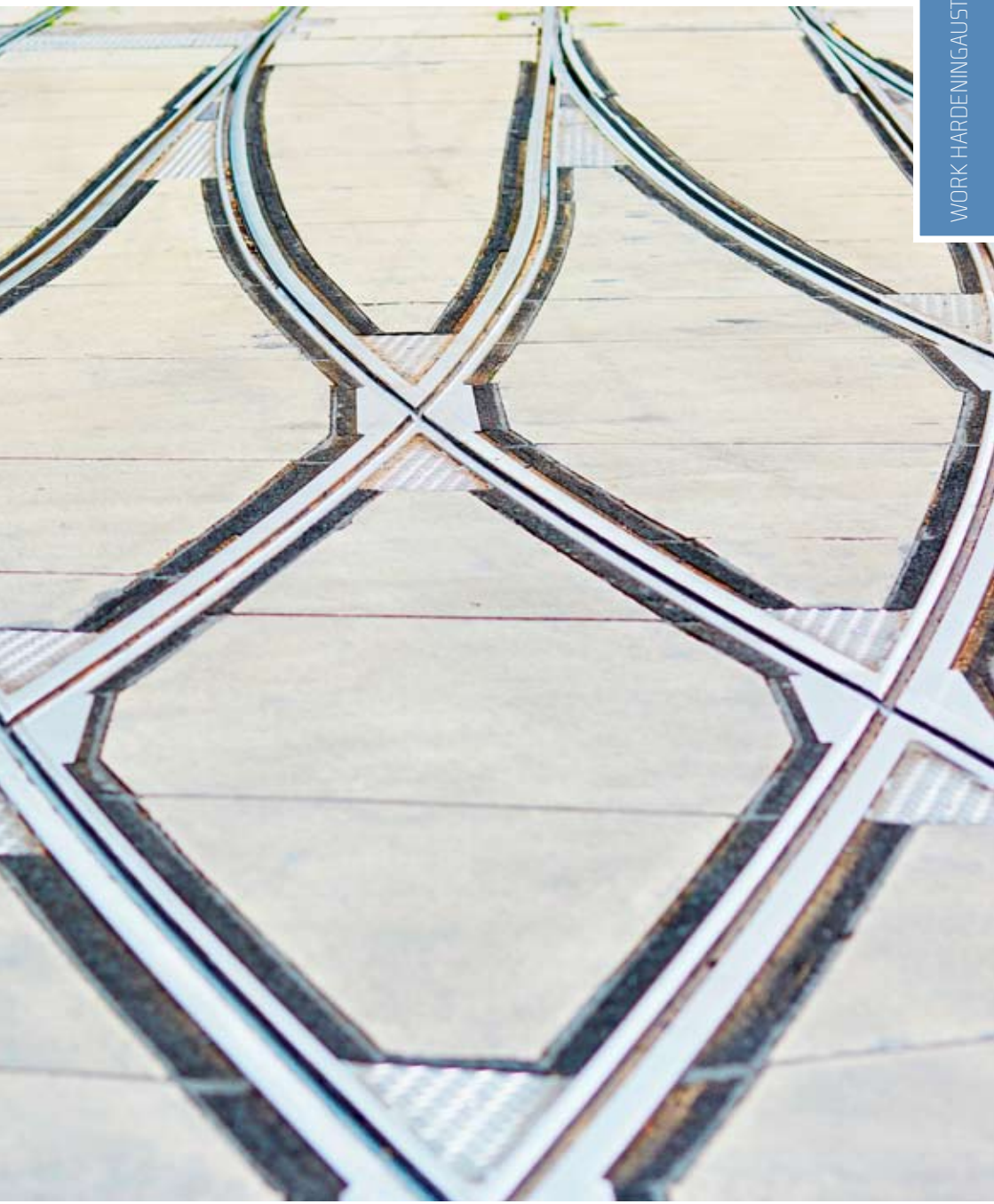
RECYCLING:

APPROPRIATE ARMOUR OF THE INDIVIDUAL COMPONENTS FOR MATERIAL CONVEYANCE OR PROCESSING IMPOVES RELIABILITY, REDUCING DOWNTIME.

POWER

HARDFACING OF THE IMPORTANT PARTS WILL REDUCE THE MAINTENANCE COSTS AND INCREASE THE LIFE CYCLE.

WORK HARDENING AUSTINITIC HARDFACING



CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 10-200-CKNPZ**

CORODUR® **200 K**

The austenitic weld deposit of the CORODUR® 200 high-alloyed flux cored wire electrode is corrosion resistant, work hardening, anti-magnetic, and heat and thermal shock resistant up to 850 °C. Depending on the high elongation (40%), the alloy is suitable for ductile buffer layers on old hardfacings, for joining dissimilar and difficult-to-weld steels and impact-loaded parts.

Joining of Mn– steel and difficult to weld steels, buffer layers, impact loaded parts.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni
0,1	0,4	6,0	19,0	8,5

Hardness HB	180-200	400 Work hardened

PARAMETER

Diameter	Voltage	Amps
1,2	20 - 24	160 - 260
1,6	22 - 26	160 - 260
2,0	25 - 27	240 - 280
2,4	27 - 30	280 - 340
2,8	30 - 32	320 - 400
3,2	32 - 34	350 - 450
4,0	34 - 36	380 - 480

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 9-250-KNP**

CORODUR® **240 K**

A superior choice for welding Hadfield-type manganese steel parts that are exposed to high-impact wear and tear is the CORODUR® 240 K flux cored wire electrode. The non-magnetic austenitic deposit is tough, crack-free and work hardening. The weld process should be adjusted to as cold as possible due to grain growth and embrittlement at temperatures greater than 400 °C. Typical applications can be found in the rebuilding of crusher jaws, railroad components, bucket teeth and lips, and is designed for reclaiming worn parts of manganese base material.

Crushers, swing hammers, railway crossings, dredger buckets.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni
1,1	0,3	14,0	4,0	0,6

Hardness HB	200-230	450 Work hardened

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 9-250-KNP**

CORODUR® 250 K

An excellent choice for a highly Mn-Cr- alloyed flux cored wire is the CORODUR® 250 K. The fully austenitic weld material has high plasticity and acts as a plastic buffer. Deposits have a work hardening up to 500 HB, are stainless and non-magnetic. CORODUR® 250 K is suitable for welding buffer layers before welding over old hardfacings, because it deposits a ductile weld metal. The deposit resists high shrinkage stresses and impact loadings.

Repair of: manganese steel buckets and shovels, high tensile tools, mill-shafts , clutches, crane wheels, earthmoving undercarriage parts, gear wheels, crusher, rails and crossovers , buffer layers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	V
0,5	0,4	16,0	14,0	0,8	0,5	0,2

Hardness HB	220-250	500 Work hardened

PARAMETER

Diameter	Voltage	Amps
1,2	18 - 24	140 - 240
1,6	20 - 26	160 - 260
2,0	22 - 27	220 - 280
2,4	24 - 28	280 - 340
2,8	25 - 29	320 - 400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 9-200-KNP**

CORODUR® **270 K**

Another excellent choice for a highly Mn-Cr- alloyed flux cored wire is the CORODUR® 270 K. The fully austenitic weld material has high plasticity and acts as a plastic buffer. Deposits are work hardening up to 500 HB, are stainless and non-magnetic. CORODUR® 270 K is suitable for welding buffer layers before welding over old hardfacings, because it deposits a ductile weld metal. The deposit resists high shrinkage stresses and impact loading.

Repair of: Manganese steel buckets and shovels, high tensile tools, mill-shafts, clutches, crane wheels, earthmoving undercarriage parts, gear wheels, crusher, rails and crossovers.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Nb
1,0	0,8	16,0	8,0	3,0

Hardness HB	220-250	500 Work hardened

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140 - 240
1,6	20-26	160 - 260
2,0	22-27	220 - 280
2,4	24-28	280 - 340
2,8	25-29	320 - 400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

WORK HARDENING
AUSTINITIC HARDFACING

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Hardness	DIN EN 14700
CORODUR® 200 K	0,1	0,4	6,0	19,0	8,5						R	180–200 HB hard. 400 HB	T Fe 10–200–CKNPZ
CORODUR® 240 K	1,1	0,3	14,0	4,0	0,6						R	200–230 HB hard. 450 HB	T Fe 9–250–KNP
CORODUR® 250 K	0,5	0,4	16,0	14,0	0,8	0,5			0,2		R	220–250 HB hard. 500 HB	T Fe 9–250–KNP
CORODUR® 270 K	1,0	0,8	16,0	8,0				3,0			R	220–250 HB hard. 500 HB	T Fe 9–200–KNP

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

IMPACT RESISTANT APPLICATIONS

DIN EN 14700 **T Fe 1-300-P**

CORODUR® 300

If a tubular wire which produces a low alloyed hardfacing deposit with a hardness of about 300 HB is needed, the right choice is the CORODUR® 300. The deposit is tough and not susceptible to impact loads and high pressures. The number of layers can be done as necessary. The inter-pass temperature should be maximum 250 °C. CORODUR® 300 is excellent for buffer layers before hardfacing. The deposit is forgeable and can also be treated with cutting tools. In normal cases preheating is not necessary, depending on the base material. The alloy can be annealed without changing the structure of the deposits.

Cable rolls, rails, couplings, back up rolls of tracked machinery, crane wheel rims, shafts, drill-pipe tool-joint rebuilds.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	Ti
0,1	0,5	2,0	2,5	0,3	+

Hardness HB	280-325

PARAMETER

Diameter	Voltage	Amps
1,2	22-24	160-240
1,6	24-26	180-240
2,0	25-27	220-280
2,4	25-29	260-320
2,8	26-30	300-360
3,2	28-31	350-450

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 7-45-CPT**

CORODUR® **310**

For a deposit with excellent resistance to thermal fatigue that is also corrosion resistant and good to impact loads, use CORODUR® 310 Cr-Ni-Mo-alloyed tubular wire. The number of layers can be done as necessary but 10 mm. A heat treatment of the high Cr- alloyed martensitic deposit in order to get a defined hardness is possible. The inter-pass temperature should be max. 450 °C. The deposit is tough and can be worked with cutting tools.

Continuous casting rolls: new cladding and re-welding of all types of hot rolling mills and caster rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb	V
0,14	1,0	1,0	13,0	3,5	1,2	0,2	0,1

Hardness HRc	43-45

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	20-27	160-270
2,0	25-28	220-280
2,4	26-30	260-340
2,8	28-30	320-400
3,2	28-31	360-450

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 7-40-CPT**

CORODUR® 356

For applications requiring a Cr-Ni-Mo-Nb-V- alloyed flux cored wire, the CORODUR® 356 is the solution. The deposit is corrosion resistant and good to impact loads and has an excellent resistance to thermal fatigue. A maximum deposit thickness of max. 10 mm (2-3 layers) is recommended. More layers decrease the hardness.

Continuous casting rolls: new cladding and re-welding of all types of hot rolling mills and caster rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb	V
0,1	0,3	0,8	17,0	4,8	1,0	0,2	0,3

Hardness HRc	40-42

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	20-27	160-270
2,0	25-28	220-280
2,4	26-30	260-340
2,8	28-30	320-400
3,2	28-31	360-450

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 1-40-P**

CORODUR® 400

For machinable, low-alloyed deposit with a hardfacing of approximately 400 HB, choose the CORODUR® tubular wire. This electrode can be used for multi-layer welding. Best applications include wheel rims, chain links, bucket chains, etc. For base materials with higher carbon content, a buffer layer or preheating must be anticipated.

Cable rolls, crane wheels, rails, guiding rolls, chain links, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	Ti
0,2	0,6	2,0	3,0	0,3	+

Hardness HRc	38-42

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400
3,2	28-31	360-450

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 2-45-PT**

CORODUR® **450**

CORODUR® 450 is a tubular wire that produces a low alloyed deposit for hard-facing of approximately 450 HB. The deposit is tough and resistant to impact loads. Deposits are forgeable and machinable.

Crane wheels, rails, guiding rolls, hydraulic cylinders.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V
0,3	0,8	1,0	4,5	0,4	0,2

Hardness HRc	42-45

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-220
1,6	20-24	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Z Fe 7-50-CPT**

CORODUR® 476

IMPACT RESISTANT APPLICATIONS

Especially developed for the hardfacing of rolls for hot rolling is the high Cr-Ni-Mo-Co-V-W-alloyed CORODUR® 476 is a flux cored wire. The weld deposit is corrosion and wear resistant. Additionally, it is resistant to impact loads and continuous rating through heat effect and high pressure. The hardfacing should be done in 2 – 3 layers. The finished layer should be 5 mm. The inter-pass temperature should not exceed 450 °C.

Steel mill rolls subject to heat and pressure.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Co	V	W
0,3	0,3	0,8	16,0	4,0	1,5	1,5	1,0	1,0

Hardness HRc	48–50

PARAMETER

Diameter	Voltage	Amps
1,2	20–24	150–200
1,6	22–26	180–240
2,0	25–27	220–260
2,4	25–27	260–300
2,8	26–28	280–340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Z Fe 8-50-CTZW**

CORODUR® 495

The rust-free weld deposit on Fe-Cr-Ni-Co-Mo- base has a high hot wear resistance, tensile strength and a high resistance to sliding wear of metallic objects. It has a good retention of hardness up to 650 °C and is non-scaling up to 900 °C, thermal shock resistant and resistant to sudden changes of temperature, work hardening, not crack sensible.

Hardfacing of forging presses, hot piercing dies, stretching rolls, pinch rolls, leveling rolls, hot strip mill table rolls and back-up rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Co
0,1	0,7	0,4	15,0	+	3,2	14,0

Hardness HRc	48-50	Work hardened 53 HRc

PARAMETER

Diameter	Voltage	Amps
1,2	18-25	140-240
1,6	22-27	160-260
2,0	22-26	220-280
2,4	26-30	260-340
2,8	28-30	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 8-50-PT**

CORODUR® **580**

IMPACT RESISTANT APPLICATIONS

A solution for hardfacing areas requiring a deposit that is both durable and abrasive resistant with excellent thermal fatigue properties is the CORODUR® 580 C-Cr-Mo-W-alloyed flux cored wire. Preheating when welding CORODUR® 580 is dependent on the base material. With complex base materials, a buffer layer should be used such as CORODUR® 200 K or 250 K.

Guiding rolls, scale-breaker rolls, blooming- and slabbing-mill rolls, repair of hot working tool steels.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	W
0,35	0,6	2,0	6,5	1,5	0,5	1,2

Hardness HRc	48-52

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 8-60-GP**

CORODUR® **600 TIC**

For parts that are exposed to high abrasive wear in combination with impact stress, C-Cr-Ti- and Mo- alloyed flux-cored wire electrode is unbeatable. The microstructure of the deposit is a martensitic matrix with inserted Titanium carbides.

Cement crusher rolls, pulverizer-rolls and hammers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	Ti
1,8	1,6	1,4	7,0	1,4	5,0

Hardness HRc	56-58

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe8**

CORODUR® **607 TIC**

IMPACT RESISTANT APPLICATIONS

C-Cr-Mo- and highly Ti- alloyed flux-cored wire electrode for parts that are exposed to high abrasive wear in combination with impact stress. The micro structure of the deposit is a martensitic matrix with inserted titanium carbides. Compared to CORODUR® 600 TiC, this alloy comprises a higher amount of extreme hard Titanium carbides which leads to a significant higher wear resistance.

Cement crusher rollers, cement crusher rolls, pulverizer-rolls and hammers.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Mo	Ti	Others
2,4-3,6	+	+	6,0-10,0	1,0-2,0	<10,0	+

Hardness HRc	58-60

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 6-60-PT**

CORODUR® 601

The CORODUR® 601 is a Cr-Mo-V-W- alloyed weld deposit with excellent resistance to abrasion, impact, and heat to 550 °C. Deposits can be heat treated to increase the hardness. For base materials that are difficult to weld, a buffer layer of 200 K or 250 K is recommended. Preheating is recommended. Uses include on hammer and blooming table rolls, blow bars and bucket teeth.

Screws, crusher jaws, hammers, drive tumblers, piling hammers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	W
0,5	1,0	3,0	6,5	1,5	1,5	1,0

Hardness HRc	55-60

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 8-55-CGP**

CORODUR® 609

The CORODUR® 609 is a high Cr-alloyed flux-cored wire electrode for welding wear-resistant layers with a ferritic - martensitic microstructure. The weld deposit is highly resistant to impact stress and medium abrasion. The deposit is despite the high hardness, the deposit is crack-free even in multiple layers and can be used up to 700 °C. Hot hardness is 45 HRc at 450 °C.

Crusher wheels and hammers, rock processing, waste shredders, cutting-tools, fluid-valves and as a wear surface on top of Manganese (Hadfield) steel.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni
0,5	2,8	1,2	9,5	0,3

Hardness HRc	55-57

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Z Fe 13-60 GPT**

CORODUR® 710

The COROUR® 710 also provides a martensitic weld material with embedded Cr-V-Mo- carbides. The weld deposit has a high hardness and is crack resistant. The embedded borides with their high hardness of approx. 2200 HV guarantee a further resistance to abrasive wear at medium impact. For difficult to weld base materials and old hardfacings an intermediate layer with CORODUR® 200 K or CORODUR® 250 K is recommended. The preheat temperature and the inter-pass temperature should be chosen according to the base material. The weld deposit is creep-resistant up to 500 °C.

Component parts for crushing of minerals, dredger teeth, briquetting press tools, moulds for the ceramic and brick industry, mixing wings, feed screws, shredders, hammer mills, crushing bars.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	B
1,4	1,0	1,0	8,0	1,0	1,0	1,0

Hardness HRc	62-65

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 13-70-G**

CORODUR® 720

CORODUR® 720 is a relatively low alloyed flux cored wire. The weld deposit is ideal for parts subject to impact, metal to metal friction and severe fine particle abrasion/ erosion actions. It gives a full martensitic deposit which is rich in iron borides and iron carbides. The working temperature should not exceed 200 °C in order to keep wear minimal.

Dredges, concrete pumps, driving Screws, fine particle (sand) wearing parts.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Ni	B
0,7	1,0	2,0	2,0	4,5

Hardness HRc	65-68

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc

DIN EN 14700 **T Z Fe 15-65- G**

CORODUR® 721

Suitable for highly abrasion-resistant, hardfacings that are exposed to minor impact and high wear at temperatures of up to 450 °C is the CORODUR® 721, a flux cored, alloyed Fe-B-Cr- weld metal wire with a martensitic carbide structure. Due to its high hardness, the hardfacing should not exceed 4 mm thickness.

Feed screws, sand preparation plants, wear plates, ceramic industry mixer parts.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	B
1,5	1,0	1,6	16,0	3,5

Hardness HRc	64-66

PARAMETER

Diameter	Voltage	Amps
1,2	22-25	160-260
1,6	22-27	180-280
2,0	24-27	240-300
2,4	25-27	280-340
2,8	26-28	280-340

G = Gas shielded, OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

CORODUR® 733

DIN EN 14700 **T Z Fe 15-70 GT**

A flux cored wire electrode containing extremely hard Cr- carbides and niobium carbides embedded in a Fe-Cr-Nb-B- matrix with complex carbides is the CORODUR® 733. The weld deposit is very fine-grained and extremely hard. A hardness of 67 HRc in the first layer is possible. It is suitable for hardfacings of applications requiring high abrasion resistance with at the same time minor impact resistance and wear resistance up to a working temperature of up to 450 °C

Worm conveyer screws, sand-preparing plants, dredgers, mixers, ceramic industry, fan baffles, pump casings, briquetting plants etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Nb	B
4,0	0,8	1,5	19,0	4,0	1,5

Hardness HRc	66-68

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-230
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

G = Gas shielded, OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 8-60-GP**

CORODUR® 760

With a high resistance to pressure that is also very crack resistant, the CORODUR® 760 weld deposit is martensitic with embedded Nb- carbides. Due to the Nb- carbides, with a hardness of 2700 HV, the weld deposit has an additional resistance to abrasion wear. The preheat temperature and the inter-pass temperature should be chosen according to the base material.

Cement clinker rolls, crusher rolls and hammers, briquetting plants, ceramic industry.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	Nb	V	W
1,4	0,7	1,3	7,0	0,8	8,0	1,0	1,2

Hardness HRc	55-57

PARAMETER

Diameter	Voltage	Amps
1,2	22-25	160-260
1,6	22-27	180-280
2,0	24-27	240-300
2,4	25-27	280-340
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 8-60-GP**

CORODUR® 766

The weld deposit using CORODUR® 766 is martensitic with embedded Nb-carbides. It has a high resistance to pressure, and it is very crack resistant. Due to the Nb- carbides, with a hardness of 2700 HV, the weld deposit has an additional resistance to abrasion wear. The preheat temperature and the inter-pass temperature should be chosen according to the base material.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb	W
1,4	0,9		6,5	0,8	0,2	9,0	0,3

Hardness HRc	57-62

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 8-60-GP**

CORODUR® 766

The weld deposit using CORODUR® 766 is martensitic with embedded Nb-carbides. It has a high resistance to pressure, and it is very crack resistant. Due to the Nb- carbides, with a hardness of 2700 HV, the weld deposit has an additional resistance to abrasion wear. The preheat temperature and the inter-pass temperature should be chosen according to the base material.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb	W
1,4	0,9	0,9	6,5	0,8	0,2	9,0	0,3

Hardness HRc	57-62

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil B5 300	15 kg
Coil B 450	25 kg
Drums	300 kg

IMPACT RESISTANT APPLICATIONS

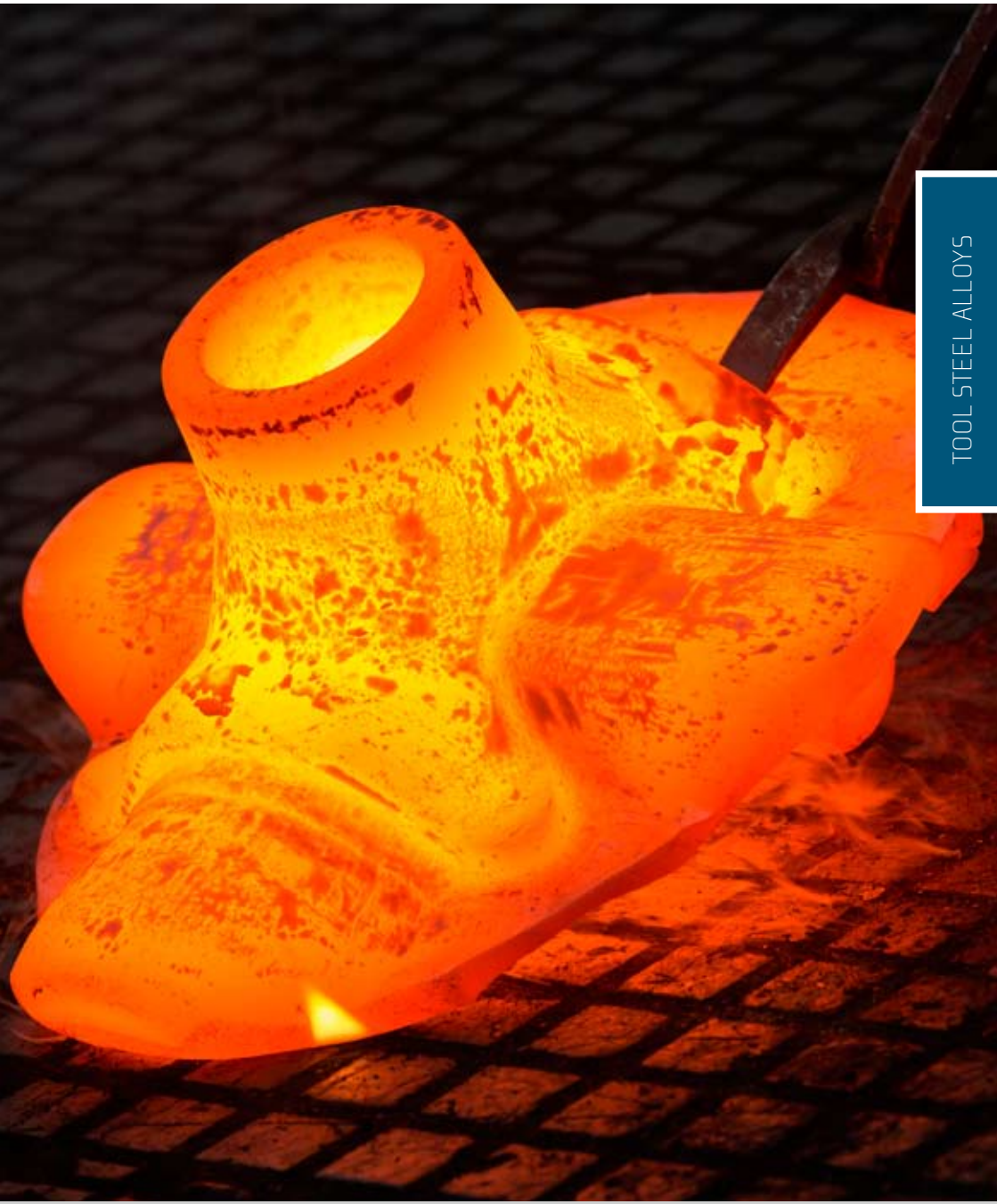
Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® 300	0,1	0,5	2,0	2,5		0,3					B	Ti +	280–325	HB T Fe 1-300-P
CORODUR® 310	0,14	1,0	1,0	13,0	3,5	1,2		0,2	1,5		B		43–45 HRc	T Fe 7-45-PRT
CORODUR® 356	0,1	0,3	0,8	17,0	4,8	1,0		0,2	0,3		B		40–42 HRc	T Fe 7-40-CPT
CORODUR® 400	0,2	0,6	2,0	3,0		0,3					B	Ti +	38–42 HRc	T Fe 1-40-P
CORODUR® 450	0,3	0,8	1,0	4,5		0,4			0,2		B		42–45 HRc	T Fe 2-45-PT
CORODUR® 476	0,3	0,3	0,8	16,0	4,0	1,5	1,5		1,0	1,0	B		48–50 HRc	T Z Fe 7-50-CPT
CORODUR® 495	0,1	0,7	0,4	15,0	+	3,2	14,0				B		48–50 HRc Work hardened 53 HRc	T Z Fe 8-50-CTZW
CORODUR® 580	0,35	0,6	2,0	6,5		1,5			0,5	1,2	B		48–52 HRc	T Fe 8-50-PT
CORODUR® 600 TIC	1,8	1,6	1,4	7,0		1,4					B	Ti 5,0	56–58 HRc	T Fe 8-60-GP
CORODUR® 607 TIC	2,4–3,6	+	+	6,0–10,0		1,0–2,0					B	Ti <10,0 +	58–60 HRc	T Fe 8
CORODUR® 601	0,5	1,0	3,0	6,5		1,5			1,5	1,0	B		55–58 HRc	T Fe 6-60-PT
CORODUR® 609	0,5	2,8	1,2	9,5	0,3						B		55–57 HRc	T Fe 8-55-CGP

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® 710	1,4	1,0	1,0	8,0		1,0			1,0		B	B 1,0	62-65 HRc	T Z Fe 13-60 GPT
CORODUR® 720	0,7	1,0	2,0		2,0						B	B 4,5	65-68 HR	T Fe 13-70-G
CORODUR® 721	1,5	1,0	1,6		16,0						B	B 3,5	64-66 HRc	T Z Fe 15-65-G
CORODUR® 733	4,0	0,8	1,5	19,0	4,0						B	B 1,5	66-68 HRc	T Z Fe 15-70-GT
CORODUR® 760	1,4	0,7	1,3	7,0		0,8		8,0	1,0	1,2	B		55-57 HRc	T Fe 8-55-GP
CORODUR® 766	1,4	0,9	0,9	6,5	0,8	0,2		9,0		0,3	B		57-62HRc	T Fe 8-60-GP

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

TOOL STEEL ALLOYS

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.



DIN EN 14700 **T Fe 3-55-ST**

CORODUR® **WZ 30**

A good choice for repair and build-up applications on hot working steels of similar or lower alloyed hot working tools is CORODUR® WZ 30, a C-Cr-Mo-V- W-alloyed flux cored wire electrode. The weld deposit is machinable, heat treatment is possible and has a retention of hardness up to 550 °C.

Forging dies, hot shear blades, mandrels, Impact dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	W
0,14	0,6	0,9	5,6	4,3	0,2	0,2

Hardness HRc	50–54 As welded	53–55 Heat treated 2h at 530 °C. Furnace cooling

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 3-50-ST**

CORODUR® **WZ 50**

Suitable for repair and build-up applications on hot working steels of similar or lower alloyed hot working tools is the CORODUR® WZ 50 is a C-Cr-V-W- alloyed flux cored wire electrode. The weld deposit is machinable, heat treatment is possible and has a retention of hardness up to 550 °C.

Forging dies, hot shear blades, mandrels.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	V	W
0,3	0,6	0,4	3,0	0,6	4,5

Hardness HRc	48–50	50–52
	As welded; air cooled	Heat treated 2h at 530 °C. Furnace cooling

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 3-55-STW**

CORODUR® **WZ 55**

For an air-hardening and wear-resistant alloy that can be applied to reclaim hot-forging dies and to overlay the edges and flat areas of low alloyed high-density steel tools, use the CORODUR® WZ 55 flux cored wire. CORODUR® WZ 55 is typically applied on: Slab shears, hot-forging dies, drawing dies, containers, crushing equipment and depressions created by forging, pressure and impact stress.

Forging tools, hot shear blades.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Co	V	W
0,35	0,8	1,2	3,0	2,0	0,5	7,0

Hardness HRc	53-56	56-58
	As welded; air cooled	Heat treated 2h at 530 °C. Furnace cooling

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe 4-60-STW**

CORODUR® **WZ 57**

For an air-hardening and wear-resistant alloy that can be applied to reclaim hot-forging dies and to overlay the edges and flat areas of low alloyed high-density steel tools, use the CORODUR® WZ 57 flux cored wire. CORODUR® WZ 57 is typically applied on: Slab shears, hot-forging dies, drawing dies, containers, crushing equipment and depressions created by forging, pressure and impact stress. Before heat treatment the weld deposit is machinable.

Heat treatment retentivity, hot hardening.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	Co	V	W
0,35	0,8	0,8	13,0	2,2	10,0	0,3	5,5

Hardness HRc	50-53 As welded; air cooled	55-57 Heat treated 2h at 550 °C. Furnace cooling

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe-3-60-ST**

CORODUR® WZ 59

The wear and heat-resistant deposit of this CORODUR® WZ 59 flux cored wire electrode in high-speed steel quality is suitable for repair and manufacture of hot and cold working tools, stamps and counter dies etc. The weld deposit can be heat treated and has a retention of hardness up to 550 °C.

High speed steel tools, pinion-type cutters, chisels.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	W
0,5	0,6	1,2	5,0	3,5	3,5

Hardness HRc	57-59	59-61	56-58
	As welded; air cooled	Heat treated 2h at 530 °C. Furnace cooling	Special heat treatment needed

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

DIN EN 14700 **T Fe-4-60-ST (1.13348)**

CORODUR® WZ 60

Similar to WZ 59, the CORODUR® WZ 60 is a flux cored wire in high speed steel quality for tough and wear-resistant surfacing. The CORODUR® WZ 60 weld deposit is resistant to annealing and allows heat treatments like other high-speed steels. The structural composition ensures stress relief and therefore crack resistance. It is used for hardfacing of cutting edges of tools and for repair of high-speed steel for tooling.

Depending on the base metal the preheating temperature and the interpass temperature should be 400 – 550 ° C. Assure a slow chilling rate. An increase of hardness and thoughness can be achieved by annealing at 530 ° C.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	W
0,8	0,8	0,8	4,5	8,0	1,5	2,0

Hardness HRc	59 – 62	63-65	60-63	65
	As welded; air cooled	Heat treated 2h at 530°C. Furnace cooling	Special heat treatment needed	After heat treatment

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, SA = Submerged Arc

TOOL STEEL ALLOYS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® WZ 30	0,14	0,6	0,9	5,6					0,2	0,2	R		50–54 HRc Heat treated 53 –55 HRc	T Fe 3–55–ST
CORODUR® WZ 50	0,3	0,6	0,4	3,0					0,6	4,5	R		48–50 HRc Heat treated 50 –52 HRc	T Fe 3–50–ST
CORODUR® WZ 55	0,35	0,8	1,2	3,0			2,0		0,5	7,0	R		53–56 HRc Heat treated 56–58 HRc	T Fe 3–55–STW
CORODUR® WZ 57	0,35	0,8	0,8	13,0		2,2	10,0		0,3	5,5	R		50–53 HRc Heat treated 55–57 HRc	T Fe 4–60–STW
CORODUR® WZ 59	0,5	0,6	1,2	5,0		3,5				3,5	R		57–59 HRc Heat treated 59–61 HRc	T Fe 3–60–ST
CORODUR® WZ 60	0,8	0,8	0,8	4,5		8,0			1,5	2,0	R		59–62 HRc Heat treated 63–65 HRc	T Fe 4–60–ST

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

ABRASION RESISTANT APPLICATIONS

ABRASION RESISTANT APPLICATIONS

DIN EN 14700 **T Fe 14-45-CGT**

CORODUR® 42

C-Cr-Ni-Mo- alloyed flux cored wire electrode for hardfacing on parts that are exposed to abrasive wear in combination with medium impact stress. The weld deposit is corrosion resistant and machinable. Typical applications are found in the chemical and food industry.

ABRASION RESISTANT APPLICATIONS

Chemical industry, palm oil screws.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo
1,9	1,0	1,0	28,0	3,0	0,8

Hardness HRc	41-44

PARAMETER

Diameter	Voltage	Amps
1,2	20-25	140-240
1,6	22-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Z Fe 16-50-G**

CORODUR® 50

C-Cr-Si-Mn- alloyed flux cored wire is used on parts which subjected to abrasive wear and medium impact.

Trash crushing, impact resistance.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr
3,2	1,8	1,8	16,0

Hardness HRc	50-54

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	160-260
1,6	22-26	180-280
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-55-G**

CORODUR® **51**

CORODUR® 51 is a flux cored wire which deposits a martensitic matrix with a high content of Cr- Carbides M7C3 with excellent resistance to abrasion and medium impact up to 450 °C. It can be applied whenever high abrasion is expected. Best results are achieved by welding in two layers. The deposit can not be machined or forged. Before overlaying old, previously hardfaced surfaces, a buffering layer of CORODUR® 200 K or CORODUR® 250 K is recommended.

ABRASION RESISTANT APPLICATIONS

Pumps, mixer parts, conveyer screws, shovel-bucket, scrapers, blades, fan-blades.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr	B
4,5	1,2	0,4	21,0	+

Hardness HRc	58-59

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	22-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil B5 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 14-60-GC**

CORODUR® 55

CORODUR® 55 is a tubular wire which deposits a high Cr-, C- alloyed stainless weld metal with excellent resistance to abrasion and medium impact. It can be used whenever high abrasion is expected. Best results are achieved by welding in two layers. A maximum deposit thickness of 10 mm is recommended. Before overlaying on old previously hard faced surfaces a buffering layer of CORODUR® 200 K or CORODUR® 250 K is recommended. CORODUR® 55 is a self-shielded open-arc wire.

Pumps, mixer parts, conveyer screws.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr
4,8	1,2	0,6	29,0

Hardness HRc	55-59

PARAMETER

Diameter	Voltage	Amps
1,2	20-25	140-240
1,6	22-27	180-300
2,0	24-28	220-350
2,4	26-30	240-360
2,8	27-30	320-420

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 15-60-G**

CORODUR® 55 MO

C-Cr-Mo- alloyed flux cored wire electrode for hardfacing on parts that are exposed to high abrasive mineral wear. In comparison to CORODUR® 55, the weld deposit of this electrode has a higher temperature resistance (up to 450 °C). Used for pumps, mixer parts and conveyer screws.

ABRASION RESISTANT APPLICATIONS

Crusher rolls, coal crusher cones, liners.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Mo
5,0	1,7	0,4	27,0	1,2

Hardness HRc	57-60

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	20-26	160-260
2,0	22-26	220-280
2,4	26-30	240-340
2,8	28-30	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-60-GC**

CORODUR® 56

The high content of hard hypereutectic phases M7C3 makes the alloy suitable for high abrasive wear using CORODUR® 56, a flux cored wire electrode, which is highly C- and Cr- alloyed. The weld deposit has a high corrosion resistance. Best results are achieved by welding in 2-3 layers with max. 10 mm thickness. The deposit should be subjected to little impact stress. Before cladding sensitive base materials and overlaying old, previously hard-faced surfaces, a ductile buffering layer of CORODUR® 200 K or 250 K is recommended.

ABRASION RESISTANT APPLICATIONS

Wear plates, ventilators, coke oven carriage, NI- Hard IV.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	B
5,4	1,0	0,4	30,0	+

Hardness HRc	58-62

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	160-240
1,6	22-26	180-280
2,0	22-26	220-320
2,4	26-30	260-340
2,8	28-30	320-420

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

OA = Open Arc

DIN EN 14700 **T Fe 14-60-GC**

CORODUR® 59

For applications where there is high mineral wear, CORODUR® 59 a highly C-Cr-alloyed flux cored wire is recommended. It is suitable for hardfacing of parts that are exposed to high abrasion in wet areas. The overlaying thickness should not exceed 10mm which means a deposit of 2-3 layers. The deposit should be subjected to little impact stress.

ABRASION RESISTANT APPLICATIONS

Farming, gravel digger, Pumps, mixer paddles, concrete pumps, conveyor screws, impeller screws, track hoppers.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr
5,0	1,2	0,4	33,0

Hardness HRc	59-61

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 14-60-CGT**

CORODUR® 59L

CORODUR® 59 L is a highly C-Cr-Mo- alloyed flux cored wire for applications in high mineral wear with a corrosion resistant matrix. It is suitable for hard facing of parts that are exposed to high abrasion and partly corrosion. The overlaying thickness should not exceed 8-10mm which means a deposit of 2-3 layers. The deposit should be subjected to little impact stress. A crack free welding is possible with preheating- and interpass- temperature of min. 450 °C and oven cooling.

Kneading machines, liners, pumps, mixer parts, conveyer screws, mixer paddles, oil screws.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo
3,8	1,2	0,6	33,0	0,5

Hardness HRc	56-59

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-28	240-300
2,4	24-29	280-340
2,8	26-29	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 14-55-CGT**

CORODUR® 59XL

For applications in high mineral wear requiring a corrosion resistant matrix that is also suitable for hardfacing of parts that are exposed to high abrasion and partly corrosion, CORODUR® 59 XL, a highly C-Cr-Ni-MO- alloyed flux cored wire is recommended. The overlaying thickness should not exceed 8-10mm which means a deposit of 2-3 layers. The deposit should be subjected to little impact stress.
A crack-free weld is possible with preheating and inter-pass temperature of min. 450 °C and oven cooling.

ABRASION RESISTANT APPLICATIONS

Kneading machines, liners, pumps, mixer parts, conveyer screws, mixer paddles, oil screws.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Ni	Mo
3,0	1,3	0,6	32,0	3,0	0,5

Hardness HRc	53-56

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	160-260
1,6	22-27	160-300
2,0	22-28	240-320
2,4	26-29	260-340
2,8	27-30	320-400

G = Gas shielded, OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-60-G**

CORODUR® 60

CORODUR® 60 is a high C-Cr-Nb- alloyed flux- cored wire electrode for high abrasive wear up to 550 °C. The weld deposit consists of chrome – and niobium – carbides which are embedded into the matrix. The deposit should be subjected to little impact stress. Weld metal is not machinable. Maximum deposit should be limited to three layers and a thickness of 10 mm. Before overlaying sensitive base materials and old, previously hard-faced surfaces, a buffering layer of CORODUR® 200 K or 250 K is recommended.

Mixer paddles, grinding rollers and grinding paths, wear plates, band transfers, chutes, hoppers, cement and concrete pumps, excavator teeth, steel, coal, cement and mineral industry.

ABRASION RESISTANT APPLICATIONS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Nb
5,2	1,1	0,4	22,0	7,0

Hardness HRc	61-63

PARAMETER

Diameter	Voltage	Amps
1,2	18-27	140-240
1,6	20-27	160-280
2,0	22-26	220-300
2,4	24-27	260-340
2,8	25-28	320-400
3,2	26-30	350-520

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-65-G**

CORODUR® 61

Combined with cubic Nb- carbides, the CORODUR® 61 high C-Cr-Nb-B- alloyed flux cored wire electrode with special carbides thatresults in extreme hardness. This combination also results in high abrasion resistance caused by mineral wear. Applications are found in the hardfacing of mining equipment, augers, impellers and dredgers.

ABRASION RESISTANT APPLICATIONS

Brown coal mining, brick and tile industry, mining industry, sand and gravel excavator, cement and concrete industry, conveyor screw, cement and concrete pumps, mixer paddles, stirring devices, fan blades, excavator scoops, bucket lips, wear plates.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Nb	B
5,2	1,3	0,4	22,0	7,0	1,0

Hardness HRc	62-65

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	160-240
1,6	20-28	160-260
2,0	22-28	200-280
2,4	24-29	260-340
2,8	26-30	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-60-G**

CORODUR® 62

Suitable for use in high abrasive mineral wear environments, CORODUR® 62 is a High C-Cr-Nb- alloyed flux cored wire with a high content of hard phases (Nb-C- Carbides and hypereutectic M7C3- carbides). The deposit should be subjected to little impact stress. Best results are achieved by welding in max. 3 layers with max. 10 mm thickness. Before cladding sensitive base materials and overlaying old, previously hard-faced surfaces, a ductile buffering layer of CORODUR® 200 K or 250 K is recommended.

Wear plates, pelletizers, Roller-mill tables.

ABRASION RESISTANT APPLICATIONS

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr	Nb
5,4	1,2	0,4	29,0	3,0

Hardness HRc	60-63

PARAMETER

Diameter	Voltage	Amps
1,2	18-22	140-260
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

OA = Open Arc

DIN EN 14700 **T Fe 16-65-GZ**

CORODUR® 64

CORODUR® 64 is a highly C-Cr-B-W- V- alloyed flux cored wire electrode that deposits a very hard martensitic micro structure with carbides. The deposit is resistant to strong mineral abrasion also at higher temperatures. This wire can be used for one layer welding without a big decrease of hardness. The decrease of hardness is approx. 10% at 400 °C and approx. 25% at 600 °C.

ABRASION RESISTANT APPLICATIONS

Cement, mineral and brick industry, steel industry, refuse-incinerator plants, composting plants, mineral crushing, paddle wheels.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	V	W	B
4,5	1,0	1,6	24,0	0,8	0,8	1,0

Hardness HRc	63-65 up to 600 °C

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	160-240
1,6	20-26	180-300
2,0	22-26	220-320
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-65-GZ**

CORODUR® 65

Forming extremely hard carbides, CORODUR® 65 is a highly C-Cr-Mo-Nb-W-V-alloyed flux cored wire electrode. It is used for hardfacing to extremely strong abrasive mineral wear. The deposit retains its wear resistance up to 800 °C. The structure consists of primarily and eutectic solidifying Cr- carbides plus Nb-Mo-W-V- carbides. The hardness reduction at a temperature of 400 °C is approximately 4% and at 700 °C approximately 10 %. This wire is recommended for use in sintering plants, augers and blast furnace bells.

ABRASION RESISTANT APPLICATIONS

Parts in hot screening units, grates, sinterbreaker.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Mo	Nb	V	W
5,2	1,0	0,4	21,0	7,0	7,0	1,0	2,0

Hardness HRc	63-65 up to 800 °C

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

OA = Open Arc

DIN EN 14700 **T Fe 16-65-GZ**

CORODUR® 67

CORODUR® 67 is a high C-Cr-V- alloyed flux cored wire electrode for extreme abrasive wear even at elevated temperatures. The fine grain structure of the weld deposit prevents a washout of the matrix and therefore the deposit has an extreme high scratch hardness. The thickness should not exceed two layers.

ABRASION RESISTANT APPLICATIONS

Conveyor screws, fan blades, stirring devices, mixer paddles, cement and concrete pumps, slurry pumps, hot screening units, gravel and washing units, etc.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr	V
5,4	1,0	0,4	21,0	10,0

Hardness HRc	64-67

PARAMETER

Diameter	Voltage	Amps
1,6	20-28	160-280
2,0	22-26	240-280
2,4	25-29	280-340
2,8	26-30	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

OA = Open Arc

DIN EN 14700 **T Fe 15-70-CGZ**

CORODUR® 68

Very high C-Cr-B- alloyed flux cored wire electrode for extreme hard and non-corrosive hardfacing against very high mineral wear also at high temperatures. The weld deposit has a ledeburitic structure, bearing many various hypereutectic carbides. A maximum deposit thickness of 6 mm (1-2 layers) is recommended. Hardness Reduction at 400 °C approx. 5%, at 600 °C approx. 10%.

Coke oven screens, pulverizer hammers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	B
5,0	0,8	0,4	38,0	2,0

Hardness HRc	65-68 up to 750 °C

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-65-GCZ**

CORODUR® 69

COROUR® 69 is a tubular wire for extreme abrasive wear, even at high temperatures up to 650 °C. The deposit has a very fine ledeburitic structure, bearing a lot of different very hard carbides. CORODUR® 69 is used, wherever abrasive wear is extremely high. It is also wear resistant at high temperatures up to 650 °C. Due to the high hardness pre heating of the base metal is recommended. The deposit should be subjected to little impact stress. The deposit is nearly free of slag; the weldability is excellent. Good results are already achieved by welding one layer. A maximum deposit thickness of 6 to 8 mm (2 layers) is recommended. The resulting deposits cannot be heattreated, machined or forged. Before overlaying on old previously hard-faced surfaces a buffering layer of CORODUR® 200 K or 250 K is recommended.

ABRASION RESISTANT APPLICATIONS

Concrete-industry, mixer parts, extruder, scrapers, sintering grates, mining.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr	Nb	B
5,2	0,8	0,4	32,5	5,8	1,8

Hardness HRc	64-67

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-65-G**

CORODUR® **70**

CORODUR® 70 is a highly alloyed flux cored wire. Due to this high alloy content, parts of industry that experience extreme sliding abrasion from fine minerals can be protected and rebuilt with excellent results. The properties of the wire remains after multi-layer welding even during higher working temperatures.

Coal crushing rolls and tables, wear plates.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	V
5,2	1,0	0,4	27,0	6,0

Hardness HRc	62-65

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-26	220-280
2,4	26-30	260-340
2,8	28-30	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-65-GZ**

CORODUR® 75

For high mineral wear and use at higher temperatures, CORODUR® 75 high C-Cr-Nb-Mo-W-V- alloyed flux cored wire electrode is used. The wear resistance is up to 700 °C nearly constant. The hardness reduction at a temperature of 400 °C is approximately 6% and at 700 °C approximately 15 %.

ABRASION RESISTANT APPLICATIONS

Blast-furnace-gas bells, Slag conveyer screws, hot sinterbreaker, coke industy, coal power stations.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	Nb	V	W
5,0	1,2	0,6	22,0	4,5	6,4	0,8	1,2

Hardness HRc	62-64 up to 700 °C

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	180-280
2,0	22-26	240-300
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-70-GZ**

CORODUR® 78

The weld deposit of CORODUR® 78, C-Cr-V-Nb- alloyed flux cored wire electrode, is used in cases of extreme mineral and has a high scratch hardness. Applications are sinter plants, lignite mining machines, gravel industry, chains, etc. Hardness Reduction at 400 °C app 7%.

Mining and clinker industry, concrete pumps.

ABRASION RESISTANT APPLICATIONS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Nb	V	B
5,0	1,3	0,5	16,0	6,5	6,5	1,0

Hardness HRc	64-68

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-220
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-70-GZ**

CORODUR® 79

C-Cr-V-Nb-B- alloyed flux cored wire electrode for extreme mineral wear. The weld deposit has a high scratch hardness. Applications are sinter plants, lignite mining machines, gravel industry, chains, etc.

It should be pre-heated and held at a temperature of 450 °C. The cooling rate should be slow and preferably in a furnace. Welded with 2-3 layers (max. 10 mm).

ABRASION RESISTANT APPLICATIONS

Mining and clinker industry, concrete pumps.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Cr	Nb	V	B
4,8-5,2	0,9-1,2	19,0-22,0	6,5-7,3	2,4-2,7	1,0-1,5

Hardness HRc	64-68

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-220
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-70-GTZ**

CORODUR® **80**

Used for hardfacing to extremely strong abrasive mineral wear, CORODUR® 80 is a highly C-Cr-Co-Mo-Nb-W-V-B- alloyed flux cored wire electrode which forms extremely hard carbides. The deposit retains its wear resistance up to 800 °C. The structure consists of primarily and eutectic solidifying Cr- carbides plus Co-Nb-Mo-W-V- carbides. The hardness reduction at a temperature of at 800 °C approximately 5 %. This wire is recommended for use in sintering plants, augers and blast furnace bells.

ABRASION RESISTANT APPLICATIONS

Parts in hot screening units, grates, sinterbreaker.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr	Mo	Co	Nb	V	W	B
4,0	16,0	4,0	4,0	4,0	1,5	0,7	0,9

Hardness HRc	65-68 up to 850 °C

PARAMETER

Diameter	Voltage	Amps
1,6	20-26	160-260
2,0	22-26	240-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Z Fe 14-60-CGT**

CORODUR® 134

COROUR® 134 is a high C-Cr-Mo-V- alloyed flux cored wire. The deposit is suitable for applications to subject for heavy wear from minerals. The weld metal is corrosion resistant and has a high-pressure resistance, it should be less stressed on impact.

ABRASION RESISTANT APPLICATIONS

Mill tables, crushing rollers, wear plates, mixer, screws, cement and coal industry, sliding bushing.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V
2,9	1,7	1,3	23,0	4,2	0,6

Hardness HRc	55-57

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	20-26	160-260
2,0	22-26	220-280
2,4	26-30	260-340
2,8	28-30	320-400

OA = Open Arc, UP = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Z Fe 15-60-G**

CORODUR® **143**

The high content of hard phases (NbC- Carbides and hypereutectic M7C3- Carbides) makes CORODUR® 143 a high C-Cr-Nb-B- alloyed flux cored wire suitable for high abrasive mineral wear. The deposit should be subjected to little impact stress. Best results are achieved by welding in max. 3 layers with max. 10 mm thickness. Before cladding sensitive base materials and overlaying old previously hardfaced surfaces a ductile buffering layer of CORODUR® 200 K or 250 K is recommended.

Wear plates, pelletizers, Roller-mill tables, excavator scoops, cement end coal industry.

ABRASION RESISTANT APPLICATIONS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Nb	B
5,0	1,5	0,4	30,0	1,5	0,8

Hardness HRc	60-62

PARAMETER

Diameter	Voltage	Amps
1,2	18-22	140-240
1,6	20-26	160-260
2,0	22-26	220-280
2,4	24-27	280-340
2,8	25-28	320-400

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 15-65-G**

CORODUR® **160**

High C-Cr-Nb- alloyed flux- cored wire electrode for high abrasive wear up to 550 °C. The weld deposit consists of chrome – and niobium – carbides which are embedded into the matrix. Special elements lead to an ultra-fine carbide structure, which enhances wear resistance against fine particle wear. The deposit should be subjected to little impact stress. Weld metal is not machinable. Maximum deposit should be limited to three layers and a thickness of 10 mm.

ABRASION RESISTANT APPLICATIONS

Mixer paddles, grinding rollers and grinding paths, wear plates, band transfers, chutes, hoppers, cement and concrete pumps, excavator teeth, steel, coal, cement and mineral industry.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Nb	Others
5,2	1,1	0,4	22,0	7,0	+

Hardness HRc	62-66

PARAMETER

Diameter	Voltage	Amps
1,2	18-27	140-240
1,6	20-27	160-280
2,0	22-26	220-300
2,4	24-27	260-340
2,8	25-28	320-440
3,2	26-30	350-520

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **Z T Fe 16-60-GZ**

CORODUR® 670

CORODUR® 670 is an C-Cr-V- and Mo- alloyed flux cored wire electrode for parts that are exposed to high abrasive wear in combination with impact stress, like screw flights, knife edges etc. It´s mirostructure shows a martensitic matrix reinforced with extreme hard VC. Based on suitable parameters and pre-heating temperature CORODUR® 670 can be welded crack free. Before cladding sensitive base materials and overlaying old previously hardfaced surfaces a ductile buffering layer of CORODUR® 200 K or 250 K is recommended.

ABRASION RESISTANT APPLICATIONS

Screw flights, knife edges etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V
3,5	1,6	1,2	6,0	2,1	13,0

Hardness HRc	58-62

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 16-70-GP**

CORODUR® 739

A flux cored wire for shielded arc welding is CORODUR® 739. The weld deposit has a macrocrystalline structure with a large number of embedded Cr- Mo- Nb- W- and particularly hard iron boride phase. CORODUR® 739 is used were extreme abrasive wear at high operating temperatures is expected or for single layer welding where a great hardness and wear resistance is needed. The wear resistance is retained at temperatures of up to approx. 750 °C and ductility sufficient. Best results are obtained with double layer welding, but a single layer welding also provides a high hardness. The weld deposit should not be exposed to too much impact. The alloy has almost no slag and has an excellent weldability. Delicate base materials should be preheated and in case of an old hardfacing a ductile buffer layer with CORODUR® 250 K should be welded.

ABRASION RESISTANT APPLICATIONS

Grinding surfaces, mixers, pressure screws, worm conveyer screws, metal to metal friction.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Cr	Ni	Mo	Nb	W	B
1,2	22,0	0,5	4,0	3,5	6,5	4,5

Hardness HRc	68-70

PARAMETER

Diameter	Voltage	Amps
1,2	18-24	140-240
1,6	20-26	160-280
2,0	22-26	240-300
2,4	24-27	280-340
2,8	25-28	320-420

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

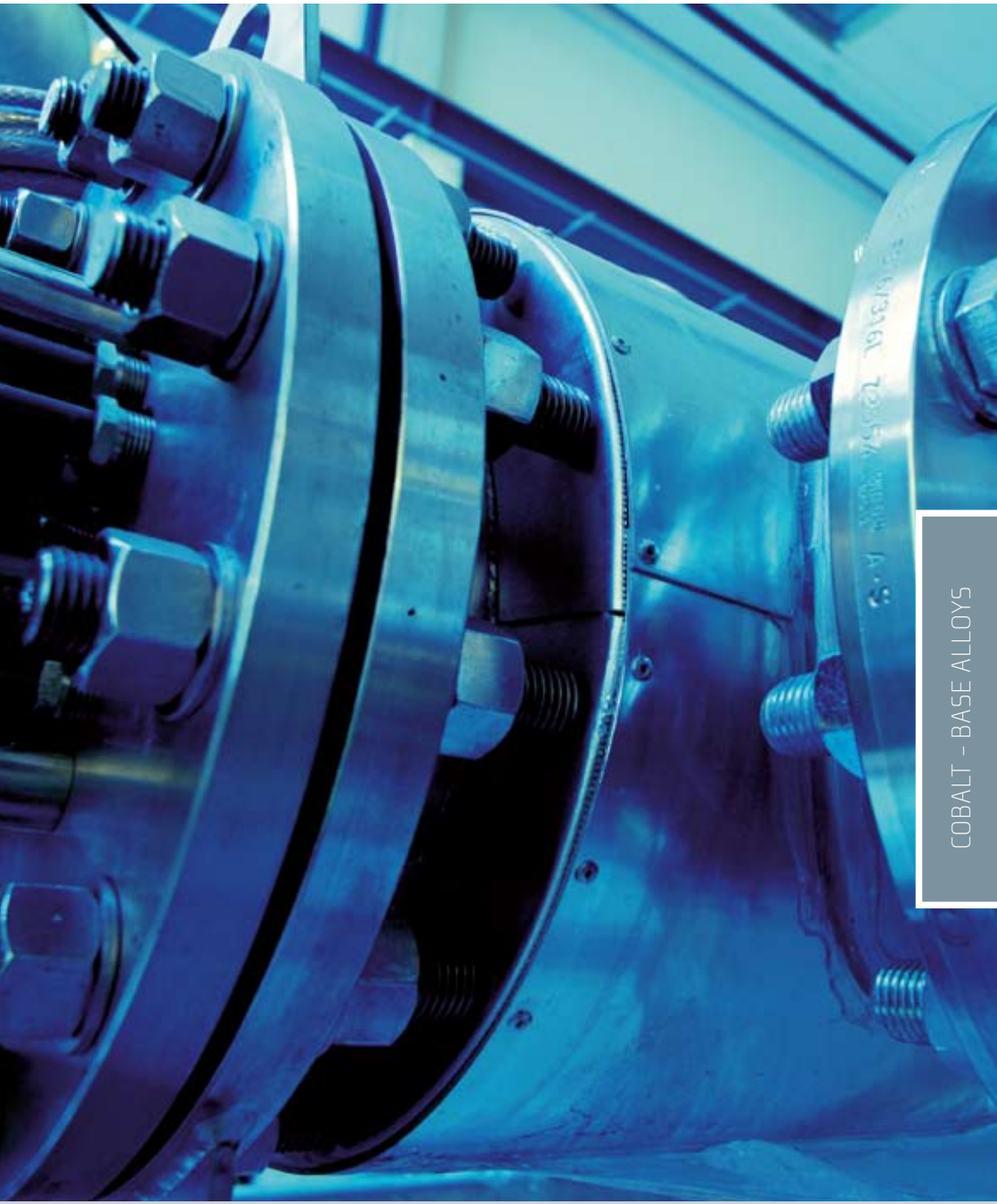
ABRASION RESISTANT APPLICATIONS

ABRASION RESISTANT APPLICATIONS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® 42	1,9	1,0	1,0	28,0	3,0	0,8					R		41–44 HRc	T Fe 14-45-CGT
CORODUR® 50	3,2	1,8	1,8	16,0							R		50–54 HRc	TZ Fe 16-50-G
CORODUR® 51	4,5	1,2	0,4	21,0							R	B+	58–59 HRc	T Fe 15-55-G
CORODUR® 55	4,8	1,2	0,6	29,0							R		55–59 HRc	T Fe 14-60-GC
CORODUR® 55 Mo	5,0	1,7	0,4	27,0		1,2					R		57–60 HRc	T Fe 15-60-G
CORODUR® 56	5,4	1,0	0,4	30,0							R	B+	58–62 HRc	T Fe 15-60-G
CORODUR® 59	5,0	1,2	0,4	33,0							R		59–61 HRc	T Fe 14-60-GC
CORODUR® 59 L	3,8	1,2	0,6	33,0		0,5					R		56–59 HRc	T Fe 14-60-CGT
CORODUR® 59 XL	3,0	1,3	0,6	32,0	3,0	0,5					R		53–56 HRc	T Fe 14-55-CGT
CORODUR® 60	5,2	1,1	0,4	22,0				7,0			R		61–63 HRc	T Fe 16-60-G
CORODUR® 61	5,2	1,3	0,4	22,0				7,0			R	B 1,0	62–65 HRc	T Fe 15-65-G
CORODUR® 62	5,4	1,2	0,4	29,0				3,0			R		60–63 HRc	T Fe 15-60-G
CORODUR® 64	4,5	1,0	1,6	24,0					0,8	0,8	R	B 1,0	63–65 HRc (up to 600°C)	T Fe 16-65-GZ
CORODUR® 65	5,2	1,0	0,4	21,0		7,0		7,0	1,0	2,0	R		63–65 HRc (up to 800°C)	T Fe 16-65-GZ

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® 67	5,4	1,0	0,4	21,0					10,0		R		64-67 HRc	T Fe 16-65-GZ
CORODUR® 68	5,0	0,8	0,4	38,0							R	B 2,0	66-68 HRc (up to 750°C)	T Fe 15-70-CGZ
CORODUR® 69	5,2	0,8	0,4	32,5				5,8			R	B 1,8	64-67 HRc	T Fe 16-65-GCZ
CORODUR® 70	5,2	1,0	0,4	27,0					6,0		R		62-65 HRc	T Fe 16-65-G
CORODUR® 75	5,0	1,2	0,6	22,0		4,5		6,4	0,8	1,2	R		62-64 HRc (up to 700°C)	T Fe 16-65-GZ
CORODUR® 78	5,0	1,3	0,5	16,0				6,5	6,5		R	B 1,0	64-68HRc	T Fe 16-70-GZ
CORODUR® 79	4,8 -5,2	0,9 -1,2		19,0 -22,0				6,5 -7,3	2,4 -2,7		R	B 1,0 -1,5	64-68HRc	T Fe 16-70-GZ
CORODUR® 80	4,0			16,0		4,0	4,0	4,0	0,7	1,5	R	B 0,9	65-68HRc (up to 850°C)	T Fe 16-70-GTZ
CORODUR® 134	2,9	1,7	1,3	23,0		4,2			0,6		R		55-57HRc	T Z Fe 14-60-CGT
CORODUR® 143	5,0	1,5	0,4	30,0				1,5			R	B 0,8	60-62HRc	T Z Fe 15-60-G
CORODUR® 160	5,2	1,1	0,4	22,0				7,0			R	+	62-66HRc	T Fe 15-65-G
CORODUR® 670	3,5	1,6	1,2	6,0		2,1			13,0		R		58-62HRc	Z T Fe 16-60-GZ
CORODUR® 739	1,2			22,0	0,5	4,0		3,5		6,5	R	B 4,5	68-70HRc	T Fe 16-70-GP

COBALT – BASE ALLOYS



COROLIT 1

DIN EN 14700	T Co 3-55-CGTZ
AWS A5.21	ERCCoCr-C

Hardest of the standard cobalt-base-alloys, Corolit 1 deposits a cobalt-base-alloy with an austenitic-ledeburitic structure. It has a high resistance to corrosion (especially, to reducing acids and impact), extreme wear and temperature shocks. The alloy is only machinable by grinding. Best used on wear pads, rotary seal rings, pump sleeves and centerless grinder work rests.

Resistant to thermal shock, abrasion, erosion, corrosion, cavitation at high temperature. Typically used for bearing surfaces, chemical industry, hot shear blades, valves.

COBALT - BASE ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	W	Fe
2,4	0,7	0,4	29,0	11,5	< 3,0

Hardness HRc	52-55

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

COROLIT 6

DIN EN 14700	MF 20-55-CGTZ
AWS A5.21	ERCCoCr-A

The COROLIT 6 group of cobalt-base-alloys all contain an austenitic-ledeburitic structure containing chrome and tungsten carbides. These alloys are resistant to high corrosion and abrasion, high impact stress and extreme temperature shocks. The deposit is machinable by hard metal tools. Best used on steam and chemical valves and on equipment handling hot steel, such as tong bits, hot steel-shear blades, etc.

Resistant to thermal shock, abrasion, erosion, corrosion, cavitation at high temperatures Used typically for bearing surfaces, chemical industry, hot shear blades, valves.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	W	Fe
1,1	1,0	1,0	28,0	4,5	< 3,0

Hardness HRc	40-43

COBALT - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

COROLIT 6 LC

DIN EN 14700	T Co 2-40-CTZ
AWS A5.21	ERCCoCr-A

Cobalt-base alloys such as COROLIT 6 LC have an austenitic-ledeburitic structure containing chrome and tungsten carbides. These alloys are resistant to high corrosion and abrasion, high impact stress and extreme temperature shocks. The deposit is machinable by hard metal tools. Best used on steam and chemical valves and on equipment handling hot steel, such as tong bits, hot steel-shear blades, etc.

Resistant to thermal shock, abrasion, erosion, corrosion, cavitation at high temperatures Used typically for bearing surfaces, chemical industry, hot shear blades, valves.

COBALT - BASE ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	W	Fe
0,8	1,0	0,8	28,0	4,5	< 3,0

Hardness HRc	36-39

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

COROLIT 6 HC

DIN EN 14700	T Co 2-45-CTZ
AWS A5.21	ERCCoCr-A

Cobalt-base alloy with an austenitic-ledeburitic structure containing chrome and tungsten carbides. This alloy is resistant to high corrosion and abrasion, high impact stress and extreme temperature shocks. The deposit is machinable by hard metal tools. Best used on steam and chemical valves and on equipment handling hot steel, such as tong bits, hot steel shear blades, etc.

Resistant to thermal shock, abrasion, erosion, corrosion, cavitation at high temperatures Used typically for bearing surfaces, chemical industry, hot shear blades, valves.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	W	Fe
1,3	1,0	0,8	29,0	4,5	< 3,0

Hardness HRc	43-46

COBALT - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

COROLIT 12

DIN EN 14700	T Co 3-50-CTZ
AWS A5.21	ERCCoCr-B

For the toughest cobalt base-alloy, providing the highest corrosion and thermal resistance of all cobalt-base alloys, COROLIT 12 is the answer. The weld deposit is machinable and is used on components that are exposed to high temperatures, corrosion and impact stress, such as valve seats as well as components in the chemical industry. Work hardening up to 45 HRc.

Resistant to thermal shock, abrasion, erosion, corrosion, cavitation at high temperatures Used typically for bearing surfaces, chemical industry, hot shear blades, valves.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	W	Fe
1,4	1,0	0,8	29,0	8,0	< 3,0

Hardness HRc	45-48

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

G = Gas shielded, SA = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

COROLIT 21

DIN EN 14700	T Co 1-350-CKTZ
AWS A5.21	ERCCoCr-E

COROLIT 21 is a Cobalt-based alloy with high resistance to abrasion, temperature shocks and corrosion. This alloy is suitable for hardfacing cutting edges of long knives and other tools used in the wood, plastic, paper, carpet and chemical industries.

Resistant to thermal shock, abrasion, erosion, corrosion, cavitation at high temperatures Used typically for bearing surfaces, chemical industry, hot shear blades, valves, cutting blades.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	Ni	Mo	Fe
0,25	1,0	1,0	27,0	2,5	5,0	< 3,0

Hardness	300-330 HB	45 HRc Work hardening

COBALT - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

CORODUR Das Original FÜLLDRAHT GMBH

COROLIT 25

DIN EN 14700 T Co 1-300-CKTZ
AWS A5.21 ./.

For a cobalt-based alloy deposit with an austenitic structure, use COROLIT 25. This alloy contains approximately 10,5% nickel for matrix stability during elevated temperature service. It is resistant to hot corrosion, impact, wear and extreme temperature shocks and oxidation. The alloy is machinable by hardfaced tools. COROLIT 25 is used for gas turbine components, on steam and chemical valves and on equipment handling hot steel, such as tong bits, shear blades, pumps for high temperature liquids. It is suitable for use at temperatures up to 900 °C.

Hot forging tools, aerospace industry, turbo charger buckets, parts subject to high operating temperatures in combination with all types of wear such as impact, pressure, corrosion, erosion.

COBALT - BASE ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	Ni	W	Fe
0,12	0,8	1,0	20,0	10,5	15,0	< 3,0

Hardness HB	250-280

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

COROLIT **Forge**

DIN EN 14700 **T Co 1-300-CKTZ**
AWS A5.21 **ERCCoCr-E**

A forge cobalt base alloy with an austenitic structure bearing chrome and molybdenum carbides. This cobalt base-alloy is the toughest, with highest corrosion and thermal resistance of all common cobalt-base alloys. The weld deposit is work hardening, machinable and is used on components that are exposed to high temperatures, corrosion and impact stress, such as valve seats as well as components in the chemical industry. Due to possible cracks preheating to approx. 250°C is recommended. Recommended gas: Argon with 1% oxygene.

High temperature applications including hot shear blades, hot shear cutters, chisels, extrusion screws.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Co

C	Si	Mn	Cr	Ni	Mo	Fe
0,18	1,0	1,0	28,0	2,5	5,5	< 3,0

Hardness	300-330 HB	45 HRc Work hardening

COBALT - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

COBALT – BASE ALLOYS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700 AWS A5.21
COROLIT 1	2,4	0,7	0,4	29,0			Base			11,5	<3,0		52–55 HRc	T Co 3–55–CGTZ ERCCoCr–C
COROLIT 6	1,1	1,0	1,0	28,0			Base			4,5	<3,0		40–43 HRc	T Co 20–55–CGTZ ERCCoCr–A
COROLIT 6 LC	0,8	1,0	0,8	28,0			Base			4,5	<3,0		36–39 HRc	T Co 2–40–CTZ ERCCoCr–A
COROLIT 6 HC	1,3	1,0	0,8	29,0			Base			4,5	<3,0		43–46 HRc	T Co 2–45–CTZ ERCCoCr–A
COROLIT 12	1,4	1,0	0,8	29,0			Base			8,0	<3,0		45–48 HRc	T Co 3–50–CTZ ERCCoCr–B
COROLIT 21	0,25	1,0	1,0	27,0	2,5	5,0	Base				<3,0		300–330 HB hard. 45 HRc	T Co 1–350–CKTZ ERCCoCr–E
COROLIT 25	0,12	0,8	1,0	20,0	10,5		Base	15,0			<3,0		250–280 HB	T Co 1–300–CKTZ ./.
COROLIT Forge	0,18	1,0	1,0	28,0	2,5	5,5	Base				<3,0		300–330 HB hard. 45 HRc	T Co1–300–CKTZ ERCCoCr–E

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

NICKEL – BASE ALLOYS

DIN EN 14700 **T Ni 2-40-CKPTZ**

COROLOY **520 W**

COROLOY 520 W deposits a Cr-Co-Mo-Ti-Al-W- alloy in a nickel base. The weld metal is a precipitated, easily hardened alloy with an exceptional combination of high temperature mechanical properties, formability and corrosion resistance. The alloy can be used for hot forging dies, hot working steels, hot shear blades, etc.. To obtain a crack-free weld, the base material should be preheated to 350 °C and held. After the weld is completed, the cooling rate should be low.

Hot forging hammers, hot forging dies, pilger rolls, mandrels, highly heat resistant impact loaded claddings, repairs on CrMoNi alloys.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Cr	Mo	Co	W	Ti	Al
0,05	20,0	6,0	10,0	4,0	3,0	2,0

Hardness HRc	32-35	up to 45 hardenend

NICKEL - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,6	23-26	180-260
2,0	24-27	240-280
2,4	25-27	280-340
2,8	25-28	320-400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded , SA = Submerged Arc

DIN EN 14700 **T Ni 2-250-CKNPTZ**

COROLOY **Co**

Suitable for steel that encounters aggressive corrosive media as well as those steels that operate at high temperatures, COROLOY Co is the high alloyed Cr- Mo- Co- W- flux cored Nickel based wire solution. This alloy is This hardfacing alloy is extraordinarily resistant on impact, pressure loads and high temperature environments, which results in hardening of the deposit up to a hardness of about 420 HB with little deformation. When build-up layers are required, CORODUR® 200 K is recommended as a buffer layer. It is also recommended that the base material should be preheated to about 300 °C – 400 °C before hardfacing. For multi-layer welding low inter-pass temperature and low energy input is recommended.

Hot forging dies, forging plant parts, hot shear blades, hammer and hammer-saddles, repair of injection moulding castings, piercing mandrels, buffering alloy for forging hammer-saddles and hammers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Cr	Mo	Co	V	W	Fe
0,08	16,0	16,0	2,5	0,35	4,5	<5,0

Hardness HB	260-280	420 hardenend	430 hardenend 900 °C/air	Elongation ca. 20%

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

DIN EN 14700 **T Ni 1-60-CGTZ**

COROLOY **SE 1/58**

For a nickel-base weld deposit using a Ni-Si-Cr-B- alloy, the SE1/58 is the solution. The essential characteristics correspond to the Cobalt-base alloys, especially the hardness, corrosion resistance, pitting (inter granular corrosion), heat resistance, wear resistance and thermal shock constancy. Applications are found in the chemical industry, nuclear technology field, etc. Preheating depends on base material (min. 350 °C is necessary) in order to prevent cracking.

Fittings, chemical industry, food industry, nuclear technology, extrusion screws.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Cr	B	Fe
0,75	4,7	20,0	3,2	<5,0

Hardness HRc	55-60

NICKEL - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

DIN EN 14700 **T Ni 1-45-CGTZ**

COROLOY **SE 6/40**

Ni-Si-Cr-B- alloy. This alloy gives a nickel-base weld deposit. The essential characteristics correspond to the type 6 cobalt-base alloys, especially the hardness, corrosion resistance, heat resistance, wear resistance and thermal shock constancy. Applications are found in the chemical industry, nuclear technology field, etc.

Fittings, chemical industry, food industry, nuclear technology.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Cr	W	B	Fe
0,35	4,5	22,0	2,0	1,6	<5,0

Hardness HRc	41-43

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

G = Gas shielded, SA = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Ni 1-50-CGTZ**

COROLOY **SE 12/50**

The SE 12/50 Ni-Si-Cr-B- alloys provide a nickel-base weld deposit. The essential characteristics correspond to the cobalt-base alloys, especially the hardness, corrosion resistance, heat resistance, wear resistance and thermal shock constancy. Applications are found in the chemical industry, nuclear technology field, etc.

Fittings, chemical industry, food industry, nuclear technology.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Cr	Mo	B	Fe
0,6	4,9	20,0	2,5	2,8	<5,0

Hardness HRc	50-54

NICKEL - BASE ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, SA = Submerged Arc

DIN EN 14700 **T Ni 1-35-CTZ**

COROLOY **SE 21/35**

For a nickel-base weld deposit consider the SE21/35 Ni-Si-Cr-B- alloys. The essential characteristics correspond to the cobalt-base alloys, especially the hardness, corrosion resistance, heat resistance, wear resistance and thermal shock constancy. Applications are found in the chemical industry, nuclear technology field, etc.

Fittings, chemical industry, food industry, nuclear technology.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Cr	Mo	B	Fe
0,4	4,5	20,0	2,0	0,7	<5,0

Hardness HRc	34-36

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

G = Gas shielded, SA = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Ni 6 182**

COROLOY **182**

Providing excellent weldability on AC even at low voltages is the COROLOY 182 is a nickel base electrode with a recovery of 140%. Suitable for joining and cladding stainless, heat resistant and cold tenacious steels as well as welding dissimilar materials for example low alloyed steels with Ni-base ore Cu-base alloys. The austenitic deposit is insensitive to hot-cracking and free of embrittlement at high as well as at low temperatures, non-scaling up to 1000 °C, and cold tough down to -269 °C. No diffusion of carbon into the weld metal at elevated temperatures.

Used for service-temperatures of more than 300 °C in Chemical Industry, Petrochemical Industry, glassworks, civil engineering, repairing and maintenance workshops.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Cr	Mo	B	Fe
0,01	0,3	20,0	2,0	0,7	<5,0

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
610	380	45	90 @ -196 °C

FORMS OF DELIVERY

Dimension	Packing	Protection Gas
1,2	BS 300	Argon + Co2
1,6	BS 300	Argon + Co2

G = Gas shielded

NICKEL – BASE ALLOYS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
COROLOY 520 W	0,05			20,0	Bas	6,0	10,0			4,0		Ti 3, Al 2	32–35 HRc hard. up to 45 HRc	T Ni 4-40-CKPTZ
COROLOY Co	0,08			16,0	Bas	16,0	2,5		0,35	4,5	<5,0		260–280 HB hardened 420 HB	T Ni 2-250-CKNPTZ
COROLOY SE 1/58	0,75	4,7		20,0	Bas						<5,0	B 3,2	55–60 HRc	T Ni 1-60-CGTZ
COROLOY SE 6/40	0,35	4,5		22,0	Bas					2,0	<5,0	B 1,6	41–43 HRc	T Ni 1-45-CGTZ
COROLOY SE 12/50	0,6	4,9		20,0	Bas	2,5					<5,0	B 2,8	50–54 HRc	T Ni 1-50-CGTZ
COROLOY SE 21/35	0,4	4,5		20,0	Bas	2,0					<5,0	B 0,7	34–36 HRc	T Ni 1-35-CTZ
COROLOY 182	0,01	0,3		20,0	Bas.	2,0								T Ni 6 182

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

CAST IRON ALLOYS

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 ~ 1.3912

CORODUR® NiFe 36

NiFe 36 is a Ni- Fe-alloyed flux cored wire electrode for welding cast iron, joining steel and cast iron and cast cavity welding. This alloy has an extremely low coefficient of thermal expansion and is machinable up to GGG 45.

Joint welding and repair welding of cast iron, centrifugally cast, malleable cast iron etc. GG 10 – GG 40, GTS 35 – GTS 70, GTW 35 – GTW 70, GGG 40 – GGG 80

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Ni	Cu
max 0,1	< 1,0	3,0	36,0	+

Hardness HB	140–160

CAST IRON ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,2	20 – 24	150 – 200
1,6	22 – 26	180 – 240
2,0	25 – 27	220 – 260
2,4	25 – 27	260 – 300
2,8	26 – 28	280 – 340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **NiFeC1**

CORODUR® **NiFe 60/40**

CORODUR® NiFe 60/40 is a iron alloyed nickel based tubular wire. The physical property of CORODUR® NiFe 60/40 makes it suitable for grey cast iron parts and spherical cast iron. It is machinable. Used for joining and repairing of nearly all types of cast iron. Preheat temperature should be chosen depending on base material and construction.

Joint welding and repair welding of:
GG 10 – GG 40, GTS 35 – GTS 70, GTW 35 – GTW 70, GGG 40 – GGG 80

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Mn	Fe	Cu
max 0,5	< 1,0	4,0	40,0	+

Hardness HB	160–190

PARAMETER

Diameter	Voltage	Amps
1,2	22 – 24	150 – 200
1,6	22 – 26	180 – 240
2,0	25 – 27	220 – 260
2,4	25 – 27	260 – 300
2,8	26 – 28	280 – 340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

Special alloy

CORODUR® 45-GG

The composition of CORODUR® 45-GG gives a grey cast iron weld with a lamellar graphite formation when cooled down slowly. To avoid cracks in the weld deposit, preheating to about 400 °C is required and temperature should be maintained during welding. Subsequent cooling of the workpiece should be as slow as possible. Heat treatment is not necessary for repair-welding on molds.

CORODUR® 45-GG is used for the repair of GGG, molds, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn
2,2	3,8	0,3

Hardness HRc	35–45	200 HB annealed

CAST IRON ALLOYS

PARAMETER

Diameter	Voltage	Amps
1,6	20 - 26	160 - 260
2,0	22 - 26	240 - 280
2,4	24 - 27	280 - 340
2,8	25 - 28	320 - 400

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

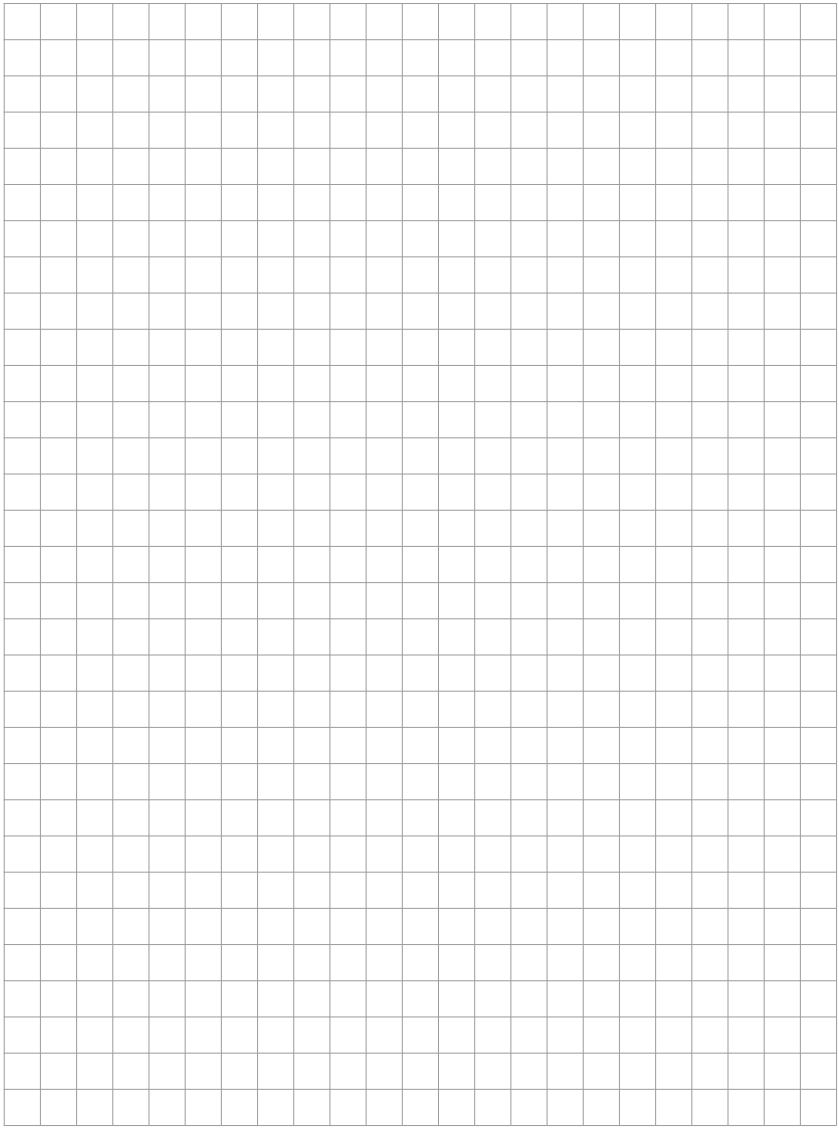
G = Gas shielded, OA = Open Arc, SA = Submerged Arc

CAST IRON ALLOYS

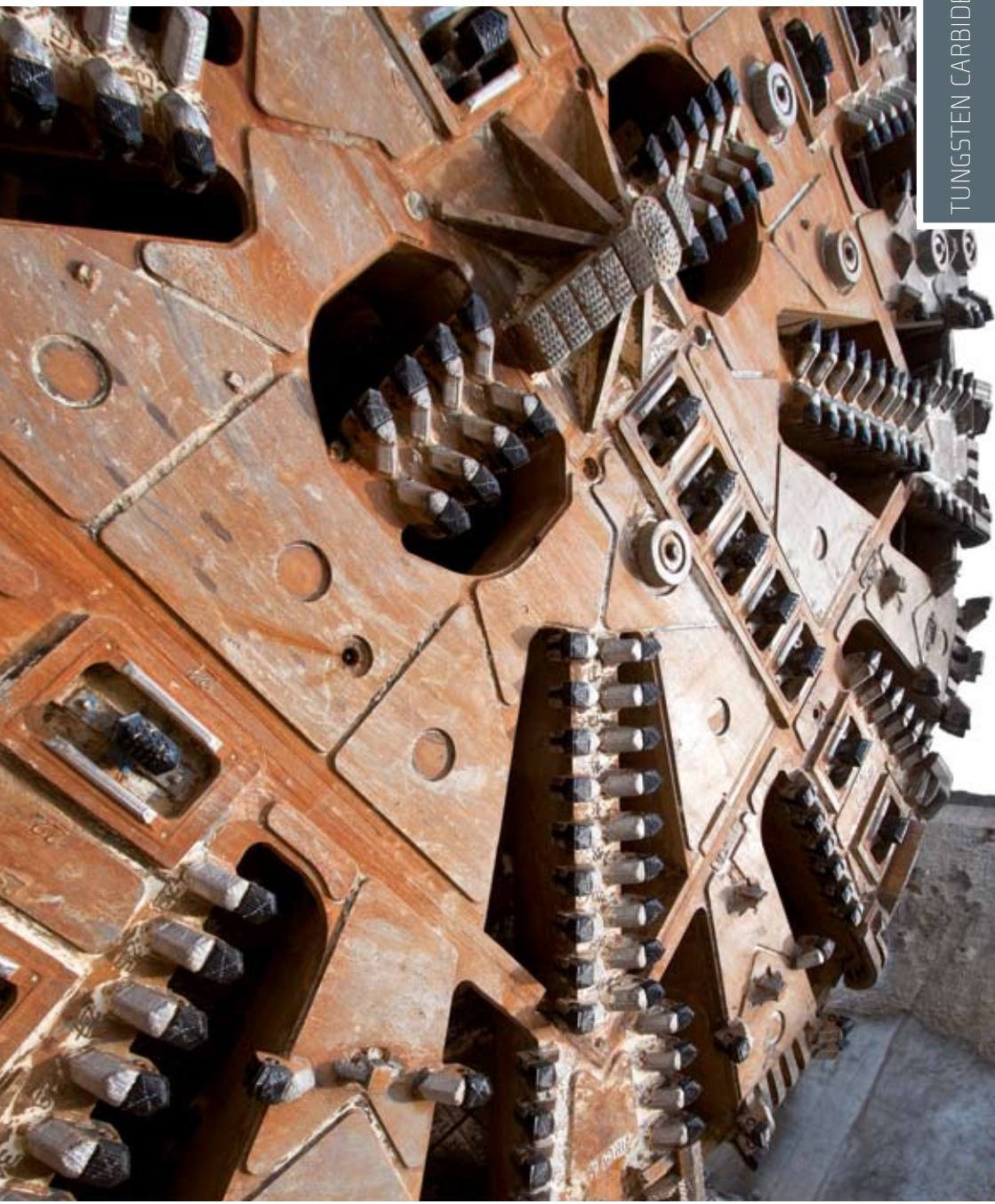
Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
Corodur® NIFE 36	max. 0,1	<1,0	3,0		36,0						Bas.	Cu +	140–160 HB	1.3912
Corodur® NIFE 60/40	max. 0,1	<1,0	4,0		Bas.						40,0	Cu+	160–190 HB	NiFeC1
Corodur® 45-GG	2,2	3,8	0,3								Bas.		35–45 HRc annealed	Spezial alloy

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes



TUNGSTEN CARBIDE PRODUCTS



CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Ni 20-55-CGTZ**

COROCARB **Ni**

COROCARB Ni is a cored metal wire filled with fused tungsten carbide and a Ni-B-Si- matrix for semi-automatic welding application. COROCARB Ni was developed to protect surfaces where extreme abrasive wear in combination with corrosion are encountered. The deposit alloy consists of up to 62% FTC (W2C) and 35 - 40% Ni- B- Si- matrix. The alloy has a low melting range of between 900 – 1050 °C (1.652 – 1.922 °F) and flows extremely well and leaves a smooth and clean surface. The matrix is highly resistant to acids, bases, lye's and other corrosive media. Be sure that to choose amperage and voltage as low as possible to avoid decay of the tungsten carbides.

Repairing & hardfacing ferritic and austenitic steel tools and machine parts (steel castings). Specially developed for welding on tool joints and stabilizers in the petroleum industry.

TYPICAL ALL WELD METAL ANALYSIS (%)

Ni-B-Si-Matrix + 62% FTC

Hardness HRc	Matrix 55	2400 $HV_{0,2}$

PARAMETER

Diameter	Voltage	Amps
1,2	16 - 20	140 - 180
1,6	18 - 20	160 - 180
2,0	20 - 21	200 - 220
2,4	21 - 23	220 - 260
2,8	22 - 24	240 - 280
3,2	22 - 24	280 - 300

G = Gas shielded, OA = Open Arc,

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 20-65-GZ**

COROCARB **Fe**

COROCARB is an open arc tubular wire filled with fused tungsten carbide (FTC) for semi-automatic application, where extreme abrasive wear is encountered. For hardfacing of low alloyed steels that have a maximum of 0,45% carbon (a higher carbon content could lead to cracking). Also used for hardfacing and repairing tools and machine parts exposed to wear. The area to be hardfaced should be free of rust, scale, grease or other dirt. Depending on the base metal's alloy and the size of the area to be hard-faced, the advisable preheating temperature should be between 350-500 °C (662-932 °F). If the voltage and the welding current are kept on the lowest setting possible the tungsten carbide granular will be prevented from melting. During welding, position the arc that the weld metal is deposited in coarse droplets.

Mining, excavation, earth moving, tunneling shields, road construction, well drilling and deep drilling.

TYPICAL ALL WELD METAL ANALYSIS (%)

Fe-C-W-Matrix + 62% FTC

Hardness HRc	Matrix 65	2400 $HV_{0,2}$

PARAMETER

Diameter	Voltage	Amps
1,2	22 - 26	140 - 180
1,6	22 - 26	160 - 200
2,0	24 - 26	180 - 240
2,4	24 - 27	220 - 260
2,8	24 - 27	240 - 280

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc,

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Fe 20-65-GZ**

COROCARB **Fe 40+**

COROCARB Fe 40+ is an open arc tubular wire filled with fused tungsten carbide (FTC) for semi-automatic application, where extreme abrasive wear is encountered. The alloy is suitable for semi-automatic build-up welds on workpieces which are subject to extremely abrasive wear. For hardfacing of low alloyed steels that have a maximum of 0,45% carbon (a higher carbon content could lead to cracking). Also used for hardfacing and repairing tools and machine parts exposed to wear. The area to be hardfaced should be free of rust, scale, grease or other dirt. Depending on the base metal's alloy and the size of the area to be hardfaced, the advisable preheating temperature should be between 350–500 °C (662–932 °F). If the voltage and the welding current are kept on the lowest setting possible the tungsten carbide granular will be prevented from melting. During welding, position the arc so that the weld metal is deposited in coarse droplets.

Mining, excavation, earth moving, tunneling shields, road construction, well drilling and deep drilling.

TYPICAL ALL WELD METAL ANALYSIS (%)

Alloyed Fe-Matrix + 40% FTC

Hardness HRc	Matrix 1. layer ca. 60 – 62 HRc Matrix 2. layer ca. 62 – 66 HRc	2400 $HV_{0,2}$

PARAMETER

Diameter	Voltage	Amps
1,2	22 – 26	140 – 180
1,6	22 – 26	160 – 200
2,0	24 – 26	180 – 240
2,4	24 – 27	220 – 260
2,8	24 – 27	240 – 280

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **C Ni 20 CGTZ**

COROCARB **CS**

COROCARB CS consists of sintered tungsten carbide fragments in a ductile nickel silver matrix.
The alloy has a tensile strength of 100,000 psi. COROCARB CS production methods ensure an overall tinning of the sintered tungsten carbide particles. COROCARB CS composite rods are available in two grades: Wear resistant and cutting.

Down hole reamers, openers, fishing tools (spears), coring tools, reamers, milling tools, overshots, stabilizers.

FORMS OF DELIVERY: Rod approx. 450 mm

Grain Sizes
2,0 – 4,0 mm
4,0 – 6,0 mm
6,0 – 8,0 mm
8,0 – 12,0 mm

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **E Fe 20-60-CG**

COROCARB **E**

For hardfacing unalloyed and low alloyed steels (cast steels) with a maximum carbon content of 0,5%. A higher carbon content could lead to cracking. For welding on most high alloyed steels after a buffer layer is applied. Also for hardfacing tools and machine parts that experience wear in: Mining, Excavation, Well Digging, Road Construction and Deep Drilling.

Depending on the base metal's alloy and the area to be hardfaced, a preheating temperature between 350–500 °C (662–932 °F) is advised. NOTE: Since COROCARB-E is a hollow tube metal filled with fused tungsten carbide powder, the lowest amp setting possible should be used when depositing it in order to avoid any damage to the carbides.

Hardness HRc	55–58

FORMS OF DELIVERY

Type	ø mm	Length of rod mm	Amps A	Voltage
3505	3,5	350	90	= + /~
4005	4,0	350	110	= + /~
5005	5,0	350	140	= + / ~
6005	6,0	350	160	= + / ~
8005	8,0	350	200	= + / ~

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **T Ni 20-55-CG**

COROCARB **Ni A**

COROCARB NiA is a cold rolled, formed, closed seam nickel tube filled with fused tungsten carbide (FTC) and Cr, B and Si for oxyacetylene application. The deposited alloy consists of approximately 65% FTC and 35% Ni-Cr-B-Si- matrix. COROCARB NIA wets easily and has excellent flow producing a smooth, clean surface. COROCARB NIA has a low melting point of approx. 900 – 1050 °C. The overlay is extremely resistant to acids, bases, lye and other corrosive media and other excessive wear conditions.

Hardfacing on ferritic and austenitic steels (steel casings), overlaying mixer blades and conveyors & screws in: chemical & dye industry and food industry.
Recommended for hardfacing rock bits and stabilizers in the petroleum industry.

Ni-Cr-B-Si-Matrix + 62% FTC

Hardness HRc	Matrix 55	2400 $HV_{0,2}$

STANDARD TUBE METAL LENGTH: 700 MM (28")

Type	ø mm	Grain Sizes mm	Colour code
4005	4,0	0,25 – 0,70	white
4010	4,0	0,70 – 1,20	yellow
4015	4,0	1,00 – 1,60	red
5005	5,0	0,25 – 0,70	white
5010	5,0	0,70 – 1,20	yellow
5020	5,0	1,00 – 2,00	green
6005	6,0	0,25 – 0,70	white
6010	6,0	0,70 – 1,20	yellow
6020	6,0	1,00 – 2,00	green

TUNGSTEN CARBIDE PRODUCTS

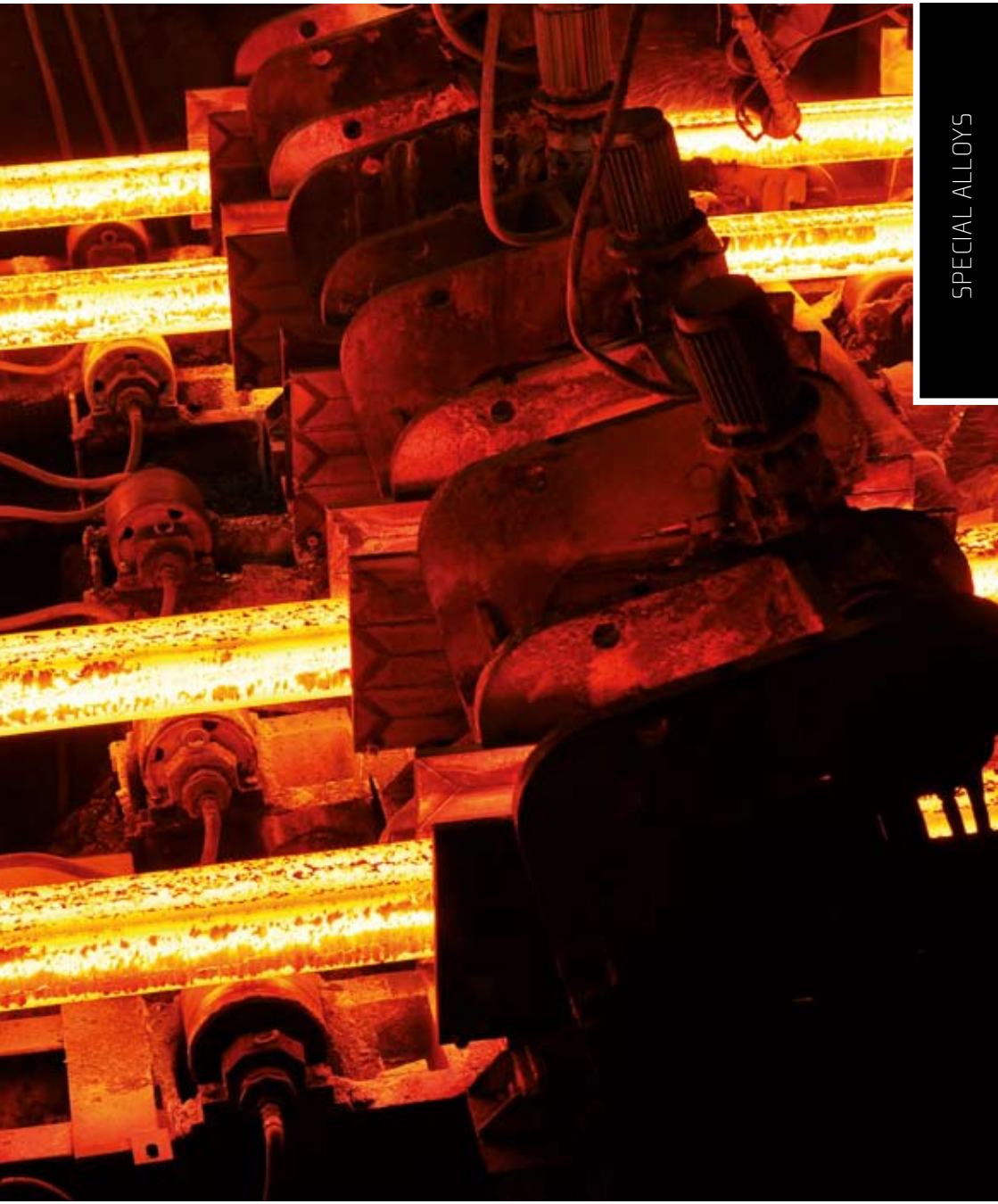
Product		Hardness	DIN EN 14700
Corocarb Ni	Ni-Si-B-Matrix + 62 % FTC (2400 HV)	Matr. 55 HRc	T Ni 20-55-CGTZ
Corocarb Fe	Fe-C-W-Matrix + 62 % FTC (2400 HV)	Matr. 65 HRc	T Fe 20-65-GZ
Corocarb Fe 40+	Alloyed Fe-Matrix + 40% FTC (2400 HV)	60 - 62 HRC	T Fe 20-65-GZ
Corocarb CS	Ductile nickel silver matrix		C NI 20 CGTZ
Corocarb E	FTC in Fe	55 - 58 HRC	E Fe 20-60-CG
Corocarb Ni A	FTC in Ni-Cr-B-Si	ca. 2400 HV FTC	T Ni 20-55-CG

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

CORODUR Das Original FÜLLDRAHT GMBH

Your notes

SPECIAL ALLOYS



DIN EN 14700 **T 121-T5K4**

CORODUR® **CrMo1**

For welding of medium alloyed steels, as well as for buffer layer welding, the CORODUR® CrMo 1 flux cored wire provides a good solution. If CORODUR® CrMo 1 is to be used as a buffer and/ or build-up wire and then a hardfacing layer is to be applied, the preheating and inter-pass temperature should be selected according to the base material. The weld metal is crack-resistant and resistant to pressure and impact.

Build-up and buffer layer welding for Steel and Cement machinery as well as for continuous casting rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo
0,07	0,7	1,5	1,3	0,5

Hardness HB	280-320

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **T Fe 13-300-P**

CORODUR® NiCrMo22

For applications involving either medium alloyed steels or high strength steels CORODUR® NiCrMo 22 is an excellent flux cored wire. This alloy can also be used as a buffer and build-up layer (multiple pass). When NiCrMo 22 is used as buffer and build-up layer for rolls and parts followed by a hard-surfacing alloys, the preheat and inter-pass temperature should be chosen depending of the C-contents of the base material). The weld deposit is highly crack resistant and is highly resistant to impact and pressure wear.

Build-up layers for carbon steels, buffer layers for continuous casting rolls and cement rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo
0,06	0,6	1,6	0,4	2,2	0,5

Hardness HB	280-320

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **Special alloy**

CORODUR® 295 HY

The weld deposit of CORODUR® 295 HY is a corrosion-resistant alloy with special properties. The austenitic matrix is resistant to corrosion, erosion and especially cavitation. The alloy is also resistant to hot cracking. The life time, especially in the water turbine sector, is considerably longer than conventional materials such as Stellite 21, 13Cr 4Ni, or 17% chromium steels.

Water turbines, valves, fittings as well as components found in hydraulics and gas systems.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Co	N
0,25	2,8	10,0	20,0	10,0	+

Hardness HB	280–300	450–500 Work hardened

PARAMETER

Diameter	Voltage	Amps
1,2	20–24	150–200
1,6	22–26	180–240
2,0	25–27	220–260
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700 **T Fe 11-50-CHT**

CORODUR® SER

CORODUR® SER is an iron-based, low-level brittle-phase alloy. The machineable deposit can be further heat-hardened up to 48HRc (at a temperature level of 520°C – 540°C). This gives the deposit similar wear resistant properties as Cobalt-based alloys in that it displays excellent abrasive wear at elevated temperatures. This wire is ideal as a substitute alloy when Cobalt–based alloys are not useable for example in the nuclear industry or when surface cracking is to be limited or for cost considerations. Recommended gas: Argon or Argon 51

Gate valves, butterfly valves, ball valves, pressure and gliding surface hardfacing, slipways (shipyards).

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb
<0,1	4,5	4,8	18,0	8,5	5,5	1,0

Hardness HRc	46–50	Thermoset hardening up to 56

PARAMETER

Diameter	Voltage	Amps
1,2	20–24	150–200
1,6	22–26	180–240
2,0	25–27	220–260
2,4	25–27	260–300
2,8	26–28	280–340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, UP = Submerged Arc

DIN EN 14700 **T Fe 3-40-PT**

CORODUR® 341

Suitable for use with medium alloyed steels and high strength steels is the CORODUR® 341, a flux cored wire. This alloy can also be used as a buffer and build-up layer (multiple pass). When 341 is used as buffer and build-up layer for rolls and parts followed by a hard-surfacing alloys, the preheat and inter-pass temperature should be chosen depending of the C-contents of the base material. The weld deposit is highly crack resistant and is highly resistant to impact and pressure wear.

Build-up layers for carbon steels, buffer layers for continuous casting rolls and cement rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	V
0,1	0,3	1,6	2,6	0,6	2,5	0,4

Hardness HRc	39–42

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **T Fe 7-40-CPT**

CORODUR® **356 N**

CORODUR® 356 N is a Cr- Ni- Mo- Nb- V- alloyed flux cored wire. The deposit is corrosion resistant and good for impact loads and with an excellent resistance to thermal fatigue. A maximum deposit thickness of 10 mm (2 – 3 layers) is recommended. More layers decrease the hardness.

Continuous casting rolls, new cladding and re-welding of all types of hot rolling mills and caster rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb	V	N
0,1	0,3	0,8	17,0	4,8	1,0	0,2	0,3	+

Hardness HRc	40–42

PARAMETER

Diameter	Voltage	Amps
1,2	20–24	150–200
1,6	22–26	180–240
2,0	25–27	220–260
2,4	25–27	260–300
2,8	26–28	280–340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **T Fe 7-45-CPT**

CORODUR® **370 N**

Resistant to corrosion and fatigue, even at high temperatures, the CORODUR® 370 N is a Cr- Ni- Mo- alloyed flux cored wire. A heat treatment of the high-chromium-containing, martensitic alloy enables an exact hardness adjustment in the range of 43 to 45 HRc. The Inter-pass temperature should be max. 450 °C. The application is tough and can be machined.

Hardfacing of Rolls against hot wear, typically in steel plants.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	N
0,05	0,6	0,5	15,5	5,2	0,5	+

Hardness HRc	43 - 45

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **T Fe 8-50-PCT**

CORODUR® 502

Specially designed for submerged arc welding processes, the CORODUR® 502 is a wire alloy having a ferritic-martensitic deposit that is excellent for components subjected to metal-to-metal wear, corrosion and thermal fatigue cracking.

Continuous Casting Rolls and other steel mill rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr	Mo	Co	V	W
0,3	13,5	1,5	2,5	1,5	1,2

Hardness HRc	48-50	Annealing at 550°C

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **T Z Fe 6-60-PT**

CORODUR® 622

Producing a corrosion and wear resistant deposit, the CORODUR® 622 flux cored wire is resistant to thermal shock fatigue. The deposit shows a martensitic structure, reinforced with special carbides.

Wear and heat affected surfaces.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Nb
0,6	0,6	2,0	6,0	0,5	1,2	3,6

Hardness HRc	55-58

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **Special alloy**

CORODUR® 35

An amorphously solidifying weld deposit for hardfacing. Abrasion, erosion and corrosion resistant even in sulphurous atmosphere. The alloy is corrosion resistant to sea water, oxidising acids and bases.

Mixer Parts, Waste-water Pumps, Waste-water Screws, hardfacing of sealing surfaces for gas, water and steam fittings for temperatures up to 450 °C (oxidisation resistant up to 850 °C) and for fluegas desulphurization systems (FGD).

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	B
0,1	1,3	1,0	29,0	3,0

Hardness HRc	38-43

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 **Special alloy**

CORODUR® 35 T

An amorphously solidifying weld deposit for hardfacing, the CORODUR® 35 T is also abrasion, erosion and corrosion resistant even in sulphurous atmosphere. The alloy is corrosion resistant to sea water, oxidising acids and bases.

Mixer Parts, Waste-water Pumps, Waste-water Screws, hardfacing of sealing surfaces for gas, water and steam fittings for temperatures up to 450 °C (oxidisation resistant up to 850 °C) and for fluegas desulphurization systems (FGD).

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	B
0,1	1,1	1,0	29,0	4,0

Hardness HRc	38-43

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

CORODUR® 4009

DIN EN 14700 **T Fe 8-400-CT**
AWS 410

A tough and corrosion resistant overlay which is well suited for parts that encounter wear from sea water plant and power plant operation. This acid corrosion resistant wire has a 13% Cr- content which forms the wearing analysis with a low Carbon content of 0,12%. Also used as the base layer for repairing continuous casting rolls.

Bridge bearings, sealing surfaces for service temperatures up to 450 °C, corrosion slide ring sealing, roller bearings, valves, continuous casting rolls, Cr- alloying buffer layers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Ti
0,12	0,8	1,2	14,5	+	+

Hardness HB	300-360

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

CORODUR® 4015

DIN EN 14700 T Fe 8-250-CT
AWS 430

The tough and corrosion resistant overlay is well suited for parts that encounter wear in sea water plant and power plant operation. This acid corrosion-resistant wire has a 13% Cr- content which forms the wearing analysis with a low Carbon content of 0,12%.

Used for corrosion resistant overlays in power plants and Steel Mill continuous casting roller rebuild/buffer layer.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr
0,1	17,0

Hardness HB	220-240

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

CORODUR® 4028

DIN EN 14700 T Fe 8-50-CT
AWS 420

Well suited for parts that encounter wear from sea water plant and power plant operation, the 4028 wire is a tough and corrosion resistant overlay. This acid corrosion resistance wire has a 14% Cr content which forms the wearing analysis with a Carbon content of 0,3%. The weld parameters should be chosen with as low a heat input as possible.

Used for corrosion resistant overlays in power plants such as bridge bearings, sealing surfaces, corrosion slide-ring seals, roller bearings, centrifuges, valves.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Mn	Cr	Ni
0,3	0,8	14,0	0,4

Hardness HRc	46-48

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

CORODUR® 4115

DIN EN 14700 **T Fe 8-45-CT**
Alloy-No. 1.4115

This tough and corrosion resistant overlay is well suited for parts that encounter wear in sea water plant and power plant operation. This acid corrosion-resistant wire has a 17% Cr- content which forms the wearing analysis with a Carbon content of 0,4%. As this is a high Cr- alloy, the weld parameters should be chosen with as low heat input as possible to avoid potential for coarse grain formation.

Power plant such as bridge bearings, sealing surfaces for service temperatures up to 450 °C, corrosion slide-ring sealing, roller bearings, valves. Steel Mill continuous cast rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr	Ni	Mo
0,2	17,0	0,4	1,0

Hardness HRc	42-44

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

CORODUR® 4122

DIN EN 14700 **T Fe 8-50-CT**
Alloy-No. 1.4122

In addition to a tough and corrosion resistant overlay well suited for parts that encounter wear from sea water plant and power plant operation, CORODUR® 4122 is also suited for sliding metal-on-metal wear. This acid corrosion resistant wire has a 17% Cr- content which forms the wearing analysis with a Carbon content of 0,4%. The weld parameters should be chosen with a low heat input as possible due to coarse grain formation in 17% Cr- alloys.

Parts that encounter metal-to-metal friction/adhesion wear. Power plant such as bridge bearings, sealing surfaces for service temperatures up to 450 °C, corrosion slide-ring sealing, roller bearings, valves. Steel Mill continuous cast rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr	Ni	Mo	V
0,4	17,0	0,4	1,0	+

Hardness HRc	48-50

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

CORODUR® 4122 Nb

DIN EN 14700 **Special alloy**
~ Alloy-No. 4122

This tough and corrosion resistant overlay is well suited for parts that encounter wear in sea water plant and power plant operation. CORODUR® 4122 NB contains niobium and well suited for countering metal on metal sliding wear. This acid corrosion-resistant wire has a 17% Cr- content which forms the wearing analysis with a Carbon content of 0,4%. As this is a high Cr- alloy, the weld parameters should be chosen with as low heat input as possible to avoid potential for coarse grain formation.

Parts that encounter metal-to-metal friction/adhesion wear. Power plant such as bridge bearings, sealing surfaces for service temperatures up to 450 °C, corrosion slide-ring sealing, roller bearings, valves. Steel Mill continuous cast rolls.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr	Ni	Mo	Nb	V
1,2	17,0	0,4	1,0	8,0	0,3

Hardness HRc	48-51

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

CORODUR® 4351 HY

DIN EN 14700 **T Fe 7**
AWS 410 Ni Mo

Metal powder Flux Cored Wire for joining and hardfacing on chrome steels with a martensitic/ ferritic structure, usable with shielding gas. It is designed to resist metal-metal wear as well as corrosion and thermal fatigue.

Hardfacing of corrosion, oxidation and wear resistance parts.
For cavitation resistance steel like, CrNi 13/4
1.4313, 1.4317, 1.4320, 1.4407, 1.4000, 1.4413

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	S	P
0,02	0,7	0,9	12,5	4,7	0,55	0,01	0,01

TYPICAL MECHANICAL PROPERTIES OF THE WELDED DEPOSIT WITH SHIELDING GAS (2%CO2)

Rm N/mm²	Rp 0,2 % N/mm²	A5 %	KCV (J)
900	770	18	70@+20°C; 60@-20°C

PARAMETER

Diameter	Position	Current Type	Amps (A)	Voltage (V)	Wire speed (m/min)	Stick-out (mm)	Gas (l/min)
1.2 mm	PA / 1G	DC (+), Pulse	100-300	24-32	10	20+-5	10-20
1.2 mm	PF / 3G	DC (+) or Pulse	120-150	24-32	3.5	20+-5	10-20
1.6 mm	PA / 1G	DC (+)	150-300	24-32	13-15	20+-5	10-20

G = Gas shielded **Shielding Gas** (DIN EN ISO 14175) **M12 Mixgas (Ar + 0,5-2,5 CO_2)**

CORODUR® 4351

DIN EN 14700 T Fe 7-40-CT
AWS 410 NiMo Alloy-No. 4351

The tough and corrosion resistant overlay is well suited for parts that encounter wear from oxidation. The overlay also protects transporting equipment in high pressure areas such as in steel industries and power stations. CORODUR® 4351 is not only corrosion resistant but also capable of resisting pitting, cavitation and corrosion.

Ideal for surfacing Continuous Casting Rolls, Bridge bearings, sealing surfaces up to 450°C, roller bearings, high corrosion areas, alloying buffer layers.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	N
0,05	0,9	1,1	14,0	5,0	0,75	+

Hardness HRc	38-43

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

G = Gas shielded, OA = Open Arc, UP = Submerged Arc

DIN EN 14700 Special alloy

CORODUR® 160

High C- Cr- Nb- alloyed flux-cored wire electrode for high abrasive wear up to 550 °C. The weld deposit consists of chrome – and niobium – carbides which are embedded into the matrix. Special elements lead to an ultra-fine carbide structure, which enhances wear resistance against fine particle wear. The deposit should be subjected to little impact stress. Weld metal is not machinable. Maximum deposit should be limited to three layers and a thickness of 10 mm.

Mixer paddles, grinding rollers and grinding paths, wear plates, band transfers, chutes, hoppers, cement and concrete pumps, excavator teeth, steel, coal, cement and mineral industry.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Nb	And.
5,2	1,1	0,4	22,0	7,0	+

Hardness HRc	62-66

PARAMETER

Diameter	Voltage	Amps
1,2	20-24	150-200
1,6	22-26	180-240
2,0	25-27	220-260
2,4	25-27	260-300
2,8	26-28	280-340

OA = Open Arc

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

DIN EN 14700

CORODUR® COROFUG

CORODUR® COROFUG is a specially developed flux cored wire for gouging of old hardfacings, cracks, blow holes. Moreover it is suitable for preparing, gouging and post weld processing of weld joints. Compared to stick electrodes for gouging it is much more economical using COROFUG due to reduction of downtime (e.g. changing electrodes). Beside this it is possible to apply COROFUG in mechanized and automated processes. An additional supply of compressed air is not necessary and applying COROFUG is possible without any process or shielding gas.

Gouging, preparation of work pieces for cladding, hardfacing and joining. Removing of cracks, blow holes, etc.

FORMS OF DELIVERY

Diameter	Unit	Weight
Ø 2,4	Coil B 450	25 kg
Ø 2,4	Drums	300 kg
Ø 2,8	Drums	300 kg

SPECIAL ALLOYS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® CrMo1	0,07	0,7	1,5	1,3		0,5					B		280–320 HB	T 121-T5K4
CORODUR® NiCrMo22	0,06	0,6	1,6	0,4	2,2	0,5					B		280–320 HB	T FE 13-300-P
CORODUR® 295HY	0,25	2,8	10,0	20,0			10,0				B	N +	280–300 HB Work hardened 450–500 HB	Special alloy
CORODUR® SER	<0,1	4,5	4,8	18,0	8,5	5,5		1,0			B		46–50 HRc thermoset hard. up to 56 HRc	T Fe 11-50-CHT
CORODUR® 341	<0,1	0,3	1,6	2,6	0,6	2,5			0,4		B		39–42 HRc	T Fe 3-40-PT
CORODUR® 356 N	0,1	0,3	0,8	17,0	4,8	1,0		0,2	0,3		B	N +	40–42 HRc	T Fe 7-40-CPT
CORODUR® 370 N	0,05	0,6	0,5	15,5	5,2	0,5		0,2	0,3		B	N +	43–45 HRc	T Fe 7-45-CPT
CORODUR® 502	0,3			13,5		1,5			1,5	1,2	B		48–50 HRc	T Fe 8-50-PCT
CORODUR® 622	0,6	0,6	2,0	6,0	0,5	1,2		3,6			B		55–58 HRc	T Z Fe 6-60-PT
CORODUR® 35	0,1	1,3	1,0	29,0							B	B 3,0	38–43 HRc	Special alloy
CORODUR® 35 T	0,1	1,1	1,0	29,0							B	B 4,0	38–43 HRc	Special alloy
CORODUR® 4009	0,12	0,8	1,2	14,5	+						B	Ti +	300–360 HB	T Fe 8-400-CT AWS 410
CORODUR® 4015	0,1			17,0							B		220–240 HB	T Fe 8-250-CT AWS 430

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	V %	W %	Fe %	Others %	Hardness	DIN EN 14700
CORODUR® 4028	0,3		0,8	14,0	0,4						B		46-48 HRc	T Fe 8-50-CT AWS 420
CORODUR® 4115	0,2			17,0	0,4	1,0					B		42-44 HRc	T Fe 8-45-CT A.-No. 1.4115
CORODUR® 4122	0,4			17,0	0 ,4	1,0			+		B		48-50 HRc	T Fe 8-50-CT A.-No. 1.4122
CORODUR® 4122Nb	1,2			17,0	0,4	1,0		8,0	0,3		B		48-51 HRc	Special alloy ~ A.-No. 4122
CORODUR® 4351HY	0,02	0,7	0,9	12,5	4,7	0,55					B	S 0,01 P 0,01	38-43 HRc	T Fe 7 AWS 410 Ni Mo
CORODUR® 4351	0,05	0,9	1,1	14,0	5,0	0,75					B	N+	38-43 HRc	AWS 410 NiMo ~AWS 410NiMo
CORODUR® 160	5,2	1,1	0,4	22,0				7,0			B	+	62-66 HRc	Special alloy
COROFUG														

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

HOT FORGING MOLDS

DIN EN 14700 **T Fe 8**

CORODUR® **812**

A recommended choice for wire designed for maintenance of hot working tools, CORODUR® 812 also increases service life. CORODUR® 812 is a flux cored wire, which produces a heat and thermal shock resistant deposit. The number of layers can be done as necessary. The alloyed weld deposit has excellent properties of resistance to impact and is still well machinable.

Hot shear knives/blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	V	Ti
0,10	0,5	0,6	10,0	1,0	2,0	0,25	0,2

Hardness HRc	38–44	Tensile strength N/mm²	1200–1400*

PARAMETER

Diameter	Voltage	Amps
1,6	22–26	180–240
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

* machinable

DIN EN 14700 **T Fe 8**

CORODUR® 813

CORODUR® 813 is a flux cored wire, which produces a heat and thermal shock resistant deposit. The wire is designed for maintenance of hot working tools and to increase their service life. The number of layers can be done as necessary. The interpass temperature should be maximum 250 °C. The alloyed weld deposit has excellent properties of resistance to impact. CORODUR® 813 is still well machinable.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Ti
0,12	0,6	0,6	10,0	1,7	3,0	0,2

Hardness HRc	41–47	Tensile strength N/mm²	1300–1500*

PARAMETER

Diameter	Voltage	Amps
1,6	22–26	180–240
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

* machinable

DIN EN 14700 **T Fe 8**

CORODUR® **814**

For a Cr-Mo-Ni- alloyed weld deposit with excellent properties of resistance to impact at higher temperature, CORODUR® 814 is recommended. The wire is designed for maintenance of hot working tools and to increase their service life, especially for dies subject to high heat and stress when a machinable deposit is required.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Ti
0,20	0,6	0,6	10,0	1,7	3,0	0,2

Hardness HRc	44–48,5	Tensile strength N/mm²	1400–1600*

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,4	25-27	260-300
2,8	26-28	280-340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

* machinable

DIN EN 14700 **T Fe 8**

CORODUR® **816**

CORODUR® 816 is a Cr-Mo-Ni- alloyed weld deposit with excellent properties of resistance to impact at higher temperature. The wire is designed for maintenance of hot working tools and to increase their service life. For dies subjected to high heat and stress when a machinable deposit is required.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Ni	Mo	Ti
0,28	0,7	0,6	10,0	1,7	3,0	0,2

Hardness HRc	48,5-52	Tensile strength N/mm²	1600-1800*

PARAMETER

Diameter	Voltage	Amps
1,6	22-26	180-240
2,4	25-27	260-300
2,8	26-28	280-340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

* machinable

DIN EN 14700 **T Fe 8**

CORODUR® **818**

The CORODUR® 818 alloyed weld deposit has excellent properties of resistance to impact but is only machinable by flat engraving. It is a flux heat-resistant cored wire designed for maintenance of hot working tools and to increase their service life. The number of layers can be done as necessary. The inter-pass temperature should not exceed 250 °C.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr	Ni	Mo	V	W	Ti
0,36	0,8	0,6	10,0	1,0	3,0	0,4	2,0	0,2

Hardness HRc	52–55,5	Tensile strength N/mm²	1800–2000**

PARAMETER

Diameter	Voltage	Amps
1,6	22–26	180–240
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

** flat engraving

DIN EN 14700 **T Fe 8**

CORODUR® **864**

CORODUR® 864 is a flux cored wire, which produces a heat and thermal shock resistant deposit. The wire is designed for maintenance of hot working tools and to increase their service life. The number of layers can be done as necessary. The inter-pass temperature should be maximum 250 °C. The alloyed weld deposit has excellent properties of resistance to impact. The weld deposit is still well machinable.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Cr	Mo	V	W	Ti
0,25	0,7	0,6	5,0	1,5	0,4	1,4	0,2

Hardness HRc	44–48,5	Tensile strength N/mm²	1400–1600*

PARAMETER

Diameter	Voltage	Amps
1,6	22–26	180–240
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

* machinable

DIN EN 14700 **T Fe 8**

CORODUR® **866**

The weld deposit of CORODUR® 866 produces a heat and thermal shock resistant deposit. The wire is designed for maintenance of hot working tools and to increase their service life. The number of layers can be done as necessary. The inter-pass temperature should be maximum 250 °C. The alloyed weld deposit has excellent properties of resistance to impact. The weld deposit is still well machinable.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	W	Ti
0,30	0,7	0,6	5,5	2,5	0,6	2,4	0,2

Hardness HRc	48,5–52	Tensile strength N/mm²	1600–1800*

PARAMETER

Diameter	Voltage	Amps
1,6	22–26	180–240
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

* machinable

DIN EN 14700 **T Fe 8**

CORODUR® **868**

A flux cored wire, CORODUR® 868 has excellent properties of impact resistance as well as heat and thermal shock resistance. The wire is designed for maintenance of hot working tools and to increase their service life. The number of layers can be done as necessary. The inter-pass temperature should be maximum 250 °C. The alloyed weld deposit with excellent properties of resistance to impact. Unlike CORODUR® 864, CORODUR® 868 is machinable only by flat engraving.

Hot shear knives/ blades, press tools, dies, punching tools, forging dies.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr	Mo	V	W	Ti
0,40	0,8	0,6	6,0	3,0	0,7	3,0	0,2

Hardness HRc	52–55,5	Tensile strength N/mm²	1800–2000**

PARAMETER

Diameter	Voltage	Amps
1,6	22–26	180–240
2,4	25–27	260–300
2,8	26–28	280–340

G = Gas shielded

FORMS OF DELIVERY

Unit	Weight
Coil BS 300	15 kg
Coil B 450	25 kg
Drums	300 kg

** flat engraving

HOT FORGING MOLDS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	V %	W %	Fe %	Others %	Tensile strength N/mm²	Hardness HRc
CORODUR® 812	0,10	0,5	0,6	10,0	1,0	2,0	0,25		R	Ti 0,2	1200–1400*	38–44
CORODUR® 813	0,12	0,6	0,6	10,0	1,7	3,0			R	Ti 0,2	1300–1500*	41–47
CORODUR® 814	0,20	0,6	0,6	10,0	1,7	3,0			R	Ti 0,2	1400–1600*	44–48,5
CORODUR® 816	0,28	0,7	0,6	10,0	1,7	3,0			R	Ti 0,2	1600–1800*	48,5–52
CORODUR® 818	0,36	0,7	0,6	10,0	1,0	3,0	0,4	2,0	R	Ti 0,2	1800–2000**	52–55,5
CORODUR® 864	0,25	0,7	0,6	5,0		1,5	0,4	1,4	R	Ti 0,2	1400–1600*	44–48,5
CORODUR® 866	0,30	0,7	0,6	5,5		2,5	0,6	2,4	R	Ti 0,2	1600–1800*	48,5–52
CORODUR® 868	0,40	0,8	0,6	6,0		3,0	0,7	3,0	R	Ti 0,2	1800–2000**	52–55,5

* machinable

** flat engraving

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

RUST, ACID AND HEAT RESTISTANT ALLOYS

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

RUST, ACID AND HEAT RESISTANT ALLOYS

CORODUR® TS-308 L

1.4316 T 19 9 L R M 3 (C3)
AWS E 308 LTO -1/ 4

Flux cored wire for joining corrosion-proof Cr-Ni- steels with low carbon content, CORODUR® TS-308L works equally well with stabilised and non-stabilised steels of identical or similar characteristics which are resistant to chemical agents. Used on a base metal of identical characteristics the weld metal is resistant to wet corrosion up to 350 °C and is scale resistant up to 800 °C in an air and oxidising gases atmosphere. There is no intercrystalline corrosion due to low carbon content and the deposits are capable of taking high polish.

1.4306 X2 CrNi19-11 1.4312 GX10 CrNi18-8 1.4311 X2 CrNiN18-10
1.4541 X6 CrNiTi18-10 1.4300 X 12 CrNi 18 8 1.4550 X6 CrNiNb18-10
1.4301 X5 CrNi18-10 1.4303 X4 CrNi 18-12

RUST, ACID AND HEAT RESISTANT ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni
0,03	0,7	1,4	19,5	10,5

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
560	400	40	32 @ -196 °C

FORMS OF DELIVERY

Diameter	Units	Shielding gas
0,9	BS 300	Argon + Co_2
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

CORODUR® TS-309 L

1.4332 T 23 12 L R M M21 3
AWS E 309 LT0-4

CORODUR® TS-309L is a flux cored wire for joining difficult-to-weld steels and for corrosion-proof plating. An austenitic 18/10 type Cr-Ni- weld metal can be obtained already in the first layer. The alloy is also suitable for buffer layers on plated metal sheets. The highly alloyed weld metal deposited by the wire ensures crack-proof welds and is scale-resistant up to 1000 °C. These deposits are capable of taking high polish.

Joints of 1.4583 with H I / H II, 17 Mn 4, StE 355
P235GH P256GH, P295GH, P355N
1.4825 GX25CrNiSi 18-9
1.4826 GX40CrNiSi 22-9
1.4828 X15CrNiSi 20-10
1.4832 GX25CrNiSi 20-14

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni
0,03	0,7	1,4	23,5	13,0

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
580	460	32	40 @ -60 °C

RUST, ACID AND HEAT RESISTANT ALLOYS

FORMS OF DELIVERY

Diameter	Units	Shielding gas
0,9	BS 300	Argon + Co_2
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

CORODUR® TS-309 L MO

1.4459 T 23 12 2 L R M21 3
AWS E 309 L Mo T0 - 4

Flux cored wire with an alloyed core, suitable for joining difficult-to-weld steels and for corrosion-proof claddings. An austenitic weld metal (Cr Ni Mo 18/ 10/ 2) is obtained already in the first layer. The alloy is also suitable for welding buffer layers on plated metal sheets and for joining austenitic to ferritic steels which are subject to service temperatures of up to 350 °C. Due to its high alloy level CORODUR® TS 309 L Mo produces crack-proof welds. The addition of molybdenum ensures higher corrosion resistance and higher tensile-strength at elevated temperatures, as compared to the moly-free material 1.4829. The weld metal is heat resistant and non-scaling up to 1050 °C.

Dissimilar joints of: 1.4583 mit H I / H II, 17 Mn 4, StE 355. P235GH / P256GH, P295GH, P355N
Buffering before cladding.
Joining of stainless steels to mild or low-alloyed steels at high dilution levels.

RUST, ACID AND HEAT RESISTANT ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo
0,03	0,8	1,4	23,5	13,5	2,8

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
760	610	27	50 @ +20 °C

FORMS OF DELIVERY

Diameter	Units	Shielding gas
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

CORODUR® TS-312

1.4337 T 29 9 R M21 3
AWS E 312 T0 - 4

A rutile flux cored stainless steel wire for gas shielded arc welding, CORODUR® TS-312 contains 29% chromium and 9% nickel. It has an attractive bead appearance, easy slag release, very good penetration, high productivity and excellent X-ray soundness. The maximum performances in the horizontal and downhand position are welded with classical economical Ar-CO2 mixtures or CO2.

Its high alloy content and high ferrite ratio allow CORODUR® TS 312 to benefit from extreme tolerance to hot cracking and to dilution with a wide range of base materials. Preheat can often be avoided or minimised. The weld deposit workhardens and gives good wear and friction resistance.

RUST, ACID AND HEAT RESISTANT ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo
0,03	0,8	1,3	29,0	8,6	0,3

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
860	650	22	40 @+20 °C

FORMS OF DELIVERY

Diameter	Units	Shielding gas
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

CORODUR® TS-316 L

1.4430 T 19 12 3 L R M21 3
AWS E 316 LT0 – 4

CORODUR® TS-316L is used when a flux cored wire is needed for joining corrosion-proof Cr-Ni-Mo- steels of low carbon content as well as stabilised and non-stabilised steels with identical or similar characteristics and resistant to chemical agents. Used on a base metal of identical characteristics the weld metal is resistant to wet corrosion up to 400 °C. Scale resistant up to 800 °C in air and oxidising gases atmosphere. No intercrystalline corrosion due to low carbon content. The deposit is capable of taking high polish. It is also approved for joining austenitic to ferritic steels (weld thin stringer beads).

1.4404	X2 CrNiMo 17-13-2;
1.4406	X2 CrNiMoN 17-12-2;
1.4571	X6 CrNiMoTi 17-12-2;
1.4401	X5 CrNiMo17-12-2;
1.4583	GX10 CrNiMoNb 18-12

RUST, ACID AND HEAT RESISTANT ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo
0,03	0,8	1,4	19,0	12,0	2,8

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
560	420	37	40 @ – 60 °C

FORMS OF DELIVERY

Diameter	Units	Shielding gas
0,9	BS 300	Argon + Co_2
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

CORODUR® TS 318 L

1.4576 T 19 12 3 Nb R M21 3
AWS E 318 T0 - 4

High alloyed stabilised Cr-Ni-Mo-Nb- flux cored wire for joining corrosion-resistant stabilised and non-stabilised Cr-Ni-Mo- steels of identical or similar characteristics which are resistant to chemical agents. For service temperatures up to 400 °C. Non scaling up to 800 °C.

1.4571 X6 CrNiMoTi 17-12-2;
1.4580 X6 CrNiMoNb 17-12-2;
1.4583 GX10 CrNiMoNb 18-12

RUST, ACID AND HEAT RESISTANT ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Nb
0,03	0,9	1,5	19,5	12,0	2,9	0,45

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
620	480	34	60 @ +20 °C

FORMS OF DELIVERY

Diameter	Units	Shielding gas
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

CORODUR® TS-625

AWS A 5.34M **T Ni 6625-04**
AWS A 5.34 **ENiCrMo3T0-4**

In addition to joining and cladding stainless, heat resistant and cold tenacious steels, The CORODUR® TS-625 is used to weld dissimilar materials such as low alloyed steels with Ni- base or Cu- base alloys. The austenitic deposit is insensitive to hot-cracking and free of embrittlement at both high and low temperature extremes, non-scaling up to 1100 °C, and cold tough down to –196 °C. No diffusion of carbon into the weld metal at high temperatures. It is frequently used in service-temperatures of more than 300 °C in the chemical and petrochemical industries, glassworks, civil engineering, repairing and maintenance workshops.

1.4563	2.4856
1.4562	2.4858
1.4529	1.5662

RUST, ACID AND HEAT RESISTANT ALLOYS

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Ni

C	Si	Mn	Cr	Mo	Nb	Fe
0,025	0,3	0,4	21,0	9,0	3,4	0,4

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Impact strength (J)
780	500	40	70 @ - 196 °C

FORMS OF DELIVERY

Diameter	Units	Shielding gas
1,2	BS 300	Argon + Co_2
1,6	BS 300	Argon + Co_2

Recommended shielding gas: M21 Ar + 15-25% CO_2

RUST, ACID AND HEAT RESTISTANT ALLOYS

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Co %	Nb %	Fe %	Norm EN ISO Alloy-No.
TS-308L	0,03	0,7	1,4	19,5	10,5					T 19 9 L R M 3 (C3) 1.4316
TS-309L	0,03	0,7	1,4	23,5	13,0					T 23 12 L R M M21 3 1.4332
TS-309LMO	0,03	0,8	1,4	23,5	13,5	2,8				T 23 12 2 L R M 21 3 1.4459
TS-312	0,03	0,8	1,3	29,0	8,6	0,3				T 29 9 R M21 3 1.4337
TS-316L	0,03	0,8	1,4	19,0	12,0	2,8				T 19 12 3 L R M21 3 1.4430
TS-318L	0,03	0,9	1,5	19,5	12,0	2,9	0,45			T 19 12 3 Nb R M21 3 1.4576
TS-625	0,025	0,3	0,4	21,0	Base	9,0		3,4	0,4	T Ni 6625-04

Your notes

FLUXES

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

EN 760 **SA FB 1 65 AC**

COROFLUX **200**

COROFLUX 200 is a highly basic agglomerated flux for hardfacing. This welding flux is recommended for the welding of mill rolls and continuous casting rolls in conjunction with martensitic CORODUR® flux cored wires. However it can be used for other CORODUR® submerged-arc wires with the approval of our technicians. The slag that is formed, is very easily removable and the thickness of the weld bead can be up to 5mm. This flux can also be used for dual-wire feeding and for strip welding.

Non-alloying powder, especially for welding of rolls.

WELDING RECOMMENDATIONS

Power source: Constant Voltage with +positive or alternating polarity

Redrying	Granulometry n. DIN 32522	Basicity index (according to Boniszewski)	Apparent density kg/ dm^3
200-250° C/ 2h	3-25 (0,3-2,5mm)	~2,1	1,0

PARAMETER			FORMS OF DELIVERY
Amps	Voltage		
300 - 600	27 - 32	Single wire welding	25 Kg Bag
700 - 1.200	28 - 32	Dual wire welding	
450 - 1.100	26 - 32	Strip welding	

COROFLUX **HL**

EN 760 A CS 2 Cr 64 dC
B CS 5 71645 dC 8 MB

COROFLUX HL is an agglomerated flux for submerged arc hardfacing. This welding flux is recommended for the welding of mill rolls and continuous casting rolls in conjunction with martensitic CORODUR® flux cored wires. However it can be used for other CORODUR® submerged-arc wires with the approval of our technicians. The slag that is formed, is very easily removable. The flux is nearly burn-off neutral for C and Mn, and slightly alloying in Si and Cr. This flux can also be used for dual-wire feeding and for strip welding.

Recommended for the welding of mill rolls and continuous casting rolls in conjunction with martensitic CORODUR® flux cored wires.

MAIN COMPOSITION (%)

$SiO_2 + TiO_2$	$CaO + MgO$	$Al_2O_3 + MnO$	CaF_2
32	33	22	11

Redrying	Granulometry n. DIN 32522	Basicity index (according to Boniszewski)	Apparent density kg/ dm^3
300–350° C/ 2h	2–20 (0,3–1,6mm)	2,8	1,1

FLUXES

PARAMETER

Amps	Voltage	
350 – 600	27 – 32	Single wire welding
700 – 1.200	28 – 32	Dual wire welding
450 – 1.100	26 – 32	Strip welding

FORMS OF DELIVERY

25 Kg Bag

FLUXES

Corodur Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

THERMAL SPRAYING

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 100

For coatings with fair wear resistance, the SP 100 flux cored wire alloy is recommended. Overlay suits for repair and retrofit of machinery components. Good machinability by turning. Made especially for arc spraying but may also be sprayed by wire- and high-velocity wire-flame-spraying.

Used for repair and upgrade of machine components, plungers, bearings, rolls.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	C	Others
17,0	0,1	< 2,0

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
30–35	~ 1430	6,7	4,5

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29–30	50–300	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 101

A corrosion resistant alloy in combination with very high resistance against abrasion, CORODUR® SP 101 is particularly well-suited where there is metal-on-metal friction. SP 101 is made especially for arc spraying but may also sprayed by wire- and high-velocity-wire-flame-spraying.

Typically applied to areas subject to grinding under pressure as well as conveyor screws, mixers, sieves.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	B	Mo	Nb	W	C
22,0	0,5	4,5	4,0	3,5	6,5	1,2

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
68–70	~ 1430	6,7	4,3

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30–32	100–200	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 102

The SP102 flux cored wire composition is based on iron used for abrasion and erosion resistant coatings. CORODUR® SP 102 coatings are thermal resistant up to 650 °C and show a high bond strength. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used as erosion protection coating on water walls of boiler, cyclones, within steam turbines.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	B	Mn	Ti	C
20,0	1,5	1,5	1,0	3,5	0,6

Hardness HV 0,3	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
850	~ 1430	6,9	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

CORODUR Das Original FÜLLDRAHT GMBH

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 103

Iron-based flux cored wire composition for abrasion and corrosion-resistant deposits of high bond strength. Coatings can be polished, and they are ductile and thermally-resistant up to 870 °C. Made exclusively for arc spraying, but may also sprayed by wire- and high-velocity-wire-flame-spraying.

Used as erosion protection coating on water walls of boilers, cyclones, within steam turbines.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	B	Mo	Mn	Cu	C
25,0	10,0	1,2	2,0	4,0	1,2	2,0	0,5

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
45	~ 1210	6,5	2,3

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 104

This material produces a dense, hard, low-stress abrasion-resistant coating with increasing hardness in service up to 1000 HV. Coatings can be polished, and they are ductile and thermally-resistant up to 870 °C. Material can be applied without bond coat. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Top coat for highly effective repair of components subject to abrasive wear at elevated temperatures.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	B	Mo	Mn	Cu	C
21,0	8,0	1,1	2,3	3,2	1,2	2,0	0,2

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
53 1000 HV 0,1 hardend	~ 1200	6,75	3,4

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 105 HY

A special alloy with a high content of Chromium and Cobalt. The coating shows austenitic structure with increasing hardness in service. Coatings are very resistant to corrosion, erosion and in particular against cavitation. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications can be found as protection coatings against cavitation and erosion in the field of water turbines, hydraulics and gas system components.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	Mn	Co	C
20,0	2,8	11,0	11,0	0,25

Hardness HB	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
350 450 hardend	~ 1440	6,4	4,2

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 106

Wire for thermal spray composed from tungsten carbide and titanium carbide within an amorphous matrix. The coating shows very good resistance against abrasion having high bond strength and good deposition rate. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used as coatings to prevent sliding on industrial paths and on marine deckings.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	B	WC	Mn	Ti_2C_3
14,0	4,5	1,3	1,9	26,0	0,6	6,0

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
64–69	~ 1200	6,75	2,9

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	4,1	30–32	100–200	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 107

Austenitic, corrosion resistant flux cored wire alloy, with increasing hardness in service and non-magnetic. Good machinability. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used for repair of all kinds of machinery components.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	Mn	C
19,0	8,5	0,4	6,0	0,1

Hardness HB	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
400	~ 1430	6,9	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-30	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 108

Iron-based flux cored wire with corrosion-resistant and very erosion-resistant deposit and with similar applications to cobalt-type alloys where operating temperature is not more than 450 °C. Coatings are crack-free and can be machined and polished. Made exclusively for arc spraying, but may also be sprayed by wire and high-velocity-wire-flame-spraying.

Applications on water walls of boiler, paper rolls, plywood rolls, ship shafts and in food industry.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	Mo	Mn	C
26,0	3,0	1,6	0,8	1,6	1,7

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
40–42	~ 1260	6,7	3,6

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	33–34	100–200	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 109

C- Cr- Nb- V- B -alloyed flux cored wire electrode for extreme mineral wear. Due to the high V- content, the deposit is filled with fine hard particles in a high-hardness matrix . The deposit has a high scratch hardness and should not be subjected to any significant impact stress. The wear resistance is nearly constant up to 650°C. The hardness reduction at a temperature of 400 °C is approximately 8% and at 650 °C approximately 20 %. CORODUR® SP 109 is made exclusively for arc spraying.

Used for hardfacing of all kinds of machinery components.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	B	Nb	Mn	V	C
18,0	1,5	1,2	7,0	0,75	7,0	5,0

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
60-68	1400	6,5	3,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-33	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 111

CORODUR® SP 111 is an abrasion and corrosion resistant coating which is easy to polish. Coatings are ductile and thermal resistant up to 870 °C with low coefficient of friction with increasing hardness in service. Wire shows high deposition rate. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame spraying.

Applications include plunger, shafts, components of chemical plants, sleeves, engine bearings and other chrome-plated parts.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	B	Mn	C
30,0	1,3	2,8	1,0	0,9

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
40–45	~ 1200	6,7	3,6

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	33–34	100–200	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 112

Abrasion and corrosion resistant coating which is easy to polish. Coatings are ductile and thermally-resistant up to 870 °C with low coefficient of friction with increasing hardness in service. Wire has high deposition rate. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Excellent erosion protection on water walls and tubes of boilers. Also applied on plungers, shafts, components of chemical plants, sleeves, engine bearings and other chrome plated parts.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	B	Mn	C
29,0	1,5	3,8	1,5	0,1

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
1000-1150	~ 1200	6,7	3,6

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	33-34	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16")	2,4 mm (3/32")

THERMAL SPRAYING

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 113

Comparable to 316L, the SP 113 is an austenitic corrosion resistant alloy with good machinability. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame spraying.

Used for repair of machinery components.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	Mo	Mn	C
18,0	12,0	0,8	2,7	1,7	0,12

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
200–240	~ 1430	6,93	4,3

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29–30	200–300	125–175	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 115

Iron-based flux cored wire alloy for very wear resistant coatings to protect against rubbing wear. In addition the alloy is highly resistant to oxidation and corrosion. The deposit is extremely hard so should not be used under conditions of impact. Coatings can be polished. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Applications include Chrome replacement on rolls for paper industry and food industry, on ship shafts and plungers.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	Mn	C
28,0	1,2	1,0	5,0

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
50–55	~ 1260	6,7	3,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30–33	100–200	75–175	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 118 Y

Ferritic iron-chromium-aluminum alloy with addition of Yttrium (FeCrAlY). Resistant to high-temperature oxidation up to 500 °C, corrosion protection in Sulphur and Carbon atmospheres. Good machinability. Made exclusively for arc spraying, but may also sprayed by wire- and high-velocity-wire-flame-spraying.

Dense bond coat, typically used on boiler tubes.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Al	Y
22,0	5,0	1,0

Hardness HV 0,3	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
170-270	~ 1500	7,15	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 120

Flux cored wire depositing a hard alloy with good resistance to abrasive wear and fair resistance to corrosion. Low shrinkage allows for relative thick coatings. Good machinability by grinding. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used for repair and upgrade of machine components, plungers, bearings, rolls.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	Mn	C
14,0	0,4	0,5	0,8	0,35

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
30–45	~ 1430	6,7	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29–30	50–300	125–175	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 121

Like SP 120, CORODUR® 121 has fair resistance to corrosion, but is a hard wire alloy having good wear resistance. Similarly, low shrinkage allows relative thick coatings. However, in comparison to CORODUR® SP 120, this alloy comprises a higher Cr- and Mo- content. Good machinability by grinding. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used for repair and upgrade of machine components, plungers, bearings, rolls.

COMPOSITION (WEIGHT-%)

Base = Fe

Al	Mn	C
5,5	1,0	0,2

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
ca. 30	~ 1370	6,8	4,0

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
A 1,6	1	27-30	200-350	100	0,5	80-90
B 1,6	3,5	27-30	200-350	125	0,125	80-90

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 124

Iron-based flux cored wire with high Boron content and without Chromium for coatings under sliding load with low friction coefficient. High hardness and very wear resistant. Coating can be ground and honed. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used as a coating for cylinder bores.

COMPOSITION (WEIGHT-%)

Base = Fe

Ni	Si	B	Mn	C
2,0	1,0	4,5	2,0	0,7

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
60-65	1400	6,9	3,7

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-33	100-200	75-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 126

Flux cored wire alloy with high resistance to abrasion and corrosion under high heat conditions up to 1000 °C. Carbide and Boride particles for high hardness suited to combating silica wear. Not suitable for areas subject to high impact stress. Non-machinable. Designed primarily for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications are for aggressive boiler environments, power station chutes, blowers and fly-ash fans. Cement plant machinery and for mining equipment, screw conveyors, augers etc.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	B	Mn	Nb	Al	C
14,0	5,5	1,0	4,5	1,2	5,8	+	0,8

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
64 – 69	1400	6,9	3,7

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-33	100-200	75-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – S – 1,6 – 4

CORODUR® SP 128

High alloy steel material for applying tough coatings, deposit displays excellent corrosion and oxidation resistance in combination with high strength. The coatings can be machined. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used for repair and dimensional buildup of machinery components, paper machinery, textile machinery, boilers and for use as a hard chromium plating alternative.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Mo	Mn	Cu
27,0	31,0	4,0	1,7	1,1

Hardness HB	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
160 – 200	1300	7,2	3,4

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29–32	100–200	125 – 175	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 132

Flux cored wire with Fe-Cr-Ni-Co-Mo- base providing a rust-free deposit with a high hot wear resistance, tensile strength and a high resistance to sliding wear of metallic objects. It has a good retention of hardness up to 650 °C and is non-scaling up to 900 °C. Resistant to thermal shock and sudden changes of temperature. Work hardening, not susceptible to cracking.

Surfacing of rolls and hot working tools.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Ni	Si	Mo	Mn	Co	C
15,0	+	0,7	3,2	0,4	14,0	0,1

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
45–50	1300	6,5	3,7

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-30	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 155

CORODUR® SP 155 is a tubular wire which deposits a high C- and Cr- alloyed stainless weld metal with excellent resistance to abrasion and medium impact. It can be used whenever high abrasion is expected.

Pumps, mixer parts, stirring paddles, concrete pumps, conveyer screws, coke oven carriages, Ni- hard material.

COMPOSITION (WEIGHT-%)

Base = Fe

Cr	Si	Mn	C
29,0	1,2	0,6	4,8

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
55–59	~ 1260	6,7	3,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30–33	100–200	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 201

CORODUR® SP 201 is a Ni-Cr-B-Si- cored wire to apply wear resistant and corrosion resistant protective coatings. Coatings can be sintered after application (self-fluxing). They reach hardness of 700-800 HV and show porosity of below 2%. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used for high wear-loaded components in the chemical and food industries.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Si	B	C
20,0	4,7	3,2	0,7

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
700-800	~ 1070	7,2	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	28-32	180-220	130-160	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 206

Nickel-based flux cored wire alloy of composition Ni-Cr-B-Si for application of wear resistant and corrosion resistant protective coatings. Coatings can be sintered after application (self-fluxing). Deposit reaches a hardness of 700–800 HV and features low porosity of below 2%. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying. Can be ground and polished to finish. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Used for high wear-loaded components in the chemical and food industries Plungers.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Si	B	W	C
20,0	4,5	1,6	2,0	0,35

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
700–800	~ 1070	7,2	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30–32	100–200	75–125	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6,5 – 1,6 – 4

CORODUR® SP 211

Ni-Cr-B-Si with Mo and Nb cored wire to apply wear resistant and corrosion resistant protective coatings with good resistance to chloride attack in boiler atmospheres. Coating may harden up to 1000 HV. Applications up to 450 °C (surface temperature). Porosity of below 2% can be achieved. Made exclusively for arc spraying but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Main application on water walls and tubes of boiler.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Si	B	Mo	Nb	Fe
20,0	4,0	4,0	6,0	3,0	<2,0

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
800 -1000	~ 1150	7,3	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 6,5 – 1,6 – 4

CORODUR® SP 221

CORODUR® SP 221 is a Ni-Cr-B-Si- cored wire to apply wear resistant and corrosion resistant protective coatings to surfaces subject to wear and Chloride attack in boiler atmospheres up to 450 °C. Porosity of below 2% can be achieved. Coatings can be sintered after application (self-fluxing). Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

For highly wear-loaded components within chemical and food industries. Also used on boiler water walls and tubes.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Si	B	Mo	C
20,0	4,5	0,7	2,0	0,4

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
700–800	~ 1070	7,2	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	27–32	180–220	130–160	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

CORODUR Das Original FÜLLDRAHT GMBH

EN ISO 14919 – 6,4 – 1,6 – 4

CORODUR® SP 222

Nickel-chrome bond coating used for ceramic underlays. Deposits a corrosion-resistant protective coating for use in aggressive environments of high Chloride content. Heat-resistant up to 980 °C .Coatings have a high bond strength and can be machined. Coating thickness from 0,1 mm – 0,25 mm. Made exclusively for arc spraying, but may also sprayed by wire and high-velocity-wire-flame-spraying.

Designed as a bond coat and underlay for applying Ceramics. Also used as a protective coating on plant components within chemical and food industries.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Ni	Cr
80,0	20,0

Hardness HB	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
100	~ 1480	7,0	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	27-29	200-350	150-170	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – **6 – 1,6 – 4**

CORODUR® SP 223

CORODUR® SP 223 has good resistance to sulfur corrosion and oxidation, e.g. in boiler environment. Coating made by CORODUR® SP 223 can be loaded up to 800°C. Coating has high bond strength. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Application as bond coat and top coat. Coatings on water walls, boiler tubes and super heater tubes in coal fired plants and black liquor boilers.

COMPOSITION (WEIGHT-%)

Base = Ni

Ni	Cr
50,0	50,0

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
250–280	~ 1480	7,4	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	27–29	200–350	150–170	0,125	70–80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 224

CORODUR® SP 224, a nickel-based cored wire, shows good resistance in a Vanadium- and Sulphur-boiler environment. Coating made by CORODUR® SP 224 can be loaded up to 980 °C. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame spraying.

Application as coatings on water walls, on cyclones and on boiler tubes.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Ti
45,0	1,0

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
32	~ 1480	7,2	5,0

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	27-29	200-350	150-170	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – **6 – 1,6 – 4**

CORODUR® SP 225

Ni-Cr-Mo- alloy, comparable to 2.4831, designed to produce very corrosion resistant coatings, e.g. protective against chloride acids and also resistant to oxidation and hot gas corrosion. Used as a bond coat and for repair. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications include bond coatings and for the repair of components in the chemical industry, petro chemical industry and off-shore applications.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Mo	Nb
22,0	9,0	3,5

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
240-300	~ 1315	7,2	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 226

CORODUR® SP 226 is a Ni-Cr-Mo-W- alloy, applied as very corrosion resistant coating, e.g. protective against chloride acids and also resistant to oxidation and hot gas corrosion. Made exclusively for arc-spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications include bond coatings and for the repair of components in the chemical industry, petro chemical industry and off-shore applications.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	W	Mo	C
16,0	5,0	17,0	0,1

Hardness HB	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
200-240	~ 1360	7,3	5,0

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-34	100-200	70-120	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 227

Ni-Cr-Mo-W alloy, similar to CORODUR® SP 226 but slightly harder. Applied as very corrosion resistant coating, e.g. protective against chloride acids and also resistant to oxidation and hot gas corrosion. Made exclusively for arc-spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications include bond coatings and for the repair of components in the chemical industry, petro chemical industry and off-shore applications.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	W	Mo	C
15,0	3,5	15	0,1

Hardness HB	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
200-240	~ 1365	7,4	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	2,3	30-34	100-200	70-120	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 228

Ni-Cr-B-Si- flux cored wire alloy with about 10– 15% primary carbides. High wear resistance against abrasion and corrosion, e.g. for components loaded by chemical fluids containing abrasive particles. Can be sintered (self-fluxing). Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications are as bond coat and for repair in chemical industry, petro chemical industry and for off-shore and mining machinery applications such as plungers and shafts.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Si	B	Sc	C
25,0	<4,5	2,0	15,0	0,4

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
800-1000	1300	7,2	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 229

High Nickel-Aluminium deposit displaying very high bond strength, especially on smooth surfaces. Self-bonding due to exothermic reaction. Dense coatings with increased resistance to oxidation and high temperature corrosion up to 650 °C. Can be applied on clean but not sand blasted surfaces. Best bonding if applied in one pass (about 0,125 mm). Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Bond coat for repair of gas turbines.

COMPOSITION (WEIGHT-%)

Base = Ni

Ni	Al
80,0	20,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
200	~ 1450	7,4	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	200-300	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6,5 – 1,6 – 4

CORODUR® SP 230

With a very high bond strength, SP 230 is self-bonding on smooth surfaces due to exothermic reaction. Dense coatings may be applied on clean, non-sand blasted surfaces. Best bonding if applied in one pass (about 0,125 mm). Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Bond coat for ceramics and e.g. for repair of gas turbines.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Ni	Al
95,0	5,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
200	~ 1450	7,8	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	28-32	100-300	75-175	0,125	70-80

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

CORODUR® SP 231

Excellent bond strength due to exothermic reaction. Used as bond coats for repair of machinable C- steels and corrosion resistant steels. Good resistance to particle erosion and Mo content provides for increased wear resistance. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Applications include worn bearing areas and repair of parts out of tolerance or worn out components.

COMPOSITION (WEIGHT-%)

Base = Ni

Mo	Al
6,0	5,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
240	~ 680	7,2	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125		

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 232

CORODUR® SP 232 allows for the application of high quality corrosion-resisting protective coatings without the need for sintering or bond coats. The coating is dense with good bonding and is machinable. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Repair coating for worn out components.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Mo	Al	Fe
8,0	5,0	7,0	5,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
250	ca. 1580	8	

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 6 ,5– 1,6 – 4

CORODUR® SP 233

Ni-Al- cored wire featuring very high bond strength, also on smooth surfaces. Self-bonding due to exothermic reaction. Coating is very dense and can be applied on clean but not sand blasted surfaces. Best bonding if applied in one pass (about 0,125 mm). Coating is easy to machine. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Bond coat featuring excellent resistance to oxidation and high temperatures up to 650 °C.

COMPOSITION (WEIGHT-%)

Base = Ni

Ni	Al
90,0	10,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
200	~ 1430	7,8	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	28-32	200-300	75-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6,5 – 1,6 – 4

CORODUR® SP 234

Ni-Cr-Al- cored wire featuring very high bond strength, also on smooth surfaces. Self-bonding due to exothermic reaction. Coating is very dense and can be applied on clean but not sand blasted surfaces. Best bonding if applied in one pass (about 0,125 mm). Coating is easy to machine. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Bond coat featuring excellent resistance to oxidation and high temperatures up to 650 °C.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Al
21,0	7,0

Haftzugfestigkeit MPa	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
> 50	~ 675	6,2	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %v
1,6	3,5	30-32	100-200	75-125	0,125	80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – **6 – 1,6 – 4**

CORODUR® SP 235

The Nickel-based Cr-Mo-Nb- cored wire exhibiting excellent bond strength due to exothermic reaction. Used as bond coat for repair of machinable C- steels and corrosion resistant steels. Good resistance against particle erosion and increased wear resistance due to Mo content. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Coating for bearing areas and repair of parts out of tolerance or worn out components.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Mo	Nb
22,0	9,0	3,5

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
240 – 300	~ 1430	7,8	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6,5 – 1,6 – 4

CORODUR® SP 241

Ni-Cr-B-Si- cored wire designed to provide wear resistant and corrosion resistant protective coatings with good resistance to Chlorides in boiler atmospheres. Alternative wire to SP 211. Coating may harden up to 1000 HV. Application up to 450 °C (surface temperature), porosity of below 2% can be achieved. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Application on boiler water walls and tubes.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Si	B	Mo	Fe
21,0	4,0	4,0	6,0	<2,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
700 – 800	~ 1150	7,2	4,5

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – **6 – 1,6 – 4**

CORODUR® SP 275

Ni-Cr-Mo- alloy, comparable to SP 225, alloy 625, without Nb to produce very corrosion resistant coatings, e.g. protection against chloride acids and also resistance to oxidation and hot gas corrosion. Used as bond coat and for repair of alloy 625 or similar alloys. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications are as bond coat and for repair in chemical industry, petro chemical industry and for off-shore applications.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Mo
22,0	9,0

Hardness HV 0,3	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
190 – 230	~ 1350	7,2	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 277

Ni-Cr-Mo- alloy, comparable to 2.4602 designed to produce highly corrosion-resistant coatings, e.g. protection from chloride acids and also resistance to oxidation and hot gas corrosion. Used as bond coat and for repair. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications are as bond coat and for repair in chemical industry, petro chemical industry and for off-shore applications, also as corrosion protection for boiler internals.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Mo	Co	Mn	W	V	Fe
22,0	13,0	<2,5	<0,5	3,0	<0,35	<3,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
240 – 300	~ 1315	7,2	5,0

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 6 – 1,6 – 4

CORODUR® SP 278

For very corrosion resistant coatings, e.g. protection from the effects of chloride acids, oxidation and hot gas corrosion, Ni-Cr-Mo- alloy SP 278 is recommended. It is used as bond coat and for repair. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Typical applications are as bond coat and for repair in chemical industry, petro chemical industry and for off-shore applications, also as corrosion protection for boiler internals.

COMPOSITION (WEIGHT-%)

Base = Ni

Cr	Mo	Nb	B	W	V	Fe
27,0	17,0	2,0	1,5	1,0	1,0	<3,0

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
240 – 300	~ 1315	7,2	5,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	29-32	200-300	125-175	0,125	70-80

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – Co – 1,6 – 4

CORODUR® SP 306

CORODUR® SP 306 is a Co-base flux cored wire used to apply wear- and corrosion resistant coatings even at elevated temperatures. Coatings show excellent galling properties with high bonding. They can be machined by turning and grinding. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flamespraying.

Engine valves, steam valves, valve seats, pumps for liquids and for repairs resilient to high temperatures, abrasion and corrosion.

THERMAL SPRAYING

COMPOSITION (WEIGHT-%)

Base = Co

Cr	Si	Mn	W	C	Fe
28,0	1,0	1,0	4,5	1,1	<3,0

Hardness HRc	Haftzugfestigkeit MPa	Density g/dm³	Spray rate kg/h/100 A
40 – 45	> 40	7,4	3,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – Co – 1,6 – 4

CORODUR® SP 312

Cobalt-base flux cored wire for the application of wear and corrosion-resistant coatings and at elevated temperatures. Coatings consist of complex carbides in a Co- base alloy matrix. Displays excellent non-galling properties with high bond strength in combination with high wear and corrosion resistance. Can be machined by turning and grinding. Made exclusively for arc spraying, but may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Machinery components, cutting edges.

COMPOSITION (WEIGHT-%)

Base = Co

Cr	Ni	Si	Mn	C	Fe
29,0	8,3	1,1	0,8	1,4	<3,0

Hardness HRc	Haftzugfestigkeit MPa	Density g/dm³	Spray rate kg/h/100 A
40-48	> 40	7,4	3,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiencyv %
1,6	3,5	29-30	200-300	125-175	0,125	70-80

UNIT			
	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

EN ISO 14919 – Co – 1,6 – 4

CORODUR® SP 321

At increased temperatures SP 321 Co- base flux cored wire is used to apply wear- and corrosion resistant coatings. Coatings show excellent galling and fretting properties with high bonding and excellent toughness. They can be machined by turning and grinding. Made especially for arc spraying, it may also be sprayed by wire- and high-velocity-wire-flame-spraying.

Sealing surfaces etc.

COMPOSITION (WEIGHT-%)

Base = Co

Cr	Ni	Si	Mn	Mo	C	Fe
27,0	2,5	1,0	1,0	5,0	0,25	<3,0

THERMAL SPRAYING

Hardness HRc	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
28 – 35 Hardend up to > 40 HRc	~ 1290	7,4	3,0

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	30-32	100-200	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

EN ISO 14919 – 5 – 1,6 – 4

COROCARB **SP 400**

COROCARB SP 400 is a cored metal wire filled with fused tungsten carbides (FTC) embedded in a Ni- B- Si- matrix. It was developed to protect surfaces where extreme abrasive wear in combination with corrosion are encountered. The deposit alloy consists of up to 62% FTC and 35 – 40% Ni- B- Si- matrix. The matrix is highly resistant to acids, bases, lye's and other corrosive media.

Highly wear-loaded surfaces and cutting edges.

COMPOSITION (WEIGHT-%)

Base = Ni

Si	B	FTC	C	Ni
5,0	2,0	62,0	0,4	Rest

Hardness HV	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
FTC: 2400 Matrix: 540	~ 1100	11,0	4,5

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	28-32	100-220	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16")	2,4 mm (3/32")

THERMAL SPRAYING

EN ISO 14919 – 5 – 1,6 – 4

COROCARB **SP 402**

COROCARB SP 402 is a cored metal wire filled with fused tungsten carbides (FTC) embedded in a Fe-B-Si- matrix. It was developed to protect surfaces where extreme abrasive wear is encountered.

Highly wear loaded surfaces.

COMPOSITION (WEIGHT-%)

Base = Fe

Si	B	FTC	C	Fe
4,5	2,5	62,0	0,4	Rest

Hardness HV 0,1	Melting point °C	Density g/dm³	Spray rate kg/h/100 A
FTC: 2400	~ 1250	10,0	4,0

THERMAL SPRAYING

SPRAY PROCEDURE (Arc)

Standard mm	Atomizing Air Pressure	Arc Load Volt	Amperage Ampere	Stand off mm	Thickness/ pass mm/Pass	Efficiency %
1,6	3,5	28-32	100-220	75-125	0,125	70-80

UNIT	Coil	BS 300 = 15 kg	B 450 = 25 kg
	Wire Diameter	1,6 mm (1/16“)	2,4 mm (3/32“)

THERMAL SPRAYING

Product Fe-Base	Cr %	Ni %	Si %	B %	Mo %	Nb %	Al %	W %	Mn %	C %	Fe %	Others %	Hardness
SP 100	17,0									0,1	B	< 2,0	30–35 HRC
SP 101	22,0	0,5		4,5	4,0	3,5		6,5		1,2	B		68–70 HRC
SP 102	20,0		1,5	1,5					1,0	0,6	B	Ti 3,5	850 HV
SP 103	25,0	10,0	1,2	2,0	4,0				1,2	0,5	B	Cu 2,0	45 HRc
SP 104	21,0	8,0	1,1	2,3	3,2				1,2	0,2	B	Cu 2,0	53 HRc
SP 105 HY	20,0		2,8						11,0	0,25	B	Co 11,0	350 HB
SP 106	14,0	4,5	1,3	1,9				WC 26,0	0,6		B	TiC 6,0	64–69 HRc
SP 107	19,0	8,5	0,4						6,0	0,1	B		400 HB
SP 108	26,0	3,0	1,6		0,8				1,6	1,7	B		40–42 HRc
SP 109	18,0		1,5	1,2		7,0			0,75	5,0	B	V 7,0	60–68 HRc
SP 111	30,0		1,3	2,8					1,0	0,9	B		40–45 HRc
SP 112	29,0		1,5	3,8					1,5	0,1	B		1000–1150 HV
SP 113	18,0	12,0	0,8		2,7				1,7	0,12	B		200–240 HV
SP 115	28,0		1,2						1,0	5,0	B		50–55 HRc
SP 118Y	22,0						5,0				B	Y 1	170–270 HV
SP 120	14,0	0,4	0,5						0,8	0,35	B		30–45 HRc
SP 121							5,5		1,0	0,2	B		ca. 20 HRc
SP 124		2,0	1,0	4,5					2,0	0,7	B		60–65 HRc
SP 126	14,0	5,5	1,0	4,5		5,8	+		1,2	0,8	B		64 – 68 HRC
SP 128	27,0	31,0			4,0				1,7		B	Cu 1,1	160 – 200 HB
SP 132	15,0	+	0,7		3,2				0,4	0,1	B	Co 14,0	45–50 HRc
SP 155	29,0		1,2						0,6	4,8	B		55–59 HRc

Product Ni-Base	Cr %	Si %	B %	W %	Mo %	Nb %	C %	Al %	Ni %	Others %	Hardness
SP 201	20,0	4,7	3,2				0,7		B		700-800 HV
SP 206	20,0	4,5	1,6	2,0			0,35		B		700-800 HV
SP 221	20,0	4,5	0,7		2,0		0,4		B		700-800 HV
SP 222	20,0								B		100 HRB
SP 223	50,0								B		250-280 HV
SP 224	45,0								B	Ti 1	32 HRC
SP 225	22,0				9,0	3,5			B		240-300 HV
SP 226	16,0			5,0	17,0		0,1		B		200-240 HB
SP 227	15,0			3,5	15,0		0,1		B		35 HRC
SP 228	25,0	<4,5	2,0				0,4		B	Sc 15	800-1000 HV
SP 229								20,0	B		200 HV
SP 230								5,0	B		200 HV
SP 231					6,0			5,0	B		240 HV
SP 232	8,0				5,0			7,0	B	Fe 5	250 HV
SP 233								10,0	B		200 HV
SP 234	21,0							7,0	B		
SP 235	22,0				9,0	3,5			B		240-300 HV
SP 241	21,0	4,0	4,0		6,0				B	Fe <2,0	240-300 HV
SP 275	22,0				9,0				B		190-230 HV
SP 277	21,0			3,0	13,0				B	Fe <3,0	240-300 HV
SP 278	27,0		1,5		17,0	2,0			B	Fe <3,0	240-300 HV

THERMAL SPRAYING

Product	Cr	Ni	Si	B	Mo	Nb	Al	W	Mn	C	Fe	Others.	Hardness
Co-Base	%	%	%	%	%	%	%	%	%	%	%	%	
SP 306	28,0		1,0					4,5	1,0	1,1			40-45 HRC
SP 312	29,0	8,3	1,1						0,8	1,4	<3,0		40-48 HRC
SP 321	20,0	2,5	1,0		5,0				1,0	0,25	<3,0		28-35 HRC
Ni-Base													
SP 400		Bas.	5,0		4,0					0,4		FTC 65,0	2400 HV
Fe-Base													
SP 402			4,5	2,5						0,4	Bas.	FTC 62,0	2400 HV

CORODUR Fülldraht GmbH may change the characteristics of the wire without notice. Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. We recommend the applier to check our products for their special application autonomously.

Your notes

ELECTRODES

DIN EN 14700 **E Fe 10-200-CKNPZ**

CORODUR® E 200 K

The austenitic weld deposit of the high-alloyed stick electrode is corrosion resistant, work hardening, anti-magnetic and heat and thermal shock resistant up to 850 °C. Depending on the high elongation (40%) the alloy is suitable for ductile buffer layers on old hardfacings and joining dissimilar and difficult to weld steels.

Joining of Mn- steel and difficult to weld steels, buffer layers.

TYPICAL ALL WELD METAL ANALYSIS (%)	Base = Fe			
C	Si	Mn	Cr	Ni
0,10	0,4	6,0	19,0	8,5

Hardness HB	CURRENT	POSITIONS	REBAKING if required
180–200 Hardened: ca. 400 HB	= + / ~ 50 V	PA, PB, PC, PD, PE, PF	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 9-250-KNP**

CORODUR® E 250 K

Basic coated, AC-weldable electrode with approx. 140 % recovery. Due to the weld metal's high tenacity and hardness, CORODUR® 250 K is suitable for hardfacing on parts which are subject to extreme impact stress and cavitation. A considerable increase in wear resistance through strain hardening can be achieved by cold - hammering.

Excavator teeth, crushing hammers, rings in rotary furnaces, rail switch cores, rails, rollers, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Si	Mn	Cr
0,6	0,5	17,0	14,0

Hardness HB	CURRENT	POSITIONS	REBAKING if required
250 Hardened: ca. 500 HB	= + / ~ 65 V	PA, PB, PC, PD, PE	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 1-300-P**

CORODUR® **E 300**

AC-weldable electrode with approx. 120% recovery for wear resistant surfacing on equipment parts and tools which are subjected to medium wear only. The dense and crack-free deposit is resistant to medium friction and compression, and highly resistant to shocks.Due to its soft fusion and low spattering, the electrode can be used for welding in constrained positions. In spite of its basic coating it is well suitable for AC-welding. The weld metal can be machined with metal-cutting tools. Furthermore, surface layer hardening can be performed on machined areas. A buffer layer of CORODUR® E 300 is recommended on base materials susceptible to work hardening.

Mainly used for heavy build up and as a cushion layer on crane wheels, shafts, slideways, wheel rims, conveyor screws, and bars.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr
0,1	0,5	1,0	1,2

Hardness HB	CURRENT	POSITIONS	REBAKING if required
300	= + / ~ 65 V	PA, PB, PC, PD, PE	1h @ 200 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 3-60-PT**

CORODUR® **E 600**

CORODUR® E 600 is an AC-weldable universal hardsurfacing electrode with 120% recovery for rebuilding of machine parts subject to combined wear from abrasion and impact. Suitable for deposits on mild steel, steel castings and manganese steel. The pure weld deposit is only machinable by grinding. CORODUR® E 600 has a soft but intensive welding character, a fine-structured seam surface and excellent slag-removal properties. On high-carbon and crack-sensitive base materials, should be preheated to app. 200 °C – 300 °C, depending on their composition and thickness. On highly crack-sensitive base materials and manganese steel, a buffer layer of CORODUR® E 200 K or CORODUR® E 250 K is recommended.

Rollers, dredger chains, conveyors, hammers, dredger equipment, mining and earth-moving equipment.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr
0,6	1,7	0,4	9,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
57 – 60	= + / ~ 50 V	PA, PB, PC, PD, PE	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 3-50-ST**

CORODUR® **E WZ 50**

AC-weldable high-quality electrode with approx. 120% recovery. Used for repairing steels of same type, e.g. on hot working tools, and for overlaying edges or surfaces of tools made of low alloyed high density steels. Typical applications: slab shears, hot shear blades, drawing blocks, hot-forging dies, impact moulding dies, containers, swages etc. Preheating- and interpass temperature should be held between 300 and 450 °C, depending on the base metal and its heat abduction. The upper temperature limit should be chosen for thick workpieces. Low-tension welding and low heat input are essential for a good welding result. Slowly cool down in sand or oven.

1.2365 / 1.2713 / 1.2567 / 1.2714 / 1.2581

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Cr	W	V
0,3	2,2	4,2	0,6

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
44 – 47	= + / ~ 65 V	PA, PB, PC, PD, PE, PF	1h @ 300 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

CORODUR Das Original FÜLLDRAHT GMBH

DIN EN 14700 **E Fe 4-60-ST**

CORODUR® **E WZ 59**

Heavy coated AC-weldable electrode with high recovery (150%) for repairing hot working tools made of steels of same or similar type. The deposited weld metal is highly resistant to extreme abrasive wear as well as medium shock and impact. It also excels by good edge-holding quality. Max. service temperature is approx. 450 °C. The weld metal structure can still be improved by subsequent heat treatment.

Typical applications: shear blades, dies, upper and lower dies, mandrel plugs, hammer mills, swages, crushing and pulverising plants, cutting edges etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

Base = Fe

C	Cr	Mo	W
0,4	4,8	3,7	3,5

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
58 – 60	= + / ~ 65 V	PA, PB	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

ELECTRODES

DIN EN 14700 **E Fe 14-45-CGT**

CORODUR® E 42

CORODUR® E 42 is stick electrode for hardfacing applications, resistant to wear and corrosion with a recovery of 160%. The deposit is high Cr-Ni-Mo- alloyed and is used in places, where one can expect corrosive as well as abrasive wear. CORODUR® E 42 can therefore be seen as a stellite substitute. The hardfacing of welding material is possible without cracking. The alloy can be additionally worked with metalloid cutting tool.

Chemical industry, palm oil screws, conveyer screws, meat industry.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr	Ni	Mo
1,8	0,8	0,6	29,0	3,0	1,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
41 – 44	= + / ~ 50 V	PA, PB	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

ELECTRODES

DIN EN 14700 **E Fe 15-60-GC**

CORODUR® **E 56**

Heavy coated the CORODUR® E 56 is a high efficiency hardfacing electrode with 160% recovery. Suitable for applications subject to strong abrasive wear by minerals, combined with moderate impact, medium shocks and compression as well as humidity or wetness. Soft fusion, fin-structured seam surface, self-releasing slag and a shiny surface of deposits.

Mainly used on pump bodies, mixer blades, agitator arms, concrete pumps, conveyer worms, crushing and pulverizing plants, bucket teeth and coke-oven slides.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Mn	Cr
5,0	1,5	0,2	32,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
59 – 61	= + / ~ 50 V	PA, PB	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Z Fe14-60-G**

CORODUR® **E 59**

CORODUR® E 59 is a heavy coated high efficiency hardfacing electrode with 160% recovery. Suitable for applications subjected to strong abrasive wear by minerals, combined with moderate impact, medium shocks and compression as well as humidity or wetness. Soft fusion, fin-structured seam surface, self-releasing slag and a shiny surface of deposits.

Mainly used on pump bodies, mixer blades, agitator arms, concrete pumps, conveyer worms, crushing and pulverizing plants, bucket teeth and coke-oven slides.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Cr	Others
3,8	1,2	33,0	2,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
59 - 61	= + / ~ 50 V	PA, PB	1h @ 350 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 15-65-G**

CORODUR® **E 61**

Thickly coated AC- weldable high efficiency electrode with approx. 240% re-covery. The weld metal is of ledeburitic structure with an alloy containing carbide forming elements of different kinds. CORODUR® E 61 is used for hardfacing of parts subject to strong abrasive wear, friction, heat and corrosion. Easy to weld electrode, soft fusion. The weld metal is almost free of slag. A buffer layer of CORODUR® E 200 K is recommended prior to surfacing on old hardfacing layers.

Hardfacing on tools used in coal and ore mining as well as in the cement industry.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Cr	Nb	B
5,2	2,2	29,0	7,0	+

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
62-65	= + / ~ 50 V	PA, PB	1h @ 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 16-65-GZ**

CORODUR® E 65

CORODUR® E 65 is a thickly coated AC-weldable high efficiency electrode with approx. 240% recovery for hardfacing of parts subjected to strong abrasion, friction at high temperatures. The weld metal structure is ledeburitic, the alloy contains carbide forming elements of different kinds. CORODUR® E 65 provides extremely high resistance to abrasion also at temperatures up to 800 °C. Smooth arc, very few slag. Prior to surfacing on old hardfacing layers a buffer layer with CORODUR® E 200 K is recommended.

CORODUR® E 65 is mainly used for hardfacing on conveyor worms, clinker crushers, blast furnace bells, grates in mineral dressing equipment, especially where live coal and slag are treated.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Cr	Mo	Nb	W	V
4,5	1,2	24,0	6,0	6,0	2,0	1,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
63 – 65	= + / ~ 50 V	PA, PB	1h bei 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 16-65-GZ**

CORODUR® **E 67**

Thickly coated, AC - weldable high efficiency electrode with approx. 170 % recovery. The weld metal deposited by CORODUR® E 67 is of ledeburitic structure. The alloy is highly resistant to abrasion combined with impact stress. The special chemical composition of the alloy ensures good wear resistance in various temperature ranges. The fine-grained structure of the weld metal provides a solid matrix which retains the vanadium carbides also when subject to strong abrasion and ensures high crack-resistance. Smooth fusion, almost slag-free welding deposit. A buffer layer of CORODUR® E 200 K is recommended prior to surfacing on old hardfacing.

Hardfacing on conveyor worms, clinker crushers, grates in mineral dressing equipment, concrete and cement pumps, etc.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Cr	V
5,0	1,5	23,0	10,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
64 - 67	= + / ~ 50 V	PA, PB	1h bei 130 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Fe 14-70-GTZ**

CORODUR® **E 68 T**

CORODUR® E 68 T is a thickly coated high efficiency electrode with approx. 210% recovery. The weld metal structure is ledeburitic, the alloy contains carbide forming elements of different kinds. CORODUR® E 68 T is mainly used for applications where parts are subject to strong abrasive wear since the deposited alloy is highly resistant to abrasion, also when exposed to high temperatures. Smooth fusion, almost slag-free deposit. Prior to surfacing on old hardfacing layers a buffer layer with CORODUR® 200 K is recommended

CORODUR® E 68 T is mainly used for hardfacing on equipment in sintering plants, steel mills, coke oven plants, coal excavation and overburden removal, etc.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Fe

C	Si	Cr	Others
4,0	2,0	28,0	4,0

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
68 – 70	= + / ~ 50 V	PA, PB, PC	1h @ 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

CORODUR® E 1

DIN EN 14700	E Co 3-55-CGTZ
AWS	ERCoCr-C

AC-weldable hardfacing electrode with 160% recovery and an alloyed core. The deposit is a cobalt base alloy of austenitic-ledeburitic structure with embedded Cr-W- carbides. The weld metal is highly resistant to corrosion, impact, abrasive wear as well as thermal shocks and heavy mechanical impact. The deposits are only mechinable by grinding.

Due to its above-mentioned characteristics COROLIT E 1 is particularly recommended for use on steam valves, hot shear blades, hot pressing dies, pumps for high-temperature liquids, etc.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Co

C	Si	Mn	Cr	W	Fe
2,2	1,2	1,0	30,0	12,5	< 3

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
52 - 55	= + / ~ 42 V	PA, PB	1h @ 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

COROLIT **E 6**

DIN EN 14700	E Co 2-45-CTZ
AWS	ERCoCr-A

The COROLIT E 6 ist an AC-weldable hardfacing electrode with a rutile-basic coating and an alloyed core. The deposit is a cobalt base alloy of austenitic-ledeburitic structure with embedded Cr-W- carbides. The weld metal is highly resistant to corrosion, impact, abrasive wear as well as thermal shocks and heavy mechanical impact. Good aptitude for polishing and machining.

Due to its above-mentioned characteristics COROLIT E 6 is particularly recommended for use on steam valves, hot shear blades, hot pressing dies, pumps for high-temperature liquids, etc.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Co

C	Si	Mn	Cr	W
1,0	0,9	1,0	28,0	4,5

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
40 – 42	= + / ~ 42 V	PA, PB, PC	1h @ 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

COROLIT **E 12**

DIN EN 14700	E Co 3-50-CTZ
AWS	ERCoCr-B

Hardfacing electrode with a rutile-basic coating and an alloyed core and AC-weldable. The deposit is a cobalt base alloy of austenitic-ledeburitic structure with embedded Cr-W- carbides. The weld metal is highly resistant to corrosion, impact, abrasive wear as well as thermal shocks and heavy mechanical impact. The toughness and the hardness are between COROLIT E 1 and COROLIT E 6. It is more abrasion resistant than COROLIT E 6 but more resistant to temperature shocks and tougher than COROLIT E 1. The deposit is only machinable by hard faced tools.

Hardfacing of cutting edges of long knifes and other tools used in the wood, plastic, paper, carpet and chemical industry.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Co

C	Si	Mn	Cr	W	Fe
1,4	0,9	1,0	28,0	8,5	< 3

Hardness HRc	CURRENT	POSITIONS	REBAKING if required
45 – 48	= + / ~ 42 V	PA, PB, PC	1h @ 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

COROLIT **E 21**

DIN EN 14700	**E Co 1-350-CKTZ**
AWS	**ERCoCr-E**

The CORODUR® E 21 AC-weldable hardfacing electrode with an alloyed core and a recovery of 160%. The deposit is a cobalt base alloy of high tenacity as well as extreme corrosion and heat resistance. The weld metal is highly resistant to impact and is work-hardening up to 45 HRC. Working temperature should be kept between 400 and 600 °C, depending on base material and type of construction. Slow cooling, if necessary oven cooling, is recommended for low alloyed and austenitic steels. Subsequent heat treatment (stress relief at 700 °C approx.) is not necessary, except on large structures.

Hardfacing of cutting edges of long knifes and other tools used in the wood, plastic, paper, carpet and chemical industry.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Co

C	Si	Mn	Cr	Mo	Ni	Fe
0,3	0,9	1,0	28,0	5,5	3,0	< 3

Hardness HB	CURRENT	POSITIONS	REBAKING if required
300–330 Hardened: 45 HRc	= + / ~ 42 V	PA, PB, PC	1h @ 150 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E Ni 2-250-CKNPTZ**

COROLOY **E CO**

A high alloyed nickel based AC electrode with 160% recovery. The COROLOY E Co type deposit has outstanding physical characteristics and is resistant to both, oxidation and reduction corrosion. It work hardens under impact and by machining to app. 400 HB even at high temperatures – without deforming the deposit. Thick layers should be buffered with CORODUR® E 29/9. COROLOY E Co is used in general for surfacing of all work-pieces subject to mechanical stress combined with corrosion and/or to high temperatures (from 400 – 750 °C).

Main applications: Surfacing of hot working tools as hot shear blades, punches, deburring tools, swages, dies, press tools, milling rolls and valves, etc. To achieve a crack-free overlay, the base material should be preheated to 300 – 400 °C, depending on the alloy.

TYPICAL ALL WELD METAL ANALYSIS (%) — Base = Ni

C	Cr	Co	Mo	W	Fe
0,06	16,0	2,0	16,0	4,0	5,0

Hardness HB	CURRENT	POSITIONS	REBAKING if required
250 Hardened: 420 HB	= + / ~ 50 V	PA, PB, PC, PD, PE, PF	1h @ 300 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

DIN EN 14700 **E NiFe-Cl**

CORODUR® **E NiFe 31**

CORODUR® E NIFE 31 is a basic-graphite special coated electrode with a bi-metallic ferro-nickel core wire which allows very fast fusion on direct current as well as on alternate current without any risk of overheating. Suitable for joining all types of grey cast iron and also for joining cast iron with steel, but especially for nodular cast iron. The colour of the deposit is very similar to the base material, and corrosion will be identical to the base material later on. This electrode excels by very high crack-resistance and high tensile strength of the weld metal. Even in refined zones the seam is still machinable.

GG 10, GG 40, GTS 35, GTS 70, GTW 35, GTW 70, GGG 40, GGG 80

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Ni	Fe
1,1	1,2	0,75	53,0	44,0

Hardness HB	CURRENT	POSITIONS	REBAKING if required
140 – 160	= + / ~ 50 V	PA, PB, PC, PD, PE, PF, PG	1h @ 120 °C

DIAMETER AND FORMS OF DELIVERY ON REQUEST

ELECTRODES

DIN EN 14700 **E NiFe-CI**

CORODUR® **E NiFe 60/40**

Basic-graphite special coated electrode with a ferro-nickel core. Suitable for joining all types of grey cast iron and also for joining cast iron with steel, but especially for nodular cast iron. The colour of the deposit is very similar to the base material, and corrosion will be identical to the base material later on. This electrode excels by very high crack-resistance and high tensile strength of the weld metal. Even in refined zones the seam is still machinable.

GG 10, GG 40, GTS 35, GTS 70, GTW 35, GTW 70, GGG 40, GGG 80

TYPICAL ALL WELD METAL ANALYSIS (%) Base = Fe

C	Si	Mn	Ni	Fe
1,1	1,2	1,0	53,0	43,0

Hardness HB	CURRENT	POSITIONS	REBAKING if required
160 – 190	= + / ~ 50 V	PA, PB, PC, PD, PE, PF, PG	1h @ 120 °C

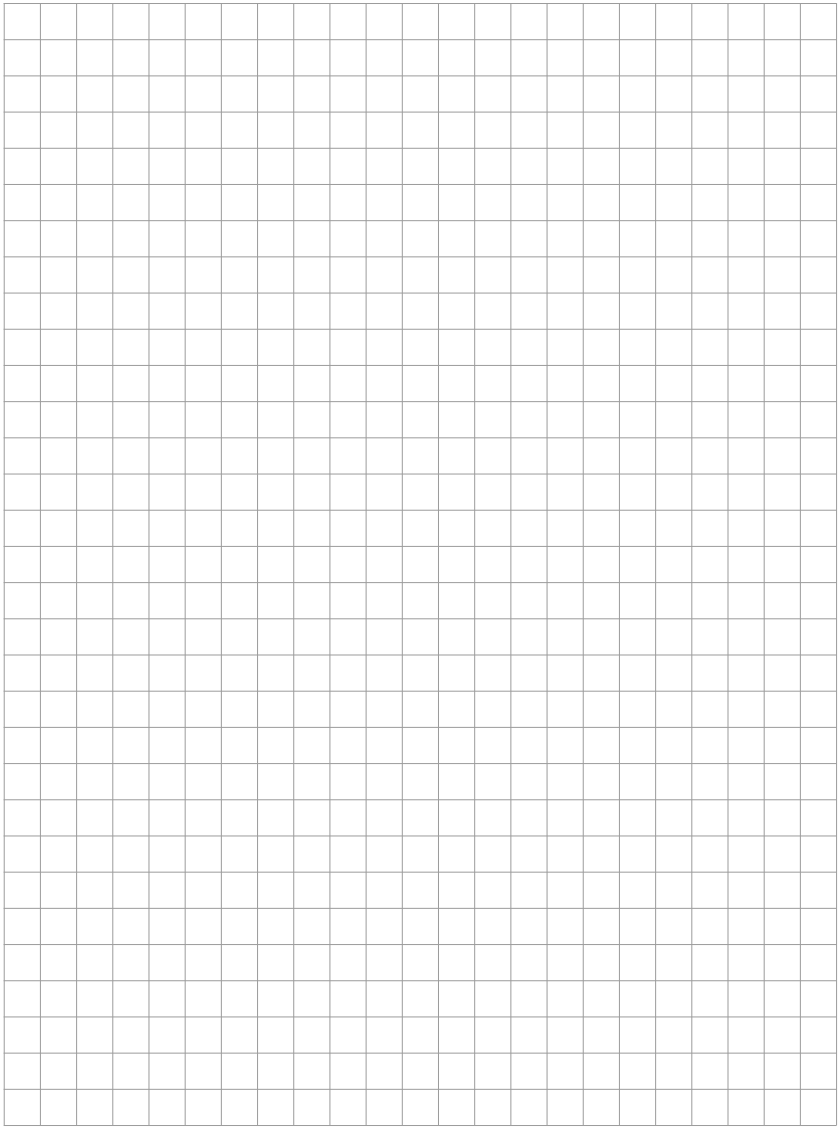
DIAMETER AND FORMS OF DELIVERY ON REQUEST

ELECTRODES

ELECTRODES

Product	C %	Si %	Mn %	Cr %	Ni %	Mo %	Nb %	W %	V %	Co %	Fe %	Other %	Hardness
CORODUR® E 200 K	0,1	0,4	6,0	19,0	8,5								180 – 200 HB hard: ca. 400 HB
CORODUR® E 250 K	0,5	0,4	16,0	14,0	0,8	0,5		0,2					220 – 250 HB hard.: ca. 500 HB
CORODUR® E 300	0,1	0,5	1,0	1,2									280 – 325 HB
CORODUR® E 600	0,6		1,7	0,4								9,0	55 – 57 HRc
CORODUR® E WZ 50	0,3	2,2	4,2	0,6									44 – 47 HRc
CORODUR® E WZ 59	0,4			4,8	3,7			3,5					58 – 60 HRc
CORODUR® E 42	1,8	0,8	0,6	29,0	3,0	1,0							41 – 44 HRc
CORODUR® E 55	4,5	1,0		28,0								2,0	55 – 59 HRc
CORODUR® E 59	3,8	1,2	33,0									2,0	59 – 61 HRc
CORODUR® E 61	5,2	2,2	29,0				7,0					3,5	62 – 65 HRc
CORODUR® E 65	4,5	1,2		24,0		6,0	6,0	2,0	1,0				63 – 65 HRc
CORODUR® E 67	5,0	1,5		23,0					10,0				64 – 67 HRc
CORODUR® E 68 T	4,0	2,0		28,0								4,0	68 – 70 HRc
COROLIT E 1	2,2	1,2	1,0	30,0				12,5		B	<3,0		52 – 55 HRc
COROLIT E 6	1,0	0,9	1,0	28,0				4,5		B	<3,0		40 – 43 HRc
COROLIT E 12	1,4	1,0	1,0	28,0				8,5		B	<3,0		45 – 48 HRc
COROLIT E 21	0,3	0,9	1,0	28,0	3,0	5,5				B	<3,0		300 – 330 HB hard: 45 HRc
COROLOY E CO	0,06			15,0	R	16,0		4,0		2,0	5,0		220 HB hard.: 400 HB
CORODUR®E NiFe 31	1,1	1,2	0,75		54,0					R			190 HB
CORODUR® E NiFe 60/40	1,1	1,2	1,0		54,0					R			190 HB

Your notes



WIRE BASKET SPOOL

EN/ ISO 4544

Net weight:	15 kg
Diameter (outer):	300 mm
Diameter (inner):	51,5 mm
Width	103 mm

EN/ ISO 4544

Net weight:	25 kg
Diameter (outer):	435 mm
Diameter (inner):	300 mm
Width	105 mm

WIRE DRUM

Net weight:	100–150 kg
Diameter:	550 mm
Height:	400 mm
Net weight:	150–300 kg
Diameter:	550 mm
Height:	800 mm

PLASTIC BOTTLE

Net weight:	5 kg

PLASTIC SPOOL

R 435

Net weight:	25 kg
Diameter (outer):	435 mm
Diameter (inner):	300 mm
Width	90 mm

Seamed cored wire may pick-up humidity.
To prolong life, following advice should be observed:

STORAGE
- Store only in undamaged and unopened original packaging.
- Keep storage time as short as possible.
- Maximum storage time: 1–2 years. If maximum storage time is exceeded, cored wires should be re-dried thoroughly (baking oven).
- Keep storage temperature constant (±5 °C).
- Minimal storage temperature: 15 °C.
- Relative moisture maximum: 60 % at 15–25 °C respectively 50 % at 25–35 °C
- Special recommendations for seamed cored wires, packed in drums, steel or wooden bobbins in addition to the recommendations given above:
- In case of storage wires packed in drums, steel or wooden bobbins for longer than six month, put them into plastic bags with silica gel inside and seal the bag, to avoid any moisture contamination. Please note, that drums and wooden bobbins are not suitable for re-dying procedures.

HANDLING:
- Weld only at room temperature and ideally at low relative humidity.
- Do not leave cored wires unpacked for more than 24 h if relative humidity is higher than 60 %.
- Subjected to normal workshop conditions, cored wires can be left unpacked for 72 h.
- At end of work or shift etc. place cored wires in original plastic bags. Observe storage advice given above.

RE-DRYING:
- If wires are affected by humidity, re-drying is recommended; Temperature: 140–200 °C, time: 2–12 h. recommendations: 150 ° at 6 h.
- Up to 6 re-drying cycles are possible.
- Rusted/ corroded wires have been stored too long and/or under adverse/bad conditions. Use of these wires is not recommended generally as they will cause negative impacts on the wire feeder mechanism/jamming/excess weld spatter etc.

Hardness level

Strength/ Vickers/ Brinell/ Rockwell

N/mm²	HV	HB	HRc
200	63	60	–
210	65	62	–
220	69	66	–
225	70	67	–
230	72	68	–
240	75	71	–
250	79	75	–
255	80	76	–
260	82	78	–
270	85	81	–
280	88	84	–
285	90	86	–
290	91	87	–
300	94	89	–
305	95	90	–
310	97	92	–
320	100	95	–
330	103	98	–
335	105	100	–
340	107	102	–
350	110	105	–
360	113	107	–
370	115	109	–
380	119	113	–
385	120	114	–
390	122	116	–
400	125	119	–
410	128	122	–
415	130	124	–
420	132	125	–
430	135	128	–
440	138	131	–
450	140	133	–
460	143	136	–
465	145	138	–
470	147	140	–
480	150	143	–
490	153	145	–
495	155	147	–
500	157	149	–

N/mm²	HV	HB	HRc
510	160	152	–
520	163	155	–
530	165	157	–
540	168	160	–
545	170	162	–
550	172	163	–
560	175	166	–
570	178	169	–
575	180	171	–
580	181	172	–
590	184	175	–
595	185	176	–
600	187	178	–
610	190	181	–
620	193	184	–
625	195	185	–
630	197	187	–
640	200	190	–
650	203	193	–
660	205	195	–
670	208	198	–
675	210	199	–
680	212	201	–
690	215	204	–
700	219	208	–
705	220	209	–
710	222	211	–
720	225	214	–
730	228	216	–
740	230	219	–
750	233	221	–
755	235	223	–
760	237	225	–
770	240	228	–
780	243	231	21
785	245	233	–
790	247	235	–
800	250	238	22
810	253	240	–
820	255	242	23

N/mm²	HV	HB	HRc
830	258	245	–
835	260	247	24
840	262	249	–
850	265	252	–
860	268	255	25
865	270	257	–
870	272	258	26
880	275	261	–
890	278	264	–
900	280	266	27
910	283	269	–
915	285	271	–
920	287	273	28
930	290	276	–
940	293	278	29
950	295	280	–
960	299	284	–
965	300	285	–
970	302	287	30
980	305	290	–
990	308	293	–
995	310	295	31
1000	311	296	–
1010	314	299	–
1020	317	301	32
1030	320	304	–
1040	323	307	–
1050	327	311	33
1060	330	314	–
1070	333	316	–
1080	336	319	34
1090	339	322	–
1095	340	323	–
1100	342	325	–
1110	345	328	35
1120	349	332	–
1125	350	333	–
1130	352	334	–
1140	355	337	36
1150	358	340	–

Strength/ Vickers/ Brinell/ Rockwell

N/mm²	HV	HB	HRc
1155	360	342	–
1160	361	343	–
1170	364	346	37
1180	367	349	–
1190	370	352	
1200	373	354	38
1210	376	357	
1220	380	361	
1230	382	363	39
1240	385	366	
1250	388	369	
1255	390	371	
1260	392	372	40
1270	394	374	
1280	397	377	
1290	400	380	
1300	403	383	41
1310	407	387	
1320	410	390	
1330	413	393	42
1340	417	396	
1350	420	399	
1360	423	402	43
1370	426	405	
1380	430	409	
1390	431	410	
1400	434	413	44
1410	437	415	
1420	440	418	
1430	443	421	45
1440	446	424	
1450	449	427	
1455	450	428	
1460	452	429	
1470	455	432	
1480	458	435	46
1485	460	437	
1490	461	438	
1500	464	441	
1510	467	444	

N/mm²	HV	HB	HRc
1520	470	447	
1530	473	449	47
1540	476	452	
1550	479	455	
1555	480	456	
1560	481		
1570	484		48
1580	486		
1590	489		
1595	490		
1600	491		
1610	494		
1620	497		49
1630	500		
1640	503		
1650	506		
1660	509		
1750	533		
1760	536		
1770	539		
1775	540		
1780	541		
1790	544		52
1800	547		
1810	550		
1820	553		
1830	556		
1840	559		
1845	560		53
1850	561		
1860	564		
1870	567		
1880	570		
1890	572		
1900	575		
1910	578		54
1920	580		
1930	583		
1940	586		
1950	589		

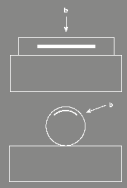
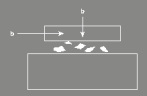
N/mm²	HV	HB	HRc
1955	590		
1960	591		
1970	594		
1980	596		55
1990	599		
1995	600		
2000	602		
2010	605		
2020	607		
2030	610		
2040	613		
2050	615		56
2060	618		
2070	620		
2080	623		
2090	626		
2100	629		
2105	630		
2110	631		
2120	634		
2130	636		
2140	639		57
2145	640		
2150	641		
2160	644		
2170	647		
2180	650		
2190	653		
2200	655		58
	675		59
	698		60
	720		61
	745		62
	773		63
	800		64
	829		65
	864		66
	900		67
	940		68

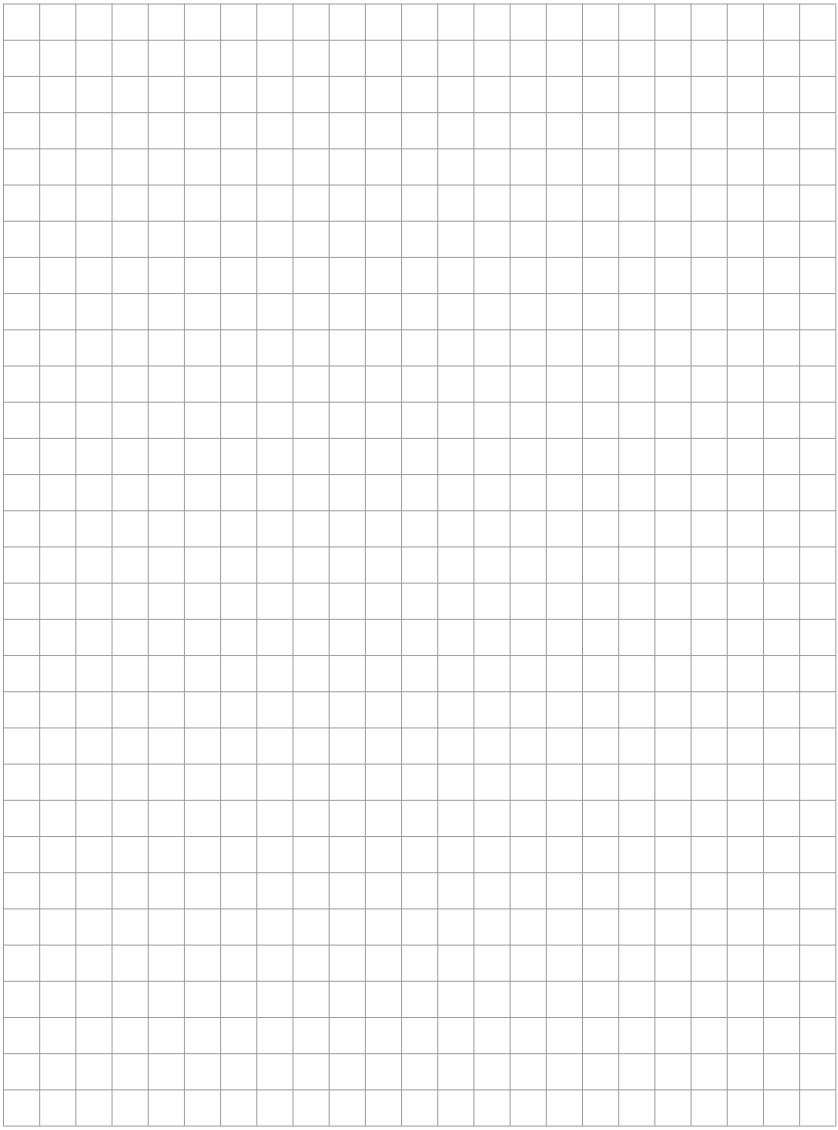
Symbol Group	IdentNr.	Shares in volume %				
		Oxidizing		Inert		Reducing
	CO2	O2	Ar	He	H2	
I	1			100		
	2				100	
	3			Rest	0,95	
M1	1	0-5		Rest		0-5
	2	0-5		Rest		
	3		0-3	Rest		
	4	0-5	0-3	Rest		
M2	1	5-25		Rest		
	2		3-10	Rest		
	3	0-5	3-10	Rest		
	4	5-25	0-8	Rest		
M3	1	25-50		Rest		
	2		0-15	Rest		
	3	5-50	8-15	Rest		
C	1	100				
	2	Rest	0-30			

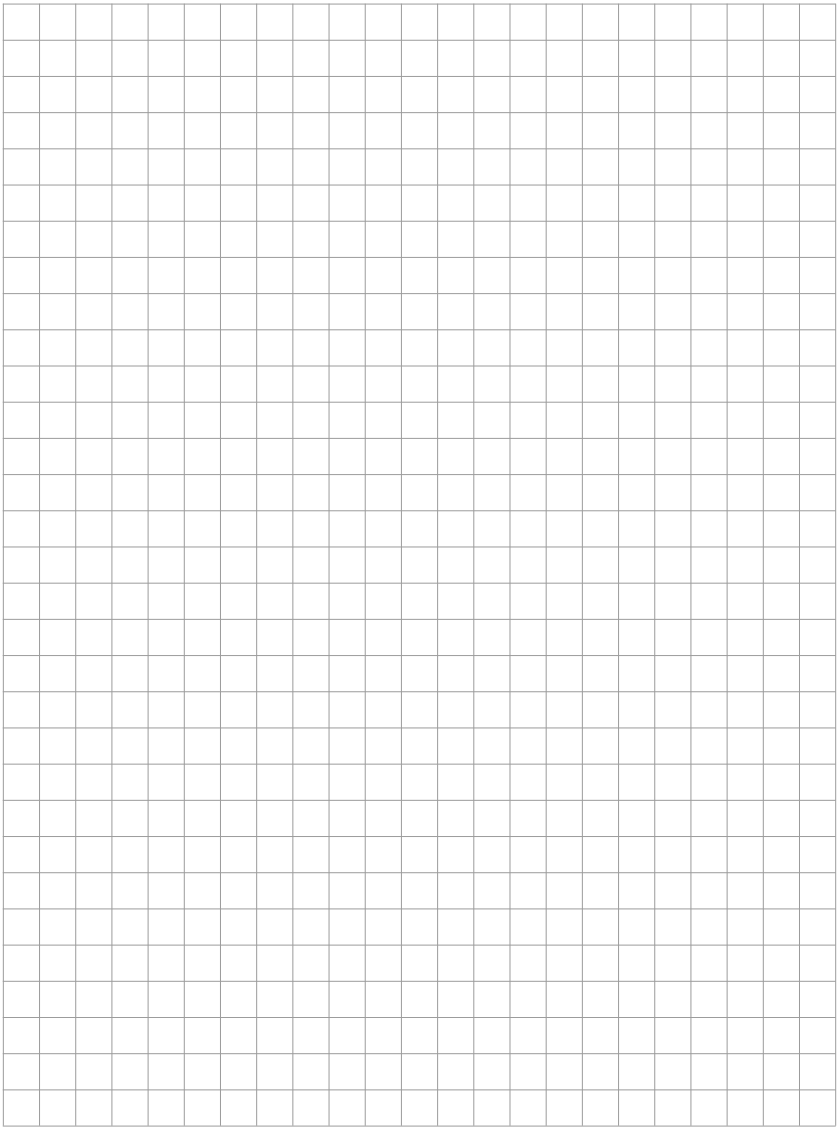
Process	ø [mm]	Amps [A]	Voltage [V]	DEPOSITON RATE [kg/h]
Oxyacetylene – Flux – Rod	 – 3/8,0	 – –	 – –	 0,2–1 < 2 kg
Standard electrode	4 5	180 250	24 25	1,62 2,01
High-performance electrode	4 5	240 350	25 26	2,97 4,3
Solid wire	1,2 1,6	150–300 200–390	23–30 25–33	2,2/5 3/5,5
Cored wire	1,6 2,4 2,8 3,2	150–300 240–400 270–450 300–500	25–29 26–31 26–31 26–31	3/6,5 4/7,5 5/9,5 6/11,0
PTA	–	50–400	20–50	0,5–20

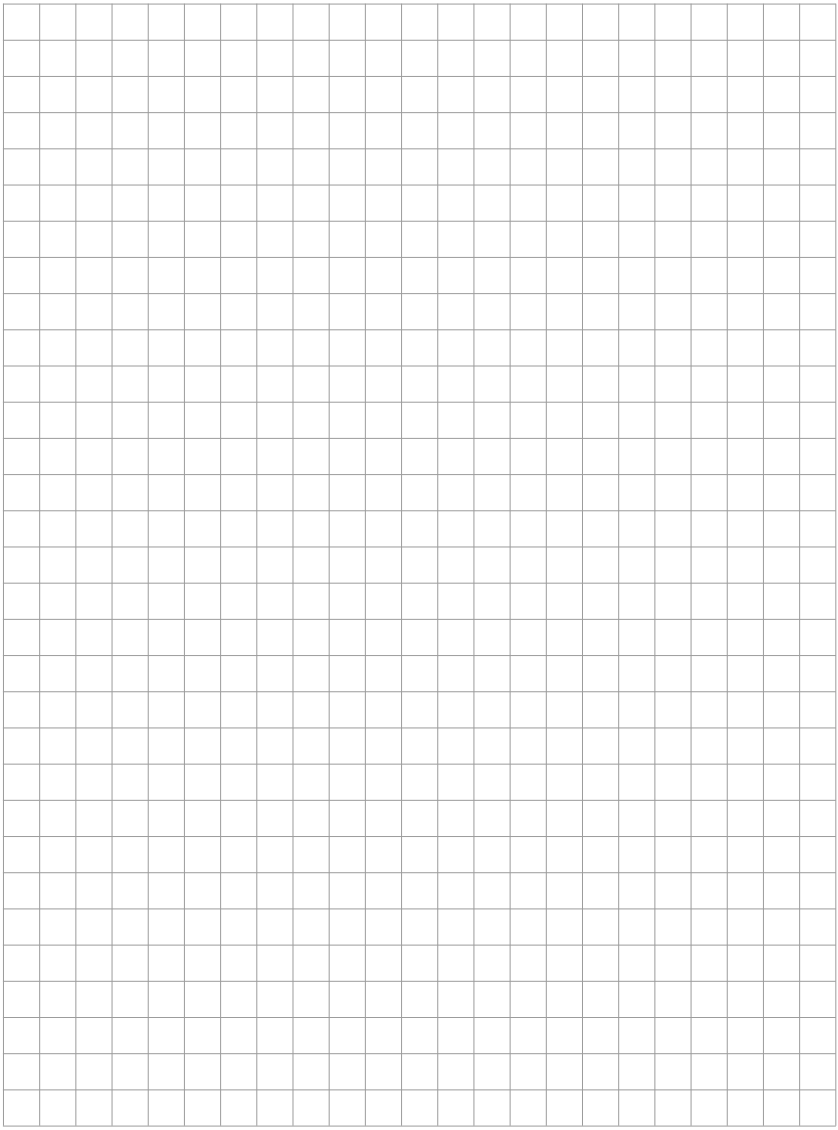
CONVERSION TABLE

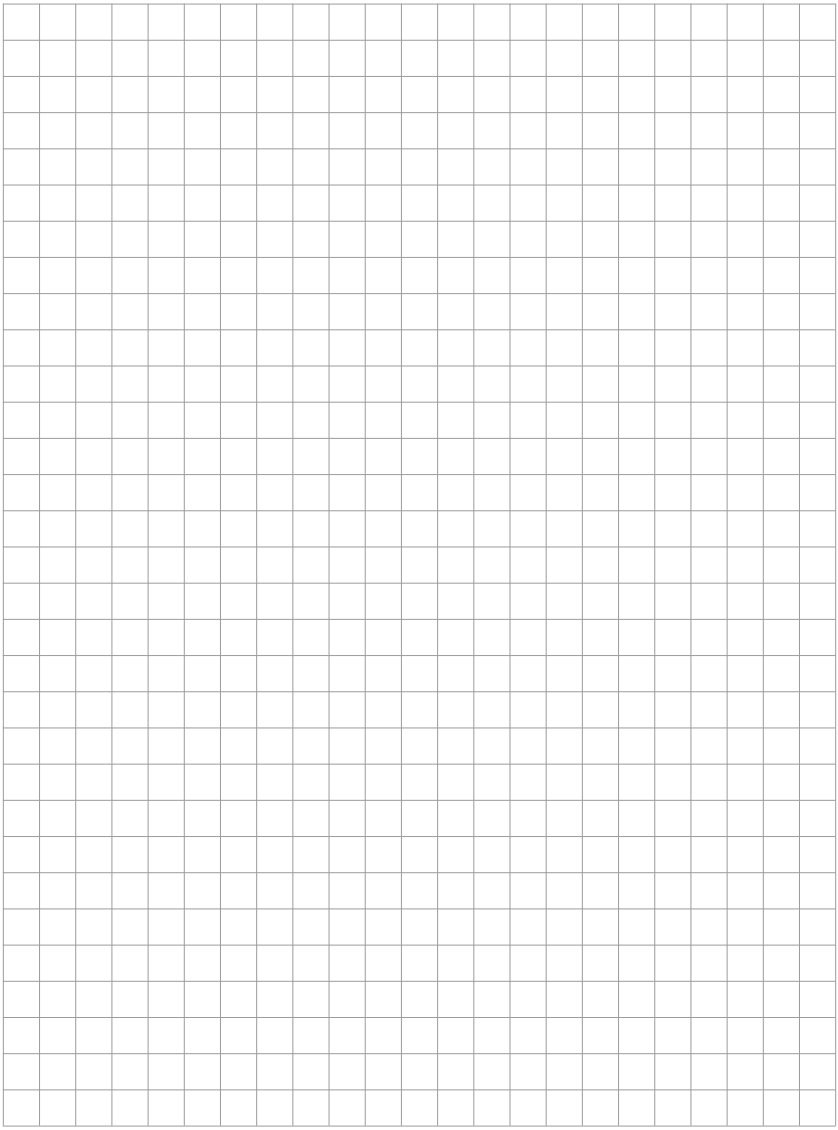
Dia (mm)	Dia (inch)	Dia (mm)	Dia (inch)
1,2	3/64	2,4	3/32
1,6	1/16	2,8	7/64
2,0	5/64	3,2	1/8

System structure	Wear	Component examples	Alloy Designation
Solid - solid Solids - friction boundary friction	Sliding wear	Guideway rail	Fe1, Fe2, Fe3, Cu1, Cu2
	Impact wear Shock wear	Maul	Fe9, Fe10, Al1, Ni2, Ni4
		Rocker arms, cam	Fe1, Fe2, Fe3
mixed friction 	Roll wear Rolling wear	Tram rail, switch	Fe9, Fe10
		Impeller	Fe1, Fe2, Fe3, Fe9
		Track rail	Fe1, Fe9, Fe10
	Roll-impact wear Thermal shock	Strand guide roller	Fe7
		Roller conveyor roll	Fe3, Fe6, Fe7, Fe8
		Drivers roll, reel	Fe3
		Forging	Fe3, Fe4, Fe6, Fe8, Co1, Co2, Co3, Ni2, Ni4
	Shock-sliding wear cold	Cutters, cutting edge	Fe4, Fe5, Fe8, Co1, Co2, Co3
	Shock-sliding wear warm	Hot shear blades	Fe3, Fe4, Co2, Ni2, Ni4
		Piercer	Fe3, Fe4, Co2, Ni2, Ni4
Solids - Solids and particles 	Shock-sliding wear	Jaw crusher, hammer crusher	Fe6, Fe8, Fe9, Fe14
		Impact bar	Fe6, Fe8, Fe9
		Spike Crusher	Fe6, Fe8, Fe9, Fe13, Fe14, Fe15
		Bandage for cement roller crusher	Fe6, Fe8
		Coal, Erzmahlring	Fe6, Fe8, Fe13, Fe14, Fe15, Fe16
		Grate bar, crossbeams	Fe13, Fe14, Fe15
		Coal mill racket	Fe8, Fe13, Fe14, Fe15
		Wear plates	Fe13, Fe14, Fe15
Solids - Particles High surface pressure and shock	Shock-sliding wear	Plow, bucket knife	Fe15, Fe20, Ni20
		Dropping tables, chute	Fe14, Fe15, Fe20, Ni20
		Wear plates	Fe14, Fe15, Ni1, Ni2, Ni3, Ni4, Ni20
Solids- Solids and particles high surface pressure 	Furrowing wear	Extruder	Fe14, Fe15, Fe20, Ni1, Ni3, Ni20, Co2, Co3, Cr1
		Auger	Fe14, Fe15, Fe20, Ni1, Ni3, Ni20, Co2, Cr1
		Bucket knife	Fe15, Fe20, Ni20
		Fang, ripper	Fe2, Fe6, Fe8
		Ploughshare	Fe2, Fe6, Fe8, Fe20, Ni20
		Mixer part, soil mixers	Fe6, Fe8, Fe14, Fe20, Ni1, Ni3, Ni20
		Brick mold	Fe6, Fe8, Fe14, Ni1, Ni3
		Grinding segment, grinding ring	Fe14
Solids - particles and glas 	Grain sliding wear T<500°C	Blast furnace valve, furnace gas valve	Fe6, Fe7, Fe8
		Gout bell seat	Fe3, Fe6, Fe8 (Fe16)
		Blast furnace hopper	Fe15, Fe16
		Oven fittings, slide	Fe7, Co1, Co2
		Fan, impeller blade, reinforcing bar	Fe10, Fe15, Fe16, Fe20, Ni1, Ni2, Ni3, Ni4, Ni20
		Spike Crusher, crossbeams	Fe15, Fe16
		Impeller, wear plates	Fe14, Fe15, Fe20, Ni1, Ni3, Ni20
Solids - Liquids and particles 	Flushing wear, Liquid erosion	Ray pipeline, wear plates	F14, Fe15
		Maritime dredges slide, Schake	Fe6, Fe8
		Liquid pump	Fe6, Fe7, Fe8, Ni1, Ni3
		Mixer parts	Fe6, Fe7, Fe8
	Erosion corrosion	Propeller	Cu1, Cu2
		Water turbine	Fe7, Fe17, Cu1
Solids - liquids	Corrosion	Chemistry apparatus	Fe7, Fe11, Fe12
		Valves sealing surface	Fe7, Fe17, Co1, Co2, Co3
	Kaviation	Wasserturbine	Fe7, Fe11, Fe12, Fe17, Co1, Co2, Co3









CORODUR
Das Original
FÜLLDRAHT GMBH

COROD UR FÜLLDRAHT GMBH
GIESSERALLEE 37
D – 47877 WILLICH

FON +49 (0) 2154 8879 – 0
FAX +49 (0) 2154 8879 – 79

INFO@CORODUR.DE
WWW.CORODUR.DE

V. 2.1_01/2019