

APPLICATIONS FOR FORGING



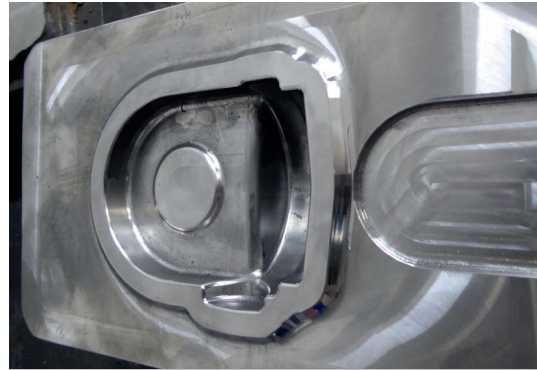
WE SOLVE YOUR WEAR PROBLEMS

Corodur Fülldraht has been an industry leader in the area of wear protection for 35 years.

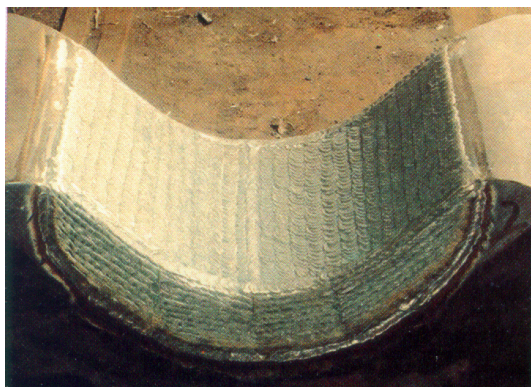
We specialise in the manufacture of high quality consumables for arc-welding and for thermal spraying. The product range includes flux-cored wires for OPEN ARC (FCAW), MIG (MGAW) and submerged arc (SAW) welding. We also supply stick electrodes of equivalent composition as well as a range of tungsten carbide products for the most extreme wear conditions.



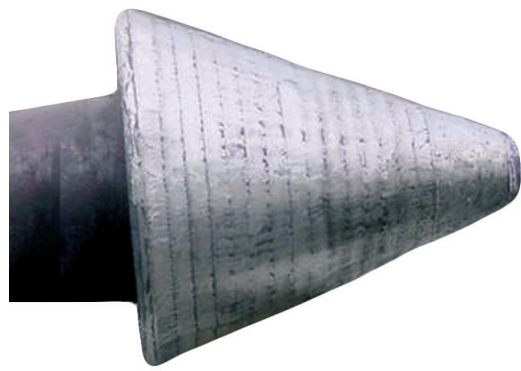
OPEN DIE FORGING TOOLS



SHAPE PREPARATION FOR REPAIR WELDING ON CLOSED FORGING DIE



HARDFACED FORGING DIE



RING ROLLING

Corodur® Solutions for Forging

You can rely on Corodur® to provide tailored end-to-end wear protection solutions, allowing you more time to focus on your core business needs. Our qualified and experienced service team will guide you and recommend the right product and method. We develop the best solution for your specific needs.

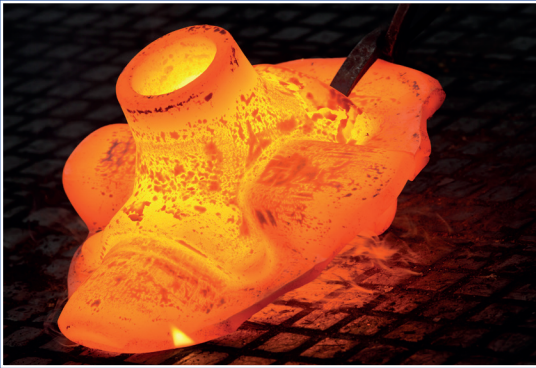
Nickel-Based		
Flux Cored Wires	Hardness	General Characteristics
COROLOY Co	260 - 280 HB Work hardened: 420 HB	A high alloyed Cr- Mo- Co- W- flux cored nickel based wire. This alloy is suitable for steel that encounters aggressive corrosive media as well as those steels that operate at high temperatures.
COROLOY 520W	32 - 35 HRC Work hardened: 45 HRC	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.
COROLOY 520 Co W	280HB Work hardened: 45 HRC	Deposits a Cr- Co- Ti- Al- W- alloy in a nickel base. The weld metal is a faster precipitated, easily hardened alloy with an exceptional combination of high temperature mechanical properties, formability and corrosion resistance.
COROLOY 520 Co	280HB	Deposits a Cr- Co- Ti- Al - 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.

Cobalt-Based		
Flux Cored Wires	Hardness	General Characteristics
COROLIT 1	52 - 55 HRc	Deposits a cobalt-base alloy with an austenitic-ledgeburitic structure. This is the hardest of the standard cobalt-base alloys. It has a high resistance to corrosion (especially to reducing acids and impact), extreme wear and temperature shocks.
COROLIT 6	40 - 43 HRc	Cobalt-base alloys with an austenitic-ledgeburitic structure containing chrome and tungsten carbides. These alloys are resistant against high corrosion and abrasion, high impact stress and extreme temperature shocks.
COROLIT 6 LC	36 - 39 HRc	Cobalt-base alloys with an austenitic-ledgeburitic structure containing chrome and tungsten carbides. These alloys are resistant against high corrosion and abrasion, high impact stress and extreme temperature shocks.
COROLIT 6 HC	43 - 46 HRc	Cobalt-base alloys with an austenitic-ledgeburitic structure containing chrome and tungsten carbides. These alloys are resistant against high corrosion and abrasion, high impact stress and extreme temperature shocks.
COROLIT 12	45 - 48 HRc	This cobalt base-alloy is the toughest, with highest corrosion and thermal resistance of all cobalt-base alloys.
COROLIT 21	300 - 330 HB Work hardened: 45 HRc	Cobalt-base alloy with high resistance against abrasion, temperature shocks and corrosion. Suitable for hardfacing cutting edges of long knives and other tools used in the wood, plastic, paper, carpet and chemical industries.
COROLIT 25	250 - 280 HB	Deposits a cobalt- based alloy with an austenitic structure. 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.

Impact resistance and Tool Steels		
Flux Cored Wires	Hardness	General Characteristics
CORODUR® 812	38 - 44 HRC 1200 - 1400 N/mm2	A heat and thermal shock resistant deposit, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 813	41 - 47 HRc 1300 - 1500 N/mm2	A heat and thermal shock resistant deposit, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 814	44 - 48,5 HRC 1400 - 1600 N/mm2	A Cr- Mo- Ni- alloyed weld deposit with excellent properties of resistance to impact at higher temperatures, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 816	48,5 - 52 HRc 1600 - 1800 N/mm2	A Cr- Mo- Ni- alloyed weld deposit with excellent properties of resistance to impact at higher temperatures, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 818	52 - 55,5 HRC 1800 - 2000 N/mm2	A heat and thermal shock resistant deposit, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 864	44 - 48,5 HRC 1400 - 1600 N/mm2	A heat and thermal shock resistant deposit, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 866	48,5 - 52 HRc 1600 - 1800 N/mm2	A heat and thermal shock resistant deposit, designed for maintenance of hot working tools and to increase their service life.
CORODUR® 868	52 - 55,5 HRC 1800 - 2000 N/mm2	A heat and thermal shock resistant deposit, designed for maintenance of hot working tools and to increase their service life.

Impact resistance and Tool Steels		
Flux Cored Wires	Hardness	General Characteristics
CORODUR® 495	48 - 50 HRc Work hardened: 53 HRc	Rust-free weld deposit on Fe- Cr- Ni- Co- Mo- base, high heat wear resistance, tensile strength, high resistance to sliding wear of metallic objects.
CORODUR® WZ 50	48 - 52 HRc	Suitable for repair and build-up applications on hot working steels of similar or lower alloyed hot working tools.
CORODUR® WZ 55	53 - 56 HRc Work hardened: 56 - 58 HRc	Air hardening and wear resistant alloy, can be applied to reclaim hot-forging dies and to overlay edges and flat areas of low alloyed high density steel tools.
CORODUR® WZ 57	50 - 53 HRc Work hardened: 55 - 59 HRc	Deposits an air hardening and wear resistant alloy and can be applied to reclaim hot-forging dies and to overlay the edges and flat areas of low alloyed high density steel tools.
CORODUR® WZ 59	57 - 59 HRc	The wear and heat resistant deposit of this 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.

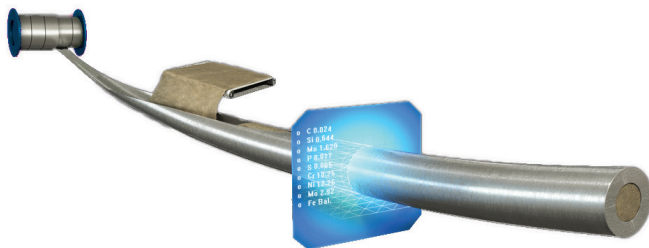
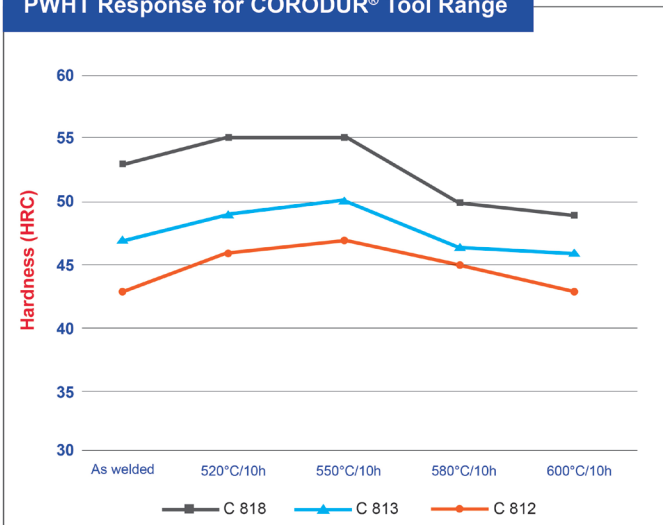
APPLICATION FOCUS



CORODUR® impact and heat resistant consumables

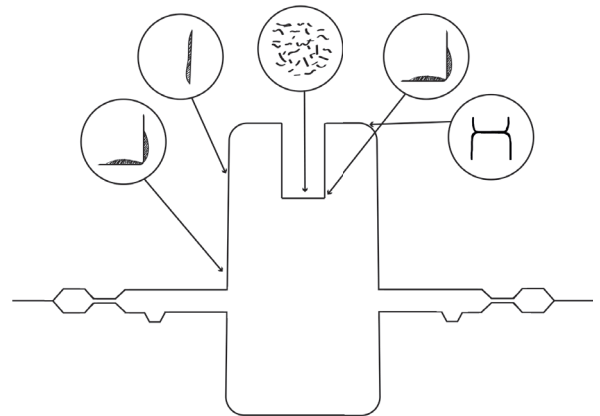
Even under the toughest working conditions, CORODUR® Flux Cored Wires have superb weldability and superior performance, increasing the lifetime of hot working tools and reducing maintenance downtime.

PWHT Response for CORODUR® Tool Range



Our state-of-the-art product: COROLOY 520 Co W

Different wear phenomena



- Plastic deformation
- Abrasion / friction
- Thermal fatigue
- Mechanical fatigue



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