ABRACOR S.A.
Welding Products

WELDING PRODUCTS

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Our family business Abracor has a long history of offering a wide range of products and personalized solutions to Belgian and international clients in all activity sectors.

We design, manufacture and sell welding consumables (welding electrodes, solid wires and flux-cored wires) and brazing. We also distribute Derustit products for pickling and passivation as well as Metaltec products for coatings.

Our key values have always been the constant technical innovation, polyvalence and the quality of our products, in order to guarantee effective services and solutions to our clients.

The team behind Abracor is at your service at all times - to provide you the suitable filler metal and to give you technical advice.

Welding to us is not only two pieces of metal to be assembled, it is a philosophy. We weld materials and services together to form the perfect solution for your specific business needs.

You are always welcome to contact us with your requirements or inquiries.

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WELDING ELECTRODES

MILD STEELS			
MS 6013 *Rutile*	AWS A5.1: E6013 EN ISO 2560-A :E 38 0 RC 11	1,6 à 4,0 mm	Economic electrode for general uses. Welding in all positions
MS 15 *Rutile*	AWS A 5.1: E 6013 EN ISO 2560-A: E 42 0 RC 11	1,6 à 5,0 mm	Rutile electrode to weld in all positions. Easy to use
MS 160 *Rutile*	AWS A5.1: E 7024 EN ISO 2560: E 512 RR 160 32	3,2 à 5,0 mm	High efficiency rutile electrode (160%)
MS 180 *Rutile*	AWS A 5.1: E 7024 EN ISO 2560: E 512 RR 180 32	3,2 à 5,0 mm	High efficiency rutile electrode (180%)
MS 21S *Rutile*	AWS A5.1: E6013 EN ISO 2560: E 513 RR 22	2 à 5,0 mm	Thick coated rutile electrode destined for flat or for fillet welding
MS 45 *Rutile*	AWS A5.1: E6013 EN ISO 2560-A: E 42 0 RR 12	2,0 à 5,0 mm	Heavy coated rutile electrode for general use
MS 46 *Rutile*	AWS A5.1: E6013 EN ISO 2560-A: E 42 0 RC 11	2,0 à 4,0 mm	Universal rutile electrode especially elaborated for welding in vertical down position
MS 58 *Rutile*	AWS A5.1 : E6013 EN ISO 2560-A : E 42 0 RC 1 1	2,0 à 4,0 mm	Universal all position mild steel electrode
MS B7 *Rutile-basic*	AWS A5.1: E6013 EN ISO 2560: E 43 4 RR 22	2,5 à 5,0 mm	Special rutile-basic coated electrode. Especially designed for root welding
MS Galva *Rutile*	AWS A5.1: E6013 EN ISO 2560: E 43 2 RR 12	2,0 à 4,0 mm	Heavy coated rutile electrode to weld construction steels which will be galvanised after welding
B 7016 SP VAC *Basic*	AWS A 5.1: E 7016-H8 EN ISO 2560-A : E 38 2B 12 H 10	2,5 à 5,0 mm	Basic coated electrode with a vacuum packing and an outstanding welding characteristics due to its double coating. It can be used without baking.
B 56 VAC *Basic*	AWS A 5.1: E 7018-1-H4 EN ISO 2560-A: E 42 6 B 42 H5	2,5 à 5,0 mm	Basic coated electrode type "7018-1" with a vacuum packing and it can be used without baking.
C 6010 *Cellulosic coating*	AWS A 5.1: E 6010 EN ISO 2560-A: E 35 2 C 21	2,5 à 4 mm	Covered electrode developed for field welding of pipelines in the vertical down position. Suitable for root pass welding

LOW & MEDIUM ALLOY STEELS			
LH 81A1S *Basic*	AWS A 5.5: E 7018-A1 EN ISO 3580: E Mo B 20	2,5 à 5,0 mm	Low hydrogen basic coated electrode with molybdenum for welding steels resistant to temperature up to 500°C
LH 882 S *Basic*	AWS A 5.5: E 8018-C1 EN ISO 2560-A: E 46 6 2Ni B 4 2 H5	2,5 à 5,0 mm	Low hydrogen basic coated electrode alloyed with nickel for welding steels resistant to low temperature down to -60°C
LH 884 S *Basic*	AWS A 5.5: E 8018-C2 EN ISO 2560-A: E 46 6 3Ni B 4 2 H5	2,5 à 5,0 mm	Low hydrogen basic coated electrode alloyed with nickel for welding steels resistant to low temperature down to -60°C
LH 881 S *Basic*	AWS A 5.5: E 8018-C3 EN ISO 2560-A: E 46 5 1Ni B 4 2	2,5 à 5,0 mm	Low hydrogen basic coated electrode alloyed with nickel for welding steels resistant to low temperature down to -60°C
LH 801 S *Basic*	AWS A 5.5: E 8018-W EN ISO 18275-A: E 46 2 Z B 4 2	2,5 à 5,0 mm	Basic coated electrode for welding all steels resistant to atmospheric corrosion
LH 98 DS *Basic*	AWS A 5.5: E 9018-D1 EN ISO 18275-A: E 55 4 MnMo B 4 2 H5	2,5 à 5,0 mm	Low hydrogen basic coated electrode with high resistance to fatigue and corrosion
LH 981 S *Basic*	AWS A 5.5: E 9018-G EN ISO 18275-A: E 55 5 1NiMo B 4 2 H5	2,5 à 5,0 mm	Basic coated electrode with high resistance. Particularly recommended for root passes on fine grain steels resistant
LH 1181 S *Basic*	AWS A 5.5: E 10018- G EN ISO 18275-A: E 62 5 1.5NiMo B 4 2 H5	2,5 à 5,0 mm	Basic coated electrode highly resistant to cracks
LH 11181 S *Basic*	AWS A 5.5: E 11018-M EN ISO 18275-A: E 69 4 Mn2NiCrMo B 4 2 H5	2,5 à 5,0 mm	Basic electrode with a deposit which is very resistant to cracking and has a high tensile strength

CREEP RESISTANT STEELS			
HFM 15 S *Basic*	AWS A 5.5: E 8018-B2 EN ISO 3580: E 1 Cr Mo B 20	2,5 à 5,0 mm	Welding of 1% Cr, 0.5% Mo steels. Creep resisting till 550°C
HFM 21 S *Basic*	AWS A 5.5: E 9018-B3 EN ISO 3580: E 2 Cr Mo B 20	2,5 à 5,0 mm	Welding of 2% Cr, 1% Mo steels. Creep resisting till 600°C
HFM 22 S *Basic*	AWS A 5.5: E8018-B6 EN ISO 3580: E5 Cr Mo B 20	2,5 à 5,0 mm	Welding of 5% Cr, 0.5% Mo steels. Creep resisting till 600°C
HFM 818 S *Basic*	AWS A 5.5: E 8018-B1 EN ISO 3580: E 0,5 Cr Mo B 20	2,5 à 5,0 mm	Welding of 0.5% Cr, 0.5% Mo steels. Creep resisting till 500°C

STAINLESS STEELS			
Abracrom 307 R *Rutile*	AWS A 5.4: - E 307 - 16 EN ISO 3581-A: E 18.8 Mn R 26	2,5 à 5,0 mm	Austenitic (non-magnetic) rutile coated electrode for joining and overlaying on manganese steels
Abracrom 307 B *Basic*	AWS A 5.4: - E 307 - 15 EN ISO 3581-A: E 18 8 Mn B 3 2	2,5 à 5,0 mm	Austenitic (non-magnetic) basic coated electrode for joining and overlaying on manganese steels
CSS 307 S *Rutile-basic*	AWS A 5.4: - E 307 - 26 EN ISO 3581-A: E 18.8 Mn R 33	2,5 à 4,0 mm	Electrode with high recovery (160%). Fully austenitic stainless steel deposit with a high Mn-content (14% Mn)
Abracrom 308 L *Rutile*	AWS A 5.4: E 308L - 16 EN ISO 3581-A: E 19 9 L R 3 2	2 à 5,0 mm	Low carbon austenitic stainless steel electrode, rutile type coating with approximately 8% ferrite
Abracrom 308 B *Basic*	AWS A 5.4: E 308L - 15 EN ISO 3581-A: E 19.9 LB	2,5 à 4,0 mm	Low carbon austenitic stainless steel electrode, basic type coating with approximately 8% ferrite
Abracrom 308 HB *Basic*	AWS A 5.4: E308H-15 EN ISO 3581-A: E 19.9 B 20	2,5 à 4,0 mm	Austenitic stainless steel electrode, basic type coating with approximately 5% ferrite and increased carbon contend.
Abracrom 308 LF *Rutile*	AWS A 5.4: E 308L - 16 EN ISO 3581-A: E 19 9 L R 26	2,5 à 4,0 mm	Rutile electrode type coating with approximately less than 3% ferrite
Abracrom 308 Mo *Rutile*	AWS A 5.4: E 308Mo - 17 EN ISO 3581-A: E 20 10 3 R 3 2	2,5 à 4,0 mm	Stainless steel electrode used to weld dissimilar joints. High level of delta ferrite (approximately 25%). Highly crack resistant.
CSS 308 S *Rutile-basic*	AWS A 5.4: E 308L - 26 EN ISO 3581-A: E 19.9 LR 160 23 X	1,6 à 4,0 mm	Synthetic electrode with high recovery (160%). Rutile-basic coating with a deposit of 19% Cr and 9% Ni stainless steel type.
Abracrom 309 L *Rutile*	AWS A 5.4: E 309L - 16 EN ISO 3581-A: E 23 12 L R 3 2	2 à 5,0 mm	Low carbon rutile-basic electrode with an austenitic stainless steel deposit containing 15% ferrite for welding dissimilar steels
Abracrom 309 Mo *Rutile*	AWS A 5.4: E 309Mo L - 16 EN ISO 3581-A: E 23 12 2 L R 3 2	2 à 5,0 mm	Low carbon rutile-basic coated 23% Cr, 12% Ni and 2% Mo stainless steel type electrode used to weld on 316L cladded steels and for dissimilar joints
CSS 309 S *Rutile-basic*	AWS A 5.4: E 309-26 EN ISO 3581-A: E 23.12 R 160 23 X	2 à 4,0 mm	Synthetic electrode with high recovery (160%), rutile-basic coating with a 24% Cr and 13% Ni stainless steel type deposit
CSS 309 Mo S *Rutile-basic*	AWS A 5.4: E 309Mo-26 EN ISO 3581-A: E 23.12.2 R 160 23 X	2,5 à 4,0 mm	Synthetic electrode with high recovery (160%), rutile-basic coating with a 24% Cr, 13% Ni and 2.5% Mo stainless steel type deposit
Abracrom 310 R *Rutile*	AWS A 5.4: E 310 – 16 EN ISO 3581-A: E 25.20 R 26	2 à 5,0 mm	Electrode resistant to corrosion and oxidation up to 1200°C
Abracrom 310 B *Basic*	AWS A 5.4: E 310 - 15 EN ISO 3581-A: E 25.20 B 20	2 à 5,0 mm	Electrode resistant to corrosion and oxidation up to 1150°C
Abracrom 310 H *Basic*	AWS A 5.4: E310H-15 EN ISO 3581-A: E 25 20 H B 4 2	2,5 à 4,0 mm	Austenitic stainless steel electrode with 26% Cr, 21% Ni and an increased carbon content. Resisting to scaling and oxidation up to 1100°C
Abracrom 310 LB *Basic*	EN ISO 3581-A: Z 25 20 Mn B 4 2	2,5 à 4,0 mm	Electrode with increased manganese content. Resistant against hot cracking
Abracrom 310 Mn *Basic*	AWS A 5.4: - E310-15 EN ISO 3581-A: E 25.20 B 20	2,5 à 4,0 mm	Austenitic stainless steel electrode used to weld austenitic scaling and oxidation resistant alloys up to 1150°C
Abracrom 312 *Rutile*	AWS A 5.4: E 312 - 16 EN ISO 3581-A: E 29.9 R 23	1,6 à 5,0 mm	Electrode adapted for welding dissimilar steels (stainless steels with low alloyed steels) and steels difficult to weld

CSS 312 S *Rutile-basic*	AWS A 5.4: - E 312-26 EN ISO 3581-A: E Z 26 9 R 7 3	2,0 à 4,0 mm	Synthetic electrode with high recovery (160%) for overlaying and welding high strength steels
Abracrom 316 L *Rutile*	AWS A 5.4: E 316L-16 EN ISO 3581-A: E 19 12 3 LR 32	1,6 à 5,0 mm	Molybdenum containing austenitic stainless steel electrode
Abracrom 316 B *Basic*	AWS A 5.4: E 316L-15 EN ISO 3581-A: E 19.12.3 LB	2,5 à 4,0 mm	For welding and cladding on austenitic Cr-Ni-Mo stainless and plated steels
Abracrom 316 D *Rutile*	AWS A 5.4: E 316L-16 EN ISO 3581-A: E 19.12.3 LR 16	2 à 3,2 mm	This electrode is designed for vertical down welding
Abracrom 316 LS *Rutile*	AWS A 5.4: E 316L - 17 EN ISO 3581-A: E 19 12 3 L R 3 2	2 à 4,0 mm	For welding and cladding on austenitic Cr-Ni-Mo stainless steels and clad plates.
Abracrom 318 *Rutile*	AWS A 5.4: E 318 - 16 EN ISO 3581-A: E 19 12 Nb R 3 2	2 à 5,0 mm	Rutile coated electrode Niobium stabilised 18% Cr, 12% Ni and 3% Mo austenitic stainless steel deposit with approximately 8% delta ferrite
Abracrom 347 *Rutile*	AWS A 5.4: E 347 -16 EN ISO 3581-A: E 19.9 Nb R 26	2 à 5,0 mm	Rutile coated electrode 18% Cr and 8% Ni type stainless steel niobium stabilised
Abracrom 383 *Rutile*	AWS A 5.4: E 383 - 16 EN ISO 3581-A: 27 31 4 Cu L R 1 2	2,5 à 4,0 mm	Electrode for welding highly corrosion resistant stainless steels and against attacks by phosphoric- and sulphuric acids. Welding of Sanicro 28
Abracrom 904 *Rutile*	AWS A 5.4: E 385-16 EN ISO 3581-A: E 20 25 5 Cu N L R 1 2	2,5 à 4,0 mm	Due to a high Mo-Cu content, the weld metal is suited against attacks by phosphoric- and sulphuric acids. Welding of Uranus B6
Abracrom 4462 *Rutile*	AWS A 5.4: E 2209 - 17 EN ISO 3581-A: E 22 9 3 N L R 3 2	2,5 à 4,0 mm	Electrode with an austenitic- ferritic microstructure - duplex
Abracrom 4462 B *Basic*	AWS A 5.4: E 2209 - 15 EN ISO 3581-A: E 22 9 3 N L B 4 2	2,5 à 4,0 mm	Electrode with an austenitic- ferritic microstructure - duplex
Abracrom 4462 Mo B *Basic*	AWS A 5.4: E 2594-15 EN ISO 3581-A: E 25 9 4 N LB 4 2	2,5 à 4,0 mm	Electrode with an austenitic- ferritic microstructure - duplex
CSS 17/4 Mo S *Basic*	EN ISO 3581-A: E Z 16 5 1 B 4 2	2,5 à 4,0 mm	Stainless steel electrode with 16% Cr, 5% Ni and 1% Mo
CSS 17/4 S *Basic*	EN ISO 3581-A: Z 16 5 1 B 4 2	2,5 à 4,0 mm	Stainless steel electrode with 16% Cr and 5% Ni
Abracrom 13/4 B *Basic*	AWS A 5.4: E 410 NiMo-15 EN ISO 3581: E 13.4 B	2,5 à 4,0 mm	Basic coated electrode for repair and construction welding (hydraulic turbines, pumps, valve bodies, ...)
CSS 410 B *Basic*	AWS A 5.4: E 410-15 EN ISO 3581-A: E 13 B 4 2	2,5 à 5,0 mm	Joining and hardfacing of stainless steels with 14% Cr. Corrosion and scale resistant up to 900°C
Abracrom 25/35 H *Basic*	EN ISO 3581A : E Z 25 35 Nb H B 4 2	2,5 à 4,0 mm	Basic coated austenitic stainless steel electrode with 26% Cr, 35% Ni and 1.2% Nb. Welding of cast steels resisting to oxidation
Abracrom 253 *Basic*	EN ISO 3581-A: E 22 12 R 3 2	2,5 à 4,0 mm	Resisting to scaling and oxidation up to 950°C

CUTTING, GOUGING, CHAMFERING AND PIERCING

Abracut S		2,5 à 5 mm	Especially for chamfering and gouging
Abracut SP		3,2 à 4 mm	Especially for cutting and piercing

CAST IRON

Abraferro *Ferro Ni * AC/DC +*	AWS A 5.15: E NiFe-CI ISO 1071: E C NiFe-CI 3	2,5 à 4,0 mm	Graphite basic coated electrode with a Ferro-Nickel alloy deposit (60% Ni and 40% Fe)
Abrafonte *Pure nickel * AC/DC*	AWS A 5.15: E Ni-CI ISO 1071: E C Ni-CI 3	2,5 à 5,0 mm	Electrode with a graphite-basic coating deposing a weld metal of pure nickel
Abrafonte 2 *Pure nickel * AC/DC -*	AWS A 5.15: E Ni-CI ISO 1071: E C Ni-CI 3	2,5 à 4,0 mm	Pure nickel electrode with graphite-basic coating to weld on DC- and AC, Good bonding and flow of the weld metal
Abrafonte 4 *Pure nickel / non conductive*	AWS A 5.15: E Ni-CI ISO 1071: E C Ni-CI 3	2,5 à 4,0 mm	Electrode with a graphite-basic barium free non conductive coating. Weld deposit consists of pure nickel

Abracast 11 S *Bimetal * AC/DC -*	AWS A 5.15: E NiFe-Cl ISO 1071: E C NiFe-Cl 3	2,5 à 4,0 mm	Graphite-basic coating and "Bimetal" core wire with high electrical and thermal conductivity
Abracast 12 S *Ferro Ni/Cu * AC/ DC +*	AWS A 5.15: E NiFe-Cl ISO 1071: E C NiFe-1 3	2,5 à 4,0 mm	Graphite-basic coating with a copper cladded core wire and a Ferro-Nickel alloy deposit. Exceptional welding characteristics
Abraferro NiFe2 *Ferro Ni * AC/ DC -*	AWS A 5.15: E NiFe-Cl ISO 1071: E C NiFe-Cl 1	2,5 à 4,0 mm	Graphite-basic coated electrode with a Ferro-Nickel alloy deposit (60% Ni and 40% Fe)
Abrafonte Fe *Iron based*	AWS A 5.15: E St ISO 1071: E C Fe-1 3	2,5 à 4,0 mm	Special iron based electrode. For repair welding of poor quality, dirty or oily old cast iron
Abrafonte Fe 2 *Iron based*	AWS A 5.15: "E St" ISO 1071: E C Fe-2 3	2,5 à 4,0 mm	Special basic coated "Nickel-Free" electrode for cold welding of cast iron with a colour matching deposit
Abrafonte Fe 3 *For hot welding*	AWS A 5.15: "ECI-B" ISO 1071: E C FeC-GF 3	3,2 à 5,0 mm	Graphite-basic coated electrode for hot welding nodular cast iron with a colour and structure matching deposit

NICKEL ALLOYS

Abranel 1 S *Rutile-basic*	AWS A5.11: E NiCrMo-3 ISO 14172: E-Ni6625 (NiCr22Mo9Nb)	2,5 à 4,0 mm	High recovery (170%) electrode for welding of Ni-Cr-Mo alloys to lower alloys. Welding of high strength steels
Abranel 276 S *Basic*	AWS A5.11: E NiCrMo-4 ISO 14172: E-Ni 6276 (NiCr15Mo15Fe6W4)	2,5 à 4,0 mm	Electrode with an alloyed core wire for welding of nickel-base alloys (alloy C-276) and other highly corrosion resistant NiCrMo alloys
Abranel 600 HR *Basic*	AWS A5.11: E NiCrFe-2 EN ISO 14172: E-Ni 6092 (NiCr16Fe12NbMo)	2,5 à 4,0 mm	High recovery (150%) basic coated electrode designed to weld with alternative current
Abranel 600 S *Basic*	AWS A5.11: E NiCrFe-3 EN ISO 14172: E-Ni6182 (NiCr15Fe6Mn)	2,5 à 5,0 mm	Electrode with a NiCrFr type nickel base weld deposit. Welding of high strength steels
Abranel 617 *Basic*	AWS A5.11: -E NiCrCoMo-1 EN ISO 14172: E-Ni6617 (NiCr22Mo12Co)	2,5 à 4,0 mm	Basic coated nickel base electrode with an alloyed core wire for joining and repairing of high temperature alloys
Abranel 625 *Basic*	AWS A5.11: E NiCrMo-3 EN ISO 14172: E-Ni6625 (NiCr22Mo9Nb)	2,5 à 5,0 mm	Electrode with an alloyed core wire of Inconel 625 type. Resistant to corrosion and high tensile strength
Abranel 625 BF *Basic*	AWS A5.11: E NiCrMo-3 EN ISO 14172: E-Ni6625 (NiCr22Mo9Nb)	2,5 à 5,0 mm	Electrode with an alloyed core wire of Inconel 625 type. Resistant to corrosion
Abranel 70/30 *Basic*	AWS A5.11: E NiCu-7 EN ISO 14172: E-Ni4060 (NiCu30Mn3Ti)	2,5 à 4,0 mm	Electrode with a NiCu type nickel base weld deposit. "Monel"
Abranel 82 *Basic*	AWS A5.11: -E NiCrFe-3 EN ISO 14172: E-Ni6082 (NiCr20Mn3Nb)	2,5 à 5,0 mm	Electrode with an alloyed core wire
Abranel 59 *Basic*	AWS A5.11: E NiCrMo-13 EN ISO 14172: E-Ni6059 (NiCr23Mo16)	2,5 à 4,0 mm	The weld deposit (Ni-Cr-Mo) is very resistant in sulphurous acid environment highly concentrated with chlorides
Abranel 9Ni *Basic*	AWS A5.11: ENiCrMo-6 EN ISO 14172: E-Ni6620 (NiCr14Mo7Fe)	2,5 à 4,0 mm	High recovery (160%) basic coated electrode for construction and repair welding of high strength cold-tough 5% and 9% Ni-steels
Abranel A *Basic*	AWS A5.11: E NiCrFe-2 EN ISO 14172: E-Ni 6092 (NiCr16Fe12NbMo)	2,5 à 5,0 mm	Electrode for joining and repairing
Abranel C *Rutile-basic*	AWS A5.11: E Ni Cr Mo-5 EN ISO 14172: E-Ni6275(NiCr15Mo16Fe5W3)	2,5 à 4,0 mm	Electrode used for hardfacing steels and tools working with heat (800°C)
Abranel S *Basic*	AWS A5.11: E NiCrFe-3 EN ISO 14172: E-Ni 6182 (NiCr15Fe6Mn)	2,5 à 5,0 mm	Semi-synthetic basic electrode with 140% efficiency deposing an austenitic alloy of Inconel 600 type
Acor Ni S *Basic*	AWS A5.11:E Ni-1 EN ISO 14172: E-Ni 2061 (NiTi3)	2,5 à 4,0 mm	Electrode with a nickel deposit containing 1-2% Ti for high performance

ALUMINIUM ALLOYS

Abral 5 Si *Aluminium 5% Si*	AWS A5.3: E4043 DIN 1732: EL-AlSi5	2,5 à 4,0 mm	Aluminium electrode with 5% Si for welding and repairing aluminium or aluminium alloys pieces
Abral 12 Si *Aluminium 12% Si*	AWS A5.3: "E4047" DIN 1732: EL-AlSi12	2,5 à 4,0 mm	Aluminium electrode with 12% Si for welding and repairing aluminium or aluminium alloys pieces

COPPER ALLOYS

Acor Cu *Pure Copper*	AWS A5.6: -E Cu	2,5 à 4,0 mm	Electrode for welding different pure copper grades
Acor Cu Al *Cu-Al Bronze*	AWS A5.6: ECuAl-A2	2,5 à 4,0 mm	Electrode for joining and surfacing on aluminium bronzes with up to 10% Al and for dissimilar joints between steels and CuAl-bronzes
Acor Cu Ni *Cupronickel*	AWS A5.6: ECuNi	2,5 à 4,0 mm	Electrode for joining CuNi alloys up to 30% Ni and for surfacing the final layer on CuNi70/30 cladded steel
Acor Cu Sn A *Copper tin*	AWS A5.6: ECuSn-A	2,5 à 4,0 mm	Electrode for welding copper tin bronzes (Cu-Sn 6-8%) and brasses (Cu-Zn)
Acor Cu Sn C *Copper tin for DC*	AWS A5.6: ECuSn-C	2,5 à 4,0 mm	Electrode for welding copper tin bronzes (Cu-Sn 6-8%) and brasses (Cu-Zn)
Acor Mn S *Complex Aluminium Bronze*	AWS A5.6: ECuMnNiAl	2,5 à 4,0 mm	Electrode for welding on aluminium bronzes and for dissimilar joints. Recommended for overlays on cast iron, steels and copper alloys

HARDFACING

		HARDNESS	SHOCKS	ABRASION	MACHINABILITY		
Buffer Layer	**CSS 307 S** *Rutile-basic 160%*	200 HB 500 HB*	Rutile-basic fusion			2,5 à 5 mm	Excellent resistance to cracking. For 14% Mn and hard-to-weld steels. Rebuilding and buttering of austenitic Mn steels.
	Abramang S *Basic 140%*	260 HB 400-500HB*	Excellent	Good hardened	Yes if not hardened	3,2 à 5,0 mm	Rebuild all parts subject to high impacts and to build up parts before applying abrasion resistant final layers
	HF 300 B *Basic 120%*	300 HB	Excellent	Medium	Yes	3,2 à 5,0 mm	Electrode semi-hard, machinable for rebuilding on equipment parts and tools
Metal Abrasion	**HFT 4 S** *Rutile*	40-45 HRC	Good	Excellent	Good	2,5 à 4 mm	Martensitic steel deposit containing fine carbides of W, Cr and V. The deposit is resistant to metal/metal wear up to 550°C
	HFT 2 S *Rutile*	58-61 HRC	Medium	Excellent	Grinding	2,5 à 4 mm	Cr-Mo-C martensitic steel deposit, resistant to metal/metal wear up to 550°C
	HFT 3 S *Rutile-basic*	60-63 HRC	Medium	Excellent	Grinding or electroerosion	2,5 à 4 mm	Electrode for surfacing all kinds of cutting tools such as lathe and plane tools
	HF 400 HT *Basic*	38-42 HRC	Good	Excellent	/	2,5 à 4 mm	The weld deposit distinguishes itself by its toughness and heat resistance. Used for tools subject to impact and compression
	HF 480 HT *Basic*	45-50 HRC	Good	Excellent	/	2,5 à 4 mm	Used for machinery parts and tools subject to impact, compression and wear used at temperatures up to 550°C
	HF 560 HT *Basic*	53-58 HRC	Good	Excellent	/	2,5 à 4 mm	Used for machinery parts and tools subject to impact, compression and wear used at temperatures up to 550°C
	HF SUGAR *Basic 200%*	61 HRC	Good	Excellent	/	3,2 à 5,0 mm	Electrode especially designed for claddings in sugar mills

Abrasion and shocks	**HF 250 S** *Rutile*	250 HB	Excellent	Medium	Yes with tools	2,5 à 5 mm	Electrode for rebuilding on equipment parts, build up and tools. Resistant to medium friction and compression
	HF 601 RS *Rutile 120 %*	60 HRC	Good	Excellent	Medium	2,5 à 4 mm	For applications subject to impact, compression and abrasive wear
	HF 600 BS *Basic 120 %*	58 HRC	Good	Excellent	Medium	2,5 à 5 mm	For applications subject to impact, compression and abrasive wear
	HF 600 RS *Rutile*	600 HB 55-60 HRC	Excellent	Good	Medium	2,5 à 5 mm	Air hardening deposit, good compromise between resistance to abrasion and resistance to shocks
	HF 400 S *Rutile*	400HB 39-42 HRC	Excellent	Good	Medium	2,5 à 4 mm	For surfacing of machine, constructions parts, tools and cast steels which are stressed by pressure and shocks
	Abramang Cr S *Basic*	260 HB 400-500 HB*	Excellent	Good	Yes if not hardened	2,5 à 5 mm	The high amount of chromium increases the resistance against corrosion, abrasion and cavitation
	Abramang Mn *Rutile-basic*	200-250 HB 400-500 HB*	Exceptional	Good	Yes if not hardened	3,2 à 5,0 mm	The deposit is austenitic and is exceptionally resistant to impact and wear
Mineral Abrasion	**HF 30 S** *Rutile 160%*	60 HRC	Medium	Exceptional	/	2,5 à 5 mm	High recovery (160%). For applications subject to abrasive wear by minerals with medium shocks and compression
	HF 31 S *Basic 190%*	60-63 HRC on 2nd layer	Medium	Exceptional	Grinding	3,2 à 5,0 mm	High recovery (190%). Highly resistant to abrasion due to the high content of Chromium and Carbon
	HF 41 S *Basic 190%*	64 HRC	Good	Exceptional	/	2,5 à 5 mm	Especially used for hardfacing of parts subject to high abrasion, friction, heat and corrosion
	HF 42 S *Basic 200%*	65 HRC	Good	Exceptional	/	3,2 à 5,0 mm	Especially used for hardfacing of parts subject to high abrasion, friction, heat and corrosion
	RD3 *Tubular*	55-60 HRC on 1st layer 58-62 HRC on 2nd layer	/	Exceptional	/	6,0 à 12,0 mm	Tubular electrode filled with chromium carbide powder. Deposit highly resistant to abrasion and mineral erosion
	RD5 *Tubular*	57-60 HRC on 1st layer 60-64 HRC on 2nd layer	Good	Exceptional	/	6,0 à 12,0 mm	Tubular electrode filled with metal powders (carbides of Chromium and Niobium). Deposit characterised by an exceptional hardness and resistance to mineral abrasion combined with moderate impact
	RD11 *Tubular*	64-68 HRC	Medium	Exceptional	/	6,0 à 12,0 mm	Tubular electrode filled with Tungsten and Chromium carbides. Deposit highly resistant to abrasion without impact
	* After hardening						

TUNGSTEN CARBIDE SURFACING ROD FOR OXY-GAS TORCH

HF DUR CW	High performance rods for oxy-acetylenic welding. Weld metal: tungsten carbides in a Ni-Cr-B-Si matrix. High resistance to abrasion and not machinable	5 mm: Small Carbides 8 mm: Big Carbides
Abradur CW	Cold rolled, formed and closed seam nickel tube filled with fused tungsten carbide and Cr, B and Si for oxyacetylene application. The overlay is extremely wear resistance and anti corrosive to acids, bases, lye and other corrosive media.	3,5 à 6 mm

COBALT BASE PRODUCT

Hardfacing and surfacing of pieces submitted to SEVERE ABRASION and HIGH TEMPERATURES

	ABRASION	METAL TO METAL WEAR	MECHANICAL CHOCS	HIGH TEMPERATURES	THERMAL CHOCS	MACHINABILITY
GRADE 1	Very good	Excellent	Weak/Medium	Excellent	Medium	Yes (750°C/4H)
GRADE 6	Very good	Excellent	Very good	Excellent	Exceptional	Very good
GRADE 12	Very good	Excellent	Medium	Excellent	Medium	Difficult
GRADE 21	Very good	Very good	Excellent	Excellent	Exceptional	Good
GRADE 25	Very good	Excellent	Very good	Excellent	Excellent	Very good

Bare rods for oxy-acethylenic welding or by TIG process	Abrastel 1A - 6A - 12A - 21A - 25A
Hard surfacing rutile-basic coated electrode for arc-welding	Corstel 1A - 6A - 12A - 21A - 25A
High recovery hard surfacing rutile coated electrode for arc-welding	Cornel C Co S- Cornel CS

SOLID WIRES

Shielding gas

Abrafil 1 **Abratig G3**	0,6 à 1,6 mm 1,2 à 3,2 mm	Welding of un-alloyed or low alloyed steels. High content deoxidising elements
Abrafil 10015 **Abratig 10015**	0,8 à 1,2 mm 1,6 à 3,2 mm	Welding of fine grain steels with high breaking load. A light and uniform copper plating protects wires from the oxidation. High content of deoxidising elements
Abrafil CT **Abratig CT**	0,8 à 1,2 mm 1,6 à 3,2 mm	Weathering welding steels. A light and uniform copper plating protects wires from oxidation (atmospheric corrosion resistant: marine, industrial and rural)
Abrafil 307 L Si **Abratig 307 L Si**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding austenitic stainless steels and manganese steels considered difficult to weld or misidentified
Abrafil 308 L Si **Abratig 308 L Si**	0,8 à 1,6 mm 1.2 à 3.2 mm	Welding stainless steel types 304/1.4301. The low impurity allows greater mastery of mechanical properties and resistance to corrosion
Abrafil 309 L Si **Abratig 309 L Si**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding stainless steel types 309, 309L and for dissimilar joining types 304 or 316 on low alloy steels. Silicon content higher for a better fluidity of the puddle
Abrafil 309 L **Abratig 309 L**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding stainless steel types 309, 309L and for dissimilar joining types 304 or 316 on low alloy steels
Abrafil 310 **Abratig 310**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding of austenitic stainless steels resistant type 310 and for dissimilar joints between refractory steel and stainless steel
Abrafil 312 **Abratig 312**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding subjected to high stresses or heterogeneous assemblies. Good resistance to cracking, temperature and oxidation
Abrafil 316 L Si **Abratig 316 L Si**	0,8 à 1,6 mm 1,2 à 3,2 mm	Welding stainless steel type 316. The increased silicon promotes weld pool fluidity
Abrafil 316 L **Abratig 316 L**	0,8 à 1,6 mm 1,2 à 3,2 mm	Welding stainless steel type 316.
Abrafil 317 **Abratig 317**	0,8 à 1,6 mm 1,2 à 3,2 mm	Filler metal 3.6% Mo bearing used for welding stainless steels type Cr-Ni-Mo. Better resistance to crevice and pitting corrosion than the 316.
Abrafil 347 Si **Abratig 347 Si**	0,8 à 1,6 mm 1,2 à 3,2 mm	Welding of stainless steel types 347, 321 and 316Ti. Good protection from intergrannular corrosion. The presence of a higher rate of silicon allows a better flow of the puddle
Abrafil 347 **Abratig 347**	0,8 à 1,6 mm 1,2 à 3,2 mm	Welding of stainless steel types: 347, 321, 316Ti. Good protection from intergrannular corrosion
Abrafil 22.9.3 L **Abratig 22.9.3 L**	0,8 à 1,6 mm 1,6 à 3,2 mm	Duplex welding steels
Abrafil 25.10.4 L **Abratig 25.10.4 L**	0,8 à 1,6 mm 1,6 à 3,2 mm	Super Duplex welding steels
Abrafil 28 **Abratig 28**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding fully austenitic steels type Cr -Ni-Mo-Cu such as "Sanicro 28"
Abrafil 625 **Abratig 625**	1 à 1,2 mm 1,6 à 3,2 mm	Welding of high nickel content alloys like Inconel 625. Good resistance to various types of corrosion
Abrafil 904 **Abratig 904**	0,8 à 1,6 mm 1,6 à 3,2 mm	Welding of fully austenitic steels type 904L such as Uranus B6. Very good resistance to corrosion by sulfuric, hydrochloric or phosphoric acids
Abrafil Ni Cu 7 **Abratig Ni Cu 7**	1,0 à 1,2 mm 1,6 à 3,2 mm	Welding and hardfacing of copper-nickel alloys and copper-nickel plated steels
Abrafil NiTi **Abratig NiTi**	1,0 à 1,2 mm 1,6 à 3,2 mm	Welding of pure nickel grades types 200, Ni 201, Ni 99.2 and LC-Ni99. Also used in heterogeneous welding of steel on nickel or cupro-nickel alloys
Abrafil Al Mg 5 **Abratig Al Mg 5**	0,8 à 1,2 mm 1,6 à 3,2 mm	Welding of aluminium alloys with a very good resistance to corrosion, especially in marine environment
Abrafil G600	1,0 à 1,2 mm	Hardfacing of parts subject to high abrasion with medium shocks

FLUX-CORED WIRES | JOINING

Shielding gas	Joining	Steels				
			Mild steels	FCW M 70	Metal cored wire. Slag-free deposit with easily-removed traces of residual silicates	
				FCW M 71	Metal cored wire recommended for welding of heavily worked or restrained joints with toughness required down - 40°C	
				FCW R 71	Rutile type wire usable in all-positions with one single parameter setting (protection: mixed gas)	
				FCW B 71	Welding of thick joints and of safety-critical assemblies	
			Weathering steels	FCW R 71Cu	Rutile type wire usable in all-positions	Weld deposit with the same colour as that of weathered steel
				FCW M 71Cu	Metal cored wire for single or multi-pass welding and for automatic welding	
			Cold tough steels	FCW R Ni1	Rutile type wire for all-positions welding	High resistance to initiation and propagation of cracks on account of its particularly low diffusible hydrogen content (<4 ml/100gr)
				FCW M Ni1	Metal cored wire for single or multi-pass welding and for automatic welding	
				FCW B Ni1	Strongly basic wire satisfying very high toughness requirements	
				FCW M Ni3	Excellent toughness down to - 105°C after heat treatment at 620°C for one hour	
			High strength steels	FCW R NiMo	Rutile type wire for all-positions welding	Welding of fine grained steels with low temperature toughness
				FCW M NiMo	Metal cored wire for single or multi-pass welding and for automatic welding	
				FCW B NiMo	Strongly basic wire satisfying very high toughness requirements	
				FCW M 700	Metal cored wire for single or multi-pass welding and for automatic welding	Very high strength nickel-chromium-molybdenum alloyed weld deposit
				FCW B 700	Strongly basic wire satisfying very high toughness requirements. Very good sound deposit	
			Creep resistant steels	FCW M Mo	0,5% Mo weld deposit for service temperature from - 50°C to +500°C	
				FCW M CrMo1	Metal cored wire for single or multi-pass welding and for automatic welding	Creep resistant 1.25% Cr - 0.5% Mo weld deposit
				FCW B CrMo1	Tough, sound deposit highly resistant to initiation and propagation of cracks at high and low temperatures	
				FCW M CrMo2	Metal cored wire for single or multi-pass welding and for automatic welding	Creep resistant 2.25% Cr - 1.0% Mo weld deposit
				FCW B CrMo2	Tough, sound deposit highly resistant to initiation and propagation of cracks at high and low temperatures	
				FCW B P91	Very good toughness properties	

	FCW S	FCW SB	FCW V	FCW SUB
Welding process	FCAW	FCAW	FCAW	FCAW or SAW
Slag	Rutile slow freezing	Basic	Rutile fast freezing	No slag (metal powder)
Welding positions	Flat and downhand positions	Flat and downhand positions	All positions	All positions

FLUX-CORED WIRES | JOINING

Shielding gas	Joining	Duplex and superduplex	FCW S	22 9 3L	Very good corrosion resistance - CPT: 25°C
			FCW SB	22 9 3L	
			FCW V	22 9 3L	
			FCW Sub	22 9 3L	
		Austenitic stainless steels	FCW S	D57L	Great flexibility of use with type 80/20 mixed gas
			FCW SB	D57L	
			FCW Sub	D57L	
			FCW S	308L	Joining of low carbon steels and/or stabilised steels with similar compositions, resistant to corrosion
			FCW SB	308L	
			FCW V	308L	
			FCW Sub	308L	
			FCW S	347L	Joining of Ti or Nb stabilised steels of similar composition, resistant to corrosion
			FCW V	347L	
			FCW Sub	347L	
			FCW S	316L	joining of low-carbon or stabilised steels with similar compositions
			FCW SB	316L	
			FCW V	316L	
			FCW Sub	316L	
			FCW SB	316NFL	Ferrite free deposit
			FCW S	317L	Joining of low-carbon steels with similar compositions for increased corrosion resistance
			FCW V	317L	
			FCW Sub	317L	
			FCW S	318L	Joining and cladding of Ti or Nb stabilised steels or similar compositions
			FCW V	318L	
			FCW Sub	318L	
			FCW S	904L	Great flexibility of use: unique rutile type slag in the FCX version
			FCW V	904L	
			FCW Sub	904L	
			FCW SB	465	Exceptional corrosion resistance in nitric acid, ammonium carbamate and chloride-containing media
		Heat resistant steels	FCW S	308H	Austenitic deposit in CrNi steel type 308H with controlled ferrite level, heat resistant up to 650°C and oxidation resistant up to 800°C
			FCW SB	308H	
			FCW V	308H	
			FCW Sub	308H	
			FCW S	309H	Heat resistant austenitic deposit in CrNi steel type 309, oxidation resistant up to 900°C
			FCW SB	309H	
			FCW V	309H	
			FCW Sub	309H	
			FCW S	309HT	Heat resistant austenitic deposit in CrNi steel modified type 309, with additions of nitrogen and rare earths
			FCW SB	309HT	
			FCW V	309HT	
			FCW S	310	Heat resistant austenitic deposit in CrNi steel type 310, resistant to oxidation up to 1150°C
			FCW SB	310	
			FCW V	310	
			FCW Sub	310	
			FCW S	329	Austeno-ferritic deposit in CrNi steel corresponding to the material n° 1.4820
			FCW Sub	329	
			FCW S	347H	Austenitic deposit in CrNiNb steel type 347 with controlled ferrite level, creep resistant
			FCW V	347H	
			FCW Sub	347H	

Shielding gas	Joining	Dissimilar joints & repair welding	FCW S	307	Work-hardening austenitic deposit in CrNiMn steel modified type 307
			FCW V	307	
			FCW Sub	307	
			FCW S	20 9 3	Austenitic deposit in CrNiMo steel modified type 308Mo, offering high mechanical strength
			FCW V	20 9 3	
			FCW Sub	20 9 3	
			FCW S	309L	Austeno-ferritic deposit in over-alloyed CrNi steel type 309L, with optimised ferrite content for joining dissimilar metals
			FCW V	309L	
			FCW Sub	309L	
			FCW S	309LMo	Austeno-ferritic deposit in over-alloyed CrNiMo steel type 309LMo, for joining dissimilar metals
			FCW V	309LMo	
			FCW Sub	309LMo	
			FCW S	312	Austeno-ferritic deposit in CrNi steel type 312 offering exceptional cracking resistance
			FCW V	312	
			FCW Sub	312	
		Nickel alloys	FCW 182		Conform to the requirements of the ENiCrFe-3 classification for stick electrodes. Joining and cladding of corrosion and heat resistant type 600 nickel alloys. Dissimilar joints between stainless steels and CrMo steels
			FCW 4648		Reduced Fe content and raised Cr content
			FCW 625		Basic type wire depositing a 625 type alloy. Conforms to the requirements of the ENiCrMo-3 classification for stick electrodes
					Basic type wire depositing a 825 type alloy
		Welding of cast irons	FCW NICI		FeNi deposit for rebuilding ductile or spheroidal cast iron and for joining cast irons to each other
			FCW NiFe		NiFe deposit for joining heavy thicknesses of ductile and spheroidal cast iron and for restrained joints

FLUX-CORED WIRES | HARDFACING

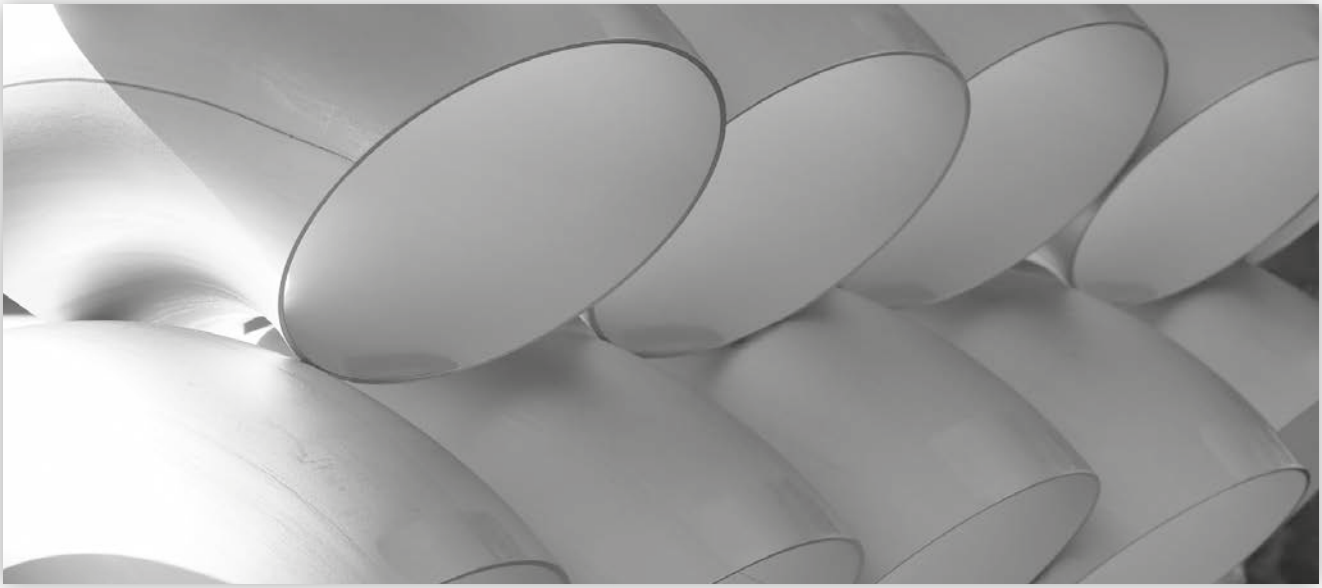
			O: Open-arc G: gas-shielded S: Sub-arc	
HARDFACING	work-hardening manganese alloys	FCW 19 9 6	O - G - S	Highly resistant to cracking. Austenitic structure that work-hardens strongly
		FCW AP	O - G - S	High rate of work-hardening. Non-magnetic deposit strongly resistant to impact and high pressure
		FCW NM14	O - G	Colour and structure of the deposit similar to Hadfield type manganese steel
	Low and medium alloyed	FCW B	O - S	Crack-resistant deposit. Repair, rebuilding and buffering of castings
		FCW T	O - S	
		FCW P	O - S	
		FCW L	O - S	Self-tempering deposit for hardfacing
		FCW K 250	G	Seamless copper coated tubular wires for gas-shielded welding
		FCW K 350	G	
		FCW K 450	G	
		FCW K 600	G	Seamless copper coated tubular wires for gas-shielded welding
	Heat treated steels for tooling	FCW WLC	O - G - S	Low cracking sensitivity. Specially developed for rebuilding and buffering on very large components and alloyed steels
		FCW W	O - G - S	Hard deposit (55HRC) that keeps its properties over long period of exposure up to 550°C
		FCW VMOLC	G	Resistant thermal fatigue and high pressure. Deposit can be polished
		FCW WM	G	Medium hardness deposit (46HRC) offering exceptional oxidation resistance and hot toughness up to 600°C
		FCW WMOLC	G	Hard deposit (52HRC) offering exceptional oxidation resistance and hot toughness up to 600°C
		FCW R40	G	Can be heat treated by oil quenching and tempering (40, 46 and 58 HRC)
		FCW R46	G	
		FCW R58	G	
		FCW AR	G	Exceptional wear resistance in cold cutting operations
		FCW DCO	O - G - S	Superalloy offering similar performance to cobalt based alloys

HARDFACING	Anti-abrasion	**Low impact**		
		FCW BN	O	Ultra-hard single layer deposit designed to resist pure abrasion
		FCW BNC	O	Ultra-hard deposit offering extremely high resistance to abrasion under high stresses and moderate impacts
		Moderate impact		
		FCW FC	O	Chromium cast iron offering a good compromise in applications involving combined abrasion and impact
		FCW HC	O	Highly abrasion resistant chromium carbide deposit
		FCW HC333	O	Highly alloyed chromium carbide deposit designed for single-layer hardfacing
		FCW CN	O	Very good wear resistance to fine abrasive particles of high hardness
		FCW CV	O	Resistant to combined abrasion and impacts at high temperatures
		FCW CNV	O	Highly-alloyed chromium cast iron with a high concentration of complex carbides
		FCW STEELCARBW	O	Fine tungsten carbide grains embedded in a martensitic matrix
		FCW NICARBW	G	Tungsten carbide grains embedded in a corrosion resistant nickel-based matrix
		FCW VN	O	Ideal complement to conventional chromium carbide deposits at the final pass or for local reinforcement
		FCW VNB	O	Highest resistance to abrasion by scratching even at high temperature
		High impact		
		FCW TIC	O	Traditional reference product. Ideal solution for resisting a combination of abrasion, high pressure and impact
		FCW TICM	O - G	Metal cored wire with high recovery. Ideal solution for resisting a combination of abrasion, high pressure and impact
	Stainless, ferritic & martensitic	FCW 430	O - G - S	Optimum combination of corrosion, frictional wear and temperature resistance
		FCW 410	O - G - S	Resists wear by friction, erosion, corrosion and thermal fatigue
			O - G - S	Resists thermal fatigue, corrosion and frictional wear
		FCW 420	O - G - S	Resists frictional wear
	Cupro-aluminium	FCW 100	G	Low hardness, easily machined. For cladding or buffering on steel, cast iron or cupro-aluminium alloys of high hardness
		FCW 201	G	Usable over a wide temperature range
		FCW 301	G	Good resistant to hot friction
		FCW 202	G	Best combination of weldability and corrosion resistance for multi-layer deposits
		FCW 302	G	Combines high hardness with resistance to marine corrosion
		FCW 204	G	For parts undergoing friction under low pressure
		FCW 304	G	For parts undergoing friction under medium pressure
		FCW 404	G	For parts undergoing friction under high pressure
		FCW CMA1	G	Best combination for resisting erosion, cavitation and corrosion
	Nickel base	FCW Ni520	G	Superalloy offering extreme resistance to high temperature stress and thermal shock
		FCW CCO	G - O	Superalloy offering extreme resistance to prolonged high temperature stress
		FCW C	G - S	Repair assembly, buffering, cladding and friction wear resistant coating
	Cobalt base	FCW 25	G	Particular ease of application due to its low cracking tendency
		FCW 21	O - G	Ideal choice for resisting multiple combinations of stresses
		FCW 6 BC	G	Equivalent alloy to Stelloy 6 with lower carbon
		FCW 6	O - G	Combines all the outstanding properties of the cobalt base alloys, including abrasion and erosion resistance
		FCW 6 HC	G	Allows the required hardness to be obtained on low alloy steels from the first layer
		FCW 12	G	Good resistance to abrasion by minerals on account of its high hardness
		FCW 1	G	Particular ease of application due to its low cracking tendency
	Cladding	FCW S 307	O	High elongation, work-hardenable and resistant to high temperatures
		FCW S 312	O	Rebuilding of heavily worked stressed mechanical components and of steels of high carbon equivalent
		FCW S 309L	O	Cladding of mild and low alloy steels
		FCW S 308L	O	Cladding of 308L in the chemical and petrochemical industries
		FCW S 347L	O	Heat resistant cladding in 347 for the petrochemical industry
		FCW S 309LMo	O	Cladding of mild and low alloy steels. Transition layer on 316L-clad steel
		FCW S 316L	O	316L cladding of vessels in the chemical, pharmaceutical and food processing industries

BRAZING WELDING ALLOYS

Copper-phosphorus alloys			
Phosbraz M60	EN ISO 3677: B Cu 94 P 710-860 NF EN 1044: CP203	1,5 à 3,0 mm	Alloy recommended for important gap joining, low fluidity and self-fluxing on red coppers
Phosbraz M73	EN ISO 3677: B Cu 93 P 710-785 NF EN 1044: CP202	1,5 à 3,0 mm	Universal alloy recommended for standard joining (sleeves-fittings). Good fluidity and self-fluxing on red coppers
Phosbraz E80+	EN ISO 3677: B Cu 92 P 710-738 NF EN 1044: CP201	1,5 à 3,0 mm	Alloy recommended for small gaps with deep overlap between tubes. Product with high fluidity
Copper-phosphorus-silver alloys			
Phosbraz AG20+	EN ISO 3677: B Cu 91 PAg 650-800	1,5 à 3,0 mm	This alloy recommended for standard joining has a standard fluidity and is self-fluxing on red coppers. Easy to use
Phosbraz AG50+	EN ISO 3677: B Cu 88 PAg 650-770	1,5 à 3,0 mm	Alloy with 5% Ag with an addition of phosphorus is recommended for air conditioning. Good conductibility and very good fluidity.
Phosbraz AG60	EN ISO 3677: B Cu 87 PAg 650-720 NF EN 1044: CP103	1,5 à 3,0 mm	Copper-Phosphorus alloy with 6% Ag for hard brazing of red coppers. High fluidity and low melting temperature
Phosbraz AG100	EN ISO 3677: B Cu 84 Ag P 650-750	1,5 à 3,0 mm	Alloy with 10% Ag recommended for copper-copper, joining, copper alloys (brass...). Very good fluidity
Phosbraz AG150	EN ISO 3677: B Cu 80 Ag P 650-800 NF EN 1044: CP102	1,5 à 3,0 mm	Alloy with 15% Ag recommended for intermediary gap assembly, standard fluidity, self-fluxing on red coppers
Braze-welding alloys			
Cuprox	EN ISO 3677: B Cu 60 Zn Si 870-890 NF EN 1044: CU304	1,5 à 5,0 mm	Braze-welding alloy-brass type recommended for steel assembly and copper alloys. Alloy ready to use
Nicrox 49 C1	EN ISO 3677: B Cu 49 Zn Ni Si 890-920 NF EN 1044: CU305	1,5 à 5,0 mm	This alloy is 10% nickel bearing and has excellent mechanical resistance (higher than Cuprox). Alloy ready to use
Silver alloys			
Brazargent 1520 Si	EN ISO 3677: B Cu 46 Zn Ag Si 690-810 NF EN 1044: voisin de AG206	1,5 à 3,0 mm	Ternary alloy with 20% Ag with a standard fluidity, ideal in similar and dissimilar welds. It allows brazing in stages
Brazargent 5034	EN ISO 3677: B Cu 36 Zn Ag Sn 630-730 NF EN 1044: AG106	1,5 à 3,0 mm	Universal quaternary alloy with 34% Ag recommended for all similar and dissimilar welds. Highly efficient and economical
Brazargent 5040	EN ISO 3677: B Ag 40 Cu Zn Sn 650-710 NF EN 1044: AG105	1,5 à 3,0 mm	Multi-purpose quaternary alloy with 40% Ag. It's recommended for all similar and dissimilar welds. Very good brazing properties
Brazargent 5056	EN ISO 3677: B Ag 56 Zn Cu Sn 620-655 NF EN 1044: AG102	1,5 à 3,0 mm	Quaternary alloy with 56% Ag, for all high safety assemblies. Excellent capillarity and nice appearance
Aluminium alloys			
Zinal 4 TBW		1,0 à 3,2 mm	Tubular wire with non-corrosive cored flux. This alloy is intended to be used to braze Mg-free aluminium with other metals
Harasil NC 12 TBW		1,0 à 3,2 mm	Alloy to be used to braze Mg-free aluminium. Seamless tubular wire with non-corrosive cored flux

SURFACE TREATMENT	
PRODUCT	PURPOSE
Spray pickling	
DERUSTIT pickling paste 4021	Complete pickling of large areas and also suitable for erosion pickling
DERUSTIT pickling paste 4022	Complete pickling of large areas. Minimal smell and economical
DERUSTIT pickling paste 5050	Complete pickling of large areas
Immersion pickling	
DERUSTIT bath pickling agent 1234	Complete pickling of parts of any design and size
Brush-on pickling	
DERUSTIT pickling paste 4020	Pickling of welding seams
Brush 2" x 50 cm HB 1000	Paste application
Cleaning	
DERUSTIT stainless steel cleaner 2084	Cleaning of surfaces
DERUSTIT pickling cleaner 4023	Cleaning of surfaces and removal of light annealing colours
Passivating	
DERUSTIT 2016 passivating solution	Passivating of complete surfaces
Neutralising	
DERUSTIT neutralisation paste 4067	Neutralising of excess pickling



COATINGS PRODUCTS

COATINGS		
PRODUCT	DESCRIPTION	SUGGESTED APPLICATIONS
Metaltec 2300SS	High performance "thin-film" single component urethane coating. Enriched with stainless steel and other proprietary materials for increased structural support, coating durability and chemical resistance. It possesses excellent resiliency, toughness and flexibility.	Protecting exterior surfaces of storage tanks and other structures. Protecting interior surfaces of bins, truck trailer beds and tanks from corrosion and abrasion. Protecting steel pipe exposed to splash, spill and fuming chemicals. Ideal protection for concrete floors exposed to solvents, cutting fluids and other chemicals. Excellent coating for worn and weathered galvanized surfaces
Metaltec 7000	Non-shrinking composite formulated with abrasion resistant ceramic fibers in various precalculated shapes and sizes. The unique chemistry produces a coating with ultra high compressive strengths to support heavy and excellent adhesive strength	Worn shafts, ball and gate valves, bearing surfaces, valve stems, pump cases, impellers, feed chutes, liners, hopper, slurry lines, pipe elbows, mixing equipment paddles, feed screws, augers, cyclones, fan blades, ship hull and propeller maintenance, lining tanks and surfacing areas too thin to be welded
Metaltec 7100	It is formulated with high hardness and abrasion resistant ceramic fibers, Together with a unique polymer formulation, a compressive strength, an adhesive strength and a temperature resistance is very high	Has the consistency of heavy syrup for coating pumps, valves, slurry lines, augers, feed screws, flue gas scrubbers, demineralising beds, vacuum pumps, salt spreaders, exhaust fans, fertilizer dryers, heat exchangers, impellers and chemical tanks
Metaltec Cerbide	A unique composite formulation of various sized ceramic fibers and carbide chips resulting in a tightly packed super abrasion resistant coating. It may be used in any position	Feed chutes and liners, pipe elbows, conveyor screws, cyclones, centrifuge screws, mixing equipment, paddles and blades. It will not slump or sag and is ideal for vertical and overhead applications
Metaltec 6000	A machinable grade composite repair compound formulated with stainless steel maximum durability and performance. Protects surfaces exposed to temperature up to 200°C. It is a corrosion resistant	Parts and equipment rebuilt with Metaltec 6000 can be easily machined back to original dimensions. Worn bearing housings, damaged keyways, stripped threads, scored hydraulic rams, worn shafts, valve and pump components. For repairing cracks in engine blocks and sealing leaks in tanks, leaking pipes, radiators, condensers, heat exchangers and flanges. Also ideal for chocking and leveling machinery and other uneven surfaces.
Metaltec 6300	A rapid curing trowelable and machinable grade composite repair compound. Its thick consistency allows it to be troweled and molded to almost any shape or contour.	Repairing gouges, dents, holes, blow holes, surface defects, cracks in metal castings, cracked battery cases, leaking fuel and storage tanks, leaking pipes, scored pistons and cylinders, leaking gutters, downspouts and stripped threads. It will also repair improperly drilled holes, leaks in radiators, as well as attaching signs to concrete and other surfaces.

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Welding Products

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CERTIFICATION ISO 9001 BQA