























































Unalloyed steel - rutile coated		
Red Extra AWS A5.1: E 6013 EN 499: E 42 0 RC 11	our universal electrode for all welding positions, including vertical-down position. The electrode is characterised by easy handling, smooth arc transfer, easy slag removal and a finely rippled bead surface.	  
Red AWS A5.1: E 6013 EN 499: E 42 0 RC 11	our rutile coated electrode for all welding positions, including vertical-down position.	  
Brown AWS A5.1: E 6013 EN 499: E 42 0 RC 11	our "fast freezing" rutile coated electrode for all welding positions, especially vertical-down position. The electrode is characterised by easy handling, a good penetrating arc and the ability to bridge wide root openings under conditions of poor fit.	  
Performa AWS A5.1: E 6013 EN 499: E 42 0 RC 11	our all-round all-current (AC/DC) electrode for all welding positions. The logic first choice for shipbuilding.	  
Velora AWS A5.1: E 6013 EN 499: E 42 0 RR 12	our "slow freezing" rutile coated electrode for all welding positions, except vertical down position. Selected for fast downhand welding of thin sheet metals ($\geq 5,0$ mm. wall-thickness).	  
Velveta AWS A5.1: E 6013 EN 499: E 42 0 RR 32	our rutile coated electrode for all welding positions, especially for vertical up position. The logic first choice for thin-walled pipe welding.	  

Unalloyed steel - basic coated		
Basic 55 AWS A5.1: E 7016 EN 499: E42 2 RB 12H10	our double coated electrode for all welding positions, except vertical down position.	  
Basic AWS A5.1: E 7018 EN 499: E 42 4 B 32 H5	our basic coated low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) electrode for all welding positions, except vertical down position.	 
Basic Super AWS A5.1: E 7018-1 H8 R EN 499: E 46 4 B 32 H5	our universal low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) electrode for all welding positions, except vertical down position.	  
Basic Directa AWS A5.1: E 7018-1 H4 R EN 499: E 42 5 B 42 H5	our high quality low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) electrode for all welding positions, except vertical down position. The electrode is characterised by a smooth, quiet arc, very low spatter, an easy slag removal and good mechanical properties up to -50°C .	 

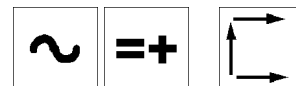
Unalloyed steel - cellulose coated / pipeline		
Pipeweld 6010 AWS A5.1: E 6010 EN 499: E 42 2 C 25	our cellulose coated electrode recommended for all welding positions, particularly in vertical down and overhead position. Specially recommended for welding root passes in API 5L pipe steels in vertical down position.	
Pipeline - cellulose coated		
Pipeweld 8010 AWS A5.5: E 8010-P1 EN 499: E 46 3 C 25	our cellulose coated electrode for cross-country welding high-strength butt joints in API 5L pipe steels. Typical application for Pipeweld 8010 is the welding of API 5L: X65 pipe steel.	
Unalloyed steel - high efficiency		
Regina 150 AWS A5.1: E 7024-1 EN 499: E 42 2 RA 53	our rutile-acid coated high efficiency (recovery 160%) electrode for making x-ray quality fillet welds in the flat and horizontal position.	
Regina 160 AWS A5.1: E 7024 EN 499: E 42 0 RR 53	our easy-to-handle high efficiency (recovery 160%) electrode for making fillet welds in the flat and horizontal position.	
Basic 160 AWS A5.1: E 7028 EN 499: E 42 2 RB 53	our zircon-basic high efficiency (recovery $\geq 160\%$) electrode for fast fillet welding, especially to be used for joining heavier sections of mild and low-alloyed structural steels found in construction and shipbuilding applications i.e. demanding applications.	
Low alloyed steel – basic coated		
B 12Mo AWS A5.5: E 7018-A1 EN 1599: E Mo B 32 H 5	our basic-coated low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) electrode for welding low alloyed fine grain and creep resisting steels like 16Mo3 up to a maximum operating temperature of 500°C.	
B 19CrMo AWS A5.5: E 8018-B2 EN 1599: E Cr Mo 1 B 42 H5	our basic-coated low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) for welding low alloyed fine grain and creep resisting steels like 13CrMo4 5 up to a maximum operating temperature of 550°C.	
B 20CrMo AWS A5.5: E 9018-B3 EN 1599: E Cr Mo 2 B 42 H5	our basic-coated low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) electrode for welding low alloyed fine grain and creep resisting steels like 10CrMo9.10 up to a maximum operating temperature of 600°C.	
Basic 70 AWS A5.5: E 8018-C3 EN 499: E 46 6 1Ni B 32 H5	our basic-coated low hydrogen ($H_{DM} < 5$ ml. / 100 gr. deposit weld metal) electrode for welding low alloyed structural steels having a nominal yield strength up to 550 MPa used in applications where good sub-zero toughness is required down to -60°C.	

Stainless steel - special purpose		
Hilchrome 307R AWS A5.4: E307-16 EN 1600: E 18 8 Mn R 12	our rutile basic coated electrode for joining dissimilar steels and difficult-to-weld steels. Typical applications include joining 14Mn steels, spring steels, tool steels, high carbon steels.	  
Hilchrome 309R AWS A5.4: E309L-17 EN 1600: E 23 12 L R 32	our rutile coated electrode for welding corrosion resistant and heat resistant CrNi steels, joining dissimilar metals and buffering.	  
Hilchrome 309MoR AWS A5.4: E309MoL-17 EN 1600: E 23 12 2 L R 32	our rutile coated electrode for joining similar and dissimilar steels, buffering, joining hardenable and difficult-to-weld steels.	  
Hilchrome 312R AWS A5.4: E312-17 EN 1600: E 29 9 R 3 2	our rutile coated electrode which is to be considered as a problem solver for all kinds of steel grades incl. stainless and difficult-to-weld steels.	  
Stainless steel - acid resistant		
Hilchrome 308R AWS A5.4: E308L-17 EN 1600: E 19 9 L R 32	our rutile coated electrode for welding low carbon 18Cr10Ni austenitic stainless steel grades like AISI 304, 304L.	  
Hilchrome 347R AWS A5.4: E347-17 EN 1600: E 19 9 Nb R 32	our stabilised electrode for welding low carbon 18Cr10NiNb (Cb) austenitic stainless steel grades like AISI 347, 321.	  
Hilchrome 316R AWS A5.4: E316L-17 EN 1600: E 19 12 3 L R 12	our multi-purpose electrode for welding low carbon 17Cr12Ni3Mo austenitic acid resistant stainless steel grades like AISI 316, 316L.	  
Hilchrome 316R-V AWS A5.4: E316L-17 EN 1600: E 19 12 3 L R 12	our rutile coated grade 316L electrode for DC welding austenitic acid resistant stainless steels in vertical down position.	 
Hilchrome 318R AWS A5.4: E 318 -17 EN 1600: E 19 12 3 Nb R 3 2	our stabilised electrode for welding low carbon 17Cr12Ni3MoNb austenitic acid resistant stainless steel grades like AISI 318.	  

Stainless steel - heat resistant

Hilchrome 310R our rutile-basic coated electrode for joining and surfacing 25Cr20Ni austenitic heat resistant Cr-, CrSi, CrNi and CrNiSi as well as ferritic-pearlitic CrAl steel grades. Maximum operating temperature in a non-sulphurous environment is 1150°C.

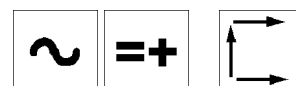
AWS A5.4: E310-16
EN 1600:
E 25 20 R 12



Stainless steel – duplex

Hilchrome 2209 our rutile coated electrode for welding ferritic-austenitic duplex steel grades like WNr. 1.4462, UNS 31803.

AWS A5.4: E 2209-17
EN 1600:
E 22 9 3 LR 22



Nickel-base

Hilchrome 600 our basic coated DC electrode for welding high-grade nickel-base alloys like Inconel® 600.

AWS A5.11:
E NiCrFe3
DIN 1736:
EL-NiCr15FeMn



Hilchrome 625 our basic-coated DC electrode for welding corrosion resistant nickel-base alloys like Inconel® 625.

AWS A5.11:
E NiCrMo3
DIN 1736:
EL-NiCr20Mo9Nb



NiCu7 our basic coated DC electrode for joining and surfacing nickel-copper alloys like Monel® 400 and nickel-copper clad steels.

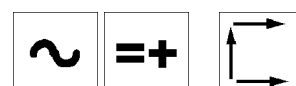
AWS A5.11: E NiCu-7
DIN 1736:
EL-NiCu 30Mn



Repair & Maintenance - wear resistant

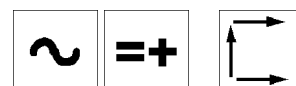
Hardmelt 350 is particularly suitable under conditions of moderate abrasion and friction, combined with impact. Ideally suitable for applications involving rolling, sliding and metal-to-metal wear. Hardmelt 350 may also be used as a final overlay on parts that need to be machined or as a build-up layer for hardfacing materials providing higher wear resistance.

DIN 8555:
E 1-UM-350



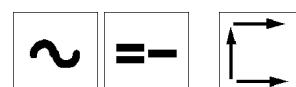
Hardmelt 600 is particularly suitable under conditions of heavy abrasion and friction, combined with impact. Ideally suitable for applications involving rolling, sliding and metal-to-metal wear. Applications are universal but typical for hardfacing parts



























DIN 8555:
E6-UM-60-GP



Hardmelt 620 produces a crack-free wear resistant tool steel deposit and is particularly suitable for applications involving severe metal-to-metal wear coupled with elevated temperatures (up to 550°C).

AWS A5.13: E Fe 5 B
DIN 8555:
E4-UM-60-ST



Repair & Maintenance - wear resistant			
Hardmelt 638 DIN 8555: E10-UM-60-GR	produces an abrasion resistant deposit and is particularly suitable for applications involving grinding abrasion with moderate impact at service temperatures up to 600°C. The weld deposit is extreme resistant to mineral wear. Typical applications are found in heavy constructions, mining, stone crushing and dredging industries.	  	
Sugarhard DIN 8555: E10-UM-60-GR	our basic coated high efficiency (205%) electrode for roughening the wet mill rollers used in the sugar cane crushing process.	  	
Hardmelt 643 DIN 8555: E10-UM-65-GR	produces an abrasion resistant deposit and is particularly suitable for applications involving heavy grinding abrasion with moderate impact at service temperatures up to 500°C. The weld deposit is extreme resistant to mineral wear. Typical applications are found in cement industries	  	
Hardmelt 645 DIN 8555: E10-UM-65-GR	produces an abrasion resistant deposit and is particularly suitable for applications involving severe sliding mineral abrasion with moderate impact at service temperatures up to 600°C. Typical applications are found in cement and steel industries.	  	
Manganil AWS A5.13: E FeMn-B DIN 8555: E7-UM-200-KP	ideally suitable under conditions of heavy impact and gouging with moderate abrasion and friction. Ideally suitable for applications involving rolling, sliding and metal-to-metal wear. Manganil may be used for joining 14Mn steels in low stress conditions.	  	
Cast Iron			
Pure Nickel AWS A5.15: E Ni Cl DIN 8573: E Ni BG 22	our basic coated electrode for cold welding grey and malleable cast iron grades and for joining these base metals to steel, copper and copper alloys.	  	
Nickel Iron AWS A5.15: E Ni Fe Cl DIN 8573: E Ni Fe BG 22	our basic coated electrode for repair, construction and production welding all cast commercial iron grades including grey, malleable, nodular and phosphorous (P > 0,02%) cast iron.	  	
Cobalt base			
Hilcostel 6E AWS A5.13: E CoCr-A DIN 8555: E20-UM-40-CTZ	produces a cobalt base weld metal, resistant to metal-to-metal wear or erosion at service temperatures up to 900°C. Weld metal is highly resistant to the most aggressive chemicals.	 	
Hilcostel 12E AWS A5.13: E CoCr-B DIN 8555: E20-UM-50-CSTZ	produces a cobalt base weld metal, resistant to metal-to-metal wear or erosion at service temperatures up to 900°C. Weld metal is highly resistant to the most aggressive chemicals.	  	

Aluminium

Aluminil Si5

AWS A5.3: E 4043
DIN 1732: EL-AI Si 5

our special coated aluminium electrode for welding, repairing and surfacing forged and cast aluminium-silicon alloys and joining dissimilar aluminium alloys with max. 7%Si content.



Aluminil Si12

AWS A5.3: E 4047
DIN 1732: EL-AI Si 12

is our special coated electrode developed for welding all types of aluminium castings and applications where good colour matching with base materials is important.



Non ferrous

Bronsil

AWS A5.6: E CuSn-C
DIN 1733: EL-CuSn7

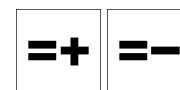
basic coated tin-bronze electrode for joining and surfacing copper and copper alloys, phosphor- and tin-bronzes as well as copper-clad plates in mechanical and plant engineering and shipbuilding.



Cutting & gouging

Carbon gouging rods

copper-coated air carbon arc cutting rods made from a mixture of graphite and pure carbon used for weld edge preparations, back-gouging in multipass welding, removing unsatisfactory welds, bolt and wire ends, spatter removal, all kinds of cutting.



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