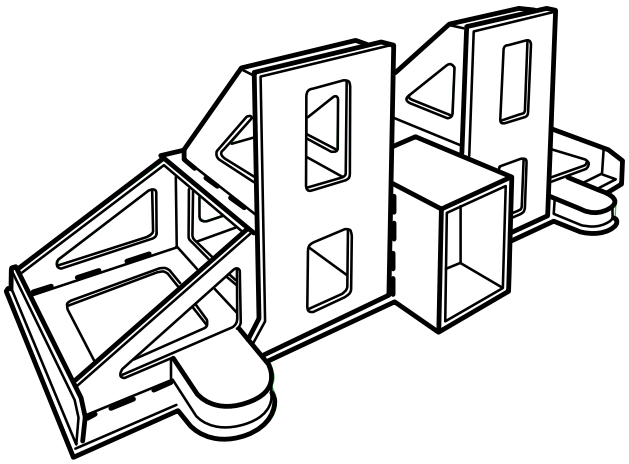
Covered electrodes for repair of cracked material

Unalloyed and low alloy steels

Product Name Classification AWS Classification EN Classification DIN	Mechanical Properties Typical Values	Size (mm)	Approvals	Characteristics and Applications
UTP 613 kb AWS A5.1: ~ E 7018-1 H4 R EN ISO 2560-A: E 42 5 B42 H5	UTS: >510 MPa YS: >420 MPa El: >25% CVN Impact: >120J	2.5 x 350 3.2 x 350 4.0 x 350 5.0 x 450	TÜV, DB, ABS, BV, DNV	UTP 613 Kb is a basic-coated stick electrode for construction-, boiler-, tube- and fine-grained steels as well as for steels with up to 0.35% C-content. UTP 613 Kb has a good weldability and a stable arc. The weld metal is resistant to ageing, crack-resistant and is little affected by steel impurities.
LOTUS - 24	UTS: 520 - 600 MPa El: 25 - 32% CVN Impact: 27°C: 190J	2.50 x 350 3.15 x 350 4.0 x 350 5.0 x 350	-	High strength welds deposit and minimum distortion. Smooth weld bead of X- ray quality. Weld bead with fine ripples and easy slag removal. Suitable for low & medium carbon steels. Excellent mechanical properties including impact strength. Applications: Flanges, crane girders, shovel boom, dumper chassis and heavy equipment maintenance.

Stainless Steels

Product Name Classification AWS Classification EN Classification DIN	Mechanical Properties Typical Values	Size (mm)	Approvals	Characteristics and Applications
UTP S 63 AWS A5.4: E307-16 EN ISO 3581-A: E 18 8 Mn R 32	UTS: >600 MPa YS: >350 MPa El: >40% CVN Impact: +20°C: 60J	2.50 x 350 3.25 x 350 4.00 x 350 5.00 x 450	-	Non alloy structural and heat treatable steels can be welded, also in combination with austenitic CrNi steels. Universally applicable for surfacing of work pieces exposed to impact, pressure and rolling wear. Such as curved rails, crusher parts, and excavator teeth. Provides crack-proof buffer layers under hard alloys. Weld deposit resist to scaling, rust and cracks, work hardened. Hardness of the pure weld metal As welded: 190 HB | After work hardened: 250 HB
UTP 65 D EN ISO 3581-A: E Z 29 9 R 12 EN 14700: E Z Fe11	UTS: >800 MPa YS: >640 MPa El: >20%	1.6 x 250* 2.0 x 250 2.5 x 250 3.2 x 350 4.0 x 350 5.0 x 350 * available on request	-	UTP 65 D has been developed to meet the highest requirements for repair and surfacing. It is extremely crack-resistant when joining steels of difficult weldability, such as e. g. hard manganese steels, tool steels, spring steels, high speed steels as well as dissimilar metal joints. Due to the good corrosion and abrasion resistance and high tensile strength. UTP 65 D finds its application particularly in repair and maintenance of machine and drive components, such as gears, cams, shafts, hot cuts, hot trim plates and dies. Also ideally suited as an elastic cushioning layer for very hard surfacings.



Stainless Steels

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LOTUS-32	UTS: 700 - 800 MPa El: 20 - 25%	2.50 x 350 3.15 x 350 4.0 x 350 5.0 x 350	-	Weld deposit contains 40-50 % ferrite. Controlled grain structure. Superior crack resistance and ductile. Excellent weldability with all stainless steels with known & unknown composition. Good resistance to corrosion, friction, heat and impact. Applications: Tools, dies, gears, pinions, shafts, joining dissimilar steels, machinable build up and overlay.
LOTUS-39	UTS: 550 - 650 MPa El: 30 - 42%	2.50 x 350 3.15 x 350 4.0 x 350 5.0 x 350	-	Ideal for oxidation and heat resistance up to 1200°C. Suitable for welding of unknown composition steel and AISI 309. Dissimilar welding of mild steel, low alloy steel and stainless steel possible. Applications: Heat exchangers, valves, furnace parts, heat treatment plants, tanks and baskets.

Nickel Alloys

Product Name Classification AWS Classification EN Classification DIN	Mechanical Properties Typical Values	Size (mm)	Approvals	Characteristics and Applications
UTP 68H AWS A5.4: E 310-16 EN ISO 3581-A: E 25 20 R 32	UTS: > 550 MPa YS: >350 MPa El: >30% CVN Impact: >47J	2.50 x 350 3.25 x 350 4.00 x 400	-	The rutile coated stick electrode UTP 68 H is suitable for joining and surfacing of heat resistant Cr-, CrSi-, CrAl-, CrNi-steels/cast steels. It is used for operating temperatures up to 1100° C in low sulphur combustion gas. Application fields are in the engineering of furnaces, pipework and fittings. UTP 68 H is weldable in all positions except vertical down. Fine droplet. The surface of the seams is smooth and finely rippled. Easy slag removal free from residues.
UTP 068 HH AWS A5.11: E NiCrFe-3 (mod.) EN ISO 14172: E Ni 6082 (NiCr20Mn3Nb)	UTS: >620 MPa YS: >390 MPa El: >35% CVN Impact: >80J	2.5 x 300 3.2 x 300 4.0 x 350	TÜV	UTP 068 HH is predominantly used for joining identical or similar heat-resistant Ni-base alloys, heat-resistant austenites, such as 2.4817 (LC NiCr15Fe), 1.4876 (X10 NiCrTiAl 32 20), 1.4941 (X8 CrNTi 18 10). Specially used for joining of high carbon containing 25/35 CrNi cast steel to 1.4859 or 1.4876 for petrochemical installations with working temperatures up to 900°C. Furthermore UTP 068 HH can be used for repair welding of hardly weldable steels such as heat-treatable steels or tool steels. Additionally mixed joints of austenitic and ferritic materials with elevated service temperatures can be welded. The welding deposit of UTP 068 HH is hot-cracking-resistant, does not tend to embrittlement and is scale-resistant at high temperatures.
UTP 6222 Mo AWS A5.11: ENiCrMo-3 EN ISO 14172: E Ni 6625 (NiCr22Mo9Nb)	UTS : >760 MPa YS: >450 MPa El: >30% CVN Impact: >75J	2.5 x 300 3.2 x 300 3.2 x 350 4.0 x 350 5.0 x 400	TÜV (No. 03610), DNV, ABS, BV	UTP 6222 Mo is particularly suited for joining and surfacing on nickel alloys, austenitic steels, low temperature nickel steels, austenitic-ferritic-joints and claddings of the same or similar nature, like 2.4856 (NiCr22Mo 9 Nb), 1.4876 (X30 NiCrAlTi 32 20), 1.4529 (X2 NiCrMoCu 25 20 5). The weld metal is heat resistant and suitable for operating temperatures up to 1000 °C. It must be noted that a slight decrease in ductility will occur if prolonged heat treatment is given within the temperature range 600 – 800 °C. Scale-resisting in low-sulphur atmosphere up to 1100 °C. High creep strength.