

Classifications

EN ISO 14172	AWS A5.11
E Ni 6093 (NiCr15Fe8NbMo)	E NiCrFe-2

Characteristics and field of application

UTP 7015 Mo is a basic-coated stick electrode for joining similar heat-resistant NiCrFe alloys, heat-resistant austenitic steels, cryogenic Ni-steels and heat-resistant austenitic-ferritic steels. It can also be used for joining high-C-containing 25/35 CrNi cast steel to 1.4859 or 1.4876 (32/20-grades) for petrochemical applications and for industrial oven/furnace applications with service temperatures up to 900°C. Welding dissimilar joints of low-alloyed CMn steels (as e.g. S 235 JR, S 355 N, 16Mo3) with the above-mentioned alloys and steel grades is possible as well.

Welding characteristics and properties of the weld metal

The weld deposit of UTP 7015 Mo is hot crack resistant, is not prone to embrittlement, is scale resistant and resistant to cavitation at elevated temperatures.

Base materials

2.4816 (NiCr 15 Fe), 1.4583 (X10 CrNiMoNb 18 12),
1.4876 (X10 NiCrTiAl 32 20), 1.4941 (X8 CrNiTi 18 10)

Typical analysis of all-weld metal (wt.-%)

C	Si	Mn	Cr	Mo	Nb	Ni	Fe
0.04	0.4	3.0	16.0	1.5	2.2	balance	6.0

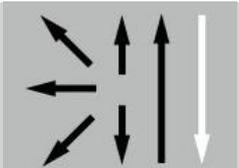
Mechanical properties of the undiluted weld metal at RT

Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A	Impact strength ISO-V
MPa	MPa	%	J
> 380	> 620	> 35	> 80

Welding guidelines

UTP 7015 Mo can be welded in all positions except vertical down (PG/3Gd). In PA (1G) position, the angle between the plate and the electrode should be kept between 80-90°. The electrode should be welded with a short arc, with dragging- and stringer bead technique. End craters should be filled sufficiently to avoid imperfections related to this. Keep interpass temperature below 150°C. Re-dry electrodes for 2-3 hours at 250-300°C, prior to use, unless used for the first time out of a sealed tin.

Operating data

	Polarity DC (+)	Dimensions (mm)	Amperage (A)
		2.5 x 300	50 – 70
		3.2 x 300	70 – 95
		4.0 x 350	90 – 120
		5.0 x 400	120 - 160

Approvals

TÜV (05259), GL, DNV