

Classifications

AWS A5.11 / SFA-5.11

EN ISO 14172

E NiCrMo-6

E Ni6620 (NiCr14Mo7Fe)

Characteristics and typical fields of application

The high-efficiency nickel-base stick electrode UTP Soudonel D is especially suited for welding cold-tough nickel steels, such as X8Ni9. Recovery is 150%. The typical application field is welding of cryogenic gas storage tanks and tankers (9% Ni steels for Liquefied Natural Gas LNG, 5% Ni steels for Liquefied Ethylene Gas LEG). UTP Soudonel D is designed for improved weldability on AC-current, in order to avoid the magnetic arc blow effect which occurs when welding cold-tough nickel steels on DC. The electrode is weldable in flat, horizontal and vertical-up position. It shows a stable arc, low spatter, easy slag-removal and good bead appearance.

Typical analysis


	C	Si	Mn	Cr	Ni	Mo	W	Nb	Fe
wt.-%	0.05	0.3	3.5	14.0	Bal.	6.5	1.1	0.7	7.5

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact energy ISO-V KV J
	MPa	MPa	%	-196°C
u	≥420	≥690	>35	≥ 50

u untreated, as welded

Operating data

	Polarity	DC+ / AC	Dimension mm	Current A
	Redrying	2-3 h / 250-300 °C	2.5 × 350	70 - 110
		3.2 × 350	90 - 150	
		4.0 × 350	130 - 190	
		5.0 × 450	180 - 230	

Welding instructions

The weld zone must be clean and properly degreased. Weld with a short arc and sufficiently high amperage settings. To avoid end crater cracks, the crater must be properly filled, the arc drawn away to the side.

Approvals

TÜV (05466), BV, DNV