

Classifications

EN ISO 14172-A	AWS A5.5/SFA A5.5
E Ni 6620 (NiCr14Mo7Fe)	ENiCrMo-6

Characteristics and typical fields of application

High-recovery nickel-base covered electrode of E Ni 6620 / ENiCrMo-6 type primarily developed for 9% Ni steels for liquefied natural gas (LNG) and 5% nickel steels for liquefied ethylene gas (LEG) storage and transportation. Typical applications are welding of cryogenic gas storage tanks and tankers. The electrode shows low spatter formation, easy slag detachability and good arc stability and bead appearance. Designed to be suitable for welding on AC, to avoid the magnetic arc blow effect, which can occur when welding coldtough nickel steels on DC polarity.

Base materials

5% and 9% nickel steels such as 1.5662 X8Ni9, 1.5680 X12Ni5, 1.5663 X7Ni9, A645 Gr. A, A645 Gr. B

Typical analysis


	C	Si	Mn	Cr	Ni	Mo	W	Nb	Fe
wt.-%	0.05	0.25	2.9	12.5	Bal.	5.9	1.4	+Ta 1.2	4.8

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 untreated, as welded	430 (≥ 350)	695 (≥ 620)	39 (≥ 35)	80 (≥ 70)

Lateral expansion @ -196°C: 1,2 mm

Operating data

	Polarity	DC+ / AC	Dimension mm	Current A
	Electrode identification	Thermanit 620 NiCrMo-6	2.5 x 350	70 - 110
	Redrying	250 – 300°C / 2 – 3 h	3.2 x 350	90 - 150
			4.0 x 350	130 - 190

Interpass temperature max. 150°C.

Metal recovery approximately 150%.

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 filled properly, the arc drawn away to the side. It is recommended to grind end craters.

Approvals

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