



DESCRIPTION

Welding rod for 3% Ni steels

Solid rod designed for welding low-alloy steels with 3.5% Ni. Suitable for the construction of cryogenic plants and pipelines in the petrochemical industry, and for general low-temperature applications down to -70 °C.

SPECIFICATIONS

EN ISO 14341-B	W 57 P 7 M22 SN71	AWS A5.28	ER80S-Ni3
Shielding	I1	Positions	PA, PB, PC, PD, PE, PF
Current	DC-	Packaging Type	5kg carton tube

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	10

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT	
C	0.1	Tensile strength R _m MPa	550	620	
Mn	1	Yield strength R _{p0.2} MPa	490	540	
Ni	3.5	Elongation A (L ₀ =5d ₀) %	17	24	
P	0.01	Impact Charpy ISO-V	27J @ -70°C	50J @ -70°C	
S	0.01	Impact Charpy ISO-V	-	-	
Mo	0.03	WELDING PARAMETERS	1.6 mm	2.4 mm	
Si	0.6		Ampere	95A - 135A	145A - 205A
Cu	0.12		Voltage	-	-
			Packaging	Ø 1,2÷3,2mm	Ø 1,2÷3,2mm
		Packaging Type	5kg carton tube	5kg carton tube	



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3Ni

DESCRIPTION

CRYOGENIC STEELS

3Ni

APPLICATION

These consumables are specifically designed for the welding of low-alloy steels containing 3.5% Ni. They are ideal for the construction of cryogenic plants, pipelines in the petrochemical industry, and for general applications requiring reliable performance at low temperatures, down to -80 °C. It is important to preheat according to the base material and the thickness of the piece to be welded. Although AWS (American Welding Society) specifications often require post-weld heat treatment (PWHT), many welds can be left in the "as-welded" state. The necessity for PWHT is generally determined by the relevant and applicable design codes.

ALLOY TYPE

Nominally 3.5% Ni low alloy steels.

MICROSTRUCTURE

In the as-welded condition the microstructure is ferritic with a component of acicular ferrite for optimum toughness.

MATERIALS

Low temperature applications, fine-grained steels that contain up to 3.5% Nickel.

ASTM: A203 gr. D, E, F, A350 gr. LF3, A352 gr. LC3, A333 Gr. 3

UNS: K22103, K21703, J42015

