



DESCRIPTION

Metal all position flux cored wire

Virtually spatter free in the spray-arc range. It is designed for welding low-alloy steels with 1% Ni and fine grain steel as well as for -60°C low temperature applications. Suitable for the construction of offshore platforms, pressure vessels and pipelines and also for welding higher strength steel structures where PWHT is impracticable but toughness and crack resistance are required. The weld profile is easily controllable making this wire well suited for gap bridging and positional welding.

SPECIFICATIONS

EN ISO 17632-A	T 50 6 1 Ni M M 1	AWS A5.36	E80T15-M21 A8 Ni1 H4
Shielding	M21	Positions	PA, PB, PC, PD, PE, PF, PG
Current	DC+	Packaging Type	B5300 spool

ASME QUALIFICATIONS

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

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.06	Tensile strength R_m MPa	550	560
Mn	1.3	Yield strength $R_{p0.2}$ MPa	500	500
Ni	1	Elongation A ($L_0=5d_0$) %	17	24
P	0.02	Impact Charpy ISO-V	47J @ -60°C	47J @ -60°C
S	0.02	Impact Charpy ISO-V	-	-
Mo	0.03			
Si	0.5			
Cu	0.15			
		WELDING PARAMETERS	1.2 mm	1.6 mm
		Ampere	100A - 300A	160A - 420A
		Voltage	16V - 28V	31V - 35V
		Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
		Packaging Type	B5300 spool	B5300 spool



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1Ni

DESCRIPTION

CRYOGENIC STEELS

1Ni

APPLICATION

Designed for welding high-strength steel structures where post-weld heat treatment (PWHT) is not feasible, this material ensures a high level of toughness and crack resistance. The inclusion of approximately 1% Nickel (Ni) contributes to the refinement of the microstructure, offering better tolerance to procedural variations compared to unalloyed Carbon-Manganese (CM-N) welding metals. Additionally, Nickel enhances weather resistance and optimizes the electrochemical balance between the base metal and the weld metal, minimizing corrosion in the weld zone, particularly under marine conditions. In offshore oil field applications and acidic environments, a maximum content of 1.0% Ni is often required in accordance with the NACE MR0175 standard. This material is especially suitable when design specifications demand toughness tests on high-strength low-alloy steels at temperatures as low as -50°C, as in the case of offshore constructions, pipelines, and pressure vessels. The need for preheating varies depending on the grade and thickness of the base material.

ALLOY TYPE

Low alloy steel alloyed with nominally 1%Ni for improved toughness. Actual Ni content is kept below 1% to ensure conformance with NACE MR0175.

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 1 % Nickel.

EN W.Nr.: S460N (1.8901), S355N (1.0545), S460NL (1.8903), S460QL (1.8906)

ASTM: A333 & A334 gr. 6, A350 gr. LF2 & LF5, A352 gr. LCB & LCC (cast), A572 gr.50

API: 5L X65

