



## DESCRIPTION

### Basic coated electrode for 1% Ni steels

Basic coated electrode developed for welding all fine-grained steels with operating temperatures down to -60°C and 1% Ni steel. Excellent mechanical characteristics, low hydrogen content. It is advisable to use a short arc and low forward speed to obtain the best results results. It welds in all positions except the descending vertical and its deposit is free from cracks. It is widely used in all important constructions such as cryogenic, petrochemical, shipyards etc. Ease of slag removal reduces post-welding cleaning operations to a minimum.

## SPECIFICATIONS

ISO 2560-A	E 46 6 1NiMo B 42	AWS A5.5	E8018-C3
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF	Current	DC+, AC

## ASME QUALIFICATIONS

F-No (QW432)	4
A-No (QW442)	10

## FERRITE

F-No (QW432)	4
A-No (QW442)	10

## PREN

F-No (QW432)	4
A-No (QW442)	10

## HARDNESS

F-No (QW432)	4
A-No (QW442)	10

## CHEM. COMP. %

	DEFAULT
C	0.05
Mn	1.1
Ni	1
P	0.01
S	0.01
Mo	0.3
Si	0.6
Cu	0.1

## MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R <sub>m</sub> MPa	550	600
Yield strength R <sub>p0.2</sub> MPa	460	500
Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	19	24
Impact Charpy ISO-V	47J @ -60°C	50J @ -60°C
Impact Charpy ISO-V	-	-

## WELDING PARAMETERS

	2.5 mm	3.2 mm	4 mm	
Ampere	65A - 95A	100A - 140A	130A - 190A	180A -
Voltage	-	-	-	-
Packaging	45 pcs/kg	21 pcs/kg	14 pcs/kg	10 pcs/kg
Packaging Type	Carton box	Carton box	Carton box	Carton box





# 1Ni

DESCRIPTION

CRYOGENIC STEELS

1Ni

## APPLICATION

For welding higher-strength steel structures in situations where post-weld heat treatment (PWHT) is impractical, requiring welds with a suitable level of toughness and crack resistance. The addition of approximately 1% Ni contributes to microstructural refinement, enhancing tolerance to procedural variations compared to plain carbon-manganese (CMn) weld metal. Nickel also improves resistance to atmospheric weathering and enhances electrochemical balance between the weld and base metal, minimizing preferential corrosion in marine environments. In cases of offshore oilfield sour service, a maximum of 1.0% Ni is often required (NACE MR0175). This consumable is recommended for applications where design specifications mandate toughness testing of higher-strength low-alloy steel welds down to -50°C, such as in offshore construction, pipelines, and pressure vessels. Preheat requirements will depend 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.

V 01/2024



The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit [www.daikowelding.com](http://www.daikowelding.com).

**DAIKO**