# DAIKOWS 3Ni

SAW

CRYOGENIC STEELS
3Ni

## DESCRIPTION

**Solid wire for welding 3%Ni steel**

Submerged arc wire designed for welding low-alloy steels with 3,5% Ni. Suitable for the construction of cryogenic plant and pipework in petrochemical industry and for general low temperature applications down to -80°C.

## SPECIFICATIONS

| | | | |
|---|---|---|---|
| **EN ISO 14171-A** | S2Ni3 | **AWS A5.23** | ENi3 |
| **Shielding** | DAIKOFLUX 493-W | **Positions** | PA, PB, PC |
| **Current** | DC/AC | **Packaging Type** | K415 spool and drums. |

## ASME QUALIFICATIONS

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

| CHEM. COMP. % | DEFAULT |
|---|---|
| C | 0.1 |
| Mn | 1 |
| Ni | 3.5 |
| P | 0.01 |
| S | 0.01 |
| Mo | 0.02 |
| Si | 0.15 |
| Cu | 0.15 |

| MECHANICAL PROPERTIES | PRODUCT |
|---|---|
| Tensile strength $R_m$ MPa | 630 |
| Yield strength $R_{p0.2}$ MPa | 550 |
| Elongation A ($L_0$=5$d_0$) % | 24 |
| Impact Charpy ISO-V | 50J @ -60°C |

| WELDING PARAMETERS | 2.4 mm | 3.2 mm | 4.0 mm |
|---|---|---|---|
| Ampere | 300A - 410A | 430A - 530A | 480A - 580A |
| Voltage | 26V - 30V | 27V - 31V | 27V - 32V |
| Packaging | Ø 2,0÷4,0mm | Ø 2,0÷4,0mm | Ø 2,0÷4,0mm |
| Packaging Type | K415 spool and drums. | K415 spool and drums. | K415 spool and drums. |

## NOTES

SAW mechanical properties depend on wire/flux combination, refer to flux TDS.





DAIKO

# 3Ni

DESCRIPTION

## 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