



DAIKOWM 347



AUSTENITIC STAINLESS STEELS

347

DESCRIPTION

Solid wire for stabilised austenitic stainless steels

These Cr-Ni consumables are Nb-stabilized for welding steels grades, such as 321 and 347, that are stabilized with Ti or Nb. The presence of Nb reduces intergranular corrosion under severe operation conditions. Also suitable for cladding as on mild steel after a 309 buffer layer. Service temperatures are typically -100°C to about 400°C. If dilution by the base metal produces a low ferrite or fully austenitic weld metal, the crack sensitivity of the weld may increase substantially.

SPECIFICATIONS

| | | | |
|----------------|----------------------------|------------------|----------|
| ISO 14343-A | G 19 9 Nb S | AWS A5.9 | ER347 |
| DIN | - | Werkstoff Number | - |
| Certifications | - | Shielding | M12, M13 |
| Positions | PA, PB, PC, PD, PE, PF, PG | Current | DC+ |

ASME QUALIFICATIONS

| | |
|--------------|---|
| F-No (QW432) | 6 |
| A-No (QW442) | 8 |

FERRITE

| |
|---------|
| 3-12 FN |
|---------|

PREN

| |
|--------|
| 19.165 |
|--------|

HARDNESS

| |
|-------|
| 84HRB |
|-------|

CHEM. COMP. %

DEFAULT

| | |
|----|------|
| C | 0.05 |
| Mn | 0.7 |
| Ni | 10 |
| Cr | 19 |
| Nb | 0.4 |
| P | 0.02 |
| S | 0.01 |
| Mo | 0.05 |
| Si | 0.9 |
| Cu | 0.07 |

MECHANICAL PROPERTIES

| | MIN | VARIANT |
|-------------------------------|-----|-------------|
| Tensile strength R_m MPa | 550 | 650 |
| Yield strength $R_{p0.2}$ MPa | 350 | 400 |
| Elongation A ($L_0=5d_0$) % | 25 | 32 |
| Impact Charpy ISO-V | - | 110J @ 20°C |
| Impact Charpy ISO-V | - | - |

WELDING PARAMETERS

| | 1 mm | 1.2 mm |
|----------------|------------------------------------|------------------------------------|
| Ampere | 160A - 220A | 200A - 270A |
| Voltage | 25V - 29V | 26V - 30V |
| Packaging | Ø 0,8÷1,6mm | Ø 0,8÷1,6mm |
| Packaging Type | Drums, B300, D200 and D100 spools. | Drums, B300, D200 and D100 spools. |

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.





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DESCRIPTION

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APPLICATION

Developed for welding Ti and Nb-stabilized 18Cr/8Ni stainless steel types 321 and 347, they are also suitable for unstabilized grades like 304/304L. Service temperatures typically range from -100°C to about 400°C. The applications parallel those of 308L, covering diverse sectors such as food, brewery, pharmaceutical equipment, architectural and general fabrication, and nuclear engineering. However, the 347 consumables mentioned here are generally unfit for elevated temperature structural applications where 0.04-0.08% carbon is specified for creep resistance; for such cases, consult data sheets 347H. For cryogenic uses requiring >0.38mm (15mils) Charpy lateral expansion at -196°C, select unstabilized weld metal with low carbon and controlled ferrite. No preheating requirement, a recommended maximum interpass temperature of 250°C, and no post-weld heat treatment (PWHT) necessity.

ALLOY TYPE

347 austenitic stainless steel for joining 321 and 347 base materials.

MICROSTRUCTURE

Austenite with a controlled level of ferrite, normally in the range 3-12FN.

MATERIALS

EN W.Nr.: 1.4541, 1.4543, 1.4561, 1.4550, 1.4552 (cast).

ASTM: 321, 347, CF8C (cast).

UNS: S32100, S34700.

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