



DAIKOWS 430



FERRITIC - MARTENSITIC STAINLESS
STEEL
430

DESCRIPTION

Ferritic solid wire for 17%Cr stainless steels

This wire rod deposits a ferritic stainless steel with good ductility in heat treated condition. Application include welding of similar parental metal, weld overlay and thermal spraying. Welding with this filler metal usually requires preheating and post weld heat treatment. Optimum mechanical properties and corrosion resistance are obtained only when the weldment is heat treated following the welding operation.

SPECIFICATIONS

| | | | |
|----------------|------------|------------------|-----------------|
| ISO 14343-A | S 17 | AWS A5.9 | ER430 |
| DIN | - | Werkstoff Number | - |
| Certifications | - | Shielding | DAIKOFLUX 493-W |
| Positions | PA, PB, PC | Current | DC/AC |

ASME QUALIFICATIONS

| F-No (QW432) | 6 | FERRITE | PREN | HARDNESS |
|--------------|---|---------|--------|---------------|
| A-No (QW442) | 7 | - | 19.475 | 220HB - 250HB |

CHEM. COMP. %

| CHEM. COMP. % | DEFAULT |
|---------------|---------|
| C | 0.1 |
| Mn | 0.6 |
| Ni | 0.6 |
| Cr | 17 |
| P | 0.03 |
| S | 0.03 |
| Mo | 0.75 |
| Si | 0.5 |
| Cu | 0.75 |

MECHANICAL PROPERTIES

| MECHANICAL PROPERTIES | MIN | VARIANT |
|---|-----|---------|
| Tensile strength R _m MPa | 450 | 530 |
| Yield strength R _{p0.2} MPa | 300 | 410 |
| Elongation A (L ₀ =5d ₀) % | 15 | 25 |
| Impact Charpy ISO-V | - | - |
| Impact Charpy ISO-V | - | - |

WELDING PARAMETERS

| WELDING PARAMETERS | 2.4 mm |
|--------------------|-----------------------|
| Ampere | 250A - 420A |
| Voltage | 28V - 32V |
| Packaging | Ø 2,0÷4,0mm |
| Packaging Type | K415 spool and drums. |

ANTI-WEAR CHARACTERISTICS

| | |
|---------------|-------|
| Adhesive wear | ▲▲▲▲▲ |
| Abrasive wear | ▲▲▲▲▲ |
| Impact | ▲▲▲▲▲ |
| Corrosion | ▲▲▲▲▲ |
| Heat | ▲▲▲▲▲ |

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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

This is a ferritic stainless steel exhibiting good ductility in the heat-treated condition. Applications include welding similar parent metal, weld overlay, and thermal spraying, with a primary use in surfacing sealing faces of gas, water, and steam valves to achieve stainless and wear-resistant overlays. Welding with this filler metal typically necessitates preheating, normally 150°C, and postweld heat treatment for optimal mechanical properties and corrosion resistance. The balanced composition ensures sufficient chromium for corrosion resistance in usual applications while retaining ample ductility in the heat-treated state. Additionally, there are stabilized versions with Niobium and/or Titanium designed for the automotive industry, particularly in exhaust system production, requiring similar preheating and postweld heat treatment.

ALLOY TYPE

Ferritic stainless steels.

MICROSTRUCTURE

Ferrite.

MATERIALS

Surfacing can be performed on all weldable base materials, unalloyed and low-alloyed. Welding of corrosion resistant chromium steels as well as other similar-alloyed steels with C-contents up to 0.20% (repair welding).

EN W.Nr.: 1.4001 (X7Cr14), 1.4006 (X12Cr13), 1.4057 (X17CrNi16-2), 1.4000 (X6Cr13), 1.4002 (X6CrAl13), 1.4016 (X6Cr17), 1.4059 (X17CrNi16-2), 1.4509 (X2CrTiNb18), 1.4510 (X3CrTi17), 1.4511 (X3CrNb17), 1.4512 (X2CrTi12), 1.4520 (X2CrTi17), 1.4712 (X10CrSi6), 1.4713 (X10CrAlSi7), 1.4724 (X10CrAlSi13), 1.4742 (X10CrAlSi18).

ASTM: 403, 405, 409, 410, 429, 430, 430Cb, 430Ti, 439, 431, 442.

UNS: S40300, S40500, S40900, S41000, S42900, S43000, S43035, S43036, S43100, S44200.

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