

## Classifications

|                         |                  |
|-------------------------|------------------|
| <b>EN ISO 18274</b>     | <b>AWS A5.14</b> |
| S Ni 6625 (NiCr22Mo9Nb) | ERNiCrMo-3       |

## Characteristics and typical fields of application

GTAW rod for high-quality joint welding of high-molybdenum nickel-base alloys (e.g. alloy 625 and alloy 825) as well as of CrNiMo steels with high Mo-content (e.g. "6Mo" steels). Additionally this brand is recommended for high-temperature or creep resisting, heat resisting and cryogenic materials, for low-alloy problem steels and joining dissimilar materials. Can be used for pressure vessel fabrication for service temperatures from  $-196\text{ °C}$  to  $+550\text{ °C}$ , otherwise up to scaling resistance limit of  $+1200\text{ °C}$  (S-free atmosphere). Due to the weld metal embrittlement between  $+600 - 850\text{ °C}$ , this temperature range should be avoided. Highly resistant to hot cracking; furthermore, C-diffusion at high temperatures, or during heat treatment of dissimilar steels is largely inhibited. Extremely resistant to stress corrosion cracking and pitting corrosion (PRE<sub>N</sub> 52). Resistant to thermal shocks, stainless, fully austenitic. Low coefficient of thermal expansion (between C-steels and austenitic CrNi (Mo) steel). TIG- rod and deposit satisfy the highest quality standards.

## Base materials

2.4856 NiCr 22 Mo 9 Nb, 2.4858 NiCr 21 Mo, 2.4816 NiCr 15 Fe, 1.4583 X10CrNiMoNb18-12, 1.4876 X 10 NiCrAlTi 32 20 H, 1.4876 X 10 NiCrAlTi 32 20, 1.4529 X1NiCrMoCuN25-20-7, X 2 CrNiMoCuN 20 18 6, 2.4641 NiCr 21 Mo 6 Cu

Joint welds of listed materials with non alloy and low alloy steels, e.g P265GH, P285NH, P295GH, 16Mo3, S355N, X8Ni9,

N 08926, ASTM A 553 Gr.1, Alloy 600, Alloy 625, Alloy 800 (H), 9% Ni- steels

## Typical analysis of the TIG rods (wt.-%)

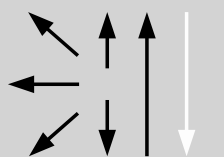
|       | C      | Si  | Mn  | Cr   | Ni   | Mo  | Nb  | Fe    | Ti |
|-------|--------|-----|-----|------|------|-----|-----|-------|----|
| wt.-% | ≤ 0.02 | 0.1 | 0.1 | 22.0 | Bal. | 9.0 | 3.6 | ≤ 0.5 | +  |

## Mechanical properties of all-weld metal

| Condition | Yield strength R <sub>p0.2</sub> | Tensile strength R <sub>m</sub> | Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) | Impact work ISO-V KV J |                   |
|-----------|----------------------------------|---------------------------------|---|------------------------|-------------------|
|           | MPa                              | MPa                             | %   | +20 °C                 | -196 °C           |
| u         | <b>540</b> (≥ 460)               | <b>800</b> (≥ 760)              | <b>38</b> (≥ 35)                                | <b>160</b>             | <b>130</b> (≥ 32) |

u untreated, as welded – shielding gas Argon

## Operating data

|   |                              |   |  |                      |
|---|------------------------------|---|--|----------------------|
|  | <b>Polarity:</b><br>DC ( - ) | <b>Shielding gases:</b><br>100 % Argon<br>Ar + He mixture gases | <b>Rod marking:</b><br>front: ✦ 2.4831<br>back: ERNiCrMo-3 | <b>∅ (mm)</b><br>1.6 |
|   |                              |   |  | 2.0                  |
|   |                              |   |  | 2.4                  |

## Approvals

TÜV-D (04324.), Statoil, SEPROZ, CE

NiCr 625-IG A: TÜV-D (09405.), DB (43.014.25), CE