

## Thermanit 20/25 Cu

TIG rods, high-alloyed, stainless

| Classifications |                |          |          |  |  |
|-----------------|----------------|----------|----------|--|--|
| EN ISO 14343-A  | EN ISO 14343-B | AWS A5.9 | Mat. No. |  |  |
| W 20 25 5 Cu L  | SS385          | ER385    | 1.4519   |  |  |

## Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 350 °C (662 °F). Good corrosion resistance similar to matching steels / cast steel grades, above all in reducing environment. For joining and surfacing work on matching austenitic CrNiMoCu steels / cast steel grades. For joining these steels with unalloyed / low-alloy steels/cast steel grades.

## **Base materials**

TÜV-certified parent metal

1.4505 – X4NiCrMoCuNb20-18-2, 1.4539 – X1NiCrMoCu25-20-5 1.4439 – X2CrNiMoN17-13-5, 1.4465 – X1CrNiMoN25-25-2,

1.4537 - X1CrNiMoCuN25-25-5 and others, as well as ferritic steels up to S355J;

matching Cr-Ni steels with high Mo content; UNS N08904, S31726

| Typical analysis of the TIG rods (wt%) |         |      |     |      |     |      |     |
|--|---------|------|-----|------|-----|------|-----|
|  | С       | Si   | Mn  | Cr   | Мо  | Ni   | Cu  |
| wt-%                                   | < 0.025 | 0.20 | 2.5 | 20.5 | 4.8 | 25.0 | 1.5 |

Structuree: Austenite

| Mechanical properties of all-weld metal |                                  |                                  |                                 |   |                           |
|---|----------------------------------|----------------------------------|---------------------------------|---|---------------------------|
| Heat-<br>treatment                      | Yield strength R <sub>p0.2</sub> | Yield strength R <sub>p1.0</sub> | Tensile strength R <sub>m</sub> | Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) | Impact work<br>ISO-V KV J |
|   | MPa                              | MPa                              | MPa                             | %   | +20 °C                    |
| aw                                      | 350                              | 380                              | 550                             | 35  | 120                       |

| Operating data |                   |                          |        |      |  |  |
|----------------|-------------------|--------------------------|--------|------|--|--|
| Polarity:      | Shielding gas:    | Marks:                   | ø (mm) | L mm |  |  |
| DC ( - )       | (EN ISO 14175) I1 | → W 20 25 5 Cu L / ER385 | 1.6    | 1000 |  |  |
|                |                   |                          | 2.0    | 1000 |  |  |
|                |                   |                          | 2.4    | 1000 |  |  |
|                |                   |                          | 3.2    | 1000 |  |  |

| Welding instruction  |  |  |  |  |  |
|--|--|--|--|--|--|
| Materials  | Preheating   | Postweld heat treatment                                    |  |  |  |
| Matching / similar steels / cast steel grades                      | None   | None. If necessary solution annealing at 1120 °C (2048 °F) |  |  |  |
| Combinations with unalloyed / low-alloy steels / cast steel grades | According to unalloyed / low alloy parent metal mostly not necessary | None   |  |  |  |

## **Approvals**

TÜV (04301), CE