## Thermanit 20/25 Cu

| Classifications |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EN ISO 14343-A E |  |  | EN ISO 14343-B |  | AWS A5.9 |  | Mat. No. |  |  |
| W 20255 CuL |  |  | SS385 |  | ER385 |  | 1.4519 |  |  |
| Characteristics and typical fields of application |  |  |  |  |  |  |  |  |  |
| Stainless; resistant to intercrystalline corrosion and wet corrosion up to $350^{\circ} \mathrm{C}\left(662{ }^{\circ} \mathrm{F}\right)$. 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 <br> 1.4505 - X4NiCrMoCuNb20-18-2, <br> 1.4539 - X1NiCrMoCu25-20-5 <br> 1.4439 - X2CrNiMoN17-13-5, <br> 1.4465 - X1CrNiMoN25-25-2, <br> 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.-\%) |  |  |  |  |  |  |  |  |  |
|  | C |  | Si | Mn | Cr | Mo | Ni |  | Cu |
| wt-\% | < 0.025 |  | 0.20 | 2.5 | 20.5 | . 8 | 25.0 |  | 1.5 |
| Structuree: Austenite |  |  |  |  |  |  |  |  |  |
| Mechanical properties of all-weld metal |  |  |  |  |  |  |  |  |  |
| Heattreatment | Yield strength$\mathrm{R}_{\mathrm{p} 0.2}$ |  | Yield strength$\mathrm{R}_{\mathrm{p} 1.0}$ |  | Tensile strength $\mathrm{R}_{\mathrm{m}}$ | $\begin{aligned} & \text { Elongation } \\ & \mathrm{A}\left(\mathrm{~L}_{0}=5 \mathrm{~d}_{0}\right) \end{aligned}$ |  | Impact work ISO-V KV J |  |
|  | MPa |  | MPa |  | MPa | \% |  | $+20^{\circ} \mathrm{C}$ |  |
| aw | 350 |  | 380 |  | 550 | 35 |  | 120 |  |
| Operating data |  |  |  |  |  |  |  |  |  |
| Polarity: DC ( - ) | Shielding gas: (EN ISO 14175) II |  |  | Marks: <br> +̦ W 20255 Cu L / ER385 |  |  | ø (m |  | $\begin{gathered} \text { L mm } \\ 1000 \\ 1000 \\ 1000 \\ 1000 \end{gathered}$ |
| Welding instruction |  |  |  |  |  |  |  |  |  |
| Materials |  |  | Preheating |  |  | Postweld heat treatment |  |  |  |
| Matching / similar steels / cast steel grades |  |  | None |  |  | None. If necessary solution annealing at $1120^{\circ} \mathrm{C}\left(2048{ }^{\circ} \mathrm{F}\right)$ |  |  |  |
| Combinations with unalloyed / low-alloy steels / cast steel grades |  |  | According to unalloyed / low alloy parent metal mostly not necessary |  |  | None |  |  |  |
| Approvals |  |  |  |  |  |  |  |  |  |
| TÜV (04301), CE |  |  |  |  |  |  |  |  |  |

