

## MIGWELD 309H

MIG/MAG Wires [GMAW]

Stainless and high alloyed steels

|                                                                                                   |                   |                                                                                                                          |
|---------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>CLASSIFICATION:</b>                                                                            | <b>APPROVALS:</b> | <b>APPLICATION:</b>                                                                                                      |
| EN ISO 14343-A : G 22 12 H<br>DIN 8556 : SG-X12 CrNi24 12<br>AWS A-5.9 : ER 309<br>W.Nr. : 1.4829 |                   | Power generation industry<br>Constructions & Engineering<br>Petrochemical and chemical industry<br>Shipbuilding&Offshore |

- High carbon stainless steel welding wire for high temperature applications.
- Resistant to scaling up to 1050°C.
- Used as a buffer layer before hardfacing as well as for cladding and joining similar austenitic steels.
- Very good mechanical properties and very good weldability, suitable for high temperatures up to 1100°C.
- Good resistance to abrasion and sulfidation.

### Application

Most commonly used in furnace components. Petrochemical and cement plants.

### Base material

| DIN               | W.Nr.   | AISI/ASME |
|-------------------|---------|-----------|
| X15 CrNiSi20 12   | ~1.2780 | ~308      |
| X6 CrNiTi18 10    | 1.4541  | 321       |
| X6 CrNiNb18 10    | 1.4550  | 347H      |
| X10 CrSi6         | 1.4712  |           |
| X10 CrAl13        | 1.4724  | 405       |
| X10 CrAl18        | 1.4742  | 442       |
| G-X25 CrNi18 9    | 1.4825  |           |
| X15 CrNiSi20 12   | 1.4828  | 309       |
| GX40 CrNiSi22 9   | 1.4826  |           |
| G-X30 CrSi6       | 1.4710  |           |
| X10 CrAl13        | 1.4713  | 502       |
| G-X40 CrSi13      | 1.4729  |           |
| G-X40 CrSi17      | 1.4740  |           |
| G-X25 CrNiSi20 14 | 1.4832  |           |
| X12 CrNiTi18 9    | 1.4878  |           |
| G-X25CrNiSi20-14  | 1.4832  |           |
| G-X40CrNiSi25-12  | 1.4837  |           |

### Typical chemical composition %

| C    | Si   | Mn   | Cr    | Ni    |
|------|------|------|-------|-------|
| 0,07 | 0,40 | 1,70 | 23,50 | 13,50 |

### Typical mechanical properties

|                                    |                |
|------------------------------------|----------------|
| <b>Yield strength Re [N/mm2]</b>   | >400           |
| <b>Tensile strength Rm [N/mm2]</b> | 550-700        |
| <b>Elongation A5 [%]</b>           | >25            |
| <b>Impact energy Kv [J]</b>        | >70 J (20°C) / |

|                                             |                                                                                   |
|---------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Hardness</b>                             | app. 235HB /                                                                      |
| <b>Welding current</b>                      |  |
| <b>Welding positions</b>                    |  |
| <b>Shielding gases acc. to EN ISO 14175</b> | I1 - Ar / M12 - Ar + 0.5 - 5% CO2 / M13 - Ar + 0.5 - 3% O2 /                      |

#### Welding parameters and packing

| Ø   | Welding current [A] | Voltage [V] | Weight of packet [kg] |
|-----|---------------------|-------------|-----------------------|
| 1,0 | 80-240              | 15-28       | 15,0                  |
| 1,2 | 100-300             | 15-29       | 15,0                  |

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