# TIGWELD 309LSi

TIG Rods [GTAW]

Stainless and high alloyed steels

| CLASSIFICATION: | APPROVALS: | APPLICATION: |
|---|---|---|
| EN ISO 14343-A : W 23 12 LSi<br>DIN 8556 : SG-X2 CrNi24 12<br>AWS A-5.9 : ER 309 LSi<br>W.Nr. : 1.4332 | | Power generation industry<br>Constructions & Engineering<br>Petrochemical and chemical industry<br>Shipbuilding&Offshore |

- High-alloy rod for welding homogenous, forged, cast and rolled steels.
- Also used for welding 18-8 steels exposed to severe corrosion.
- The wire is especially recommended for welding dissimilar steels, such as 18-8 steel with carbon steel and for overlaying stainless steel plates on non-alloy steel.

## Application

Furnaces (burners, doors, fans, piping, recuperators, grates, air boxes), paper mill equipment, petroleum refining (catalytic recovery systems, recuperators), power generation (powder burners, pipe hangers), thermal treatment, waste incineration plants, rotary kilns, calciners, automotive exhaust system components, heat exchangers, glass blowing components, aircraft parts, boiler partitions, furnace linings, porcelain firing baskets, annealing containers, inserts for chimneys operating in dry conditions.

## Base material

| AISI/ASTM | DIN | W.Nr. | |
|---|---|---|---|
| | G-X25 CrNiSi 18 9 | 1.4825 | |
| | G-X40 CrNiSi22 9 | 1.4826 | |
| 309 | X15 CrNiSi20 12 | 1.4828 | H20N12S2 |
| | G-X25 CrNiSi20 14 | 1.4832 | |
| 304 | X5 CrNi18 10 | 1.4301 | OH18N9 |
| 304L | X2 CrNi18 11 | 1.4306 | OOH18N10 |
| 305 | G-X10CrNi18 8 | 1.4312 | |
| 304LN | X2 CrNiN18 10 | 1.4311 | |
| 321 | X10 CrNiTi18 9 | 1.4541 | |
| 347 | X6 CrNiNb18 10 | 1.4550 | |
| | X10 CrSi6 | 1.4712 | |
| 405 | X10 CrAl13 | 1.4724 | H13JS |
| 422 | X10 CrAl18 | 1.4742 | H18JS |
| | X10CrAl7 | 1.4713 | H6S2 |
| | X10 CrSi13 | 1.4722 | |
| | X10 CrSi18 | 1.4741 | |
| | X10 CrAl24 | 1.4762 | H24JS |
| | X10CrSi29 | 1.4772 | |
| | X20CrNiSi25 4 | 1.4821 | |
| High alloyed steels | | | |
| High tensile steels | | | |
| Austenitic-manganese steels | | | |
| Difficult to weld steels | | | |

## Typical chemical composition %

| C | Si | Mn | Cr | Ni |
|---|---|---|---|---|
| <0,025 | 0,80 | 1,60 | 23,50 | 13,50 |

| Typical mechanical properties | |
|---|---|
| **Yield strength Re [N/mm2]** | >380 |
| **Tensile strength Rm [N/mm2]** | 550-700 |
| **Elongation A5 [%]** | >22 |
| **Impact energy Kv [J]** | >27J (20°C) / |
| **Wire/rod type** | solid |
| **Welding current** |  |
| **Welding positions** |  |
| **Shielding gases acc. to EN ISO 14175** | I1 - Ar / I3 - Ar + >0-95% He / |

**Welding parameters and packing**

| ⌀ | Length [mm] | Weight of packet [kg] |
|---|---|---|
| 1,6 | 1000 / | 5,0 |
| 2,0 | 1000 / | 5,0 |
| 2,4 | 1000 / | 5,0 |
| 3,2 | 1000 / | 5,0 |

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