| Technical data sheet<br>011121MBA | Cored welding wire<br>**TUBE S 309HT-G** | Welding Alloys |
|---|---|---|

## CLASSIFICATION

EN ISO 17633-A T Z 22 10 N H M M12 1
Equivalent Material number 1.4893

## DESCRIPTION

- Metal cored stainless steel wire for gas shielded arc welding
- 22 % Cr - 10 % Ni composition with controlled additions of C, Si, N and cerium
- Excellent resistance to oxidation, scaling resistance up to 1100°C.

## APPLICATIONS

TUBE S 309HT-G weld metal has excellent properties at temperatures up to 1150°C. The controlled carbon and ferrite levels improve microstructural stability and high temperature strength compared to the 309(L) types whereas the lower nickel content provides better resistance against sulphur attack than the 310 grade.

***Examples of alloys to be welded***

| Designation | UNS | Material number | EN Symbol |
|---|---|---|---|
| 309 | S30900 | 1.4828 | X15 CrNiSi 20-12 |
| AVESTA 153MA | S30415 | 1.4891 | X4 CrNiSiN 18 10 |
| AVESTA 253MA | S30815 | 1.4893 | X8 CrNiSiN 21 11 |

## TYPICAL ALL-WELD METAL ANALYSIS

| C | Mn | Si | Cr | Ni | Ce | Bi | N | S | P |
|---|---|---|---|---|---|---|---|---|---|
| 0.08 | 0.80 | 1.50 | 22.0 | 10.0 | 0.05 | < 0.002 | 0.15 | 0.008 | 0.020 |

Typical ferrite level: 8 FN

## MINIMUM ALL-WELD METAL MECHANICAL PROPERTIES – WITH WFLUX WAF 385

| Rm [MPa] | Rp0.2% [MPa] | $A_5$ [%] | CVN [J] |
|---|---|---|---|
| 550 | 320 | 30 | +20°C: 47 |

## TYPICAL ALL-WELD METAL MECHANICAL PROPERTIES – WITH FLUX WAF 385

| Rm [MPa] | Rp0.2%[MPa] | $A_5$ [%] | KCV [J] |
|---|---|---|---|
| 720 | 520 | 35 | +20°C: 100 |

## SHIELDING GAS

EN ISO 14175: M12 Ar + 0.5 % < $CO_2$ ≤ 2.5 with or without helium
Z Ar + $CO_2$ ≤ 0.5 % with or without helium
I1 Ar

## OPERATING CONDITIONS

| Current type | Gas flow rate | Stick out | Recovery |
|---|---|---|---|
| DC (+) / pulsed | 10 - 20 l/min. | 12 - 25 mm | 98 % |

## WELDING POSITIONS

EN ISO 6947: PA, PB.
ASME IX: 1G, 1F, 2F.
TUBE S 309HT-G is primarily used in the flat and horizontal positions. However, welds in other positions are also possible using the short-circuiting or pulsed arc modes of transfer.

## PACKAGING

| Diameter | 1.2 mm | | 1.6 mm |
|---|---|---|---|
| | EN ISO 544 – ASME IIC SFA-5.2 M | | |
| Spool type | S200 | BS300 | BS300 |
| Weight | 5 kg | 15 kg | 15 kg |

Other packaging and other diameters: please consult us

Welding products and techniques evolve constantly. All descriptions, illustrations and properties given in this data sheet are subject to change without notice and can only be considered as suitable for general guidance. This document is intended to help the user make the correct choice of product. It is his responsibility to assess its suitability for his intended application.