

## DATASHEET RW 316 LSI – MIG wire

### Description and Applications

Austenitic stainless steel welding wire suitable to weld base metals of similar compositions like AISI 316 and AISI 316L. Equivalent to RW 316 LAWS except for the higher Si content. This improves the arc stability, the base metal fluidity and the melt run appearance. If the dilution by the base metal produces a low ferrite or fully austenitic weld, the crack sensitivity of the weld is somewhat higher than that of a lower Si content weld metal. Guarantees a better corrosion resistance than RW 308 LSI.

### Rodacciai denomination and approximate equivalent with other standards

|                     | RW 316 LSI    |
|---------------------|---------------|
| EN ISO 14343-A:2009 | G 19 12 3 LSi |
| EN ISO 14343-B:2009 | SS 316 LSi    |
| AWS A5.9-2012       | ER 316 LSi    |
| DIN Werkstoff Nr.   | 1.4430        |

### Approvals

TÜV  
DB  
CE  
CWB

### Filler metal properties

Chemical composition (nominal) in %

|     | C     | Mn   | Si   | S     | P     | Cr    | Ni    | Mo   | Cu   | Co   | N     | Nb    | B     |
|-----|-------|------|------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
| min |       | 1,50 | 0,65 | 0,005 |       | 18,00 | 11,00 | 2,50 |      |      |       |       |       |
| max | 0,030 | 2,00 | 1,00 | 0,015 | 0,030 | 20,00 | 14,00 | 3,00 | 0,30 | 0,30 | 0,060 | 0,050 | 0,003 |

### Metal properties

The following data are typical for non-heat treated weld metal from MIG welding with M1 DIN EN ISO 14175 as shielded gas.

### Expected minimum mechanical properties of all weld metal

| Temperature            | °C                | 20  | -110 | -196 |
|------------------------|-------------------|-----|------|------|
| Yield strength, Rp 0,2 | N/mm <sup>2</sup> | 450 |      |      |
| Yield strength, Rp 1,0 | N/mm <sup>2</sup> | 490 |      |      |
| Tensile strength, Rm   | N/mm <sup>2</sup> | 630 |      |      |
| Elongation, A5         | %                 | 32  |      |      |
| Impact energy, ISO – V | J                 | 152 | 110  | 53   |

### Welding parameters

|   |  |
|---|--|
| Wire diameter   | 1,2 mm   |
| Current   | 250 – 280 A  |
| Voltage   | 28 V   |
| Gas   | 14 l/min   |
| Type of current and polarity  | Direct current, electrode positive   |
| Intermediate temperature  | max. 180 °C  |
| Welding positions   | downhand, horizontal/vertical, vertical upward, overhead   |
| Wall thickness  | max. 30 mm   |
| Base metals   | X2 CrNiMo 17 12 2 - X5 CrNiMo 17 12 2 - X2 CrNiMo 17 12 3<br>X6 CrNiMoTi 17 12 2 - X3 CrNiMo 17 13 3 - X6 CrNiMoNb 17 12 2 |
| Highest operating temperature, in the short term range, as for base metal, but not higher than 350 °C |  |
| Lowest operating temperature, as for base metal, but not lower than – 196°C                           |  |
| Resistance to intergranular corrosion proven in accordance with DIN 50914                             |  |

### Recommended welding parameters

| Wire diameter (mm)       | Wire feed (m/min) | Current (A) | Voltage (V) | Gas (l/min) |
|--------------------------|-------------------|-------------|-------------|-------------|
| <b>Short-arc welding</b> |                   |             |             |             |
| 0.8                      | 4-8               | 40-120      | 15-19       | 12          |
| 1.0                      | 4-8               | 60-140      | 15-21       | 12          |
| <b>Spray-arc welding</b> |                   |             |             |             |
| 1.0                      | 6-12              | 140-220     | 23-28       | 18          |
| 1.2                      | 5-9               | 180-260     | 24-29       | 18          |
| 1.6                      | 3-5               | 230-350     | 24-30       | 18          |

### Packaging forms

Blue metallic wire baskets BS300 of 15 kg.  
Plastic spools D300 of 12,5 kg for diam. 0,80 mm and of 15 kg for the other diameters. Plastic spools D200 of 5 kg.  
Drum packaging of about 150 kg for diameter 0,80 mm and of about 250 kg for the other diameters.  
Diameters : 0,80 – 0,90 – 1,00 – 1,20 – 1,60 mm.