



**DATA SHEET
DS 150
Rev. 05 dd 08/10/2013
INETUB R70T1**

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CLASSIFICATION

| AWS SPECIFICATIONS | EN SPECIFICATIONS |
|--------------------------|---------------------------------|
| AWS A 5.20: E70T-1M | EN ISO 17632-A: T 42 2 R M 3 H5 |
| AWS A 5.20M: E490T-1M | |
| ASME SFA 5.20: E70T-1M | |
| ASME SFA 5.20M: E490T-1M | |

APPROVALS

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ALLOY TYPE

Rutile flux cored wire for welding carbon and carbon-manganese steels.

APPLICATIONS

Rutile flux cored wire designed for welding carbon and carbon-manganese steels with tensile strength up to 510 MPa. Suitable for the fine grain steels as well. To be used in structural steel buildings, road bridges, boilers and steel structural works, where high mechanical properties are required at low temperature (-20°C). Intended to meet high efficiency requirements; suitable for welding in the flat and front position; specifically suited to multi-pass corner welding. Good-looking weld beads, very limited spattering and easily removable slag. To be used under the shield of Ar+CO₂.

MATERIALS TO BE WELDED

| ASTM | | EN | | Others |
|-----------------|-----------------|----------------|--------------------|-----------------|
| A139 | A131 Gr A, B, D | 10113-2 S275 | 10113-3 S420M | Fe 360 |
| A210 Gr A1 | API 5LX42 | 10113-2 S355 | 10113-3 S420ML | Fe 430 |
| A210 Gr C | API 5LX46 | 10113-2 S420 | 10025 S185, S235 | Fe 510 |
| A36 | API 5LX52 | 10113-3 S275M | 10025 S275, S355 | (steel group 1) |
| A234 Gr WPB | API 5LX60 | 10113-3 S275ML | 10208-1 L210, L240 | EN 288/3) |
| A334 Gr 1 | | 10113-3 S355M | 10208-1 L290, L360 | |
| A106 Gr A, B, C | | 10113-3 S355ML | | |

WELDING GUIDELINES

Preheat and PWHT are not required.

TECHNICAL INFORMATION

Gas: Mix Ar- CO₂ (EN ISO 14175)
Welding positions: flat and flat-frontal



WELDING PARAMETERS

| Current | DC + Reverse polarity | | | | | |
|---------------|-----------------------|-----------|-----------|-----------|--|--|
| | 1.0 | 1.2 | 1.4 | 1.6 | | |
| Diameter (mm) | | | | | | |
| Volts (V) | 15 ÷ 28 | 16 ÷ 32 | 17 ÷ 35 | 19 ÷ 36 | | |
| Intensity (A) | 90 ÷ 240 | 110 ÷ 330 | 130 ÷ 360 | 140 ÷ 440 | | |



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TYPICAL CHEMICAL COMPOSITION OF WELD METAL

| GAS | C % | Mn % | Si % | S % | P % | Cr % | Ni % | Mo % | Cu % |
|-----|------|------|------|-------|-------|------|------|------|------|
| MIX | 0.05 | 1.45 | 0.50 | 0.012 | 0.012 | - | - | - | - |

TYPICAL MECHANICAL PROPERTIES

| GAS | | Yield strength | Tensile strength | Elongation on % 5d | Impact energy (Charpy V) | | | | |
|-----|-----------|----------------|------------------|--------------------|--------------------------|---------|---------|---------|---------|
| | | Rs | Rm | A 5d | + 20°C | 0°C | -20°C | -30°C | -40°C |
| | | (MPa) | (MPa) | % | (Joule) | (Joule) | (Joule) | (Joule) | (Joule) |
| MIX | as welded | 520 | 570 | 26 | - | - | 50 | - | - |

PRODUCTS AVAILABLE

| Process | Product | Classification AWS | Classification EN |
|------------------------------|------------------|---------------------|------------------------|
| MIG/MAG Solid wire | INEFIL S2 | AWS A 5.18: ER70S-2 | EN 14341-A: G2Ti |
| | INEFIL 13.7 | AWS A 5.18: ER70S-3 | EN 14341-A: G2Si |
| | INEFIL S4 | AWS A 5.18: ER70S-4 | EN 14341-A: G3Si1 |
| | INEFIL | AWS A 5.18: ER70S-6 | EN 14341-A: G3Si1 |
| | INEFIL 19.12 | AWS A 5.18: ER70S-6 | EN 14341-A: G4Si1 |
| | INE SPEEDFIL | AWS A 5.18: ER70S-6 | EN 14341-A: G3Si1 |
| | INEFIL NR | AWS A 5.18: ER70S-6 | EN 14341-A: G3Si1 |
| | INEFIL 19.12 NR | AWS A 5.18: ER70S-6 | EN 14341-A: G4Si1 |
| TIG Rods | INETIG S2 | AWS A 5.18: ER70S-2 | EN 636-A: W2Ti |
| | INETIG 13.7 | AWS A 5.18: ER70S-3 | EN 636-A: W2Si |
| | INETIG | AWS A 5.18: ER70S-6 | EN 636-A: W3Si1 |
| SAW Submerged arc | INESUB S2 | AWS A 5.17: EM12K | EN 14171-A: S2 |
| | INESUB S2Si | AWS A 5.17: EM12K | EN 14171-A: S2Si |
| | INESUB S3Si | AWS A 5.17: EH12K | EN 14171-A S3Si |
| FCAW Cored wire | INETUB R71T1 | AWS A 5.20: E71T-1 | EN 17632-A: T 46 2 P M |
| | INETUB R71T1-CO2 | AWS A 5.20: E71T-1 | EN 17632-A: T 46 2 P C |
| | INETUB M71TG | AWS A 5.18: E70C-6 | EN 17632-A: T 46 2 M M |
| | INETUB B71T5 | AWS A 5.20: E71T-5 | EN 17632-A: T 46 4 B M |
| SMAW Electrodes | INE 50 B | AWS A 5.1: E7018 | EN 2560-A: E 42 4 B |
| | INE 55 B | AWS A 5.1: E7018-1 | EN 2560-A: E 42 4 B |