

## Classifications

|                       |                       |                             |
|-----------------------|-----------------------|-----------------------------|
| <b>EN ISO 17634-A</b> | <b>EN ISO 17634-B</b> | <b>AWS A5.29 / SFA-5.29</b> |
| T CrMo1 P M21 1 H5    | T 55 T1-1M21-1CM-H5   | E81T1-B2M-H4                |

## Characteristics and typical fields of application

Seamless rutile flux cored wire for welding creep resistant Chromium-Molybdenum alloyed steels, by using Ar-CO<sub>2</sub> shielding gas. The flux-cored wire is primarily designed for the welding of 1% Cr and 0,5% Mo alloyed creep-resistant base metals, that are used for the fabrication of high-pressure vessels and pipe systems.

Due to the fast freezing slag system this flux-cored wire provides excellent positional welding characteristics, fast travel speed, easy to remove slag and depositions with low contents of diffusible hydrogen. (< 4ml/100g weld metal)

## Base materials

High temperature steels and similar alloyed cast steels, case hardening and nitriding steels of similar chemical composition, similar alloyed heat treatable steels with tensile strength up to 780 MPa, steels resistant to caustic cracking  
 1.7335 13CrMo4-5, 1.7262 15CrMo5, 1.7728 16CrMoV4, 1.7218 25CrMo4, 1.7225 42CrMo4, 1.7258 24CrMo5, 1.7354 G22CrMo5-4, 1.7357 G17CrMo5-5  
 ASTM A 182 Gr. F12; A 193 Gr. B7; A 213 Gr. T12; A 217 Gr. WC6; A 234 Gr. WP11; A335 Gr. P11, P12; A 336 Gr. F11, F12; A 426 Gr. CP12

## Typical analysis

|       | Gas | C    | Si  | Mn  | Cr  | Mo  |
|-------|-----|------|-----|-----|-----|-----|
| wt.-% | M21 | 0.07 | 0.3 | 0.7 | 1.1 | 0.4 |

## Mechanical properties of all-weld metal - typical values (min. values)

| Condition | Yield strength R <sub>p0.2</sub> | Tensile strength R <sub>m</sub> | Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) | Impact energy ISO-V KV J |
|-----------|----------------------------------|---------------------------------|---|--------------------------|
|           | MPa                              | MPa                             | %   | 20 °C                    |
| s         | 570 (≥ 460)                      | 630 (550 - 740)                 | 24 (≥ 20)                                       | 65 (≥ 47)                |

s stress relieved 690°C / 1 h – shielding gas Ar + 15 – 25 % CO<sub>2</sub>

## Operating data

|  |                                     |      |                     |
|--|-------------------------------------|------|---------------------|
|  | <b>Polarity</b>                     | DC + | <b>Dimension mm</b> |
|  | <b>Shielding gas (EN ISO 14175)</b> | M21  | 1.2                 |

Preheat, interpass temperature and post weld heat treatment as required by the base metal.

## Approvals

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