

**Classifications**

| EN ISO 14341-A  | AWS A5.18 / SFA-5.18 | CSA W48-18 (GMAW Carbon Steel) |
|-----------------|----------------------|--------------------------------|
| G 42 4 M21 3Si1 | ER70S-6              | B-G 49A 3 C1 S6                |
| G 42 4 C1 3Si1  |                      |                                |

**Characteristics and typical fields of application**

Solid wire electrode of type G3Si1 / ER70S-6 with optimised properties for reliable welding performance within a wide parameter range. The non coppered welding wires with the ECOspark® surface are characterised by very good feeding properties at high wire feeding rates, a very stable arc performance and significant low oxide / silicate forming on the weld surface. This makes them especially suited for fully mechanised processes with wire from BASEdtrum, MEGAdtrum or the sustainable ECOdtrum bulk package.

**Base materials**

Steels with a yield strength  $\geq 420$  MPa (60 ksi)

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S420N, S275M-S420M, P235GH-P355GH, P275NL1-P355NL1, P215NL, P265NL, P355N, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, GE200-GE240,

ship building steels: A, B, D, E, A 32-E 36

ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr. 58, 65, 70; A 588 Gr. A, B; A 633 Gr. C; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60

**Typical analysis**

|       | C    | Si  | Mn   |
|-------|------|-----|------|
| wt.-% | 0.08 | 0.9 | 1.45 |

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

| Condition | Yield strength $R_e$ | Tensile strength $R_m$   | Elongation A ( $L_0=5d_0$ ) | Impact energy ISO-V KV J |                  |
|-----------|----------------------|--------------------------|-----------------------------|--------------------------|------------------|
|           | MPa                  | MPa                      | %                           | 20°C                     | -40°C            |
| u         | 440 ( $\geq 420$ )   | 560 ( $\geq 500 - 640$ ) | 28 ( $\geq 20$ )            | 160 ( $\geq 47$ )        | 80 ( $\geq 47$ ) |

u untreated, as welded M21, C1

**Operating data**

|  | Polarity                     | DC+ | Dimension mm |     |
|---|------------------------------|-----|--------------|-----|
|   | Shielding gas (EN ISO 14175) | C1  |              | 0.8 |
|   |                              | M21 |              | 0.9 |
|   |                              | M33 |              | 1.0 |
|   |                              |     |              | 1.2 |
|   |                              |     |              | 1.6 |

**Approvals**

TÜV (19913), DB (32.132.95), CWB, CE

