

Classifications

| EN ISO 2560-A | EN ISO 2560-B | AWS A5.1 | AWS A5.1M |
|----------------|-----------------|------------|------------|
| E 42 5 B 12 H5 | E 4916-1 A U H5 | E7016-1H4R | E4916-1H4R |

Characteristics and typical fields of application

Basic electrode for high-quality joint welds. Especially suited for root pass welding. Excellent weld ability in all positions except vertical-down. Smooth and slag-free welds. Crack resistant deposits of high toughness at ambient and sub-zero temperatures. Very low hydrogen contents in the weld deposit (acc. AWS condition HD < 4 ml/100 g weld metal). Especially suited for welding on AC. For root pass welding, DC negative polarity is recommended.

Base materials

Steels up to a yield strength of 420 MPa (60ksi)

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S420N, S275M-S420M, P235GH-P355GH, P355N, P215NL, P275NL1-P355NL1, P265NL, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, GE200-GE240, GE300, 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. A, C, D; A 662 Gr. A, B, C; A 678 Gr. A, B; A 711 Gr. 1013; API 5 L Gr. B, X42, X52, X56, X60

Typical analysis of all-weld metal (wt.-%)

| | C | Si | Mn |
|------|------|-----|-----|
| wt-% | 0.07 | 0.5 | 1.1 |

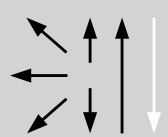
Mechanical properties of all-weld metal

| Condition | Yield strength R _e | Tensile strength R _m | Elongation A (L ₀ =5d ₀) | Impact work ISO-V KV J | | |
|-----------|----------------------------------|------------------------------------|--|---------------------------|------------|--------|
| | MPa | MPa | % | +20 °C | -20 °C | -50 °C |
| u | 460 (≥ 420) | 560 (500 – 640) | 28 (≥ 20) | 200 | 150 | ≥ 47 |
| s | 430 | 540 | 28 | 200 | 160 | |

u untreated, as welded

s stress relieved 580 °C/2h / furnace down to 300 °C / air

Operating data

|  | Polarity: | Redrying if necessary: | Electrode identification: | ∅ (mm) | L mm | Amps A |
|---|---------------------------------|---------------------------|--------------------------------|--------|------|-----------|
| | DC (+) | 300 – 350 °C, min. 2 h | FOX EV 50-W 7016-1 E 42 5 B | 2.5 | 350 | 55 – 85 |
| | DC (-) | | | 3.2 | 350 | 80 – 140 |
| | AC | | | 4.0 | 350 | 110 – 180 |
| | Polarity negative for root pass | | | 5.0 | 450 | 180 – 230 |

Approvals

TÜV (4180.), GL (3YH5), LTSS, SEPROZ