

Classifications

| EN ISO 3580-A | EN ISO 3580-B | EN ISO 2560-A | EN ISO 2560-B |
|---------------|---------------|--------------------|------------------|
| E Mo B 4 2 H5 | E4918-1M3 H5 | E 46 5 Mo B 4 2 H5 | E4918-1M3 A U H5 |
| AWS A5.5 | | AWS A5.5M | |
| E7018-A1H4 | | E4918-A1H4 | |

Characteristics and typical fields of application

Basic low-hydrogen electrode for 0.5% Mo-alloyed boiler, plates, and tube steels. Approved in long-term condition up to +550°C service temperature. For high quality welds of long term stressed components with reliable mechanical properties under high and low temperature conditions. Crack resistant, tough and ageing resistant. Very low hydrogen content (acc. to AWS condition HD < 4 ml/100 g). Metal recovery approx. 115%.

Base materials

Creep resistant steels and similar alloyed cast steels, steels resistant to caustic cracking and ageing resistant steels

16Mo3, 20MnMoNi4-5, 15NiCuMoNb5, S235JR-S355JR, S235JO-S355JO, S450JO, S235J2-S355J2, S275N-S460N, S275M-S460M, P235GH-P355GH, P355N, P285NH-P460NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L450QB, L245MB-L450MB, GE200-GE300
ASTM A 29 Gr. 1013, 1016; A 106 Gr. C; A, B; A 182 Gr. F1; A 234 Gr. WP1; A 283 Gr. B, C, D; A 335 Gr. P1; A 501 Gr. B; A 533 Gr. B, C; A 510 Gr. 1013; A 512 Gr. 1021, 1026; A 513 Gr. 1021, 1026; A 516 Gr. 70; A 633 Gr. C; A 678 Gr. B; A 709 Gr. 36, 50; A 711 Gr. 1013; API 5 L B, X42, X52, X60, X65

Typical analysis of all-weld metal

| | C | Si | Mn | Mo |
|-------|------|------|-----|------|
| wt.-% | 0.08 | 0.35 | 0.8 | 0.45 |

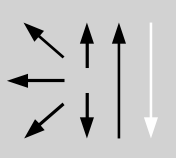
Mechanical properties of all-weld metal – typical values (min. values)

| Condition | Yield strength R _{p0,2} | Tensile strength R _m | Elongation A (L ₀ =5d ₀) | Impact work ISO-V KV J | |
|-----------|-------------------------------------|------------------------------------|--|---------------------------|------------------|
| | MPa | MPa | % | +20°C | -50°C |
| u | 510 (≥ 460) | 590 (530 – 680) | 24 (≥ 22) | 170 | 60 (≥ 47) |
| a | 520 (≥ 460) | 600 (530 – 680) | 25 (≥ 22) | 160 (≥ 47) | |

u untreated, as welded

a annealed 620°C/2h / furnace down to 300°C / air

Operating data

|  | Polarity: | Redrying if necessary: | Electrode identification: | ø (mm) | L mm | Amps A |
|---|-----------|--------------------------|------------------------------|--------|---------|-----------|
| | DC (+) | 300 – 350°C, min. 2 h | FOX DMO Kb 7018-A1 E Mo B | 2.5 | 250/350 | 80 – 110 |
| | | | | 3.2 | 350 | 100 – 140 |
| | | | | 4.0 | 350/450 | 130 – 180 |
| | | | | 5.0 | 450 | 190 – 230 |

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

Approvals

TÜV (0019.), KTA 1408.1 (8053.), DB (10.014.14), ABS (E 7018-A1), DNV (NV 0,3Mo), GL (15 Mo 3), RS (-), SEPROZ, NAKS, CE