

## 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 |
| <b>AWS A5.5 / SFA-5.5</b> | <b>AWS A5.5M</b> |                    |                  |
| E7018-A1 H4 R             | E4918-A1 H4 R    |                    |                  |

## Characteristics and typical fields of application

BÖHLER FOX DMO kb is a covered electrode with basic coating for shielded metal arc welding. The 0.5 Mo type weld metal microstructure exhibit acicular ferrite and bainite with favorable mechanical properties in the as welded and post weld heat treated condition. The range of application covers joint welding of similar alloyed creep resistant steel and steel casting up to joining of high strength structural, fine grained and pipeline steels. BÖHLER FOX DMO kb is approved for application under creep condition at design temperatures up to 550 °C. Impact energy is excellent down to temperatures < -50 °C. The optimized coating of BÖHLER FOX DMO kb results in minimal moisture pick up and guarantees low level of diffusible hydrogen in the weld metal and a metal recovery of 115 %.

## Base materials

Similar creep resistant steels and cast steels, high strength structural, fine grained and pipeline steels like  
 16Mo3, 20MnMoNi4-5, 15NiCuMoNb5, S235JR-S355JR, S235JO-S355JO, S450JO, S235J2-S355J2, S275M-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

|       | C    | Si  | Mn  | Mo  |
|-------|------|-----|-----|-----|
| wt.-% | 0.08 | 0.4 | 0.8 | 0.5 |

## 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 energy ISO-V KV J |           |
|-----------|---------------------------|------------------------|-----------------------------|--------------------------|-----------|
|           | MPa                       | MPa                    | %                           | 20°C                     | -50°C     |
| U         | 490 (≥ 460)               | 590 (530 – 680)        | 24 (≥ 22)                   | 170 (≥ 47)               | 50 (≥ 47) |
| SR        | 480 (≥ 460)               | 580 (530 – 680)        | 27 (≥ 22)                   | 160 (≥ 47)               | 75 (≥ 47) |

U: as welded

SR: stress relieved (620 °C / 2 h)

## Operating data

|  | Polarity                 | DC +                      | Dimension mm | Current A |
|------------------------------------------------------------------------------------|--------------------------|---------------------------|--------------|-----------|
|                                                                                    | Electrode identification | FOX DMO Kb 7018-A1 E Mo B | 2.5 × 250    | 85 – 110  |
|                                                                                    |                          |                           | 2.5 × 350    | 85 – 110  |
|                                                                                    |                          |                           | 3.2 × 350    | 100 – 140 |
|                                                                                    |                          |                           | 4.0 × 350    | 130 – 180 |
|                                                                                    |                          |                           | 4.0 × 450    | 130 – 180 |
|                                                                                    |                          |                           | 5.0 × 450    | 190 – 230 |

Preheating, interpass temperature, and post-weld heat treatment as required by the base metal. Preheating can normally be recommended being in a range of 100 to 250 °C depending on the wall thickness. Common post weld heat treatments are carried out between 530 and 620 °C.

## Approvals

TÜV (00019), KTA 1408.1 (8053), DB (10.014.82), ABS, DNV, CE