BÖHLER DMO-IG

TIG rod / wire, creep resistant

Classifications

EN ISO 21952	EN ISO 636	AWS A5.28 / SFA-5.28
-A W MoSi	-A W 2Mo / W 46 3 2Mo	ER70S-A1 (ER80S-G)
-B W (1M3)	-B W 2M31 / W 55A 3U 2M31	

Characteristics and typical fields of application

TIG rod and wire for manual and mechanized gas tungsten arc welding. The 0.5Mo 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 DMO-IG is approved for application under creep condition at design temperatures up to 550 °C.

Base materials

Similar creep resistant steels and cast steels, high strength structural, fine grained and pipeline steels like
16Mo3, 20MnMoNi4-5, 15NiCuMoNb5, S235JR-S355JR, S235J0-S355J0, S450J0, 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

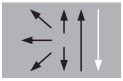
	C	Si	Mn	Mo
wt.-%	0.1	0.6	1.1	0.5

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	-30 °C
U	530 (≥ 470)	650 (≥ 550 - 740)	26 (≥ 22)	180 (≥ 130)	100 (≥ 80)
SR	480 (≥ 470)	585 (≥ 550)	27 (≥ 22)	210 (≥ 150)	180 (≥ 130)

U: as welded
SR: stress relieved (620 °C / 1 h)

Operating data



Polarity	DC -
Shielding gas (EN ISO 14175)	I1
Rod marking	+ WMoSi / ER80S-G(A1)

Dimension mm
0.8
1.0
1.2
1.6 x 1000
2.0 x 1000/500
2.4 x 1000
3.0 x 1000
3.2 x 1000

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 (00020, 08066), DB (42.132.72), BV, DNV, CE