BÖHLER FOX A 7

Stick electrode, high-alloyed, austenitic stainless, special applications

Classifications

EN ISO 3581-A
E 18 8 Mn B 2 2

AWS A5.4 / SFA-5.4
E307-15 (mod.)

Characteristics and typical fields of application

Basic coated, core wire alloyed austenitic electrode of E 18 8 Mn B / E307-15 type for welding and cladding in all positions except vertical down. Versatile electrode for numerous applications – welding of "hard-to-weld" steels, dissimilar welding as well as repair and maintenance. For tough buffer and intermediate layers for cladding of rails and switches, valve seats and in hydropower plants. The weld metal offers exceptionally high ductility and elongation together with outstanding crack resistance. Good resistance to embrittlement when operating at service temperatures from –100ºC up to 650ºC. The weld metal work hardens and offers good resistance to cavitation. The weld metal is resistant to scaling up to 850ºC, but at temperatures above 500ºC there is not sufficient resistance to sulfurous combustion gases. The weld deposit offers high ductility, elongation and resistance to hot cracking, also after high dilution of "hard-to-weld" steels.

Base materials

Dissimilar joints, tough buffer and intermediate layers prior to hardfacing, 14Mn-steels, 13 – 17% Cr and heat resistant Cr and austenitic steels up to 850ºC, armor plates, high carbon and quenched and tempered steels, surfacing of gears, valves, turbine blades, etc. For joint welding of unalloyed / low-alloyed or Cr steels with high-alloyed Cr and CrNi-steels. Welding of austenitic high manganese steels and with other steels.

Typical analysis of all-weld metal

	C	Si	Mn	Cr	Ni
wt.-%	0.09	0.7	6.5	18.6	8.8

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

Condition	Yield strength $R_{p0.2}$ MPa	Tensile strength R_m MPa	Elongation A (L_0=5d_0) %	Impact values ISO-V KV J 20°C	–110°C
u	440 (≥ 350)	600 (≥ 500)	35 (≥ 25)	90	34 (≥ 32)

u untreated, as-welded

Operating data

Polarity DC+

Electrode identification FOX A 7 / E 18 8 Mn B

Dimension mm	Current A
2.5 × 300	55 – 75
3.2 × 350	80 – 100
4.0 × 350	100 – 130
5.0 × 450	140 – 170

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

Approvals

TÜV (06786), DB (30.014.24), DNV GL, CE