

SHIELD-BRIGHT 309LMo X-tra AWS A5.22: E309LMoT0-1/T0-4

FEATURES

Shield-Bright 309LMo X-tra was developed for the welding of stainless steels to carbon or low alloy steels. For thick sections it is often preferable that the non-stainless steel should be buttered with a layer of Shield-Bright 309L X-tra and the joint made with Shield-Bright 316L X-tra or 308L X-tra. It was also developed for the first layer cladding of carbon and low alloy steels prior to subsequent layers from Shield-Bright 316L X-tra or 317L X-tra.

The service temperature of all the resulting weldments should not exceed about 700°F (370°C). Multiple layer cladding with Shield-Bright 309LMo X-tra can be used for additional corrosion resistance in some applications in the pulp and paper industry. Shield-Bright 309LMo X-tra was developed for welding in the flat position and for horizontal fillet welds with flat to concave beads with excellent slag removal. It can be used with either 75% Ar / 25% CO₂ or 100% CO₂ gases.

* This item is subject to Industry Alloy Surcharges

CLASSIFICATIONS AND APPROVALS

- AWS A5.22: E309LMoT0-1/T0-4
- ASME IX F No. 6
- ASME II SFA 5.22 E309LMoT0-1/T0-4
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WELDING PROCESS

- FCAW (Flux Core)

INDUSTRIES

- Process
- General Fabrication
- Pulp and Paper

TYPICAL MECHANICAL PROPERTIES

As Welded 75% Ar / 25% CO ₂	
Tensile Strength	100 ksi, 690 MPa
Yield Strength	80 ksi, 550 MPa
Elongation in 2"	30%

WELD METAL ANALYSIS

CO ₂	
C	0.03%
Mn	1.5%
Si	0.5%
Cr	23.5%
Ni	13.5%
Mo	2.5%
Cu	0.1%
Ferrite	19 FN
75% Ar / 25% CO ₂	
C	0.03%
Mn	1.6%
Si	0.6%
Cr	23.5%
Ni	13.5%
Mo	2.5%
Cu	0.1%
Ferrite	20 FN

SHIELD-BRIGHT 309LMo X-tra continued

DEPOSITION TABLE

Diameter in (mm)	Amps	Volts	Wire Feed Speed ipm (cm/min)	Deposition lb/hr (kg/hr)	Efficiency %	Electrical Stickout in (mm)
.035 (0.9)	120	23	315 (8)	3.4 (1.5)	81.4	1/2 - 1 (12.5 - 25.4)
	140	25	405 (10.3)	4.6 (2.1)	82.6	1/2 - 1 (12.5 - 25.4)
	170	26	530 (13.5)	5.7 (2.6)	81.8	1/2 - 1 (12.5 - 25.4)
.045 (1.2)	150	25	259 (6.6)	5 (2.3)	83.9	1/2 - 1 (12.5 - 25.4)
	200	29	410 (10.4)	7.7 (3.5)	84.2	1/2 - 1 (12.5 - 25.4)
	300	33	860 (21.9)	16.9 (7.7)	87	1/2 - 1 (12.5 - 25.4)
1/16 (1.6)	200	25	172 (4.4)	6.7 (3.1)	83.6	1/2 - 1 (12.5 - 25.4)
	240	28	225 (5.7)	8.1 (3.7)	83.6	1/2 - 1 (12.5 - 25.4)
	400	33	495 (12.58)	18.9 (8.6)	85.5	1/2 - 1 (12.5 - 25.4)

PART NUMBER / PRODUCT INFORMATION

Part Number	Description	UPC
252200969	SBX 309LMO 045X33#PSP VP	662303008123