Shield-Bright 309LMo X-tra

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.

Specifications	
Classifications	SFA/AWS A5.22 : E309LMoT0-1 SFA/AWS A5.22 : E309LMoT0-4 JIS Z 3323 : YF 309MoLC - KR KS D 3612 : YF 309MoLC - KR EN ISO 17633-A : T 23 12 2 L R C1 3 EN ISO 17633-A : T 23 12 2 L R M21 3
Industry	Industrial and General Fabrication Process Pulp and Paper

Welding Current	DC+
Alloy Type	C Cr Ni Mo
Shielding Gas	M21, C1 (EN ISO 14175)

Typical Tensile Properties		
Conditional Statement	**Yield Strength**	**Tensile Strength**
C1 shielding gas AWS		
As welded	480 MPa (70 ksi)	620 MPa (90 ksi)

Typical Charpy V-Notch Properties		
Condition	**Testing Temperature**	**Impact Value**
C1 shielding Gas		
As Welded	-29 °C (-20 °F)	28 J (21 ft-lb)

Typical Weld Metal Analysis %							
C	**Mn**	**Si**	**S**	**P**	**Ni**	**Cr**	**Mo**
M21 Shielding Gas							
0.030	1.60	0.60	0.008	0.020	13.5	23.5	2.50
C1 shielding Gas							
0.024	1.53	0.58	0.008	0.021	13.4	24.0	2.30

Deposition Data				
Diameter	**Current**	**Voltage**	**Wire Feed Speed**	**Deposition Rate**
1.2 mm (0.045 in.)	150-250 A	25-32 V	8.0-16.0 m/min (315-630 in./min)	2.5-7.0 kg/h (5.5-15. lbs/h)