Shield-Bright 2209

Shield-Bright 2209 is and all-position duplex flux cored electrode for use with 100% CO2 or 75~85%Ar / 20~25% CO2 mixed gas. It is designed for the welding of 22Cr-5Ni-2Mo-0.15N duplex stainless steel(UNS S31803), commonly known as 2205. Commercial designations for such steels include SAF 2205(Sandvik), 2205 (Avesta), UR 54N(Creusot), AF22(Mannesmann), NK Cr22(Nippon Kokan), SM22Cr(Sumitomo).

Specifications	
Classifications	SFA/AWS A5.22 : E2209T1-4, E2209T1-1 EN ISO 17633-A : T 22 9 3 N L P C1 2 EN ISO 17633-A : T 22 9 3 N L P M21 2
Approvals	DNV-GL : Duplex (M21) CWB : AWS A5.22 E2209T1-1, E2209T1-4 VdTÜV : 09123 LR : S31803 (C1) DNV : Duplex (C1) CCS : 2205-S (C1) BV : 2205 (C1) ABS : E2209T1-1 (C1) CE EN : 13479
Industry	Pipeline Process Pulp and Paper Petrochemical

Approvals are based on factory location. Please contact ESAB for more information.

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

Typical Tensile Properties			
Conditional Statement	**Yield Strength**	**Tensile Strength**	**Elongation**
80%Ar/20%CO2 Shielding Gas (M21)			
As welded	640 MPa (93 ksi)	840 MPa (122 ksi)	27 %
CO2 Shielding Gas (C1)			
As welded	650 MPa (94 ksi)	800 MPa (116 ksi)	28 %

Typical Charpy V-Notch Properties	
Testing Temperature	**Impact Value**
80%Ar/20%CO2 Shielding Gas (M21)	
-20 °C (-4 °F)	55 J (40.5 ft-lb)
-45 °C (-49 °F)	45 J (33 ft-lb)
-46 °C (-51 °F)	52 J (38 ft-lb)
CO2 Shielding Gas (C1)	
-46 °C (-51 °F)	50 J (37 ft-lb)

Typical Weld Metal Analysis %									
C	**Mn**	**Si**	**S**	**P**	**Ni**	**Cr**	**Mo**	**N**	**Ferrite FN**
C1									
0.03	1.40	0.60	0.012	0.025	8.7	23.2	3.21	0.14	40
M21									
0.03	0.90	0.35	0.012	0.025	9.2	22.5	3.2	0.16	40

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Deposition Data				
Diameter	**Current**	**Voltage**	**Wire Feed Speed**	**Deposition Rate**
1.2 mm (0.045 in.)	130-220 A	25-30 V	5.8-14.4 m/min (228-567 in./min)	1.9-4.6 kg/h (4.2-10. lbs/h)
1.6 mm (1/16 in.)	170-300 A	25-29 V	3.9-8.2 m/min (154-323 in./min)	2.4-5.2 kg/h (5.3-11. lbs/h)