

Shield-Bright 2209

Shield-Bright 2209 is an 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	ABS : E2209T1-1 ABS : E2209T1-4 BV : 2205 (C1) BV : SA 2205 CCS : 2205S CE : EN 13479 CWB : E2209T1-1 (M21) CWB : E2209T1-4 (C1) DNV : Duplex DNV-GL : Duplex (C1, M21) LR : S31803 UKCA : EN 13479 VdTÜV : 09123
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			
Condition	Yield Strength	Tensile Strength	Elongation
C1			
As Welded	650 MPa	800 MPa	28 %
M21			
As Welded	670 MPa	810 MPa	28 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
C1		
As Welded	-40 °C	40 J
M21		
As Welded	-40 °C	42 J

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	130-220 A	25-30 V	5.8-14.4 m/min	1.9-4.6 kg/h
1.6 mm	170-300 A	25-29 V	3.9-8.2 m/min	2.4-5.2 kg/h