

Coreweld 89

A metal cored wire for high strength applications (>890 MPa) developed for use with argon / carbon dioxide shielding gas. Optimal mechanical and welding results are achieved with Ar/8%CO₂ gas mixture. Excellent -40 degrees C toughness is achieved along with low diffusible hydrogen. The application area is anywhere where high strength steels are to be joined for example cranes, forestry machinery, load support and handling equipment.

Specifications

Classifications	SFA/AWS A5.28 : E120C-G H4 EN ISO 18276-A : T 89 4 Z M M21 3 H5
Approvals	CE : EN 13479 UKCA : EN 13479

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

Welding Current	DC+
Diffusible Hydrogen	< 4 ml/100g
Alloy Type	C Mn, low alloy steel (Ni-Cr-Mo)
Shielding Gas	M20, M21 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
M21 shielding gas			
As Welded	910 MPa	965 MPa	17 %
M20 shielding gas			
As Welded	931 MPa	993 MPa	17 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
M21 shielding gas		
As Welded	-40 °C	95 J
M20 shielding gas		
As Welded	-40 °C	82 J

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
M20 shielding gas									
0.105	1.32	0.53	0.010	0.008	2.49	0.58	0.71	0.01	0.01

Typical Weld Metal Analysis %

Nb
M20 shielding gas
0.01

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
1.2 mm	100-360 A	16-32 V	1.8-13.0 m/min	1.3-8.0 kg/h