

Mild steel rutile cored wire

Classification

AWS A5.20-95 : E70T-1 H8 / E70T-1M H8
 EN 758-97 : T 46 0 R C 3 H10 / T 46 0 R M 3 H10

General description

Gas shielded flux cored wire for semi-automatic or mechanized downhand welds
 Low spatter, good slag removal, smooth appearance, excellent operator appeal
 High deposition rate and deep penetration, good resistance to scale and rust
 Reliable weld metal properties
 Low hydrogen content $H_{DM} < 8\text{ml}/100\text{g}$
 Excellent wire feeding
 Superior product consistency with optimal alloy control

Welding positions



ISO/ASME PA/1G PB/2F PC/2G

Current type/Shielding gas

DC +
 100%CO₂ (EN 439: C1)
 Ar+ (>5-25%) CO₂ (EN 439: M21)
 15-25 l/min.

Approvals

Shielding gas TÜV
 C1 +

Chemical composition (w%), typical, all weld metal

Shielding gas	C	Mn	Si	P	S	H _{DM} ml/100g
C1	0.06	1.30	0.50	0.015	0.010	< 8
M21	0.06	1.70	0.35	0.015	0.010	< 8

Mechanical properties, all weld metal

	Shielding gas	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V (J)		
						0°C	-18°C	-20°C
Required: AWS A5.20-95			min. 400	min. 480	min. 22	min. 27		
EN 758-97			min. 460	530-680	min. 20	min.47		
Typical values	C1	AW	480	560	26	80	40	
	M21	AW	530	610	27	70	40	

Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm)	
		1.6	2.4
Wire reel B300	15	X	
Wire reel B435	25		X

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355
Ship plates	ASTM A131	Grade A, B, D, AH32 to DH36
Cast steel	EN 10213-2	G P 240R
Pipe material	EN 10208-1	L210, L240, L290, L360
	EN 10208-2	L240NB, L290NB, L360NB, L360QB, L240MB, L290MB, L360MB, L415MB, L415NB
	API 5LX	X42, X46, X52, X60
	EN 10216-1/ EN 10217-1	P235T1, P235T2, P275T1 P275T2, P355N
	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Boiler & pressure vessel steel	EN 10113-2	S275, S275, S355, S420
Fine grained steel	EN 10113-3	S275M, S275ML, S355M, S355ML, S420M, S420ML

Calculation data

Diameter (mm)	Electrical Stick-out (mm)	Wire feed speed (cm/min)	Current (A)	Arc Voltage (V)	Deposition Rate (kg/h)	kg Wire/kg weld metal
1.6	20	320	170	23-25	2.1	1.15
		510	235	25-27	3.4	1.15
		635	275	25-28	4.2	1.15
		760	310	27-29	5.0	1.15
		955	365	29-31	6.4	1.15
2.4	28	320	340	24-27	4.5	1.15
		510	450	28-31	7.3	1.15
		635	510	30-32	9.1	1.15
		700	535	31-34	10.0	1.15
		825	585	33-35	11.8	1.15

Welding parameters, optimum fill, shielding gas Ar + (>5 - 25%) CO₂

Diameter (mm)	Current/ Voltage	Welding position		
		PA/1G	PB/2F	PC/2G
1.6	(A)	290-380	210-375	290-340
	(V)	25-34	25-32	25-32
2.4	(A)	410-560	410-510	
	(V)	27-34	28-32	