Outershield® 71E

Mild steel rutile cored wire

Classification

AWS A5.20-95 : E71T-1MJ H8
EN 758-97 : T 46 3 P M 1 H10

General description

All position gas shielded flux cored wire for high quality welding
Excellent operator appeal due to superior welding characteristics
Full out-of-position capability with higher deposition rates
Exceptional mechanical properties (CVN > 47J at -30°C)
Superior product consistency with optimal alloy control
Excellent wire feeding

Welding positions

ISO/ASME PA/1G PB/2F PC/2G PF/3G up PG/3G down PE/4G

Current type/Shielding gas

DC +
Ar+ (>5-25)% CO_2 (EN 439: M21)
15-25 l/min

Approvals

FCAW

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

Shielding gas	C	Mn	Si	P	S	H_{DM} ml/100g
M21	0.05	1.25	0.7	0.015	0.015	< 8

Mechanical properties, all weld metal

	Shielding gas	Condition	Yield strength (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)	Impact ISO-V (J) -30°C	Impact ISO-V (J) -40°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	M21	AW	600	650	24	100	75

Packaging and available sizes

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

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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 EH36
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/	P235T1, P235T2, P275T1
	EN 10217-1	P275T2, P355N
Boiler & pressure vessel steel	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steel	EN 10113-2	S275, S275, S355, S420
	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	21-23	1.9	1.20
		510	235	22-25	3.1	1.20
		635	275	24-26	3.9	1.20
		760	310	25-27	4.7	1.20
		890	350	27-29	5.5	1.20
		1015	385	28-30	6.3	1.20
		1080	400	29-31	6.7	1.20

Welding parameters, optimum fill, shielding gas Ar + (>5 - 25)% CO_2

Diameter (mm)	Current/ Voltage	Welding position PA/1G	PB/2F	PC/2G	PF/3G up	PG/3G down	PE/4G
1.6	(A)	250-350	250-350	230-280	220-260	170-240	170-240
	(V)	24-32	24-32	24-30	22-28	22-28	22-28