

Outershield® MC715-H

Mild steel metal cored wire

Classification

AWS A5.18/A5.18M-01 : E70C-6 M H4
EN 758-97 : T 42 4 M M 2 H5

General description

Metal cored gas shielded wire for all positions
Little slag and spatter, fast travel speed and very good wire feeding
Excellent arc characteristics give outstanding operator appeal
Excellent mechanical properties (CNV >47J at -40°C)
Depending on application good alternative for basic flux cored wires
Very low hydrogen H_{DM} < 5 ml/100 gr

Welding positions



Current type/Shielding gas

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

Approvals

Shielding gas	ABS	BV	CTL	DB	DNV	GL	LR	RINA	TÜV
M21	4Y40SA,HH SA3,3YMHH		+	+	IV Y40H5	4Y40H5S	4Y40SH5	4YSH5	+

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

Shielding gas	C	Mn	Si	P	S	H _{DM} ml/100g
M21	0.04	1.5	0.4	0.012	0.020	3

Mechanical properties, all weld metal

	Shielding gas	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V (J)			
						-29°C	-30°C	-40°C	-50°C
Required: AWS A5.18-01 EN 758-97			min. 400 min. 420	min. 480 500-640	min. 22 min. 20		min. 27		min. 47
Typical values	M21	AW	480	540	27		120	110	80

Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm)		
		1.2	1.4	1.6
Plastic spool S200	4.5	X		
Wire reel B300	15	X	X	X
Wire reel B435	25			X
AccuTrack®	200	X	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 EH40
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 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)	Arc mode	Electrical Stick-out (mm)	Wire feed speed (cm/min)	Current (A)	Arc Voltage (V)	Deposition Rate (kg/h)	kg Wire/kg weld metal
1.2	short-arc	15	460	90	15	1.1	1.10
			655	120	16	1.4	1.10
			870	150	17	1.9	1.10
1.2	spray-arc	20	635	180	28-30	2.7	1.10
			1145	275	31-34	4.8	1.10
			1650	340	35-38	6.8	1.10
1.4	short-arc	15	205	105	14.5	1.2	1.10
			255	125	15.0	1.5	1.10
			280	135	15.5	1.6	1.10
1.4	spray-arc	25	445	170	27-29	2.5	1.10
			890	270	29-32	5.0	1.10
			1400	355	32-34	8.1	1.10
1.6	short-arc	18	180	145	15	1.5	1.10
			205	160	16	1.7	1.10
			230	170	18	1.9	1.10
1.6	spray-arc	25	380	235	25-26	2.9	1.10
			635	325	29-32	5.0	1.10
			890	400	34-37	7.0	1.10
			1145	460	36-38	9.1	1.10

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

Diameter (mm)	Current/Voltage	Welding position				
		PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G
1.2	(A)	230-380	230-380	230-300	130-170	140-175
	(V)	26-36	26-36	26-30	15-17	16-17
1.4	(A)	240-385	240-385	240-340	160-180	175-185
	(V)	26-36	26-36	26-31	14-15	15-16
1.6	(A)	280-460	280-460	270-300		
	(V)	28-36	28-36	28-30		