

Outershield® MC710RF-H

CLASSIFICATION

AWS A5.18	E70C-6M H4	A-Nr	1
EN ISO 17632-A	T 46 3 M M 2 H5	F-Nr	6
		9606 FM	1

GENERAL DESCRIPTION

All position high efficiency gas shielded metal cored wire with reduced emission of welding fumes
 Excellent arc characteristics give outstanding operator appeal
 Very few silicates, virtually no spatter, fast travel speed, excellent wire feeding
 Superior on scaled plate, good resistance to porosity
 Very good mechanical properties [CVN >47J at -30°C]
 Superior product consistency with optimal alloy control

WELDING POSITIONS (ISO/ASME)



CURRENT TYPE / SHIELDING GAS (ISO 14175)

DC +
 M21 : Mixed gas Ar+ (>15-25%) CO₂
 Flow rate: 15-25 l/min

APPROVALS

Shielding gas	ABS	BV	DNV	GL	LR	TÜV	DB
M21	3YSAH5	SA3YMH5	IIIYMS(H5)	3YH5S	3YSH5	+	+

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

Shielding gas	C	Mn	Si	P	S	HDM
M21	0.05	1.35	0.6	0.015	0.023	3 ml/100 g

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

	Shielding gas	Condition	Yield strength [N/mm ²]	Tensile strength [N/mm ²]	Elongation [%]	Impact ISO-V[J]	
						-20°C	-29°C/-30°C
Required: AWS A5.18			min. 400	min. 480	min. 22		min. 27
EN ISO 17632-A			min. 460	530-680	min. 20		min. 47
Typical values	M21	AW	495	570	26	90	60

PACKAGING AND AVAILABLE SIZES

Diameter (mm)	1.2	1.4	1.6
5 kg plastic spool S200	X		
16 kg spool B300	X	X	X

Outershield® MC710RF-H: rev. C-EN05-02/04/19

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectriceurope.com for any updated information.

[Download Safety datasheets \(SDS\)](#)

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Standard	Type
General structural steels	
EN 10025	S185, S235, S275, S355
Ship plates	
ASTM A131	Grade A, B, D, AH32 to EH36
Cast steels	
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, X65
EN 10216-1/	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
Boiler & pressure vessel steels	
EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steels	
EN 10025 part 3	S275, S355, S420, S460
EN 10025 part 4	S275M, S275ML, S355M, S355ML, S420M, S420ML, S460M, S460ML

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 weldmetal
1.2	Short arc	15	230	100	15	1.1	1.10
			320	120	16	1.4	1.10
			400	150	17	1.9	1.10
1.2	Spray arc	20	940	275	31-34	4.8	1.10
			1420	340	35-38	6.8	1.10
			445	170	27-29	2.5	1.10

WELDING PARAMETERS, OPTIMUM FILL PASSES IN SHIELDING GAS Ar + [$>15-25$]% CO₂

Diameter (mm)	Welding positions				
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G
1.2	230-380A 26-36V	230-380A 26-36V	230-300A 26-30V	130-170A 15-17V	140-175A 16-17V