

# Outershield® MC715-H

## CLASSIFICATION

AWS A5.18/A5.18M : E70C-6M H4  
EN ISO 17632-A : T 46 4 M M 2 H5

## GENERAL DESCRIPTION

**Metal cored gas shielded wire for all positions**

**Few silicates and virtually no spatter, fast travel speed, excellent wire feeding**

**Excellent arc characteristics give outstanding operator appeal**

**Excellent mechanical properties (CNV >47J at -40°C)**

**Very low hydrogen ( $H_{DM}$  <5 ml/100g)**

**Superior product consistency with optimal alloy control**

**Depending on application good alternative for basic flux cored wires**

## WELDING POSITIONS



## CURRENT TYPE

DC +  
M21 : Mixed gas Ar+ (>15-25%) CO<sub>2</sub>  
Amount : 15-25 l/min

## APPROVALS

Shielding gas	BV	DB	DNV	GL	RINA
M21	SA3,3YMHH	+	IV Y40H5	4Y40H5S	4YSH5

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

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

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

	Shielding gas	Condition	Yield strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Impact ISO-V(J)	
						-30°C	-40°C
Required: AWS A5.18			min. 400	min. 480	min. 22		
EN ISO 17632-A			min. 460	530-680	min. 20		min. 47
Typical values	M21	AW	510	580	27	100	80
	M21	SR	430	485	30		

SR : 2h/640°C

## PACKAGING AND AVAILABLE SIZES

Diameter (mm)	1.2	1.4	1.6
Unit : 4.5 kg plastic spool S200	X		
14 kg spool S300 (alu. Bag)	X		
15 kg spool B300	X	X	X
25 kg wire reel B435			X
200 kg Accutrak® Drum	X	X	X

Outershield® MC715-H: rev. EN 23

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## MATERIALS TO BE WELDED

Steel grades/Standard	Type
<b>General structural steel</b>	
EN 10025 part 2	S185, S235, S275, S355
<b>Ship plates</b>	
ASTM A131	Grade A, B, D, AH32 to EH40
<b>Cast steel</b>	
EN 10213-2	G P 240R
<b>Pipe material</b>	
EN 10208-1	L210, L240, L290, L360
EN 10208-2	L240NB, L290NB, L360NB, L360QB, L240MB,
L290MB, L360MB, L415MB, L415NB, L445	
API 5LX	X42, X46, X52, X60, X65
EN 10216-1/	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
<b>Boiler &amp; pressure vessel steel</b>	
EN 10028-2	P235GH, P265GH, P295GH, P355GH
<b>Fine grained steel</b>	
EN 10025 part 3	S275N, S275NL, S355N, S355NL, S420N, S420NL, S460N, S460NL
EN 10025 part 4	S275M, S275ML, S355M, S355ML, S420M, S420ML, S460ML

## CALCULATION DATA

Diameter (mm)	Arc mode	Electrical stick-out (mm)	Wire Feed		Current (A)	Arc Voltage (V)	Deposition rate (kg/h)	kg wire/kg weldmetal
			Speed (cm/min)					
1.2	Short arc	15	230	100	15	1.1	1.10	
			320	120	16	1.4	1.10	
1.2	Spray arc	20	400	150	17	1.9	1.10	
			635	180	28-30	2.7	1.10	
			940	275	31-34	4.8	1.10	
1.4	Short arc	15	1420	340	35-38	6.8	1.10	
			205	105	14.5	1.2	1.10	
1.4	Spray arc	20	255	125	15.0	1.5	1.10	
			280	135	15.5	1.6	1.10	
			445	170	27-29	2.5	1.10	
1.6	Short arc	18	890	270	29-32	5.0	1.10	
			1400	355	32-34	8.1	1.10	
1.6	Spray arc	25	180	145	15	1.5	1.10	
			205	160	16	1.7	1.10	
			230	170	18	1.9	1.10	
			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 PASSES IN SHIELDING GAS Ar + (>15-25%) CO<sub>2</sub>

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