

# Outershield® 71E-H

## CLASSIFICATION

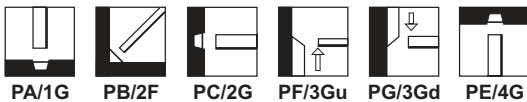
AWS A5.20	E71T-1M-JH4 / E71T-1C-H4	A-Nr	1
EN ISO 17632-A	T 46 3 P M 1 H5 / T 42 0 P C 1 H5	F-Nr	6
		9606 FM	1

## 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 with M21 shielding gas)  
 Superior product consistency with optimal alloy control  
 Excellent wire feeding  
 Very suitable for welding of root runs on ceramic backing  
 Designed for use with M21 Ar+15-25%CO<sub>2</sub> shielding gas. Suitable for use with C1 100%CO<sub>2</sub>

2

## WELDING POSITIONS (ISO/ASME)



## CURRENT TYPE / SHIELDING GAS (ISO 14175)

DC +  
 M21 : Mixed gas Ar+ (>15-25%) CO<sub>2</sub>  
 C1 : Active gas 100% CO<sub>2</sub>  
 Flow rate : 15-25 l/min

## APPROVALS

Shielding gas	ABS	BV	DB	DNV	GL	LR	RINA	RMRS	TÜV
M21	3YSAH5	SA3YMH5	+	IIYMS(H5)	3YH5S	3YSH5	3YSH5	3YSH5	+
C1	2YSA H5			IYMS(H5)		2YS H5			

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

Shielding gas	C	Mn	Si	P	S	HDM
M21	0.04	1.4	0.6	0.013	0.010	3 ml/100 g
C1	0.05	1.3	0.6	0.015	0.010	3 ml/100 g

## 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)			
						0°C	-20°C	-30°C	-40°C
Required: AWS A5.20 EN ISO 17632-A			min. 400 min. 460	min. 480 530-680	min. 22 min. 20			min. 47	min. 27
Typical values	M21 C1	AW AW	570 520	620 575	25 24	80	90	65	40

## PACKAGING AND AVAILABLE SIZES

Diameter (mm)	1.2	1.6
5 kg plastic spool S200	X	
15 kg spool B300	X	X
15 kg spool S300	X	X
200kg Accutrak® Drum	X	

Outershield® 71E-H: rev. C-EN31-01/02/16

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.eu](http://www.lincolnelectric.eu) for any updated information.  
 Fumes: Safety Data Sheets (SDS) are available on our website.

# Outershield® 71E-H

## EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Standard	Type
<b>General structural steels</b>	
EN 10025 part 2	S185, S235, S275
<b>Ship plates</b>	
ASTM A131	Grade A, B, D, AH32 to EH36
<b>Cast steels</b>	
EN 10213-2	G P 240R
<b>Pipe material</b>	
API 5LX	X42, X46, X52, X60, X65
ISO 3183	X42 - X60; L245-L415N, L245-L450Q, L245M - L450M
EN 10216-1	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
<b>Boiler &amp; pressure vessel steels</b>	
EN 10028-2	P235-355 GH
EN 10028-3	P235-460 N, NH
<b>Fine grained steels</b>	
EN 10025 part 3	S275, S355, S420, S460
EN 10025 part 4	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 weldmetal
1.2	20	445	130	20-22	1.6	1.20
		700	180	23-25	2.3	1.20
		950	220	25-27	3.2	1.20
		1270	265	27-29	4.3	1.20
		1590	305	30-32	5.4	1.20
1.6	20	320	160	20-22	2.2	1.20
		510	230	21-24	3.3	1.20
		635	280	23-25	4.2	1.20
		760	300	24-26	5.0	1.20
		890	340	26-28	5.8	1.20
		1015	360	27-29	6.5	1.20
		1080	390	28-30	7.0	1.20

FCAW

## 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	PG/3Gdown	PE/4G
1.2	230-260A	230-260A	200-240A	200-240A	160-220A	160-220A
	26-32V	26-32V	25-30V	25-28V	23-26V	26-28V