

Outershield® 71E-H

CLASSIFICATION

AWS A5.20	E71T-1M-J / 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 > 47) 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%CO₂ shielding gas. Suitable for use with C1 100%CO₂

WELDING POSITIONS (ISO/ASME)



CURRENT TYPE / SHIELDING GAS (ISO 14175)

DC +	
M21	Mixed gas Ar+ (>15-25%) CO ₂
C1	Active gas 100% CO ₂
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	+

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 ²]	Tensile strength [N/mm ²]	Elongation [%]	Impact ISO-V(J)			
						0°C	-20°C	-30°C	-40°C
Required: AWS A5.20			min. 400	min. 480	min. 22				min. 27
EN ISO 17632-A			min. 460	530-680	min. 20			min. 47	
Typical values	M21	AW	570	620	25		90	65	40
	C1	AW	520	575	24	80			

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
16 kg spool S300	X		X
200 kg Accutrak® Drum	X		

Outershield® 71E-H rev. C-EN34-13/11/20

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades	Standard	Type
General structural steels	EN 10025	S185, S235, S275
Ship plates	ASTM A131	Grade A, B, D, AH32 to EH36
Cast steels	EN 10213-2	GP240R
Pipe material	API 5LX	X42, X46, X52, X60
	ISO 3183	X42 - X60; L245-L415N, L245-L450Q, L245M - L450M
	EN 10216-1	P235T1, P235T2, P275T1
	EN 10217-1	P275T2, P355N
Boiler & pressure vessel steels	EN 10028-2	P235-355 GH
	EN 10028-3	P235-460 N, NH
Fine grained steels	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
1.6	20	1270	265	27-29	4.3	1.20
		1590	305	30-32	5.4	1.20
		320	160	20-22	2.2	1.20
		510	230	21-24	3.3	1.20

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

Diameter (mm)	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