

Outershield® 71T1

CLASSIFICATION

AWS A5.20	E71T-1C H8	A-Nr	1
EN ISO 17632-A	T 42 2 P C 2 H10	F-Nr	6
		9606 FM	1

GENERAL DESCRIPTION

Rutile gas shielded flux cored wire designed and qualified for CO₂ shielding gases and suitable for Ar/CO₂
 Excellent operator appeal due to welding characteristics and premium slag system
 Suitable for primed plates
 Superior behaviour in root passing on ceramic backing
 CVN > 47J at -20°C
 Stable mechanical properties over the wider range of heat input

WELDING POSITIONS (ISO/ASME)



CURRENT TYPE / SHIELDING GAS (ISO 14175)

DC +
 C1 : Active gas 100% CO₂
 Flow rate: 15-25 l/min

APPROVALS

Shielding gas	ABS	DNV-GL	LRS	RINA
C1	3YSA H10	III YMS(H10)	3YSH10	3YSH10

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

Shielding gas	C	Mn	Si	P	S	HDM
C1	0.05	1.1	0.3	0.015	0.010	6 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
Required: AWS A5.20			min. 400	490-660	min. 22	min. 27
EN ISO 17632-A			min. 420	500-640	min. 20	min. 47
Typical values	C1	AW	550	580	25	60

PACKAGING AND AVAILABLE SIZES

Diameter (mm)	1.2	1.6
5 kg plastic spool S200	X	
16 kg spool S300	X	X

Outershield® 71T1: rev. C-EN01-30/06/17

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Standard	Type
General structural steels	
EN 10025 part 2	S185, S235, S275
Ship plates	
ASTM A131	Grade A, B, D, AH275 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
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
EN 10025 part 4	S275, S355, S420

CALCULATION DATA, C1 SHIELDING GAS

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	21-23	1.8	1.19
		700	170	22-24	2.5	1.19
		955	220	25-27	3.5	1.19
		1270	260	27-29	4.7	1.19
		1590	290	30-32	6.2	1.19
1.6	20	320	180	21-23	2.2	1.19
		510	255	22-25	3.3	1.19
		635	300	24-26	4.2	1.19
		760	335	25-27	5.0	1.19
		890	370	27-29	5.8	1.19
		1015	395	28-30	6.5	1.19
		1080	415	29-30	7.0	1.19

WELDING PARAMETERS, OPTIMUM FILL PASSES IN SHIELDING GAS CO₂

Diameter (mm)	Welding positions				
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G
1.2	230-300A	230-280A	140-240A	140-240A	160-220A
	26-32V	26-32V	22-30V	22-28V	24-28V
1.6	260-340A	250-380A	200-270A	170-240A	170-240A
	29-32V	24-32V	24-26V	22-28V	22-28V