

Outershield® 71MS-H

CLASSIFICATION

AWS A5.20	E71T-9C-JH4	A-Nr	1
EN ISO 17632-A	T 46 4 P C 2 H5	F-Nr	6
		9606 FM	1

GENERAL DESCRIPTION

Rutile gas shielded flux cored wire for high deposition and quality welding
 Superior arc direction and welding characteristics
 Perfect root pass welding on ceramic backing
 Outstanding mechanical properties (CVN > 47) at -40°C
 High current capacity, especially in out of position welding
 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
C1	4YSA H5	IVY40MS(H5)

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

Shielding gas	C	Mn	Ni	Si	P	S	HDM
C1	0.05	1.35	0.4	0.4	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)
						-40°C
Required: AWS A5.20			min. 400	min. 480	min. 22	
EN ISO 17632-A			min. 460	530-680	min. 20	min. 47
Typical values	C1	AW	540	610	25	75

PACKAGING AND AVAILABLE SIZES

Diameter (mm)	1.2	1.6
5 kg spool S200	X	
16 kg spool B300	X	X
16 kg spool S300	X	X

Outershield® 71MS-H: rev. C-EN07-01/2/16

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Standard	Type
General structural steels	
EN10027-1	S235 - S460; J2, K2, N and NL, M and ML
Ship plates	
ASTM, ABS, DNV	Grade A, D, EH32 to 40; NV A,D,E 32-40; NV A,D,E 420-460
Pipe material	
ISO 3183	L210, L240, L290, L360
API 5LX	X42, X46, X52, X60, X65
Boiler & pressure vessel steels	
EN 10028-2	P235-355GH
EN 10028-3	P235-460, N, NH, NL
Fine grained steels	
EN 10025 -2, -3, -4	S235, S275; S355, S420, S420, S460, S460, S460, S460 N, NL, M, ML
EN 10025	S355G, S420G grades
EN 10025-6	S460Q, QL

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	21-23	1.75	1.16
		700	170	22-24	2.54	1.16
		955	220	25-27	3.45	1.16
		1270	260	27-29	4.73	1.16
		1590	290	30-32	6.2	1.16

WELDING PARAMETERS, OPTIMUM FILL PASSES IN CO₂ SHIELDING GAS

Diameter (mm)	Welding positions				
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G
1.2	160-280A	160-280A	160-230A	200-240A	150-220A
	24-32V	24-32V	24-30V	24-27V	23-28V