

# Outershield® 70-H

## CLASSIFICATION

AWS A5.20	E70T-1C-H4 / E70T-1M-H4	A-Nr	1
EN ISO 17632-A	T 46 0 R C 3 H5 / T 46 0 R M 3 H5	F-Nr	6
		9606 FM	1

## GENERAL DESCRIPTION

Gas shielded flux cored wire for semi-automatic or mechanized downhand welds  
 Low spatter, good slag removal, smooth appearance, excellent operator appeal  
 High deposition rate and deep penetration, good resistance to scale and rust  
 Reliable weld metal properties  
 Excellent wire feeding  
 Superior product consistency with optimal alloy control

## 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

<b>Shielding gas</b>	<b>DB</b>
M21	+
C1	+

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

Shielding gas	C	Mn	Si	P	S	HDM
M21	0.06	1.70	0.35	0.015	0.010	< 5 ml/100 g
C1	0.06	1.30	0.50	0.015	0.010	< 5 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	-18°C	-30°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	C1 M21	AW AW	480 530	560 610	26 27	80 70		50 40

## PACKAGING AND AVAILABLE SIZES

<b>Diameter (mm)</b>	<b>2.4</b>
<b>25 kg wire reel B435</b>	X
<b>270 kg wooden reel</b>	X

Outershield® 70-H: rev. C-EN24-01/02/16

# Outershield® 70-H

## EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Standard	Type
<b>General structural steels</b>	
EN 10025 part 2	S185, S235, S275, S355
<b>Ship plates</b>	
ASTM A131	Grade A, B, D, AH32 to DH36
<b>Cast steels</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
API 5LX	X42, X46, X52, X60
EN 10216-1/	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
<b>Boiler &amp; pressure vessel steels</b>	
EN 10028-2	P235GH, P265GH, P295GH, P355GH
<b>Fine grained steels</b>	
EN 10025 part 3	S275, S355, S420
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
2.4	28	320	340	24-27	4.5	1.15
		510	450	28-31	7.3	1.15
		635	510	30-32	9.1	1.15
		700	535	31-34	10.0	1.15
		825	585	33-35	11.8	1.15

## WELDING PARAMETERS, OPTIMUM FILL PASSES IN SHIELDING GAS 100% CO<sub>2</sub>

Diameter (mm)	Welding positions	
	PA/1G	PB/2F
2.4	410-560A	410-510A
	27-34V	28-32V