

MEGAFIL[®] 731 B



AWS A5.20: M21: E70T-5M-J H4

CO₂: E70T-5C-J H4

EN ISO 17632-A: M21: T 46 6 B M 3 H5

CO₂: T 42 4 B C 3 H5

WELDING POSITIONS:



FEATURES	BENEFITS	APPLICATIONS
<ul style="list-style-type: none"> Basic slag system Low hydrogen weld deposit Ideal for use of short arc and spray arc Excellent low temperature impacts Low spatter loss Easy slag removal 	<ul style="list-style-type: none"> Minimized risk of hydrogen-induced cracking No re-drying Provides increased toughness For high carbon steels and dissimilar welds with critical weldability For buffer layers 	<ul style="list-style-type: none"> Automatic and mechanized welding Steel structures Heavy fabrication Severe service Non-alloy and fine grain steels Vessels General fabrication Single and multi-pass welding Railroad rails Earthmoving equipment

WIRE TYPE	Gas shielded basic flux-cored wire
SHIELDING GAS	75-85% Argon (Ar) / Balance Carbon Dioxide (CO ₂); 100% Carbon Dioxide (CO ₂); Gas Flow 12-18 l/min (25-38 cfm)
TYPE OF CURRENT	Direct Current Electrode Positive (DCEP)
STANDARD DIAMETERS	Ø 1.0 - 1.6 mm (0.039 - 1/16")
TYPICAL DIFFUSIBLE HYDROGEN*	< 3.0 ml / 100 g; Guaranteed for the total processing time < 4.0 ml / 100 g maximum (AWS Spec)
RE-DRYING	Not required due to seamless wire design.
STORAGE	The same conditions as for solid wire. Product should be stored in a dry, enclosed environment, in its original undamaged packaging

*Measurement technique is the carrier gas method according to AWS and ISO

MATERIALS TO BE WELDED*

Material	Rel	Material
Shipbuilding steels		A, B, D, AH 32 - EH 36
Unalloyed structural steels	Rel ≤ 355 MPa	S185 - S355, A 106 Gr.B, A 333 Gr. 6
Boiler steels	Rel ≤ 355 MPa	P235GH - P355GH
Pipe steels	Rel ≤ 460 MPa	P235T1/T2 - P460NL2; L210 - L445MB
Fine grain structural steels	Rel ≤ 460 MPa	S235 - S460QL1
Steels to API-standard	Rel ≤ 460 MPa	X42 - X60

*) The specified base materials are not complete and should only be seen as examples. The selection of the appropriate combination of steel and welding consumable should follow the specific mechanical strength and toughness requirements.

ALL WELD METAL CHEMISTRY (%) (typical values for mixed gas 82% Ar / 18% CO₂)

Element	Value	Element	Value
Carbon (C)	0.05	Nickel (Ni)	-
Manganese (Mn)	1.4	Molybdenum (Mo)	-
Silicon (Si)	0.6	Chromium (Cr)	-
Sulphur (S)	0.015		
Phosphorus (P)	0.015		

ALL WELD METAL MECHANICAL PROPERTIES (for mixed gas 82% Ar / 18% CO₂)

Mechanical tests	Typical values MPa (ksi)	ISO Specification MPa (ksi)
Tensile Strength Rm	600 (87)	550 - 680 (80 - 99)
Yield strength Rp0.2	530 (77)	> 460 (67)
Expansion A5	27%	22%

CHARPY V-NOTCH IMPACT VALUES (for mixed gas 82% Ar / 18% CO₂ and 100% CO₂)

Mechanical Tests	Typical values [J] (ft.lbf)		ISO Specification [J] (ft.lbf)	
	82% Ar / 18% CO ₂	100% CO ₂	82% Ar / 18% CO ₂	100% CO ₂
-40 °C	140 (103)	100 (74)	> 47 (35)	> 47 (35)
-60 °C	100 (74)		> 47 (35)	

APPROVALS: TÜV, DB, BV, ABS, DNV

Please contact the manufacturer to learn the present scope of approvals

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