MEGAFIL® 235 M

AWS A5.28: E80C-G H4

EN ISO 17634-A: T Mo M M21 1 H5

WELDING POSITIONS:

FEATURES	BENEFITS	APPLICATIONS
• Extremely low diffusible hydrogen weld deposit	• Minimizes risk of hydrogen-induced cracking	• Automatic and mechanized welding
• Good reignition characteristics	• Suitable for robot applications	• Steel structures
• Ideal for use of short arc and spray arc	• Automatic root welding possible	• Pipelines
• Excellent gap bridging for root welding	• Root-welding without any backing	• Non-alloy and fine grain steels
• High deposition rate	• Improved efficiency	• Vessels (Mo steels up to 500 °C (932 °F))
• Virtually no slag coverage	• Reduced cleaning time	• General fabrication
• Smooth arc characteristic	• Easy handling	• Single and multi-pass welding

WIRE TYPE	Gas shielded metal-cored wire
SHIELDING GAS	75-85% Argon (Ar) / Balance Carbon Dioxid (CO_2); Gas Flow 12-18 l/min (25-38 cfh)
TYPE OF CURRENT	Direct Current Electrode Positive (DCEP)
STANDARD DIAMETERS	Ø 1.2 mm (0.045“)
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*

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, 16Mo3
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 - X70
*) 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 CHEMESTRY (%) (typical values for mixed gas 82% Ar / 18% CO_2)

Carbon (C)	0.07	Nickel (Ni)	-
Manganese (Mn)	1.1	Molybdenum (Mo)	0.5
Silicon (Si)	0.7	Chromium (Cr)	-
Sulphur (S)	0.015		
Phosphorus (P)	0.015		

ALL WELD METAL MECHANICAL PROPERTIES (for mixed gas 82% Ar / 18% CO_2)

Mechanical tests	Typical values MPa (ksi)	ISO Specification MPa (ksi)
Tensile Strength Rm	600 (87)	550 - 690 (80 - 100)
Yield strength Rp0.2	520 (75)	> 470 (68)
Expansion A5	26%	22%
The specified values apply to the stress-relieved condition (600 °C / 60 min)		

CHARPY V-NOTCH IMPACT VALUES (for mixed gas 82% Ar / 18% CO_2)

Mechanical Tests	Typical values [J] (ft.lbf)	ISO Specification [J] (ft.lbf)
-20 °C	120 (89)	> 47 (35)
-40 °C	100 (74)	> 47 (35)
The specified values apply to the stress-relieved condition (600 °C / 60 min)		

APPROVALS: TÜV, DB Please contact the manufacturer to learn the present scope of approvals