

MEGAFIL[®] 825 R



AWS A5.29: E81T1-A1M H4

EN ISO 17634-A: T MoL P M21 1 H5

WELDING POSITIONS:



FEATURES	BENEFITS	APPLICATIONS
<ul style="list-style-type: none"> Extremely low diffusible hydrogen weld deposit Excellent weld puddle manipulation Ideal for all-position welding on ceramic backing Low spatter loss Easy slag removal Smooth arc characteristic 	<ul style="list-style-type: none"> Minimizes risk of hydrogen-induced cracking Efficient out-of-position welding High flexibility No additives needed Reduced cleaning time Easy handling 	<ul style="list-style-type: none"> Steel construction Vessels (Mo steels up to 500 °C (932 °F)) Pipelines Single and multi-pass welding Mechanical engineering

WIRE TYPE	Gas shielded rutile flux-cored wire with rapidly solidifying slag
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*

Material	Rel ≤	Material
Boiler steels	355 MPa	P235GH - P355GH, 16Mo3
Pipe steels	460 MPa	P235T1/T2 - P460NL2, L210 - L445MB
Fine grain structural steels	460 MPa	S255 - S460

*) 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)

Carbon (C)	0.07	Nickel (Ni)	-
Manganese (Mn)	1.1	Molybdenum (Mo)	0.5
Silicon (Si)	0.5	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	520 (75)	> 470 (68)
Expansion A5	23%	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% CO₂)

Mechanical Tests	Typical values [J] (ft.lbf)	ISO Specification [J] (ft.lbf)
RT	80 (59)	> 47 (35)

The specified values apply to the stress-relieved condition (600 °C / 60 min)

APPROVALS: TÜV

Please contact the manufacturer to learn the present scope of approvals

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