MEGAFIL® 610 R

AWS A5.36: E101T1-M21A4-Ni1-H4 (E81T1-M21A4-Ni1-H4 for pipe applications)

AWS A5.29: E81T1-Ni1MJ-H4 for pipe applications

EN ISO 18276-A: T 62 4 Mn1Ni P M21 1 H5 (T50 4 Mn1Ni P M21 for pipe applications)

WELDING POSITIONS:

FEATURES	BENEFITS	APPLICATIONS
• Extremely low diffusible hydrogen weld deposit	• Minimized risk of hydrogen-induced cracking	• Automatic and mechanized welding
• Low fumes and spatter	• No re-drying	• Steel structures
• Easy slag removal	• Excellent all position welding	• Offshore structures
• Able to bridge poor fit-up without burn-through	• Resists cracking in severe applications	• Pipelines
• Good impact toughness	• Reduces clean-up time, minimizes risk of inclusions	• Non-alloy and fine grain steels
• Virtually no slag coverage	• Increases productivity, reduces part rework/rejection	• Vessels
• Smooth arc characteristic	• Root welding with ceramic backing	• General fabrication
	• Automatic root welding with ceramic backing	• Heavy equipment
		• Single and multi-pass welding

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 undameged packaging

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

MATERIALS TO BE WELDED*

Unalloyed structural steels	Rel ≤ 620 MPa	A517, A537
Boiler steels	Rel ≤ 620 MPa	P500GH - P620GH
Pipe steels	Rel ≤ 620 MPa	P485T1/T2 - P620NL2 - L620MB
Fine grain structural steels	Rel ≤ 620 MPa	S500 - S620QL1
Steels to API-standard	Rel ≤ 620 MPa	up to X90

*) 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)	0.08	Nickel (Ni)	< 1.0
Manganese (Mn)	1.6	Molybdenum (Mo)	< 0.2
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% CO_2)

Mechanical tests	Typical values MPa (ksi)	ISO Specification MPa (ksi)
Tensile strength Rm	750 (109)	690 - 830 (100 - 120)
Yield strength Rp0.2	670 (97)	> 620 (90)
Expansion A5	21%	18%

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	110 (81)	> 47 (35)
-40 °C	80 (59)	> 47 (35)

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