

MEGAFIL® 550 R



AWS A5.29: M21: E91T1-K2M-J H4

CO₂: E91T1-K2C-J H4

WELDING POSITIONS:

AWS A5.36: M21: E91T1-M21A8-K2-H4

CO₂: E91T1-C1A8-K2-H4



EN ISO 18276-A: M21: T 55 6 Mn1,5Ni P M21 1 H5

CO₂: T 55 6 Mn1,5Ni P C1 1 H5

FEATURES

- Extremely low diffusible hydrogen weld deposit
- Low fumes and spatter
- Easy slag removal
- Able to bridge poor fit-up without burn-through
- Good impact toughness
- Virtually no slag coverage
- Smooth arc characteristic

BENEFITS

- Minimized risk of hydrogen-induced cracking
- No re-drying
- Excellent all position welding
- Resists cracking in severe applications
- Reduces clean-up time, minimizes risk of inclusions
- Increases productivity, reduces part rework/rejection
- Root welding with ceramic backing
- Automatic root welding with ceramic backing

APPLICATIONS

- Automatic and mechanized welding
- Steel structures
- Offshore structures
- Pipelines
- Non-alloy and fine grain steels
- Vessels
- General fabrication
- Heavy equipment
- Single and multi-pass welding

WIRE TYPE

SHIELDING GAS

TYPE OF CURRENT

STANDARD DIAMETERS

TYPICAL DIFFUSIBLE HYDROGEN*

RE-DRYING

STORAGE

Gas shielded rutile flux-cored wire with rapidly solidifying slag

75-85% Argon (Ar)/Balance Carbon Dioxide (CO₂); 100% Carbon Dioxide (CO₂) possible;
Gas Flow 12-18 l/min (25-38 cfm)

Direct Current Electrode Positive (DCEP)

Ø 1.2 mm (0.045")

< 3.0 ml / 100 g; Guaranteed for the total processing time < 4.0 ml / 100 g maximum (AWS Spec)

Not required due to seamless wire design

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 46
Unalloyed structural steels	Rel ≤ 550 MPa	S185 - S550, A 106 Gr.B, A 333 Gr.6
Boiler steels	Rel ≤ 550 MPa	P235GH - P550GH bis A516; A537; A455
Pipe steels	Rel ≤ 550 MPa	P235T1/T2 - P550NL2; L210 - L550MB bis A 572
Fine grain structural steels	Rel ≤ 550 MPa	S235 - S550QL1 bis A 572
Steels to API-standard	Rel ≤ 550 MPa	X42 - X80
*) 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)	0.08	Nickel (Ni)	1.5
Manganese (Mn)	1.5	Molybdenum (Mo)	< 0.2
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	700 (102)	640 - 820 (93 - 119)
Yield strength Rp0.2	620 (90)	> 550 (80)
Expansion A5	24%	18%

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	120 (89)		> 55 (41)	
-60° C	90 (66)	80 J	> 55 (41)	> 47 J

APPROVALS: LR, DNV, ABS, DNV-GL

Please contact the manufacturer to learn the present scope of approvals