



FCW 77-R

*Rutile flux cored wire, all positions
For high strength steels*

Classification

AWS A5.36 : E111T1-M21A8-G-H4

ISO 18276-A : T 69 6 Z P M21 1 H5

Description & Applications

Rutile flux cored wire alloyed with Nickel and molybdenum for high strength steels with Ar + CO₂ shielding gas. Exceptional mechanical properties at low temperatures (-60°C). Good weldability, excellent bead appearance, low spatter losses.

Main applications: Cranes, vessel and apparatus construction

Base material:

High strength steels

EN- Designation	S690Q, S690QL, S690QL1, 700 M, aldur 700 Q, 700 QL, 700 QL1
ASTM	A 517 Gr A – P ; A 572 Gr 65

Typical Chemical Composition (%)

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb	V	P	S
Min											
Max						Not specified					
Type	0.07	0.40	1.7	0.20	2.0	0.15	0.08	0.01	0.005	0.015	0.015

Typical All Weld Metal Mechanical Properties

	R _e (MPa)	R _m (MPa)	A ₅ (%)	KV (J)
Min	690	770	17	-60°C 47
Max		900		
Type	770	800	19	-40°C 75 -60°C 60

Welding Current & Instructions

Welding mode	Wire Ø (mm)	Welding parameters			Shielding Gas
		Current (A)	Voltage (V)	Stick-out (mm)	
= +	1.0	160 - 270	21 - 34	10 - 25	ISO 14175 : M21 (Ar/CO ₂) 15 l/min
	1.2	190 - 320	22 - 35		
	1.4	200 - 350	23 - 36		
	1.6	210 - 380	23 - 37		



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