



# FCW 81-R

*Rutile Cored Wire all positions  
For cold tough steels*

## Classification

AWS A5.36 : E81T1-M21A8-Ni1-H4

ISO 17632-A : T 50 6 1Ni P M21 1 H5

## Description & Applications

Rutile cored wire, Nickel alloyed for welding in all positions of Carbon, Carbon – Manganese and high strength steels with Ar-CO<sub>2</sub> shielding gas. High yield, good weldability, excellent bead appearance, very low spatters losses, fast freezing and easy to remove slag. Excellent mechanical properties at low temperature (-60°C) in as welded conditions or after post weld heat treatment.

**Main applications:** Offshore...

## Typical Chemical Composition ( % )

	C	Si	Mn	Cr	Ni	Mo	Cu	Nb	V	P	S
Min					0.80						
Max	0.12	0.80	1.4	0.15	1.10	0.2	0.3	0.05	0.05	0.030	0.030
Type	0.07	0.45	1.3	0.04	0.85	0.01	0.10	0.01	0.02	0.015	0.010

## Typical All Weld Metal Mechanical Properties

	R <sub>e</sub> ( MPa )	R <sub>m</sub> ( MPa )	A <sub>5</sub> ( % )	KV ( J )
Min	500	550	19	-60°C 47
Max		690		
Type	550	610	25	-40°C 100 -60°C 75

## Welding Current & Instructions

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



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[www.fsh-welding.com](http://www.fsh-welding.com) - [info@fsh-welding.fr](mailto:info@fsh-welding.fr)