

FLUXOCORD 42 is a seamless copper coated basic flux cored wire for submerged arc welding on high-strength fine-grain structural steels in combination with OERLIKON OP 121TTW. The weld metal composition obtained with FLUXOCORD 42 / OP 121TTW meets the mechanical property requirements in both the as welded and stress relieved conditions.

The weldability of high yield strength steels is in general strongly depending on the dilution rate with the base metal (incl its composition) and the cooling rate of the weld cycle (t<sub>8/5</sub>: heat input, interpass temperature, plate thickness).

The basic and seamless concept of the wire contributes to have lowest diffusible hydrogen content in the weld metal. Before use, the welding flux must be re-dried (HD < 5,0 ml/100gr) at 300°C-350°C for two hours or use OP 121TTW in DRYBAG without redrying.

Classification		
OP 121TTW	EN	ISO 26304-A -S 69 6 FB (T3Ni <sub>2</sub> ,5CrMo) H5
OP 121TTW	AWS	A5.23: F11A8-EC-F5
OP 121TTW	AWS	A5.23: F11P5-EC-F5

Approvals	Grade	
OP 121TTW	ABS	5YQ690M
OP 121TTW	DNV	VY69M
OP 121TTW	GL	6Y69M
OP 121TT	LRS	5Y69M-H5

## Chemical analysis (Typical values in %)

		C	Mn	Si	Cr	Ni	Mo
All weld metal	OP 121TTW	0.07	1.4	0.25	0.5	2.5	0.4

## All-weld metal Mechanical Properties

	Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)
OP 121TTW	As Welded	≥ 690	760-900	≥ 16
OP 121TTW	620°Cx1h	≥ 690	740-880	≥ 16

## All-weld metal Mechanical Properties - CV

	Heat Treatment	Impact Energy (J)		
		-20 °C	-40 °C	-60 °C
OP 121TTW	As Welded	≥ 90	≥ 80	≥ 69
OP 121TTW	620°Cx1h	≥ 69	≥ 47	

## Typical applications

	Materials
OP 121TTW	EN: S620Q-S690Q; S700MC ; ASME: X80; HY80; QIN; SA 302 Gr.C-D

## Current Conditions

DC+

## Packaging data

Packaging Type	B300	B450	B570	DRUMXCL
Diam(mm) / weight(kg)	16	25	90	250
1.6	W000282112			
2.0	W000282114	W000282115		
2.4		W000282117		
3.2		W000282119	●	●
4.0		W000282122	●	W000282124