

Lasting Connections

BÖHLER SUBARC T85 / UV 421TT

Wire/flux combination for the submerged arc welding of wind towers and other thick-walled tubular structures

Features	User benefits
Use of cored wire with softer arc (vs solid wire)	<ul style="list-style-type: none"> ■ Better fusion, slag release and weld appearance ■ Higher maximum travel speed ■ Higher deposition rate at same current
Greater reserve on CVN weld metal impact toughness	<ul style="list-style-type: none"> ■ Tolerant for higher heat input ■ More reliable mechanical properties
Seamless cored wire – no moisture pick-up (vs folded types)	<ul style="list-style-type: none"> ■ Lower risk of hydrogen cracking
Seamless cored wire – higher resistance to deformation from rollers (vs folded types)	<ul style="list-style-type: none"> ■ Lower contact tip wear ■ Reliable process/less failure
Soft annealed wire – easier to straighten	<ul style="list-style-type: none"> ■ Lower contact tip wear ■ Stable process/ less defects



For offshore and other demanding industries with CVN impact requirements down to -60°C

Basic flux-cored wire-flux combination for the joint welding of high-strength, quenched and tempered, fine grained structural steels up to 770 MPa yield strength. Designed for unlimited plate thickness. Low-hydrogen performance in combination with seamless cored wire.

Good weldability, high productivity and low-hydrogen performance


Flux UV 421 TT is a high basicity, fluoride-basic agglomerated flux combining good weldability with excellent CVN toughness properties down to -60°C. It has a neutral metallurgical behaviour and has been designed to promote a homogeneous weld chemistry and consistent mechanical properties in unlimited plate thickness. Weld quality and welding productivity are further improved by making use of unique cored wire properties.

This wire/flux combination features good wetting properties along with good slag detachability and a nice bead appearance. It is welded on DC+ polarity. The flux yields a low-hydrogen weld deposit ($\leq 5 \text{ ml} / 100 \text{ g acc. ISO 3690}$). The seamless copper-coated cored wire is totally insensitive to moisture pick-up. It well resists deformation from wire feed rollers and is easy to straighten to ensure optimum current transfer and low contact tip wear.

Typical applications

- Jack-up rigs
- Offshore cranes
- Other high strength steel constructions

Classifications	
EN ISO 26304-A	S 69 6 FB TZ H5
EN ISO 26304-B	S 83A 6 FB TUG H5
AWS A5.23	F11A10-EC-F5 F11P6-EC-F5
	F76A7-EC-F5 F76P5-EC-F5

Operating data		
Welding positions	Polarity	Wire diameter (mm)
	DC+	2.4 3.2 4.0
Redrying of flux: 300-350 °C, 2-10 h		

Typical chemical composition, all weld metal (%)					
C	Si	Mn	Cr	Ni	Mo
0.06	0.3	1.7	0.5	2.5	0.5

Mechanical properties, all weld metal (single values typical)					
Condition	Yield strength	Tensile strength	Elongation	CVN Impact toughness ISO-V	
	$R_{p0.2}$ MPa	R_m MPa	A_5 %	+20 °C	-60 °C
As welded	790 (≥ 690)	850 (830 - 900)	20 (≥ 17)	140 (≥ 47)	85 (≥ 69)

Steels to be welded	
EN	ASTM
S620Q, QL, QL1 S690Q, QL, QL1 S770Q, QL, QL1 alform plate 620 M, 700 M aldur 620Q aldur 700Q, 700 QL, 700 QL1	A 514 Gr. F, H, Q A 709 Gr. 100 Type B, E, F, H, Q; A 709 Gr. HPS 100W

Approvals
CE, ABS, DNV, LRS

