

# Union S 2 Si - UV 305



SAW wire/flux combination, mild steel

## Classifications

EN ISO 14171-A  
S 42 A AR S2Si

AWS A5.17 / SFA-5.17  
F7AZ-EM12K

## Characteristics and typical fields of application

**Union S 2 Si - UV 305** is a wire-flux combination for submerged-arc welding of unalloyed steel grades. It is recommended to be used for single-wire or Twin-arc welding with small wire diameter (e.g. with 2,0 mm) with high welding speed, especially for fillet welding in low wall thickness (< 10 mm). It is particularly well-suited to welding of "water walls" (tube-web-tube joint) for steam water-tube boiler. It has outstanding good slag detachability and allows high welding speed with a nice bead appearance

**UV 305** is an aluminate-rutile agglomerated flux with medium Si and Mn pick-up for joining un-alloyed and low alloyed steel grades. For more information regarding this welding flux see our detailed data sheet.

## Base materials

General and fine grained structural steels, shipbuilding steels, pipe steels up to 420 MPa minimum yield strength and boiler plates and tubes.

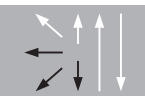
## Typical analysis of the weld metal

wt.-%	C	Si	Mn
wire	0.10	0.30	1.10
all-weld metal	0.06	0.60	1.30

## Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R <sub>e</sub> MPa	Tensile strength R <sub>m</sub> MPa	Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	Impact values ISO-V KV J 20°C
u, DC+ u untreated, as welded	450 (≥ 420)	550 (≥ 550)	18 (≥ 24)	70 (≥ 47)

## Operating data



**Polarity** DC / AC

**Dimension mm**

2.4  
2.5  
3.0  
3.2  
4.0

## Approvals