

# OK FLUX 10.62 AWS A5.17/A5.23

## FEATURES

ESAB OK Flux 10.62 is a high basicity, neutral, bonded flux intended primarily for multipass butt welding carbon and low alloy steel plate. OK Flux 10.62 produces weld metal that is very clean metallurgically and exhibits exceptional impact toughness at low temperatures. OK Flux 10.62 provides well-shaped beads and free peeling slag. Applications for OK Flux 10.62 include offshore oil rigs (meets CTOD requirements), fracture critical bridge members, ship construction, pressure vessels, and tank cars. It is suitable for use with AC and DC, single and multiwire systems at currents up to 1000 amps. OK Flux 10.62 should only be used in applications where the base plate is free of rust and mill scale.

## CLASSIFICATIONS AND APPROVALS

- AWS A5.17: F7A8-EH12K
- AWS A5.23: F12A6-EF5-G
- AWS A5.23: F11A6-EM4-M4
- AWS A5.23: F9A6-EM2-M2
- AWS A5.23: F8P2-EB-B3
- AWS A5.23: F8P2-EB2-B2
- AWS A5.23: F8P8-ENi4-Ni4
- AWS A5.23: F8A4-ENi4-Ni4
- AWS A5.23: F7A4-ENi1-Ni1
- AWS A5.23: F9P4-EA3-A3
- AWS A5.23: F9A8-EA3-A3
- AWS A5.23: F8A6-EA2-A2
- AWS A5.17: F7P6-EM14K
- AWS A5.17: F7A6-EM14K
- AWS A5.17: F6P8-EM12K
- AWS A5.17: F7P6-EH12K
- AWS A5.17: F7A8-EM12K

## INDUSTRIES

- Civil Construction
- Shipbuilding
- Petrochemical
- Process
- Pipeline
- Rail Road Car
- General Fabrication
- Mobile Machinery
- Power Generation
- Bridge Construction
- Steel Industry

## WELDING PROCESS

- SAW (Subarc)

## TYPICAL MECHANICAL PROPERTIES

Spoolarc 81	
Tensile Strength	75 ksi, 555 MPa
Yield Strength	65 ksi, 450 MPa
Elongation in 2"	32%
CVN	110 ft-lb, 150 J
Temperature	-60°F, -51°C
Spoolarc 40B	
Tensile Strength	88 ksi, 605 MPa
Yield Strength	79 ksi, 545 MPa
Elongation in 2"	25%
CVN	33 ft-lb, 45 J
Temperature	-60°F, -51°C
Spoolarc 53	
Tensile Strength	82 ksi, 565 MPa
Yield Strength	70 ksi, 485 MPa
Elongation in 2"	29%
CVN	65 ft-lb, 88 J
Temperature	-80°F, -62°C
Spoolarc 75	
Tensile Strength	80 ksi, 550 MPa
Yield Strength	69 ksi, 475 MPa
Elongation in 2"	60%
CVN	100 ft-lb, 136 J
Temperature	-40°F, -40°C
Spoolarc ENi4	
Tensile Strength	86 ksi, 595 MPa
Yield Strength	74 ksi, 510 MPa
Elongation in 2"	29%
CVN	97 ft-lb, 132 J
Temperature	-40°F, -40°C

## OK FLUX 10.62 continued

TYPICAL MECHANICAL PROPERTIES	
Spoolarc 71	
Tensile Strength	85 ksi, 590 MPa
Yield Strength	75 ksi, 515 MPa
Elongation in 2"	28%
CVN	100 ft-lb, 136 J
Temperature	-60°F, -51°C
Spoolarc 40	
Tensile Strength	102 ksi, 700 MPa
Yield Strength	87 ksi, 600 MPa
Elongation in 2"	27%
CVN	37 ft-lb, 50 J
Temperature	-80°F, -62°C
Spoolarc 95	
Tensile Strength	104 ksi, 715 MPa
Yield Strength	95 ksi, 655 MPa
Elongation in 2"	25%
CVN	49 ft-lb, 66 J
Temperature	-60°F, -51°C
Spoolarc 120	
Tensile Strength	120 ksi, 825 MPa
Yield Strength	110 ksi, 760 MPa
Elongation in 2"	21%
CVN	68 ft-lb, 89 J
Temperature	-60°F, -51°C
Spoolarc 100	
Tensile Strength	134 ksi, 925 MPa
Yield Strength	124 ksi, 855 MPa
Elongation in 2"	20%
CVN	52 ft-lb, 70 J
Temperature	-60°F, -51°C

TYPICAL MECHANICAL PROPERTIES	
<b>Stress Relieved 1 hr @ 1150°F</b>	
Spoolarc 81	
Tensile Strength	70 ksi, 480 MPa
Yield Strength	54 ksi, 370 MPa
Elongation in 2"	32%
CVN	160 ft-lb, 217 J
Temperature	-50°F, -46°C
Spoolarc 71	
Tensile Strength	83 ksi, 575 MPa
Yield Strength	72 ksi, 500 MPa
Elongation in 2"	30%
CVN	119 ft-lb, 160 J
Temperature	-60°F, -51°C
Spoolarc ENi4	
Tensile Strength	89 ksi, 610 MPa
Yield Strength	75 ksi, 515 MPa
Elongation in 2"	28%
CVN	47 ft-lb, 64 J
Temperature	-100°F, -73°C
Spoolarc 53	
Tensile Strength	77 ksi, 530 MPa
Yield Strength	63 ksi, 430 MPa
Elongation in 2"	31%
CVN	84 ft-lb, 114 J
Temperature	-60°F, -51°C
Spoolarc 40	
Tensile Strength	96 ksi, 660 MPa
Yield Strength	86 ksi, 595 MPa
Elongation in 2"	27%
CVN	21 ft-lb, 28 J
Temperature	-80°F, -62°C

## OK FLUX 10.62 continued

### TYPICAL MECHANICAL PROPERTIES

<b>Stress Relieved 1 hr @ 1150°F continued</b>	
Spoolarc U515	
Tensile Strength	87 ksi, 600 MPa
Yield Strength	75 ksi, 515 MPa
Elongation in 2"	27%
CVN	140 ft-lb, 190 J
Temperature	-20°F, -29°C
OK Autrod 13.20SC	
Tensile Strength	91 ksi, 630 MPa
Yield Strength	77 ksi, 530 MPa
Elongation in 2"	25%
CVN	59 ft-lb, 80 J
Temperature	-20°F, -29°C
<b>Stress Relieved 8 hrs @ 1150°F</b>	
Spoolarc 71	
Tensile Strength	83 ksi, 570 MPa
Yield Strength	74 ksi, 515 MPa
Elongation in 2"	28%
CVN	138 ft-lb, 187 J
Temperature	-60°F, -51°C
Spoolarc ENi4	
Tensile Strength	90 ksi, 645 MPa
Yield Strength	78 ksi, 540 MPa
Elongation in 2"	27%
CVN	62 ft-lb, 84 J
Temperature	-100°F, -73°C
Spoolarc 40	
Tensile Strength	93 ksi, 640 MPa
Yield Strength	83 ksi, 570 MPa
Elongation in 2"	26%
CVN	67 ft-lb, 91 J
Temperature	-40°F, -40°C

### TYPICAL MECHANICAL PROPERTIES

<b>Stress Relieved 8 hrs @ 1150°F continued</b>	
Spoolarc U515	
Tensile Strength	87 ksi, 600 MPa
Yield Strength	75 ksi, 515 MPa
Elongation in 2"	27%
CVN	140 ft-lb, 190 J
Temperature	-20°F, -29°C

### TYPICAL WIRE CHEMISTRY

As Welded	
Spoolarc 81	
C	0.07%
Mn	1.0%
Si	0.3%
P	0.016%
S	0.007%
Spoolarc 40B	
C	0.09%
Mn	1.0%
Si	0.2%
P	0.016%
S	0.010%
Mo	0.5%
Cu	0.50%
Spoolarc 53	
C	0.08%
Mn	1.5%
Si	0.3%
P	0.018%
S	0.009%

## OK FLUX 10.62 continued

TYPICAL WIRE CHEMISTRY continued	
As Welded	
Spoolarc 75	
C	0.07%
Mn	1.0%
Si	0.5%
P	0.009%
S	0.005%
Ni	0.8%
Spoolarc ENi4	
C	0.01%
Mn	1.8%
Si	0.3%
P	0.004%
S	0.004%
Ni	1.8%
Mo	0.16%
Spoolarc 71	
C	0.06%
Mn	1.1%
Si	0.4%
P	0.012%
S	0.004%
Spoolarc 40	
C	0.06%
Mn	1.7%
Si	0.2%
P	0.012%
S	0.004%
Mo	0.5%
Cu	0.5%

TYPICAL WIRE CHEMISTRY continued	
As Welded	
Spoolarc 95	
C	0.05%
Mn	1.4%
Si	0.4%
P	0.008%
S	0.006%
Cr	0.2%
Ni	1.60%
Mo	0.3%
Cu	0.30%
Spoolarc 120	
C	0.07%
Mn	1.6%
Si	0.3%
P	0.006%
S	0.013%
Cr	0.3%
Ni	2.3%
Mo	0.5%
Cu	0.50%
Spoolarc 100	
C	0.09%
Mn	1.9%
Si	0.3%
P	0.014%
S	0.003%
Cr	0.4%
Ni	2.4%
Mo	0.5%
Cu	0.50%

# OK FLUX 10.62 continued

TYPICAL WIRE CHEMISTRY <small>continued</small>	
As Welded	
Spoolarc U515	
C	0.05%
Mn	0.70%
Si	0.19%
P	0.011%
S	0.007%
Cr	1.60%
Ni	0.04%
Mo	0.52%
Cu	0.52%
Spoolarc 13.20SC	
C	0.08%
Mn	0.60%
Si	0.20%
P	0.010%
S	0.005%
Cr	2.0%
Mo	0.85%
Cu	0.85%

PART NUMBER / PRODUCT INFORMATION		
Part Number	Description	UPC
1062000U00	OK FLUX 10.62 55#BG	662303085124
1062300U00	OK FLUX 10.62 50#SB	662303087425
1062400U00	OK FLUX 10.62 50#SG	662303086787