

OK Flux 10.65

Agglomerated fluoride-basic flux for Submerged Arc Welding. Especially for combination with OK Autrod B3 SC. Designed for multi-run welding of creep resistant Cr-, Mo-alloyed steels when highest toughness values are required also after step cooling treatment. Very low level of impurities and thus exceptionally clean weld metal. X-bar max. 10 with the wire as above. Mainly for petrochemical and chemical industries, power generation, pressure vessels, etc. Suitable for narrow gap welding. Low-oxygen weld metal (approx. 300 ppm) and hydrogen contents lower than 5 ml/100 g, in BlockPac (moisture protection) maximum 4 ml/100g. Designed for single and multi wire procedures, welds equally well on DC and AC current. Mainly for multi layer welding of unlimited plate thickness.

| | |
|------------------------|--|
| Classifications | EN ISO 14174 : S A FB 1 65 AC H4 only BlockPac/moisture protection EN ISO 14174 : S A FB 1 65 AC H5 |
| Approvals | CE EN 13479 |

Approvals are based on factory location. Please contact ESAB for more information.

| | |
|----------------------------|--|
| Diffusible Hydrogen | max 5 ml H/100g weld metal (Redried flux); max 4 ml H/100g in BlockPac (moisture protection) |
| Slag Type | Fluoride-basic |
| Alloy Transfer | Slightly Silicon and no Manganese alloying |
| Density | nom 1.0 kg/dm ³ |
| Basicity Index | nom 2.4 % |
| Grain Size | 0.2-1.6 mm (10x65 mesh) |

Flux Consumption

| Volts | kg Flux / kg Wire DC+ | kg Flux / kg Wire AC |
|-------|-----------------------|----------------------|
| 26 V | 0.7 kg | 0.6 kg |
| 30 V | 1.0 kg | 0.9 kg |
| 34 V | 1.3 kg | 1.2 kg |
| 38 V | 1.6 kg | 1.4 kg |

| Dimensions | Amps | Travel Speed |
|------------|-------|--------------|
| Ø 4.0 mm | 580 A | 55 cm/min |

Classifications

| Wire | SFA/AWS - EN ISO | AWS - PWHT |
|-----------------|-------------------------------|----------------------|
| OK Autrod B3 SC | A5.23:EB3R/ 24598-A:S S CrMo2 | A5.23: F9P2-EB3R-B3R |

Approvals

| Combined with Wire | CE |
|--------------------|----|
| OK Autrod B3 SC | • |

Typical Mechanical Properties

| Combined with Wire | Condition | Yield Strength | Tensile Strength | Elongation | Charpy V-Notch |
|--------------------|--------------------|----------------|------------------|------------|--------------------------------|
| OK Autrod B3 SC | PWHT AWS AC 1hr | 580 MPa | 700 MPa | 25 % | 100 J @ -30°C 100 J @ -30°C |
| OK Autrod B3 SC | PWHT AWS DC+ 1hr | 580 MPa | 690 MPa | 17 % | 100 J @ -30°C |
| OK Autrod B3 SC | PWHT EN ISO AC 1hr | 560 MPa | 680 MPa | 18 % | 200 J @ 20°C 200 J @ 20°C |
| OK Autrod B3 SC | PWHT AWS DC+ 4hr | 520 MPa | 640 MPa | 26 % | 130 J @ -30°C 130 J @ -30°C |
| OK Autrod B3 SC | PWHT AWS AC 4hr | 540 MPa | 650 MPa | 25 % | 170 J @ -30°C 170 J @ -30°C |
| OK Autrod B3 SC | PWHT AWS AC 32hr | 460 MPa | 590 MPa | 29 % | 170 J @ -30°C 170 J @ -30°C |
| OK Autrod B3 SC | PWHT AWS DC+ 32hr | 440 MPa | 570 MPa | 28 % | 100 J @ -30°C 100 J @ -30°C |

Typical Weld Metal Analysis %

| C | Mn | Si | S | P | Ni | Cr | Mo | V | Al |
|---|------|------|-------|-------|------|------|------|-------|------|
| OK Autrod B3 SC AC, 480A, 29V, HI 1.9 kJ/mm | | | | | | | | | |
| 0.10 | 0.84 | 0.17 | 0.005 | 0.005 | 0.04 | 2.38 | 0.96 | 0.005 | 0.01 |
| OK Autrod B3 SC DC+, 480A, 29V, HI 1.9 kJ/mm | | | | | | | | | |
| 0.09 | 0.93 | 0.23 | 0.006 | 0.005 | 0.04 | 2.30 | 0.96 | 0.005 | 0.01 |



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| Cu | Nb | Ti | Sb | As | B | Sn | Mn+Si | Nb+Ti+V | P+Sn |
|---|-------|-------|-------|-------|--------|-------|-------|---------|-------|
| OK Autrod B3 SC AC, 480A, 29V, HI 1.9 kJ/mm | | | | | | | | | |
| 0.05 | 0.002 | 0.002 | 0.001 | 0.002 | 0.0002 | 0.003 | 1.00 | 0.009 | 0.008 |
| OK Autrod B3 SC DC+, 480A, 29V, HI 1.9 kJ/mm | | | | | | | | | |
| 0.05 | 0.003 | 0.002 | 0.001 | 0.002 | 0.0002 | 0.003 | 1.15 | 0.009 | 0.008 |

| PE | J-Factor | X-bar |
|---|----------|-------|
| OK Autrod B3 SC AC, 480A, 29V, HI 1.9 kJ/mm | | |
| 3.0 | 85 | 7 |
| OK Autrod B3 SC DC+, 480A, 29V, HI 1.9 kJ/mm | | |
| 3.1 | 92 | 7 |