

OK Flux 10.71L

OK Flux 10.71L is an agglomerated, basic flux for submerged arc welding. It is used for single and multi-run welding of all plate thicknesses. It can be combined with a wide range of wires and thus it is suitable for all kinds of steels. OK Flux 10.71L combines good toughness values with excellent weldability. It is used for single & multi-wire procedures such as tandem, twin-arc, tandem-twin welding and many more, for butt, overlap and fillet welds. It works equally well on DC and AC current. The good slag detachability and limited alloying of Si and Mn makes it well suited for multi-pass thick section welding. In general construction, OK Flux 10.71L is one of the most used SAW fluxes. Not just for structural steels and fine-grained steels, but also for weather resistant steels e.g. for bridges. Pressure vessels are welded with this flux, because it can be used for a wide range of steels including low temperature steels. This reduces the number of different fluxes a customer needs to have in stock. Wind tower production with plate thicknesses of greater than 50 mm require not only excellent slag detachability particularly in the first run, high deposition rates in all following runs and also excellent toughness values. Since OK Flux 10.71L offers all this it is well established in this market segment. Other applications are in shipbuilding or in the production of pipes with steels up to X70 strength level.

Specifications

| | |
|----------------------------|--|
| Classifications | EN ISO 14174 : S A AB 1 67 AC H5 |
| Diffusible Hydrogen | max 5 ml /100g weld metal (Redried flux) |
| Slag Type | Aluminate-basic |
| Alloy Transfer | Slightly Silicon and moderately Manganese alloying |
| Density | nom: 1.2 kg/dm ³ |
| Basicity Index | nom: 1.5 |
| Grain Size | 0.2-1.6 mm (10x65 mesh) |
| CTOD-Tested | false |

Flux Consumption

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

Condition : Dimension Ø 4.0 mm , Amps 580 A , Travel Speed 55 cm/min

Classifications

| Wire | SFA/AWS - EN ISO | AWS - As Welded | AWS - PWHT |
|------------------|-------------------------------|----------------------|--------------------|
| ESAB SA10K | A5.17: EH10K | A5.17: F7A4-EH10K | A5.17: F7P6-EH10K |
| OK Autrod 12.08L | A5.17: EL8/EL12 / 14171-A: S1 | A5.17: F6A2-EL8/EL12 | - |
| OK Autrod 12.22L | A5.17: EM12K / 14171-B: SU21 | A5.17: F7A4-EM12K | A5.17: F6P5-EM12K |
| OK Autrod 12.24L | A5.23: EA2 | A5.23: F8A2-EA2-A4 | A5.23: F7P0-EA2-A4 |
| OK Autrod 12.33L | A5.23: EA3K | A5.23: F9A0-EA3K-G | A5.23: F8P0-EA3K-G |
| OK Autrod 12.40L | A5.17: EH14 | A5.17: F7A4-EH14 | A5.17: F7P5-EH14 |

Approvals

| Combined with Wire | ABS | LR |
|--------------------|-----|----|
| OK Autrod 12.08L | • | - |
| OK Autrod 12.08L 2 | • | - |
| OK Autrod 12.22L | - | • |
| OK Autrod 12.40L 1 | - | • |
| OK Autrod 12.40L 2 | - | • |
| OK Autrod 12.40L 3 | - | • |
| OK Autrod 12.40L 4 | - | • |

Typical Weld Metal Analysis %

| C | Mn | Si | Mo |
|--------------------------|----|----|----|
| ESAB SA10K DC+ 550A, 29V | | | |

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Typical Weld Metal Analysis %

| C | Mn | Si | Mo |
|---------------------------------------|------|------|------|
| 0.07 | 1.75 | 0.50 | - |
| OK Autrod 12.08L DC+ 550A, 29V | | | |
| 0.06 | 0.90 | 0.20 | - |
| OK Autrod 12.22L DC+ 550A, 29V | | | |
| 0.08 | 1.35 | 0.40 | - |
| OK Autrod 12.24L DC+ 550A, 29V | | | |
| 0.08 | 1.35 | 0.40 | 0.45 |
| OK Autrod 12.33L DC+ 550A, 29V | | | |
| 0.06 | 1.95 | 0.75 | 0.40 |
| OK Autrod 12.40L DC+ 550A, 29V | | | |
| 0.07 | 1.95 | 0.40 | - |

Typical Mechanical Properties

| Combined with Wire | Condition | Yield Strength | Tensile Strength | Elongation | Charpy V-Notch |
|--------------------|-------------------------|----------------|------------------|------------|--|
| ESAB SA10K | As Welded AWS DC+ | 490 MPa | 580 MPa | 26 % | 70 J @ -18 °C 45 J @ -29 °C 30 J @ -40 °C |
| ESAB SA10K | Stress Relieved AWS DC+ | 430 MPa | 530 MPa | 32 % | 120 J @ -18 °C 100 J @ -29 °C 75 J @ -40 °C 40 J @ -51 °C |
| OK Autrod 12.08L | As Welded AWS DC+ | 390 MPa | 450 MPa | 25 % | 100 J @ -18 °C 70 J @ -29 °C |
| OK Autrod 12.22L | Stress Relieved AWS DC+ | 390 MPa | 490 MPa | 32 % | 90 J @ -18 °C 65 J @ -29 °C 40 J @ -40 °C 30 J @ -46 °C |
| OK Autrod 12.22L | As Welded AWS DC+ | 450 MPa | 540 MPa | 29 % | 60 J @ -18 °C 45 J @ -29 °C 30 J @ -40 °C |
| OK Autrod 12.24L | Stress Relieved AWS DC+ | 480 MPa | 560 MPa | 26 % | 80 J @ 0 °C 50 J @ -18 °C |
| OK Autrod 12.24L | As Welded AWS DC+ | 550 MPa | 610 MPa | 23 % | 90 J @ 0 °C 65 J @ -18 °C 40 J @ -29 °C |
| OK Autrod 12.33L | Stress Relieved AWS DC+ | 550 MPa | 650 MPa | 30 % | 70 J @ 0 °C 40 J @ -18 °C |
| OK Autrod 12.33L | As Welded AWS DC+ | 630 MPa | 700 MPa | 25 % | 65 J @ 0 °C 35 J @ -18 °C |
| OK Autrod 12.40L | Stress Relieved AWS DC+ | 440 MPa | 530 MPa | 29 % | 100 J @ -18 °C 80 J @ -29 °C 55 J @ -40 °C 45 J @ -46 °C |
| OK Autrod 12.40L | As Welded AWS DC+ | 490 MPa | 580 MPa | 27 % | 75 J @ -18 °C 60 J @ -29 °C 40 J @ -40 °C |