

## OK Autrod 12.51

A copper coated, G3Si1/ER70S-6 solid wire for GMAW of all general structural and engineering unalloyed and low-alloyed carbon-manganese steels. The electrode may be welded with either a gas mixture or with pure CO<sub>2</sub> as the shielding gas.

OK Autrod 12.51 delivered in the unique Esab Octagonal Marathon Pac is an excellent choice in mechanised welding applications

|                             |                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Klasyfikacja stopiwa</b> | EN ISO 14341-A : G 38 3 C1 3Si1<br>EN ISO 14341-A : G 42 4 M20 3Si1<br>EN ISO 14341-A : G 42 4 M21 3Si1                                                                                                                                                                                                                                                                                  |
| <b>Klasyfikacja drutu</b>   | SFA/AWS A5.18 : ER70S-6<br>EN ISO 14341-A : G 3Si1<br>CSA W48 : B-G 49A 3 C1 S6<br>JIS Z 3312 : YGW 12(C1)                                                                                                                                                                                                                                                                               |
| <b>Dopuszczenia</b>         | ABS 3YSA<br>BV SA3YM (C1)<br>CE EN 13479<br>DB 42.039.06<br>DNV-GL III YMS<br>LR 3YS H15 (C1)<br>LR 3YS H15 (M21)<br>LR 3YS H15 (M21)<br>LR 3YS H15<br>PRS 3YS (C1)<br>PRS 3YS (C1)<br>PRS 3YS (M21)<br>PRS 3YS (M21)<br>RINA 3YS (C1)<br>RINA 3YS (M21)<br>RINA 3YS (M21)<br>RS 3YMS<br>VdTUV 00899<br>CWB B-G 49A 3 C1 S6<br>JIS YGW12<br>NAKS/HAKC 0.8-2.0 mm<br>NAKS/HAKC 1.2-1.6 mm |

Atesty zależne są od lokalizacji zakładu. W celu otrzymania dalszych informacji prosimy skontaktować się z przedstawicielem ESAB.

|                     |                                        |
|---------------------|----------------------------------------|
| <b>Rodzaj stopu</b> | Carbon-manganese steel (Mn/Si-alloyed) |
| <b>Gaz osłonowy</b> | M20, M21, C1 (EN ISO 14175)            |

### Typowe właściwości mechaniczne

| Warunki                    | Granica plastyczności | Wytrzymałość na rozciąganie | Wydłużenie względne |
|----------------------------|-----------------------|-----------------------------|---------------------|
| <b>AWS CO2 (C1)</b>        |                       |                             |                     |
| Po spawaniu                | 430 MPa               | 530 MPa                     | 30 %                |
| <b>EN 80Ar/20CO2 (M21)</b> |                       |                             |                     |
| Po spawaniu                | 460 MPa               | 560 MPa                     | 26 %                |
| Stress Relieved 15hr 620°C | 370 MPa               | 495 MPa                     | 28 %                |
| <b>EN CO2 (C1)</b>         |                       |                             |                     |
| Po spawaniu                | 440 MPa               | 540 MPa                     | 25 %                |

### Udarność Charpy V

| Warunki                    | Temperatura testu | Udarność KV |
|----------------------------|-------------------|-------------|
| <b>EN 80Ar/20CO2 (M21)</b> |                   |             |
| Po spawaniu                | 20 °C             | 130 J       |
| Po spawaniu                | -20 °C            | 120 J       |
| Po spawaniu                | -30 °C            | 100 J       |
| Po spawaniu                | -40 °C            | 90 J        |
| Stress Relieved 15hr 620°C | 20 °C             | 120 J       |
| Stress Relieved 15hr 620°C | -20 °C            | 90 J        |
| <b>EN CO2 (C1)</b>         |                   |             |
| Po spawaniu                | 20 °C             | 110 J       |
| Po spawaniu                | -30 °C            | 75 J        |
| <b>AWS CO2 (C1)</b>        |                   |             |
| Po spawaniu                | -30 °C            | 75 J        |

### Typowy skład chemiczny stopiwa %

| C    | Mn   | Si   | S     | P     |
|------|------|------|-------|-------|
| 0.10 | 1.11 | 0.72 | 0.012 | 0.013 |

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### Skład drutu %

| C     | Mn   | Si   |
|-------|------|------|
| 0.078 | 1.46 | 0.85 |

### Dane wydajności stopiwa

| Średnica | A         | V       | Prędkość podawania drutu | Wydajność stopiwa |
|----------|-----------|---------|--------------------------|-------------------|
| 0.6 mm   | 30-100 A  | 15-20 V | 5.5-13.0 m/min           | 0.7-1.7 kg/h      |
| 0.8 mm   | 60-200 A  | 18-24 V | 3.2-10.0 m/min           | 0.8-2.3 kg/h      |
| 0.9 mm   | 70-250 A  | 18-26 V | 3.0-12.0 m/min           | 0.9-3.5 kg/h      |
| 1.0 mm   | 80-300 A  | 18-32 V | 2.7-15.0 m/min           | 1.0-5.5 kg/h      |
| 1.14 mm  | 100-350 A | 18-34 V | 2.6-15.0 m/min           | 1.2-7.0 kg/h      |
| 1.2 mm   | 120-380 A | 18-35 V | 2.5-15.0 m/min           | 1.3-8.0 kg/h      |
| 1.32 mm  | 130-400 A | 19-35 V | 2.4-15.0 m/min           | 1.5-8.5 kg/h      |
| 1.4 mm   | 150-420 A | 22-36 V | 2.3-12.0 m/min           | 1.6-8.7 kg/h      |
| 1.6 mm   | 225-550 A | 28-38 V | 2.3-10.0 m/min           | 2.1-9.4 kg/h      |
| 2.0 mm   | 300-650 A | 32-44 V | 3.0-7.0 m/min            | 4.4-10.2 kg/h     |

<strong>\*APPROVAL COMMENT</strong><br />

Approval valid for lot numbers with prefix in right column.