

# ES SG3

GMAW  
ER70S-6

**ESWECO**  
*The Art of Welding*

## Description

ES SG3 is a bare Mn-Si-alloyed G4Si1/ER70S-6 solid wire for the GMAW of non-alloyed steels, as used in general construction, automotive components, pressure vessel fabrication and shipbuilding. It has a slightly higher manganese and silicon content than ES SG2 to increase the weld metal strength. This also promotes a low sensitivity to surface impurities and contributes to smooth, sound welds.

ES SG3 taking MAG welding operations to new levels of performance and all-round efficiency, especially in robotic and mechanised welding. Characteristic features include excellent start properties; trouble-free feeding at high wire speeds and lengthy feed distances; a very stable arc at high welding currents; extremely low levels of spatter; low fume emission; reduced contact tip wear and improved protection against corrosion of the wire.

## Current

DC+

## Classifications

|               |         |
|---------------|---------|
| SFA/AWS A5.18 | ER70S-6 |
| EN 440        | G4Si1   |

## Typical all weld metal composition, %

| C   | Si  | Mn  |
|-----|-----|-----|
| 0.1 | 1.0 | 1.7 |

## Typical mech. Properties all weld metal

|                       |     |
|-----------------------|-----|
| Yield stress, MPa     | 525 |
| Tensile strength, MPa | 595 |
| Elongation, %         | 26  |

## Charpy V

|                |                  |
|----------------|------------------|
| Test temps, °C | Impact values, J |
| +20            | 130              |
| -30            | 70               |

## Approvals

ABS                      3Y400-SA

## Welding parameters

| Diameter, mm | Wire feed, m/min | Welding current, A | Arc voltage, V |
|--------------|------------------|--------------------|----------------|
| 0.8          | 3.2-13           | 60-185             | 18-24          |
| 1.0          | 2.7-15           | 80-300             | 18-32          |
| 1.2          | 2.5-15           | 120-380            | 18-34          |
| 1.6          | 2.3-12           | 225-550            | 28-38          |