

Technical data sheet

011121MBA

Cored welding wire
STELLOY 12-G

**CLASSIFICATION**

EN 14700: T Co2
ASME IIC SFA 5.21 / AWS A 5.21: ERCCoCr-B

DESCRIPTION

- Cobalt base tubular wire for gas shielded metal arc hardfacing
- Exceptional resistance to metal-to-metal wear in corrosive media at high temperatures, to erosion and to thermal shocks

APPLICATIONS

STELLOY 12-G is used for hardfacing parts undergoing the single or combined effects of metal-to-metal wear, abrasion, temperatures ranging from RT to 800°C and corrosive environments.

Examples

Saw teeth, cams, shafts, tappets and push rods for engines, screw conveyors and augers for rubber and plastics, seats and valves for oil and gas...

TYPICAL ALL-WELD METAL ANALYSIS

C	Mn	Si	Cr	W	Fe	Co
1.60	1.50	1.00	29.0	8.00	3.00	Bal.

Structure: chromium and tungsten carbides in an austenitic type matrix

TYPICAL ALL-WELD METAL MECHANICAL PROPERTIES

Hardness:

3-layer deposit on mild steel: 46 HRC

High temperature hardness:

20°C	200°C	400°C	600°C	800°C
450 HB	420 HB	380 HB	360 HB	230 HB

Higher hardness (up to 50 HRC) is possible in the first layer when dilution is minimised (\varnothing 1.2 mm wire welded at approximately 16 V).

High deposition rates and low dilution are facilitated by pulsed current

High heat inputs favour lower hardness

CONDITIONS OF USE

Current type	Shielding gas	Gas flow rate [l/min]
DC+ / Pulsed	EN ISO 14175 : I1 (argon)	10 - 20 l/min

OPERATING CONDITIONS

Diameter [mm]	Current [A]		Voltage [V]		Stick-out [mm]	
	Range	Optimum	Range	Optimum	Range	Optimum
1.2	100 - 250	200	16 - 29	28	15 - 30	25
1.6	140 - 350	250	16 - 30	28	15 - 30	25

Recovery: 95 %

Preheating at 200-300°C is recommended to avoid cracks in the deposit

WELDING POSITIONS

Flat, half up, half down, all positions

PACKAGING

Diameter	1.2 mm	1.6 mm
	EN ISO 544 – ASME IIC SFA-5.2 M	
Spool type	BS300	
Weight	15 kg	

Other packaging and other diameters: please consult us

Welding products and techniques evolve constantly. All descriptions, illustrations and properties given in this data sheet are subject to change without notice and can only be considered as suitable for general guidance. This document is intended to help the user make the correct choice of product. It is his responsibility to assess its suitability for his intended application.