

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 hardsurfacing
- 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 hardsurfacing 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:

Three layer deposit on mild steel: 46 HRC

High temperature hardness:

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

Higher hardness (up to 50 HRC) is possible in the first layer when dilution is minimised (Ø 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

Current type	Shielding gas	Gas flow rate
DC+ or pulsed	EN 439 / ISO 14175: I1 (argon), M13 (Ar+1à 2 % O ₂)	10 - 20 l/min

OPERATING CONDITIONS

Diameter [mm]	Amperage [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

STANDARD DIAMETERS (mm)

1.2, 1.6, 2.0, 2.4 mm

Other diameters: please consult us

PACKAGING

Diameter	2.4 mm		2.4 mm
Standard packaging [EN ISO 544]	Spool : BS 300	Coil : B 450	Drum
Weight	15 kg	25 kg	Up to 330 kg