Hardfacing electrode

Classification

AWS A5.13-00 : ECoCr-A
DIN 8555-83 : E20-UM-45-CRSTZ

General Description

Hardfacing electrode, cobalt base weld metal.
Principal application is resistance to metal to metal wear or erosion, when service temperatures exceed 900°C or corrosion is severe. Low resistance to friction.
High resistance to most agressive chemicals.

Application

Pump shafts
Pump Impeller
Valve seats

Welding positions

ISO/ASME PA/1G PB/2F PC/2G PF/5G up

Current type

AC / DC electr. +

Chemical composition (w%), typical, all weld metal

C	Cr	W	Ni	Co
1.0	27.0	4.0	1.0	bal.

Mechanical properties, all weld metal

Typical hardness values: HRc 43

Packaging, available sizes and identification

	Diameter (mm)	3.2	4.0
	Length (mm)	355	355
Unit: Box	Pieces/unit (nominal)	29	21
	Net weight/unit (kg)	1	1

Identification Imprint: CoCr-A Wearshield C6 Tip colour:

Wearshield® C6: rev. EN 15

Welding instructions

Welding in two ore more layers

In one layer dilution influences hardness and corrosion resistance

Electrode perpendicular to weld surface, short arc length or dragging of the electrode lightly on the workpiece is usually most suitable to limit dilution

Limited weaving is preferred

Preheat- and interpass temperature workpiece 400-500°C to avoid risk of cracking

Maintain this temperature during welding and then alloy to cool gradually

Calculation data

Sizes Diam. x length	Current range	Current type	Arc time - per electrode at max. current -	Energy	Dep.rate	Weight/ 1000 pcs.	Electrodes/ kg weldmetal	kg Electrodes/ kg weldmetal
(mm)	(A)		(s)*	E(kJ)	H(kg/h)	(kg)	B	1/N
3.2 x 350	85 - 110	DC+	93	195	1.0	56.0	39	1.66

*Stub end 35 mm

Welding parameters, optimum fill passes

Welding positions	PA/1G
Diameter (mm)	Current (A)
3.2	100