

Dur 12U

CATEGORY SMAW Stick Electrodes

TYPE Cobalt-based thermo shock resistant alloy for overlay applications.

APPLICATIONS Steam-valves, high temperature liquid pumps, hot cutting tools, cutting tools for plastic, wood and paper as well as high stressed sealings and sliding surfaces.

PROPERTIES Outstanding alloy against abrasion, thermo-shock and corrosion combined with high temperatures. The weld deposit can be machined with tungsten tool tips and by grinding. The hardness of the weld deposit will decrease 20% at 600°C and has a nominal hardness of 49-53 HRC at room temperature. The weld deposit is high heat resistant up to 900°C. Dur 12 offers a low coefficient of friction and exceptional resistance to galling. It has cavitation-erosion resistance ten times that of 304 stainless steel, Dur 12 can be used to protect bearing surfaces in non-lubricating conditions due to its resistance to metal-to-metal wear.

CLASSIFICATION

AWS	A 5.13: R CoCr-B
EN ISO	14700: E Co3
DIN	8555: E20-UM-50-CSTZ

SUITABLE FOR 46-48 HRC, stellite 12 alloy with high temperature and abrasion resistance, thermo shock resistant and impact resistant, hardfacing valves, seats, pumps, knives, plastic recycling crushers etc.

WELDING POSITIONS:



WELD METAL ANALYSIS %

C	Co	Si	Cr	Ni	W	Fe
1.8	Base	1.0	29.0	<2.5	8.8	<2.5

MECHANICAL PROPERTIES

Heat Treatment	R _{p0,2} (N/mm ²)	R _m (N/mm ²)	A5 (%)	20°C	Hardnes HRC 300°C	600°C
AW				50	46	40

AW: as welded

WELDING PARAMETERS PACKING

Welding Parameters			Packing	
D (mm)	Length (mm)	Current (A)	kg / can	kg / 6 pack
2.5	350	70-90		
3.2	350	90-130	2.8	16.8
4.0	350	120-160		

REDRYING TEMPERATURE 300°C / 2hr

NOTE also available as fluxcored wire for FCAW