

Hardfacing electrode

Classification

DIN 8555-83 : E6-UM-55-RZ

General Description

Heavily coated electrode that produces a martensitic deposit similar to AISI 420 stainless steel. Designed for operator appeal and weld quality having excellent arc characteristics, good restriking and low spatter levels. The electrode coating permits the use of the drag or contact welding technique as well as positional welding if required.

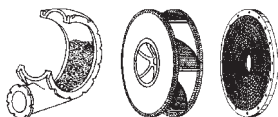
Application

Wearshield 420 electrodes are intended to provide abrasion resistance under conditions of high corrosion, abrasion and impact.

The electrode can be used on carbon steels, low alloy steel and martensitic steel.

Typical applications include:

- Sand pumps
- Dredging equipment
- Fans
- Valve seats in steam and liquid pipes



Mechanical properties, all weld metal

Typical hardness values: 55 HRC (560HB)

Packaging, available sizes and identification

	Diameter (mm)	3.2	4.0	5.0
	Length (mm)	350	350	450
Unit: Box	Pieces / unit (nominal)	51	36	22
	Net weight (kg)	2.5	2.5	2.5

Identification Imprint: Wearshield 420

Tip colour: brown

Wearshield® 420: rev. EN 15

Wearshield® 420

5 MAW

Additional information

All work-hardened base material and previously deposited hardfacing material should be removed prior to applying a new deposit, since such areas are prone to embrittlement and possible cracking. Areas that contain irregularities such as cracks and deep gouges can be repaired locally using Wearshield BU30 or Wearshield 15CrMn prior to hardfacing with Wearshield 420.

Preheat would be needed if the welding is done over either highly restrained material or martensitic stainless base metal.

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A preheat and interpass temperature in the range of 200-300°C can be used depending on the nature of the material to be welded.

Under conditions of low dilution, the microstructure is similar to that of AISI 420 martensitic stainless steel. This structure provides good abrasion resistance under conditions of severe corrosion and high impact. At higher dilutions, when overlaid on mild steel or low alloy steel, the weld metal microstructure will retain its martensitic stainless structure. But the reduced chromium level might adversely affect the corrosion resistance of the deposit.

Welding positions



ISO/ASME PA/1G PC/2G PF/3G up PE/4G

Current type

AC / DC electr. +

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

C	Mn	Si	Cr	Mo	Ti
0.5	0.3	0.4	12.4	0.4	1.3

Structure

Ferrite and martensite

Calculation data

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time -per electrode at max. current' (s)*	Energy E(kJ)	Dep.rate H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
3.2 x 350	90 - 130	AC	83	324	1.08	45	40	1.80
4.0 x 350	120 - 170	AC	102	522	1.36	67	26	1.74
5.0 x 450	170 - 220	AC						

* stub end = 35 mm

Complementary products

Complimentary products include Lincore® 420