

Wearshield® 420

CLASSIFICATION

DIN 8555 E6-UM-55-RZ*
EN 14700 E Fe8

GENERAL DESCRIPTION

Heavily coated electrode that produces a martensitic deposit similar to AISI 420 stainless steel
Designed for abrasion resistance under high corrosion conditions
The electrode coating permits the use of the drag or contact welding technique as well as positional welding if required.

WELDING POSITIONS (ISO/ASME)



PA/1G



PC/2G



PF/3Gu



PE/4G

CURRENT TYPE

AC / DC +

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

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

STRUCTURE

Ferrite and martensite

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Typical hardness values

55 HRC (560HB)

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	3.2	4.0	5.0
	Length (mm)	350	350	450
PE-Tube	Pieces / unit	51	36	22
	Net weight/unit (kg)	2.5	2.5	2.5

Identification Imprint: WEARSHIELD 420 Tip Color: brown

Wearshield® 420 rev. C-EN24-01/02/16

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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.

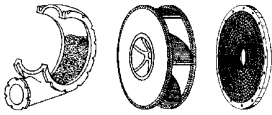
Typical applications include:

Sand pumps

Dredging equipment

Fans

Valve seats in steam and liquid pipes



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 BU-30 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.

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 PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions			
	PA/1G	PC/2F	PF/3Gup	PE/4G
3.2	130A	130A	130A	130A
4.0	160A	160A	160A	150A
5.0	220A		200A	

CALCULATION DATA

Sizes		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
Diam. x length (mm)	Current range (A)								
3.2 x 350	90 - 130	DC+	88	217	1.2	45.6	33	1.51	
4.0 x 350	120 - 170	DC+	114	544	1.4	70.2	23	1.59	
5.0 x 450	170 - 270	DC+	193	1187	1.4	109.8	14	1.49	

COMPLEMENTARY PRODUCTS

Lincore® 420.