

Wearshield® BU-30

Hardfacing electrode

Classification

DIN 855-83 : E1-UM-350-GP

General description

Can be used both downhand and out of position, although the flat position is preferred

Arc characteristics are excellent with very low spatter levels

The electrode coating permits the use of the drag or contact welding technique

Good arc restriking

Application

Wearshield BU 30 produces a crack-free wear resistant deposit with a hardness of 31-38 HRc (295-350 HB) depending on dilution and number of layers. It is particularly suitable under conditions of moderate abrasion and friction, combined with resistance to impact. Ideally suitable for applications involving rolling, sliding and metal to metal wear. It may also be used as a final overlay on parts which need to be machined or as a build-up layer for other hardfacing materials.

Typical applications include:

Buildup:

Shovel and bucket lips

Pump impellers and housings

Dredge and shovel bucket teeth

Mill and crushing hammers

Hardfacing:

Crane and mine car wheels

Tractor rolls, idlers, links and sprockets

Cable drums

Roller guides



Mechanical properties, all weld metal

	Typical hardness values
1 Layer	31 HRc (295 HB)
2 Layer	35 HRc (330 HB)
3 Layer	38 HRc (350 HB)

Welded on Mild Steel Plate

Packaging, available sizes and identification

	Diameter (mm)	3.2	4.0	5.0	6.0
	Length (mm)	350	350	450	450
Unit: Box	Pieces / unit (nominal)	65	44	23	-
	Net weight (kg)	2.5	2.5	2.5	2.5

Identification

Imprint: Wearshield BU-30

Tip colour: black

Wearshield® BU-30: rev. EN 15

Wearshield® BU-30

Additional information

When welding with Wearshield BU30, DC+ is preferred for most applications, although AC also provides satisfactory results. The bead width should be limited to between 12 - 20mm for all electrode diameters when applying a weaving technique. Narrow stringer beads are preferred for edge and corner buildup.

All workhardened base material should be removed prior to applying Wearshield BU30 in order to prevent embrittlement and cracking.

A preheat and interpass temperature of 150-250°C is necessary to prevent cracking, especially on large complex or high restrained components. The component should be completed without interruptions, however, if interruptions are unavoidable the component should be preheated again prior to welding.

The deposited weld metal can be machined to exact dimensions using high speed or carbide cutting tools.

There is no limit to the deposit buildup with this electrode.

Wearshield BU30 exhibits good resistance to spalling and peeling and moderate resistance to gouging and galling. If gouging is severe then Wearshield Mangjet or Wearshield 15CrMn would be more appropriate because of the higher work hardening effect. If galling is more severe than Wearshield MM or Wearshield MM40 would be preferred.

Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3G up PE/4G PF/5G up

Current type

AC / DC electr. +

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

C	Mn	Si	Cr	Mo
0.2	0.8	1.0	1.5	0.5

Structure

In the as welded condition the microstructure consists mainly of martensite with some bainite

Welding parameters

CD3

Sizes	Current
Diam. x length (mm)	range (A)
3.2 x 350	90 - 130
4.0 x 350	140 - 180
5.0 x 450	180 - 220
6.0 x 450	220 - 260

Complementary products

Complimentary products include flux cored wire Lincore® 33