Wearshield® ME (e)

CLASSIFICATION

DIN 8555 E10-UM-60-GRZ
EN 14700 E Fe14

GENERAL DESCRIPTION

A heavily coated rutile electrode that produces a near eutectic mix of chromium carbides and austenite, with limited primary carbides
Weld deposit 170% recovery
Designed for metal to earth application to provide abrasion resistance
The electrode coating permits the use of a light drag or contact welding technique.

WELDING POSITIONS (ISO/ASME)


PA/1G


PB/2F

CURRENT TYPE

AC / DC +

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

C	Cr	Si
3.0	33.0	1.0

STRUCTURE

In the as welded condition the microstructure consists of a near eutectic mix of chromium carbides and austenite, with limited primary carbides

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

	Typical hardness values
1 Layer	55 HRc
2 Layers	60 HRc

Welded on Mild Steel Plate

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	3.2	4.0	5.0
	Length (mm)	450	450	450
PE-Tube	**Pieces / unit**	37	23	15
	Net weight/unit (kg)	2.5	2.5	2.5

Identification Imprint: WEARSHIELD ME (E) Tip Color: violet

Wearshield ME (E): rev. C-EN25-01/02/16

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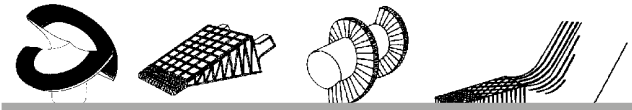
APPLICATION

Wearshield ME produces an abrasion resistant deposit with a hardness range of 55-60HRc.
The intended use of Wearshield ME is to provide a combination of abrasion and impact resistance at service temperatures up to 600°C.

Typical applications include:

Ingot tongs
Scrapper blades
Rolling mill guides
Screw flights
Coal mining chutes
Plough shares, scrapper blades and cultivator sweeps
Pulleys and chain links



ADDITIONAL INFORMATION

When welding with Wearshield ME the weld width should be limited to 20mm. Since wide weaves generally increase the check crack spacing which can result in deposit spalling on multiple layers. For edge, corner and general buildup, narrow stringer beads are preferred.
Wearshield ME generally check cracks except for single layers on thin base material. Stringer beads tend to produce a consistent crack spacing of between 12-25mm.
Preheat is not necessary when surfacing austenitic substrates such as stainless steels and manganese steels, although the interpass temperature should be limited to about 260°C for manganese steels, For low alloy and carbon steels a preheat of 200°C is usually sufficient, but is dependent on base material thickness and chemistry. The deposited weld metal is not machinable by conventional methods although the deposit can be shaped by grinding.
The deposit thickness is usually limited to 2-3 layers to avoid spalling.
To minimise the risk of spalling, stringer beads should be employed to produce closely spaced check cracks.
The resultant weld metal microstructure is determined by the level of dilution and base material chemistry. Low dilution welds on carbon and low alloy steels results in a microstructure that is a near eutectic mix of chromium carbides and austenite, with limited primary carbides. High dilution weld deposit produce a microstructure of primary austenite and eutectic resulting in higher toughness and lower abrasion resistance.
For maximum spalling resistance on carbon and low alloy steels, a buffer layer of Wearshield MM 40 or Arosta 307-160 should be applied prior to the Wearshield ME.

CALCULATION DATA

Sizes Diam. x length (mm)	Current range (A)	Current type	Dep. rate H(kg/h)
3.2 x 450	100-140	DC+	1.15
4.0 x 450	130-190	DC+	1.70
5.0 x 450	160-260	DC+	2.25

COMPLEMENTARY PRODUCTS

There is no flux cored equivalent to Wearshield ME. The closest product is Lincore® 60-O, however, the deposit varies significantly to Wearshield ME.