

Wearshield® Mangjet (e)

Hardfacing electrode

Classification

DIN 8555-83 : E7-UM-200-KP

General Description

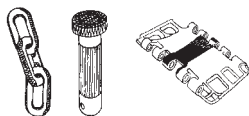
A low hydrogen hardfacing electrode designed for operator appeal
Exhibits excellent arc striking characteristics, clean slag detachability and low spatter
The electrode coating permits the use of out of position welding
140% recovery

Application

Wearshield Mangjet produces a 14% Mn deposit that rapidly work hardens under heavy impact and battering. Ideally suited to applications to high impact and gouging coupled with moderate abrasion.

Typical applications include:

Jaw and cone crushers
Heavy rock moving plant
Hammer drills
Crusher screens
Dredge parts
Shovel tracks
Rail crossovers, frogs and switches



Mechanical properties, all weld metal

	Typical hardness values	
As deposited	18 HRC (210 HB)	
Work hardened	47 HRC (450 HB)	

Packaging, available sizes and identification

	Diameter (mm)	3.2	4.0
	Length (mm)	350	350
Unit: Box	Pieces / unit (nominal)	53	24
	Net weight (kg)	2.5	2.5

Identification Imprint: WEARSHIELD MANGJET(e) Tip colour: Violet

Wearshield® Mangjet (e): rev. EN 15

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Additional information

When welding with Wearshield Mangjet DC+ is preferred for most applications especially positional work, although AC and DC - are also satisfactory. The weld width should be limited to 12-20mm for all electrode diameters when employing a weaving technique. Narrow stringer beads are preferred for edge and corner buildup.

All work-hardened base material and previously deposited material should be removed prior to applying a new deposit, since such areas are prone to embrittlement and possible cracking.

No preheat is required on austenitic manganese steels although a preheat of between 150-200°C maybe necessary on carbon and low alloy steels to prevent pullout.

It is important to avoid excessive heat build up in the base material. Temperatures above 260°C should be avoided as this can cause embrittlement.

For joint welding of manganese steel Wearshield 15CrMn or Arosta 307 are preferred.

There is no definite limitation to the number of passes that may be deposited, however, it is good practise to peen each pass immediately after welding to minimise internal stresses and possible distortion and cracking.

Welding positions



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

Current type

AC / DC electr. + / -

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

C	Mn	Cr
0.7	15	3.7

Structure

In the as deposited condition, the microstructure consists of a soft manganese alloy austenite which rapidly work hardens under impact loading.

Calculation data

Sizes Diam. x length (mm)	Current range (A)	Current type DC E+	Arc time - per electrode at max. current (s)*	Energy E(kJ)	Dep.rate H(kg/h)
3.2 x 350	95 - 105	-	-	-	1.1
4.0 x 350	130 - 140	-	-	-	1.6

* stub end = 35 mm

Complementary products

Complimentary products include flux cored wire Lincore® M and submerged arc wire Lincore® M.