

Hardfacing electrode

Classification

AWS A5.21-01 : EWC
DIN 8555-83 : E21-GFUM-60-G

General Description

Coated cored rod electrode for welding extremely wear-resistant hardfacings.
60-70% of the weld metal comprises tungsten carbides

Application

Welding extremely wear-resistant hardfacings, against high abrasive wear in sand, gravel, stone and cement industries, ceramics industry, well construction, ore mining, road building, and mining e.g. stripping devices, rippers, jaw cutters, dredger teeth, drill bits, crushers, wire-draw pulleys, elevator cages, earth borers, ore paring blades, guide rods, guide pulleys, horse shoe nails and horseshoes, coal plane blades, scraping blades, gravel pumps, loading teeth, loading shovels, pulverizers, mixer blades, mixer arms, mill hammers, plough blades, planing blades, pressure pipes, roller crown bits, stirring blades, stirring spindles, stirring shovels, ductors, slag breakers, worms of all kinds, chipping blades, pestles, fan blades, winnower blades, jagged crown bits

Welding positions



ISO/ASME PA/1G

Current type

AC / DC electr. + / -

Mechanical properties, all weld metal

	Typical hardness values
Tungsten carbides	2000-2400 HV
Matrix	670-760HV (58-62 HRC)

Packaging, available sizes and identification

	Diameter (mm)	4.0
	Length (mm)	355
Unit: Box	Pieces/unit (nominal)	
	Net weight/unit (kg)	2.5

Identification Imprint: Wearshield WC

Tip colour:

Wearshield® WC: rev. EN 15

Wearshield® WC

Welding instructions

The weld metal, the hardness of which remains unaltered by heat treatment, cannot be machined.

Weld deposit can only be grinded; therefore this cored-rod electrode should only be used if subsequent finishing is not required.

Hints for welding

Well-directed smooth arc; high beads. Set low current intensity and keep the arc short in order to guarantee minimum dilution. Weld string beads in maximum of two layers. If higher deposits are required first weld a buffer layer, e.g. with RepTec 29, RepTec 126 or Wearshield MI(e).

Preheat base material only if very thick parts are to be welded; subsequent heat treatment not required.

The weld deposit itself is likely to check crack in most cases.

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
4.0 x 355	150-220							

*Stub end 35 mm