

AI-0770E

Description and Applications

AI-0770E is a tubular, basic type coated electrode offering optimum abrasion resistance. This electrode is unique in that it is manufactured around a sintered tungsten carbide core (similar in structure to a TIG tungsten). This method of fabrication allows a much higher percentage of tungsten carbide in the weld deposit than conventional solid cored or tubular electrodes, resulting in its exceptional abrasion resistance. In addition to the high percentage of tungsten carbide there is an addition of Chromium and Niobium Carbides to add to the corrosion and abrasion resistance.

Because of the unique method of fabrication and the soft arc generated by this electrode, the level of dilution is very low resulting in a very high level of hardness being achieved in the first layer (in excess of 65 HRC). In spite of the high hardness levels there is very little stress relief cracking in the deposit. The weld deposit is smooth and extremely hard. Welding should be carried out at as low a current as possible, consistent with good bead form. The electrode also has an ancillary aluminium coating, which acts as an anti-oxidant and improves electrical conductivity.

Areas of extreme abrasion with low impact (sand and other minerals) such as the brick and clay industry.

Applications include: Scrapers, Augers, Mixers and parts subjected to very high abrasion. Also Oil Drill Collars, Stabilizers etc. in the oil drilling industry.

Typical Weldmetal Analysis

Cr ₃ C ₂	Nb	Fe	Wc
7.00	4.00	19.00	70.00

Mechanical Properties of Weldmetal

	As Welded
Deposit	Magnetic
Machineability	Grinding
Deposit	Can not be flame-cut
Hardness	63-65 HRc (1 st Layer) 66-70 HRc (2 nd Layer)

Welding Parameters

Diameter (mm)	Current type	Amps
4.0	DC /AC	90
5.0	DC /AC	110

AI-0770E is also available as **AI-0770B** bare rod form for TIG welding

Disclaimer

All figures in this datasheet should be considered indicative only. No guarantee is made as to their accuracy.

All figures subject to change without notice. Batch analysis is available for all products sold. Should you require any further information, please contact us at sales@alloysint.com.au



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