



CasTec 3099

Manual arc welding electrode

Application: Cast iron joining and overlaying

DESCRIPTION

CasTec 3099 electrodes are graphite coated and deposit a nickel alloy with exceptional ductility, high tensile strength and good Machineability. The deposits are dense, crack free and base metal dilution is minimised.

The FrigidArc coating enhances the arc characteristics, making CasTec 3099 a very easy electrode to use. The arc is smooth and stable regardless of the length of the arc gap - it welds in any position including overhead. Burn-off is uniform, wash characteristics and fluidity excellent. It produces a flat, even and finely rippled bead.

Use for joining, coating, building up missing sections, and filling cracks and pores. Deposits are dense, porosity free, and machining is easy, even with a file, because the deposit contains no hard spots, inclusions, entrapped slag, or cross checks.

Tip colour Light green

FEATURES

Machineability - CasTec 3099 combines optimum amount of ductility, tensile strength and excellent machineability.

Easy To Use - CasTec 3099's exclusive FrigidArc coating provides arc stability over a wide range of arc gaps. There is virtually no spatter or fuming, alloy transfer is smooth and fast, wide gaps can be bridged, and it welds in all positions including overhead.

Versatility - Because of the extraordinary fluidity of the molten pool and fast deposition and solidification, CasTec 3099 can weld small sections to large sections. It welds steel to cast iron, simplifies circumferential pipe welds to flanges, and works well with low open circuit voltage power sources.

Speed - Besides the fast deposition rate, CasTec 3099 also saves labour costs because there is little spatter to clean, slag is light and easy to remove, and the low profile of the weld bead minimizes electrode usage and any subsequent machining operations.

Wire equivalent CastoMAG GSNi99

PRINCIPAL APPLICATIONS

Repairs of grey cast iron motor blocks, pump housings and other thin walled cast iron parts. Repairs of parts such as foundry defects, surface flaws, etc. Building up missing sections, gears, impellers and housings.

TECHNICAL DATA

Mechanical properties

Tensile Strength MPa 365

Base Metals

Recommended for grey cast iron. Welds steel to cast iron.

OPERATING PARAMETERS

Preparation

Thoroughly clean weld area. Use Xuper ExoTrode to remove all cracks, defects, damaged metal and any stress raisers.

Preheating

While preheating is generally not necessary, preheating to approximately 200oC will enhance flow characteristics of weld metal. In some cases (eg complicated castings) adequate preheating and interpass temperature would facilitate welding.

Welding parameters

Dia. mm	3.2	4.0
Current A	70-120	90-140

Welding polarity AC/DC straight polarity

Welding positions



Maximum settings result in faster deposition rates which are desirable for larger sections. Minimum settings are recommended for thinner sections.

Welding technique

Direct the arc onto the weld deposit. Lightly peen hot weld beads to relieve stresses. Remove slag between passes. Allow work piece to slowly return to room temperature.

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TOOWOOMBA WELDING SUPPLIES

Ph: 07 4659 0044 | Fax: 07 4659 0066
500 Boundary Street, Toowoomba QLD 4350
E: sales@tweld.com.au | www.tweld.com.au

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