

SUNALLOY 511

Electrode for cold welding of cast iron



DESCRIPTION

A modified SUNALLOY 511 electrode for cold welding cast iron. This special electrode is based on pure nickel. The weldment is machinable and suited for joint and repair welds on damaged grey cast iron casting and malleable cast iron components. The special coating allows the use of low welding currents so that the material is only subjected to little heat. In this way the chilling effect in the transition zones is reduced, thus allowing adequate machinability. The electrode has excellent welding properties and produces pore-free and tight seams without notches. Little spattering and easy slag removal.

ALLOY BASIS

Ni

PROPERTIES

Smooth stable arc. Suitable for positional welding. Very little mixing up with base material, consequently the heat affected zone is easily machinable. No under cut.

APPLICATIONS

A unique electrode cold welding of cast iron without preheat and for joining cast iron to mild steel. Also suitable for surfacing cast iron parts subject to erosion, corrosion and high temperatures. Best suited for repairing intricate cast iron parts, water pumps housing, electric motor bodies and covers, machine frames, cylinder blocks, gears. Also ideal for salvaging foundry castings, gear box and differential housings, lathe beds, sugar mill rollers, glass moulds and cast iron dies.

PROCEDURE

Prepare weld groove or preparation with SUNALLOY 109. Remove gouged skin by grinding to U shape. Thoroughly clean weld area, remove all oil and grease as far as possible. Preheat is not necessary but for heavy and complex sections a preheat of 100-200° C is advisable. Ensure electrodes are dry. With lowest practical amperage use a "short" arc technique holding electrode vertical. Use short welding step, re-striking on previous weld deposit. Beads 20-30 mm (1-1/2") long only. Keep heat input low by staggering welding allowing part to cool to preheat level. Peen welds deposit between passes. Remove all slag between passes.

TECHNICAL DATA

UTS of joint (all weld deposit) : 30 - 34 kgf/mm²
Hardness : 100 - 130 Brinell

WELDING PARAMETERS

Size (diameter)/length (mm)	: 2.50 x 350	3.15 x 350	4.00 x 350	5.00 x 350
Current (amps)	: 50 - 70	70 - 110	90 - 120	120 - 160
Current	: AC/DC (+)			