

MAGNA 777 AC-DC

Generation II Machinable Electrode for Cast Iron

Magna 777 is a totally new type of cast iron electrode that utilizes a highly advanced "Twin Core " fabrication process that totally eliminates the chances of the electrode overheating when used under AC - even under difficult amperage loading conditions.

This advanced feature enables superior economy for the user as the electrode can be totally used and does not have to be discarded through overheating. In addition, the unique temperature control characteristic of the Magna 777 Twin Core design provides a more even heat output and molten metal flow to improve the integrity of the weldment and virtually eliminate weld spatter.

TOTAL FLUSHING/CLEANING ACTION

Magna 777's superior flux chemistry also provides for total and highly effective flushing away of surface contaminants, such as oil, rust, paint encrustation, etc., from the cast iron surface to improve the bonding of the molten weld to provide strong, secure and mechanically sound welds on virtually all types, grades and gauges of cast iron.

Special supplements successfully assist in the suppression of cementite formation during welding and helps Magna 777 achieve and retain full machinability, even on difficult grades of cast iron. In addition, powerful in-built amalgams help clean the surface out of all potentially weld-damaging chemicals and their derivatives and hold these to the exterior of the weldment for easy subsequent removal as part of the weld slag.

UNIQUE MAGNA 777 "THUNDERSTIK" CONTROLLED BLAST ACTION

Magna 777 "Thunder Stik" applies with a novel "controlled blast" pulse that actually provides a cohesive twin phase process:

I INITIAL (CONTINUOUS ACTION) PHASE

Magna 777 "Thunder Stik" strikes with a powerful cleansing arc that flushes and burns off all contaminants in and around the weld area and burns off any scaling or oxides from the immediate vicinity of the arc. The powerful arc carves

out a sound surface and lays on a molten pool of weld metal in preparation for the second continuous phase of Magna 777 "ThunderStik's" arc action.

II. SECONDARY (CONTINUOUS ACTION) PHASE

The Initial Phase of molten metal transfer is reduced yet maintained and keeps the weld area in a molten state while a continuous burn-off of impurities takes place. The formation of blow holes and pin holes is eliminated by this process and the reduced rate of molten metal transfer across the secondary phase's arc helps pre-heat the base metal to prevent martensitic formation within the Heat Affected Zone (HAZ) for dramatically improved machineability.

The arc then reverts back to the initial phase, followed by the secondary phase, etc., on a continuously alternate basis. This "controlled blast" pulse of Magna 777 "ThunderStik" provides an exceptionally sound, strong and yet fully machinable weldment.

BUILT-IN EASE OF USE

Magna 777 "ThunderStik" can be applied using even the small, portable AC welding machines or on DC straight polarity. Where the piece to be welded is not restrained (i.e. free to expand and contract), no peening between passes is required. The weld laid by Magna 777 "ThunderStik" is easily machinable and highly crack-resistant, and can be applied on most types of cast iron-including grey, nodular and malleable. Magna 777 "Thunder Stik" can also be used to weld cast iron onto steel parts with superior weld strength and weld integrity !!!

Magna 777 "Thunder Stik" also welds ductile iron, "Ni-Resist" and "Meehanite", even onto steel, and provides good weldability of nickel alloys even onto cast steel.

APPLICATION:

Magna 777 "Thunder Stik" is extremely versatile and can be used to weld virtually all gauges, grades and types of cast iron. It will weld using even small, low amperage portable AC welding machines without overheating or sticking, or on DC machines, straight polarity.

PREPARATION

For dirty or oily surfaces, Magna 777 "ThunderStik" can be applied directly without preparation, due to the product's novel "controlled blast" pulse action which automatically burns off these surface contaminants.

However, where the oil, thick grease, paint or other encrustations have seeped deep into the cast iron grain, it may be necessary to eradicate the contaminants by using a strong, highly oxidizing oxy-acetylene torch prior to welding.

PRE-HEATING

For small pieces which are easily handled, no pre-heating is required. For larger parts, pre-heating up to 300°C is suggested. This temperature should be maintained while using Magna 777 "ThunderStik" to improve machinability. No peening is required but slag should be removed between passes.

Where the part to be welded is restrained (i.e. cannot expand or contract freely), peening between passes is recommended while the weld is still hot. Use low amperage and maintain short arc while using stringer beads or narrow weave beads.

Restrike arc on previously deposited Magna 777 "ThunderStik" weld metal. Slow cooling is recommended.

WELDING

The amperage should be set as follows:

METRIC	IMPERIAL	GAUGE	SETTING
2.4 mm	3/32"	12g	35-80 amps
3.2 mm	1/8"	10g	65-120 amps
4.0 mm	5/32"	8g	75-140 amps