MAGNA™
WELDING ALLOYS

51

MAGNA 51 Low-Temp Soldering Alloy for Dissimilar Metals

Low-Temp Soldering Alloy for Dissimilar Metals

- *Ideal for white metals – including zinc casting.*
- *Joins wide variety of dissimilar metals.*
- *Low-temp application gives outstanding versatility.*

TRUST MAGNA FOR

Ease of Application
Wide Versatility
Outstanding Physical Properties

MAGNA INDUSTRIAL CO. LIMITED
Total Quality Maintenance

ITW

SPECIAL FEATURES

Magna 51 Low-Temp Soldering Alloy for Dissimilar Metals is the "Common Denominator".

- **Magna 51** is ideal for all white metals, including zinc, pewter and aluminum.
- **Magna 51** also joins a wide variety of dissimilar metals, including white metals to copper and brass.
- **Magna 51's** extreme low-temperature application (179°C) provides outstanding versatility.

OUTSTANDING PROPERTIES

Magna 51 is the low-temp solder alloy for dissimilar metals that:

- Has low-heat application to prevent base metal damage.
- Enables joining of aluminum using soldering iron.
- Gives good corrosion resistance and tensile strength.
- Gives high wettability when used with **Magna 51 Flux**.

USE FOR

Magna 51 can be used to bond even:
Aluminum to Titanium • Aluminum to Copper • Copper to Magnesium

Use **Magna 51** on:

- Heating Panels
- High-voltage Components
- Sound Equipment
- Spray Molds
- Trophies
- Capacitors
- Aluminum Roof Guttering.

REMEMBER :
MAGNA 51 FLUX
give you optimum results.

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MAGNA 51

DESCRIPTION:

Magna 51 is a maintenance-engineered alloy which joins virtually all white metals including zinc die-cast, aluminum and pewter. It has an ultra low application temperature of 179ºC (368ºF) and requires little or no preheating.

VERSATILITY:

Magna 51 shows remarkable capability for joining all white metals including zinc (which is known to be almost unweldable), 'pot' metal, pewter, aluminum and lead. Magna 51 can also join any of the above metals to practically any other metal such as copper, brass, steel, stainless steel or bronze.

Simplifies joining and repair of zinc die-cast

Zinc die castings have long been considered virtually unweldable with most ordinary welding rods because the zinc sags and collapses before the bond can be effected. Magna 51 bonds to zinc die castings at such a low temperature that no sagging or collapsing can occur. For best results, Magna 51 should be applied with Magna 51 Flux.

Joins dissimilar combinations of metal

Magna 51 is the most remarkable common denominator for bonding a wide range of different metals. It joins virtually all metals including aluminum and titanium. It will bond steel to aluminum or copper to magnesium or almost any combination.

Joins aluminum with soldering iron

Magna 51 is the first practical 'solder' alloy for joining aluminum with a soldering iron; for such applications as roof guttering, flashings and vent ducts. Most solders cannot be successfully applied to aluminum with a soldering iron.

HIGH WETTABILITY:

Magna 51 has such high wettability that welders who could not weld white metal before can easily perform difficult zinc die cast repairs, when Magna 51 alloy is used with Magna 51 Flux. Perfect, high strength of the base metal are formed. Magna 51 Flux is non-corrosive and will not damage aluminum parts.

LOWEST TEMPERATURE APPLICATION:

Magna 51 welds white metals at the lowest application temperature of any rod in existence (179ºC or 368ºF). This low heat prevents base metal damage and bonds white metals easily and effectively.

APPLICATION:

Application on Zinc Base Die Casting Using Oxyacetylene Torch:

Prepare base metal by chamfering sides of weld area to form a valley. Ensure valley is of sufficient depth to achieve an effective joint.
Apply Magna 51 Flux with a brush over area and preheat using a small nozzle and carburizing flame. Constantly move the torch until flux commences to darken. Then apply Magna 51 with a brazing technique, hold the torch at a low angle, not exceeding 10º. Do not overheat base metal, work as fast as possible to prevent buildup of heat. Before applying additional layers of Magna 51, allow base metal to cool and work, maintaining low torch angle, directing heat solely onto welding alloy. When sufficient deposits have been made leave job to cool and solidify at room temperature before attempting to move. Brush flux particles away with hot or cold water.

Application on Aluminum Using Oxyacetylene Torch:

Select a wide nozzle and adjust flame to an excess of acetylene. Distribute preheating over a wide area so Magna 51 will melt on contact to base metal. Vigorously stroke welding alloy over pre-heated surface until required thickness is achieved. The alloy must be rubbed on the base metal to remove the aluminum oxide on the surface. However, if Magna 51 flux is used, this will break down the aluminum oxide automatically and no rubbing need be used. When joining aluminum to other metals such as copper or brass, Magna 51Flux must be used.
Magna 51 can be applied to thin aluminum with a soldering iron using normal soldering techniques and Magna 51 flux.

Application on Chrome Plated Auto Parts Using Oxyacetylene Torch:

Bevel parts from the side which is not visible on the completed operation. Apply as for Zinc Die-Cast. The chrome plating acts as a back-up or support during the welding. Magna 51 is applied at such low heat that the chrome-plating will not be damaged.

SIZE AVAILABLE:

Metric	Inches	Gauge
3.17 mm.	1/8	10

For more details :

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