

MAGNA 67F

FEATURES

- (1) **Unique Contraction-Absorption System:** Magna 67F is one of the most remarkable metals in existence since it can absorb contraction during cooling. Thus, parts can be welded and heat treated directly from the brazing temperature without cracking. This "two- in-one" operation is virtually unique to Magna 67F. Very few metals in existence have this unique built-in contraction-absorption quality. Magna 67F is so remarkable in metallurgical structures that it can be quenched from an elevated temperature and actually absorb the heat-shock of rapid cooling. Only Magna 67F gives you shock absorbency and all-purpose qualities in the same alloy.
- (2) **Exceptional affinity to stainless steel, tungsten carbide, tool steel, and refractory type metals:** Ordinary silver brazing rods do not bond well to the "difficult to wet" refractory type metals. Magna 67F is made up of a quinary alloy system with inbuilt synergistic elements that give it the ability to actually permeate grain boundaries of the "hard to wet" metals.
- (3) **Wide Melting Range:** Magna 67F has a wide melting which means that it remains liquid for a considerable time. This feature makes it especially excellent for large and heavy applications where the usual "fast setting" silver solders could not be used.
- (4) **Wide Versatility:** Magna 67F comes close to being the one universal silver brazing alloy that covers most maintenance applications. It bonds to practically all metals including inconel, monel, copper, brass, steel, stainless steel, and almost all others except the white metals, such as aluminium and magnesium.
- (5) **Ideal Temperature:** Some silver solders are very low melting and are not practical in today's higher speed - higher service heat conditions. Some silver solders have very high heat and do not flow without warpage and distortion.

MAGNA 67F:

Flows freely at 1205°F (652°C)

Is completely solid at 1145°F (618°C)

This is the ideal "medium all purpose range" between too low and too high temperatures.

(6) Good Corrosion Resistance: Magna 67F contains no toxic fillers such as lead, antimony or cadmium. It has the ability to withstand oxidation, particularly in seawater/brine environments as compared to cheap silver solders, which have a lower silver content. This alloy can withstand strong cleaning solutions that many other silver alloys cannot withstand.

(7) High Physical Properties

Hardness:	Brinell 130 and cold works to higher Brinell.
Tensile Strength:	Good.
Elongation:	Excellent; well above nearly all other silver solders.
Heat Resistance in Service:	Superior.
Shear Strength:	Superior. Far in excess of ordinary silver solders.

(8) Cadmium-Free: Cadmium is present in nearly all silver solders to improve flow and capillarity. Magna 67F contains absolutely no cadmium, yet it flows as freely as a high cadmium silver solder. This is because Magna 67F obtains it's high capillarity and freedom of flow, from a new and different alloying system.

Since it is cadmium-free, Magna 67F is excellent for all food and beverage applications. There is no danger of cadmium poisoning as occurs with ordinary silver solders. Excellent for hospital and institutional usage.

(9) Superior flux-coated: Magna 67F has the flux-on-the-alloy. The flux-coating is flexible and has superior adherence to the core wire. It does not fall off easily as so many flux coatings on silver solders do.

The flux coating on Magna 67F is highly active, and promotes good bonding to a wide range of base metals. This feature makes it excellent for field work since it is not necessary to take a jar of flux to the job. Also 2

or more repair men can use the alloy at the same time, in different areas, which would not be possible if they had to have a jar of flux and only had 1 jar. A service department, having for example, 20 travelling mechanics, would have to have 20 jars of flux. With Magna 67F each mechanic need only have a packet of Magna 67F on his truck to handle any brazing application that may arise.

(10) Flexibility of Joint Design: Magna 67F has an unusually wide plastic range. Thus it performs well on poor fitting joints so often found in maintenance, as well as tight fitting joints.

APPLICATION

Magna 67F is applied much as any silver solder except that the flux is right on the alloy and no special fluxing or separate fluxing is necessary.

As with all silver alloys, good joint design is necessary. An ideal joint is a lap of 0.076 mm. (0.003") clearance. Butt joints are not advisable. Laps should be three times as great as the thickness of the thinnest of two metals being joined. In silver soldering the joint design has more to do with the strength of the finished job than the strength of the joining alloy.

Wherever possible base metals should be cleaned with emery cloth or some type of abrasive before joining, since surface soil and oxides will interfere with fluidity and good bonding. Magna 990 degreaser should be used to eliminate interference.

Do not overheat. Use a soft flame with a larger tip than when welding and keep torch in motion and heat evenly. Magna 67F will flow just as the metal starts to turn red. A temperature indication can be obtained by touching the base metal with the flux from the rod. If the flux melts, the base metal is adequately heated to apply the alloy.

Naturally when a flux coated alloy is used, the maximum of fluxing power is not available for some applications such as long laps, especially dirty metals, etc. Some fluxing quality is sacrificed for the convenience of having the flux on the alloy. For some especially delicate jobs Magna 66 or Magna 65 with separate flux should be used.