

# BRAZING & SOLDERING TODAY

## Advancements in Flux Cored and Flux Coated Brazing Products

*New technologies can greatly improve production output*

BY DANIEL HARRIS

**B**razing engineers are constantly faced with the task of making joints better, faster, cheaper, and more reliable. Tweaking existing methods can only get you so far. Looking to new technologies can yield significant gains in production time and quality, making a lower net cost. In the field of brazing, flux cored and flux coated brazing products are technologies that can greatly improve production output.

### Aluminum and Silver Flux Cored Brazing Wire

Flux cored brazing wire offers the advantage of fewer production steps and the versatility to consistently apply a predetermined amount of brazing filler material and flux to the joint. By making a preform, typically a ring for a tube-to-block joint, material usage can be reduced because accuracy is increased.

Once the inside or outside diameter measurement has been decided based on tube or bore diameter, the desired amount of flux and filler metal can be achieved by specifying wire diameter and percentage of flux in a flux cored wire.

### Keys to the Technology

Since there is only 1 to 4 in. of wire in a flux cored ring, proper and consistent flux fill is paramount. The key to accurate and



consistent flux fill in a wire is the way the flux is fed into the wire. The ideal way to fill aluminum flux cored wire is volumetrically. Omni Technologies engineered a precise volumetric wire filling operation, and was awarded a patent in 1998 for

noncorrosive flux cored aluminum braze wire.

Just as much emphasis must be placed on accurate and consistent flux fill for silver flux cored wire, but there is also the need for a free-flowing flux material. The company has developed a method for preparing silver flux for flux cored silver wire and was awarded patents in 2001 and 2002.

### Aluminum and Silver Flux Coated Shim and Wire

Flux coated braze shims can be used for any butt joints, saddle joints, or shraeder valves. Flux coated wire offers fewer production steps than for solid wire and, depending on the application, can be a suitable alternative to flux cored wire.

### Keys to the Technology

The key to a good braze with a flux coated braze shim or wire is the binder. The binder needs to hold the flux on the shim stock or wire firmly so that it can be processed into whatever shape the customer needs, without the coating chipping or flaking off. The binder also must burn off completely at a low temperature with no carbon residue. An ideal flux coating binder vaporizes completely at a temperature below 400°F.

More information is available on flux cored and flux coated brazing products at [www.omnibraze.com](http://www.omnibraze.com). ♦

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