

AL CC™ (Aluminum Corrosive Cored)

Corrosive flux cored wire developed specifically for easy-to-clean, visually appealing aluminum braze joints

Lucas Milhaupt, your trusted partner in all things brazing, provides the flux cored answer to leak free braze joints.

The Automotive Industry's Aluminum Braze Solution

CLEAN FINISH – AL CC is ideal for aluminum applications or components where flux residue detracts from the overall aesthetic or function of the part. In many cases, a non-corrosive flux is used when brazing aluminum and, while it eliminates the need for post braze cleaning, the flux residue is rough and visually unappealing to the end customer (Figure 1). This non-corrosive flux is also difficult to remove, so attempting to clean it from critical areas such as gasket sealing surfaces is time consuming. Similarly, the flux residue can make joint inspection more difficult and mask leak paths that would otherwise be easily identifiable if the flux residue were not present. To solve this issue, AL CC is easily cleaned off with water and leaves behind a clean aluminum surface for an aesthetically pleasing braze joint.



Figure 1: Non-Corrosive Flux post braze (top) vs AL CC cleaned post braze (bottom)



In other cases where a separately applied corrosive flux is used, an excessive amount of flux is applied which makes post braze cleaning time consuming. AL CC offers a controlled amount of corrosive flux in a cutting-edge flux cored design which reduces overall flux consumption and eliminates variability.



Leak Free Joints

When it comes to automotive manufacturing, excellent quality, appealing aesthetics, and superb throughput are a must to succeed in an increasingly competitive market space. AL CC is the first choice for all difficult to braze aluminum alloys such as 5000 and 6000 series due to its ability to cut through tenacious magnesium oxides and promote excellent capillary action through the entirety of the braze joint. Excessive porosity can be observed in Figure 2 where separate corrosive flux and solid wire are used. Compare this to Figure 3 where AL CC provides superb penetration along the length of the joint without leaving behind high levels of porosity. AL CC's proprietary design helps drive out porosity by improving alloy flow and decreasing flux residue that would otherwise be trapped in the joint. This in turn increases first pass yield and reduces scrap costs.

In many cases where 5000 or 6000 series aluminum is brazed, most commercially available non-corrosive aluminum fluxes provide marginal alloy flow and higher rates of joint porosity. Many of these joints cannot be reworked and add to high scrap costs. AL CC provides an innovative flux cored solution by allowing for superior interaction between the filler metal and aluminum without having to spend excess time separately applying a corrosive flux.

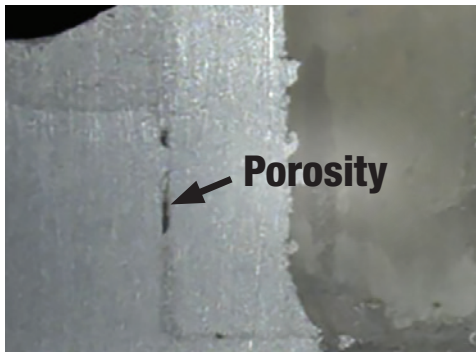


Figure 2: Separate corrosive flux & alloy

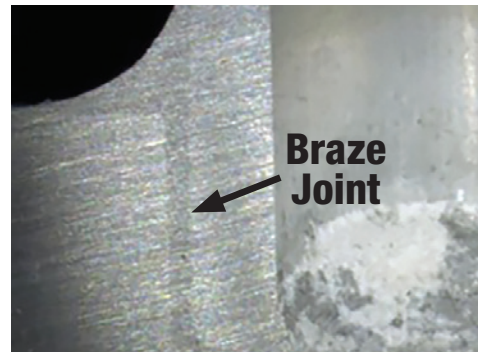


Figure 3: AL CC, no porosity

Why Flux Cored?

- Flux cored rings mean less variability, elimination of time spent applying separate flux, and improved throughput
- Lower braze joint porosity and increased FPY
- Minimizes potential for transfer of flux that can corrode equipment and facilities
- Flux cored design means less operator exposure to corrosive flux

Why AL CC?

- Visually appealing braze joints, significantly easier to clean compared to other aluminum fluxes in the industry
- Superior wetting on Mg bearing aluminum alloys compared to standard non-corrosive fluxes
- AL CC offers enhanced wetting
- Improved Quality
- Easy to use flux cored design

