

ULTRACOAT CLEAN™

Non-corrosive flux coated alloy developed specifically to eliminate post braze cleaning

In an industry where cycle time is critical, competition is fierce, and quality is a priority, Lucas Milhaupt offers the answer to your warranty headaches and manufacturing difficulties by providing the leak free solution: **Ultracoat Clean.**

The Sealed System Braze Solution

CLEAN FINISH – Ultracoat Clean is a non-corrosive flux coating that is applied to a braze alloy strip such as our industry leading Sil-Fos 15.

A major concern for many manufacturers is field corrosion which is often brought on by small levels of flux particulate left on the braze joint. When not cleaned off entirely, this flux residue attracts moisture over time and begins to degrade the braze joint and surrounding base metal. In an effort to avoid this corrosion and the costly repairs or replacements that come with it, extensive cleaning is required which means longer process and inspection times.

Due to its non-corrosive nature, Ultracoat Clean eliminates the need for post braze cleaning and leaves a visually appealing braze joint. Where many other available braze fluxes are corrosive and require cleaning time post braze, Ultracoat Clean takes braze joint corrosion out of the equation. This allows companies to move from batch processing where only a certain number of parts can be cleaned at once to a one piece flow process where the parts can be assembled, brazed, cooled, and packed in a continuous nature. Therefore, it not only improves overall throughput and cycle time, but it also reduces warranty costs and replacements caused by flux corrosion in the field.



Leak Free Joints

Ultracoat Clean promotes excellent wetting on copper and copper alloys, such as brass, which makes it ideal for applications such as sealed system components where a brass valve is brazed to a copper tube. In many of these types of applications, braze alloy is either used with a corrosive paste flux or with a liquid flux dispersed through the fuel gas (AWS FB3-K) to break through the oxide layer and allow the alloy to flow. In cases where corrosive flux is used, flux inclusions are left behind which reduces the bond area between the components which reduces joint strength. The flux residue in this case is corrosive and requires cleaning to avoid costly warranty repairs down the road. This cleaning is time consuming and increases manufacturing costs.

Similarly, if only liquid flux fed through the fuel line is used to reduce oxides, the joint will appear sound on the outside but this type of flux cannot penetrate into the joint, and the braze alloy will not flow between the braze surfaces or produce a strong joint. Often braze alloy is also over consumed as the liquid flux in the fuel line will not allow the alloy wick into the joint, so operators overcompensate by feeding excess alloy to build up an unnecessarily large fillet.

By coating the strip with a precise amount of flux instead of applying flux manually, operator variability declines, first pass yield increases, and corrosion potential is eliminated. Figure 1 shows the benefits of the flux coated Ultracoat Clean product versus standard manual flux and alloy application. By driving down porosity and improving alloy wetting, no joint strength is sacrificed, and, in many cases, joint strength is higher than joints that use manual flux and braze alloy.

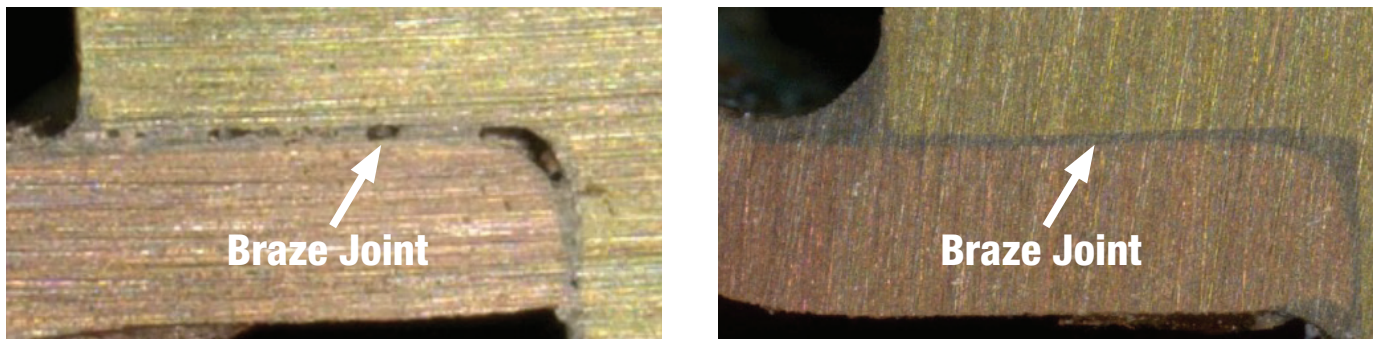


Figure 1: Separate Flux and Alloy (left, high porosity) vs Ultracoat Clean (right, no porosity)

Why Flux Coated?

- Allows for a one-step brazing process without the need to apply separate flux
- Ideal flux to alloy ratio means less flux voids and decreased operator variability
- Discs, washers, or shims can be preplaced between the joint surfaces and provide higher joint integrity as compared to copper-brass joints that use other fluxing methods

Why Ultracoat Clean?

- Superior Quality
- Ideal for copper to brass
- Zero Corrosion
- Reduced warranty costs
- Provides Lasting Connections

