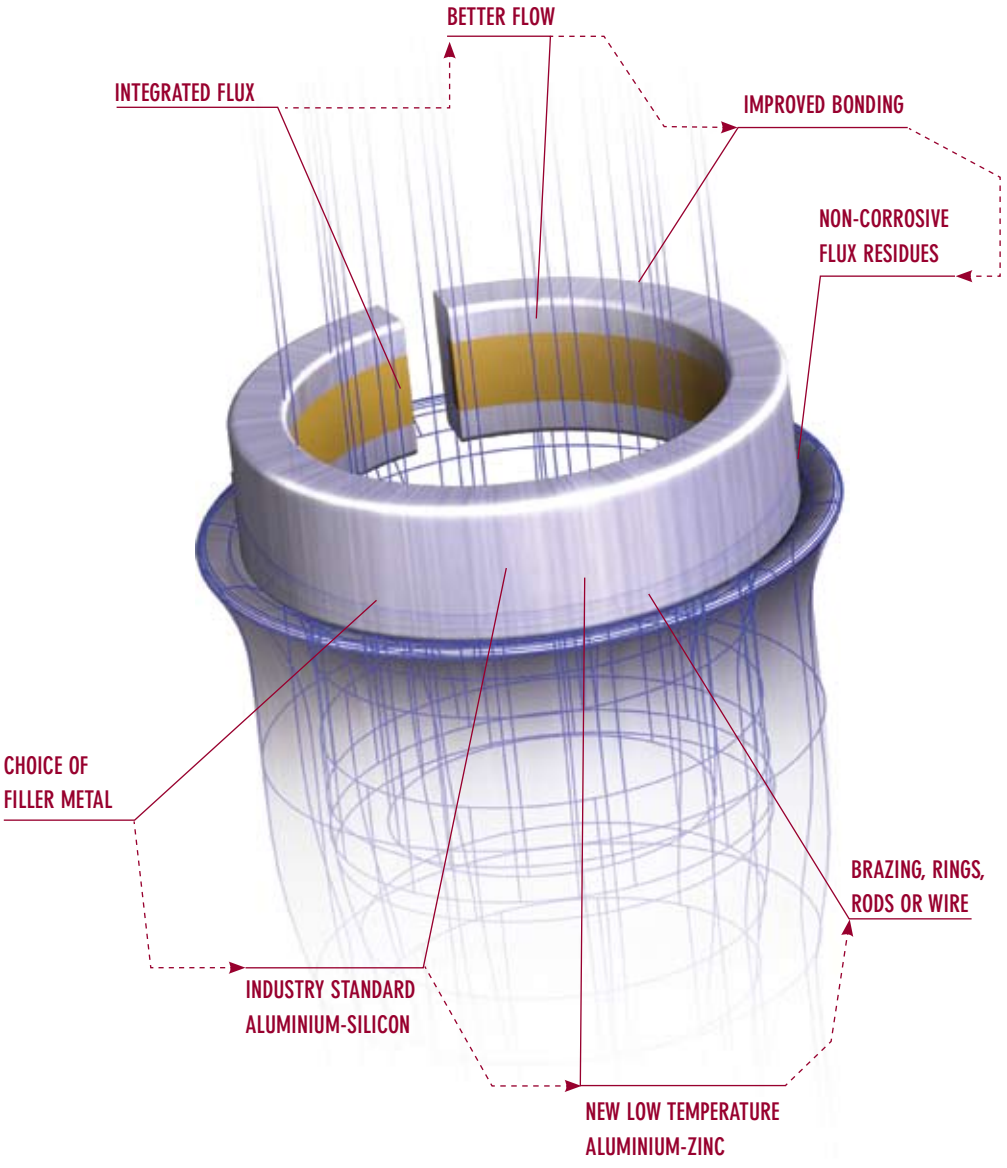
CHANNELFLUX™

ChannelFlux™ is a patent-pending family of brazing alloys with flux integrated into the material.

ChannelFlux™ products bring a new level of technology to the world of aluminum brazing. Developed by Bellman-Melcor, LLC the ChannelFlux™ products are being distributed by Johnson Matthey in the EU. These innovative new products can improve the engineering of components, reduce production costs, and make the repair of aluminium products viable. To find out how contact Johnson Matthey.



Unique Benefits of the ChannelFlux™ Products

Standard and New Filler Metals
The product is available in both the industry standard aluminium filler metal and a new lower temperature alloy.

Active Flux
ChannelFlux™ uses a highly active cesium containing flux.

No Post-Braze Cleaning
The flux is non-corrosive eliminating the need for post-braze cleaning and resulting in a reduced environmental impact.

Reduced Labour Cost
Combining alloy and flux simplifies their application to components.

Reduced Waste
Consistent alloy and flux volume reduces waste of brazing materials.

A Choice of Product Forms
ChannelFlux™ is suitable for automatic wire-feed, application by hand using a rod or by using one of several wire preform options.

Process Flexibility
The product is suitable for use in flame, induction and furnace brazing processes.

ChannelFlux™ Alloy / Flux Products

Product	Al	Zn	Si	Melting Range	Standard	Flux System
Alu-flo™ ZA-1 ChannelFlux™	22	78	-	441-471˚C	Proprietary product patent pending	Cesium-based non-corrosive
A new low temperature product combined with a leading flux to produce a breakthrough in aluminium brazing. The lower melting range provides a wider brazing process window and greater ease of use with this product.						
Alu-flo™ HT ChannelFlux™	88	-	12	575-585˚C	AWS A5.8 BAlSi-4, 4047, EN1044: 1999 AL104	Cesium-based non-corrosive
The industry standard aluminium-silicon brazing filler metal supplied as a ChannelFlux™ product, giving a cost effective engineered alternative to solid and cored products as well as brazing pastes.						

How to use ChannelFlux™

1 Before brazing can begin, mating parts must be clean, have the proper fit and be matched with equipment properly calibrated to braze aluminum.

2 The product form of the ChannelFlux™ (wire, rod or preformed ring) should be selected and designed for each application. Alloy and flux content are adjusted for optimum joint penetration. When using a ChannelFlux™ ring the dimensions and geometry can be designed for automatic loading on return bends.

3 The braze process begins with heat focused on the inserted tube. When using a ring this heating should take place above the ring. Conduction spreads the heat through the interior of the joint.

4 Approaching the braze temperature the flux system leaves the channel, either from the pre-placed ring or from the end of the rod or wire, which should be touched onto the joint interface periodically during heating to check for brazing temperature.
The cesium-based flux reduces oxides preparing the surface for metallurgical bonding.

5 The heat pattern is relocated below the joint to complete the melting process. Capillary attraction distributes the molten alloy through the joint interface. It is important to judge when the filler metal has penetrated the joint and not to continue heating after this point – it is possible to 'pull' the filler metal through the joint and out of the joint area.

6 The final result is a leak-free, ductile brazed joint that exceeds system performance requirements. No post-braze cleaning is required. Note: cycle time will vary from 5 to 30 seconds depending upon the heat source.

More information on ChannelFlux™
Visit **www.jm-metaljoining.com**
Consult **www.channelflux.com**

Please note
ChannelFlux™ ZA-1 is equivalent to Alu-flo™ ZA-1 ChannelFlux™
ChannelFlux™ 4047 is equivalent to Alu-flo™ HT ChannelFlux™

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