



WALLCOLMONOY  
HI TEMP BRAZING ALLOYS

# NICROBRAZNEWS

JUNE 2013

## Selecting Stop-Off™

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**Nicrobraz Stop-Off™** materials aid in brazing and heat treating operations by preventing unwanted filler metal flow and the accidental fusing together of parts

Nicrobraz Stop-Off™ materials were developed by Wall Colmonoy following the invention of **Nicrobraz®**, the nickel-based filler metal used in hydrogen atmosphere furnace, also pioneered by Wall Colmonoy.

Stop-Offs are used successfully in brazing, in controlled-atmosphere furnaces, with flux and torches, and in molten-salt dip brazing of aluminum.

Often we are asked which Stop-Off product best fits their application. Most likely, all of them work, but some may be more suitable than others.

Here are some tips on selecting Stop-Off.



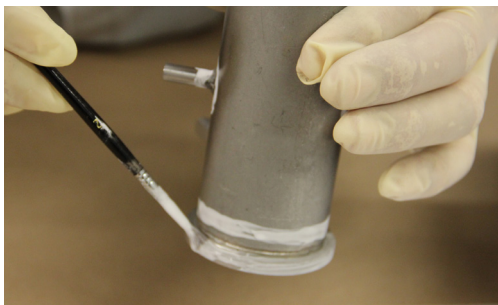


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## White, Red and Blue Stop-Off

Act as parting compounds, designed to prevent mating surfaces from being brazed together. They effectively prevent the flow of filler metal into unwanted areas.

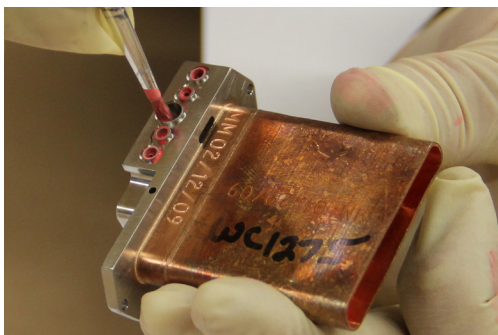


White Stop-Off brushed onto bracket

### Easiest to Remove White Stop-Off

Acting as a parting compound to prevent accidental brazing of touching surfaces during furnace brazing, Microbraz White Stop-Off can be applied by brushing, dipping, spraying, or with a syringe to small areas. After brazing, the remaining Stop-Off material can be easily brushed or wiped away.

Forms: Type I, Type II, Powder (used alone or with Microbraz Cement)



Red Stop-Off applied to small holes on an ultra-cell

### For Hard to Reach Internal Holes, Fine Threads, Wire Screens, or Parts with Fine Details Red Stop-Off

Microbraz Red Stop-Off, originally designed for a NASA application, is 100% chemically soluble. This assures complete removal of any remaining residue in small internal holes, fine threads, or wire screens, and similar delicate details where all traces of stop-off material must be removed following brazing.

Form: Type II



Blue Stop-Off brushed onto surface part

### For Use on Reactive Base Metals Blue Stop-Off

Microbraz Blue Stop-Off is formulated to work with reactive base metals, such as titanium and zirconium, and on super alloys, in extremely high temperature and ultra-high vacuum furnace atmosphere.

Form: Type II

## Green, Yellow and Orange Stop-Off

Surface-active materials that prevent high temperature molten filler metal from bonding to a protected surface, either by penetration or, by flowing under the Stop-Off.



Green Stop-Off pen in use

### Most Effective and Versatile Green Stop-Off

Nicrobraz Green Stop-Off is the strongest of all. It works with almost any type of base metal - except reactive metals, i.e. Ti, Zr. It can be used with any brazing method. It is the finest surface-protection agent and provides the best assurance for protecting a metal surface from a filler metal. Besides traditional liquid form, it also has the easiest-to-use PEN form. A little hard to remove but assures protection.

Forms: Type I, Type II, Felt-tip Pen



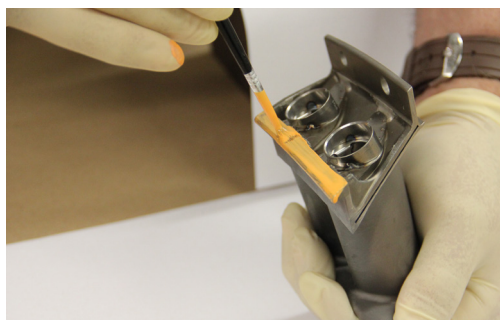
Yellow Stop-Off for Torch Brazing

image source: AWS Brazing Handbook P. 238

### For Open Air and Furnace Brazing Yellow Stop-Off

Nicrobraz Yellow Stop-Off can be used not only for furnace brazing, but also for open-air torch brazing. When a heavy layer of flux is being used, apply Microbraz Yellow Stop-Off as much as possible.

Form: Type II



Orange Stop-Off brushed on vane segment

### For Use in High Vacuum Furnaces and for Super-Plastic Forming Operation Orange Stop-Off

Nicrobraz Orange Stop-Off, as well as Blue Stop-Off, work effectively as a high-temperature lubricant and prevent damage to surfaces in contact and subject to movement in super-plastic forming operation.

Forms: Type I



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## Notes on Type I and Type II

### Type I

The solvent-based Type I materials are flammable, and should be handled as such. Normal caution should be exercised in their use. They should only be used in well-ventilated areas. Use if there is a chance of oil on the surface from the shop air. Type I is much thinner than Type II. Generally has a better bond to the base metal surface after application.

### Type II

The water-based Type II products may be preferable, since they have no objectionable smell and are not flammable. (Read the material safety data sheet, before use, for further instructions on using and storing these materials.) Make sure the surfaces are clean and oil free.

**For more information, please contact:**

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## About Wall Colmonoy and Brazing

Wall Colmonoy joins parts for high-temperature and corrosion applications using Nicrobraz®, Niferobraz®, and CuBraz™ brazing filler metals and brazing aids.

The pioneer of high-temperature brazing, Wall Colmonoy's expert brazing engineer, Bob Peaslee, invented a new brazing technology involving nickel-based filler metals and hydrogen atmosphere furnaces in 1950. As a result, the new filler metal, Nicrobraz®, was created.

Today, Nicrobraz®, Niferobraz®, and CuBraz™ brazing filler metals are used in a variety of industries including aerospace, oil & gas, steel, energy, food, automotive, rail and defense, meeting AWS, AMS, G.E., Honeywell, Pratt & Whitney and Rolls-Royce specifications. Nicrobraz products are available as powder, paste, transfer tape, rods and sheets in a full range of sizes and specifications. Wall Colmonoy also custom formulates brazing filler metals to meet customer specific requirements.

Aerobraz Engineered Technologies, a division of Wall Colmonoy, manufactures engineered components and provides technological solutions for the aerospace, energy, defense and transportation industries. This division meets aerospace quality standards in applications using the process of brazing, surfacing, welding, thermal processing, fabricating, machining and overhauling. Aerobraz Engineered Technologies has the engineering expertise to take concepts from design to prototype to production.

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