



Mufflers used in outdoor equipment to be brazed with Nicrobraz® 5027 in a humpback belt furnace

Nicrobraz® 5025 and 5027

Brazing Filler Metal
Composite Powders
with Nickel, Chromium,
Phosphorus, and Copper

Description:

Nicrobraz® 5025 and 5027 filler metals are blended composite materials. These materials are designed to be free flowing for use joining steels and stainless steels for combustion engine exhaust systems. Primarily brazed using hydrogen atmosphere or vacuum atmosphere furnaces. Since these filler metals are free flowing, they can be used in combination with Nicrogap™ products to fill large joint gaps as needed.

Nominal Composition - % by Weight:

Nicrobraz®	Cr	Cu	P	Ni
5025	7.0	50.0	5.0	Bal
5027	5.0	65.0	3.5	Bal

Forms Available:

Powder: Available as -106 micron (-140 mesh) powder is available.

Paste: Powder filler metals premixed with proprietary binders to produce viscous paste suspensions.

Physical Properties:

Melting Characteristics

Nicrobraz®	Solidus	Liquidus
5025 and 5027	890°C (1634°F)	1085°C (1984°F)

Suggested Brazing Temperatures:

Nicrobraz®	Brazing Temperature Range
5025 and 5027	1065-1150°C (1950-2100°F)

How to Braze:

Nicrobraz® filler metals are manufactured in powder form. They can be mixed with Nicrobraz® Cements to facilitate application via a syringe, dropper, or brush. Alternatively a drop of Cement can be used to hold the powder in place. The powder can also be applied using the Wall Colmonoy NicroSpray™ System.

Suggested Brazing Atmospheres:

Microbraz®	Vacuum	Atmosphere
5025 and 5027	Vacuum or partial pressure of Argon 10 ⁻¹ -10 ⁻³ torr	Pure dry Hydrogen with dew point <-50°C (<-60°F)

Joint strength is dependent on base metal composition and heat treatment, joint design, and brazing parameters.

Note that brazing can be accomplished at temperatures as low as 930°C (1706°F) if the atmosphere quality is very good (ie. Less than 20 micron/hour furnace leak up rate). Refer to FLUR TDS for further information. Lower temperatures can be used to aid in filling larger joint gaps and can produce an alloyed filler metal through liquid/solid diffusion processes.

Safety:

When handling metal powder alloys, avoid inhalation or contact with the skin or eyes. Conduct application operations in a properly ventilated area. For more information, consult, OSHA Safety and Health Standards available from U. S. Government Printing Office, Superintendent of Documents, P. O. Box 371054, Pittsburgh, PA 15250, and the manufacturer's Material Safety Data Sheet (MSDS). Read and understand the manufacturer's material safety data sheet before use.

Storage Requirements:

Keep powders in a closed container and protect against moisture pick-up. The containers should be tumbled before using the powder. If moisture is adsorbed from the atmosphere, it can be removed and flowability can be restored by drying the powder, with the seal removed and lid loosened, at 66 - 93°C (150 - 200°F) for two hours prior to use.

Wall Colmonoy Corporation (USA) and Wall Colmonoy Limited (UK) assume no responsibility for failure due to misuse or improper application of this product, or for any incidental damages arising out of the use of this material.

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