Complete brazing solutions for your brazing needs
Formula for successful partnerships...

Höganäs PoP Centres provides all necessary prerequisites for working with material development, application design and prototyping, as well as process optimisation under one roof. We collaborate with customers and end-users by testing and verifying new concepts that help drive the development of new brazing innovations.

Material development
The materials expertise to identify optimum, cost-efficient brazing filler metals and pastes.

Design
The design support to create innovative brazing paste solutions.

Process
The process know-how to ensure optimum production efficiency and quality.

...based on strong bonds

Brazing is a process that joins together two pieces of metal using a brazing filler metal as bonding material. The brazing filler metal powder, usually applied as paste, melts during brazing and completely fills the gap between the metal parts which remain solid during the process. After cooling, the result is a strong metallurgical bond.

“Working on R&D with Höganäs has been an enjoyable and very stimulating partnership going far beyond investigations of technological problems. It has been rewarding to work not simply with a company, but alongside painstakingly accumulated competence of the very highest order.”

Tomas Dahlberg, Innovation Manager, SWEP International AB

Equipment available at Höganäs PoP Centre
The Höganäs PoP Centre offers many different application techniques for pilot production and testing, including: roller coater, screen printer, automated robot dispenser and spraying equipment. Höganäs also offers customised brazing pastes, brazing pre-forms as well as drying furnaces and laboratory vacuum furnaces for the complete brazing solution customised to your needs.
Application-driven innovation

We regard every application project as an opportunity to help you find the best solution by providing a unique combination of commitment and knowledge.

The starting point is always your specific application needs. As our customer, you will work in close cooperation with us at every stage, from analysing all aspects of the application requirements, to the suggestion of an optimum solution with the desired properties.

As the global leader in metal powders, we have acquired in-depth knowledge about high-temperature brazing filler metals and how to fine-tune their properties. Moreover, we have the capacity and application knowledge required to turn brazing filler metals into optimum brazing paste solutions.

We want to make sure that your brazing solution consistently generates good results. For that reason we have established a global technical support network providing in-house as well as on site services. This means that our involvement does not end with delivery and that you can expect customer support every step of the way.

Why choose Höganäs?
With a partnership approach and unrivalled expertise, we are in a unique position to deliver cutting-edge solutions that cost-effectively match your application requirements. In Höganäs you will find a partner highly active in R&D, creating an ideal environment for joint development of new filler metals to meet changing market demands.

Delivering innovative solutions based on specific market requirements.
Brazing paste can be printed on plates or fins with layer thickness of 0.05-0.1 mm. The parts in the middle picture are printed with BrazeLet Ni2P-9002.

Screen and stencil printing

For selective application of brazing paste on flat parts with contour-sharp printing results on all layer thicknesses. One application is hole plates for Exhaust Gas Recirculation (EGR)-coolers.

How it works

Höganäs’ pastes can be applied with standard screen printing equipment. The parts to be printed are fixed in a tool and then moved to precisely congruent position underneath the screen. A squeegee spreads the brazing paste onto the top of the screen, coating it with paste. The layer thickness is adjusted through paste selection and screen mesh size. After coating is completed, the screen moves down on top of the parts and a printing squeegee presses the screen onto the printing parts. As a result, the paste is applied on the parts through the screen along the moving squeegee. The screen then releases the parts which are moved out of the printer for drying. After drying, the strong adhesion of the coating ensures simple part handling throughout successive processing and assembly.

If the print layout can be done by a stencil instead of a screen, the very same printer can be used for stencil printing application. Stencil printing is less time-consuming as it eliminates the paste-flooding step required for screen printing. The printing process can be automated to achieve high-volume output, and productivity can be scaled up by using multiple printings in a single print cycle.

Print it now

Turn to us for real-life paste application on your parts using screen and stencil printing. Our printer equipment provides the possibility of running pilot manufacturing and enables direct transfer of paste and process parameters to your production line. For increased productivity, it is possible to place several parts underneath the screen or stencil and print them in one print cycle.
Spraying

This method enables high-speed paste application on various designs within layer thicknesses of 0.03 to 0.05 mm.

For standard spray guns
The powder and paste properties are well designed for standard spray guns. By using micro spray units the spray field can be controlled to areas in the size of a single tube width.

Speed and automating
Increase spraying speed by using multiple spray units. Spray speeds up to 100 m/min allow installations of inline spraying systems right after a tube mill. High-speed drying can be achieved by means of an infra-red beamer. By partnering with spray cabin suppliers, automating solutions are available right from the shelf.

High process reliability
Well designed paste properties ensure repeatable spraying applications with consistent smooth coatings, fast drying speed as well as strong adhesion to withstand transport and handling during assembly.
Dispensing

This is the most commonly used paste application technique for heat exchangers. External heat exchanger housing parts, for instance inlet and outlet tubes as well as holders, are almost always applied by dispensing.

A straightforward process
Apply paste with compressed air or, for better precision, by using a screw-dispensing unit. The paste is fed in accurate volumes through a needle onto the application area and is applied adjacent to the brazing gap in the form of a dot or, by moving the dispenser over the part, as a line.

Clean and reliable
Your workspace can be kept clean since paste is delivered in cartridges for direct connection to a dispensing unit. The paste properties ensure no settlement and that paste always sticks after application, even on bevel and vertical surfaces.

Dispense it now
With our industrial robot and integrated screw dispensing unit, we provide automated dispensing application solutions for your assembly line. Test, application optimisation and qualification can be done in Höganäs PoP Centre in order to simplify the production process design and shorten your time to market.

Dispensed using Höganäs’ BrazLet® F300DW-9201.
Roller coating

Reduce paste consumption by applying thin coatings on selective part areas on for example flexible fins or turbulators.

**How it works**

Compared to spraying, roller coating application significantly reduces the total amount of required paste thanks to increased precision. A paste roller moves through a paste reservoir and absorbs paste to its surface while scrapers adjust the layer thickness. To transfer the paste from the roller to the fin tip or fin plateau, a belt feeds the applications along the paste roller. The amount of paste applied is adjusted through the thickness of the paste layer on the roller.

For endless fins, double-sided coatings are recommended. In this process the fins are fed horizontally between two paste-coated rollers to achieve a simultaneous coating of both sides. After drying, the strong coating adhesion ensures simple part handling during subsequent processing and assembly.

**Roll it now**

The Höganäs PoP Centre provides real-life roller coating paste applications on your parts. The roller coating equipment can be used for production, providing the opportunity to run pilot series under the same setting as your production line. Roller coating application has been tested with Höganäs’ paste in speeds up to 20 m/min with the possibility of multiplying productivity by parallel coatings on a single belt.

*Roller coated using Höganäs’ BrazeLet® Ni613R-8501.*

Roller coating applies brazing paste to parts in direct contact with the paste roller. To the far right an assembled metal catalytic converter with double side roller coated with BrazeLet Ni5R-8501 fin tips.
Metal powder technology has the power to open up a world of possibilities. The inherent properties of metal powders provide unique possibilities to tailor solutions to match your requirements. This is what we call Power of Powder, a concept to constantly widen and grow the range of metal powder applications. With its leading position in metal powder technology, Höganäs is perfectly placed to help you explore those possibilities as your application project partner.

A perfect example is our specially formulated iron-based powders, offering new solutions for high-temperature brazing. In the automotive industry and beyond, high-temperature brazing is widely adopted by component manufacturers because of its high strength and resistance to corrosion and oxidation. Increasingly tougher environmental regulations will only heighten the demand for brazing using nickel-based or stainless steel filler metals.

This is where Höganäs has developed patented solutions to produce cheaper, more competitive brazing alloys. Beyond the standard nickel-based brazing alloy grades, Höganäs BrazeLet® portfolio also includes tailor made iron-based brazing alloys for demanding applications. These brazing alloys are competitive in all aspects, such as corrosion resistance, wettability and strength.

To find out how you can apply the Power of Powder, please contact your nearest Höganäs office.