

VACUUM BRAZING

Vacuum brazing is a precision metal joining technique suitable for many component configurations in a wide range of materials..

Bodycote is recognised by international companies as the centre of excellence for vacuum brazing services. Clean and precise assembly of parts are undertaken in Bodycote's dedicated preparation areas by a skilled and experienced workforce.

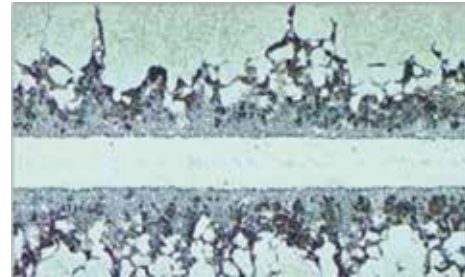
In Turkey, the vacuum brazing is a new technology and Bodycote ISTAŞ is serving this process successfully.

In our Gebze Plant, our vacuum furnace have 1000 kg capacity and 800 x 800 x 1200 mm dimensions.

Vacuum brazing has earned an enviable reputation in metal joining, creating maximum strength for precision components in a totally repeatable, clean process. Often the first choice of Aerospace and leading precision engineering designers, successful vacuum brazing depends upon engineering control of use of materials and joint design.

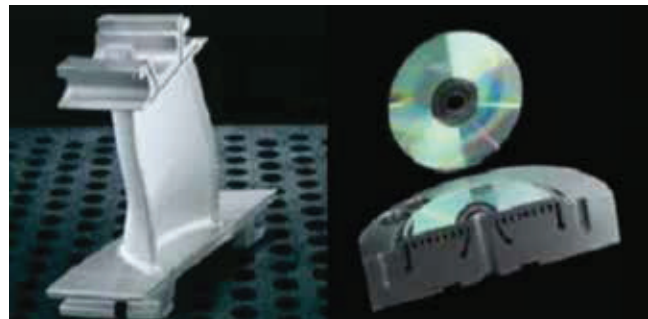
Vacuum brazing is applied at temperature over 450°C. The process temperature depends on melting point of the material of the components. Brazing process is made by a filling material having a melting point under the main component's melting point.

Vacuum brazing can be applied for all materials except lead, zinc and cadmium. With this process, metallic and non-metallic materials can be brazed.



Main Metal
Diffusion Region
Filling Material

*** Micro-structure of vacuum brazing



■ Advantages of Vacuum Brazing

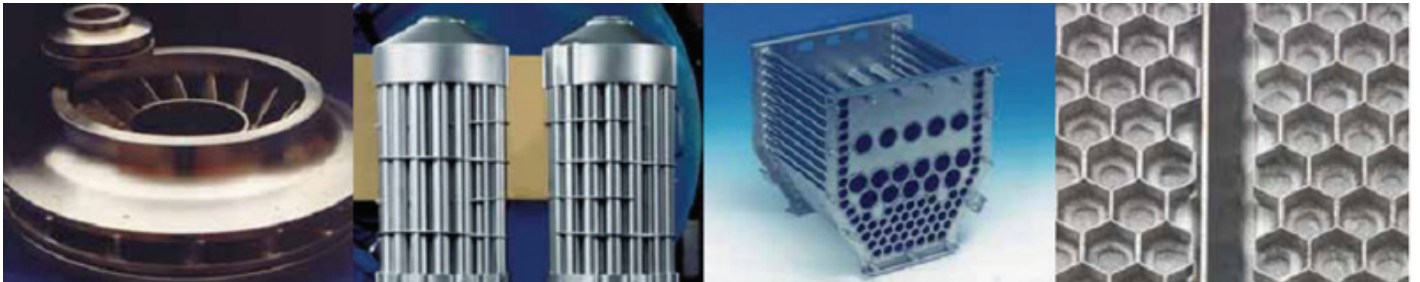
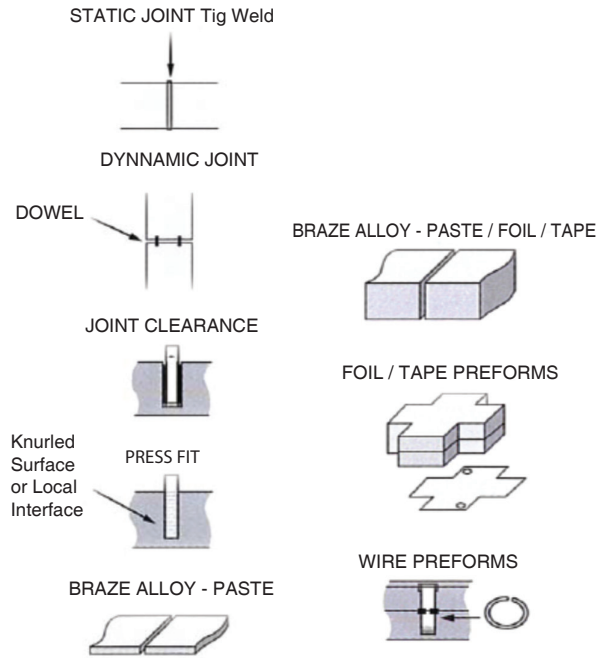
- Cost effective
- Yields clean reproducible high integrity joints
- Flux-free process removes the need for post-braze cleaning
- 'One-offs' to thousands can be brazed per furnace load
- Suitable for many component configurations in a wide range of materials
- Ideal for multi-joint assemblies
- High temperatures and vacuum combine to reduce the oxide layer, allowing the use of fluxless brazing alloys, ensuring strong joints without inclusions or porosity.
- Uniform heating and cooling rates minimise distortion
- Can be used for joining unweldable, dissimilar and non-metallic materials.

■ Applications of vacuum brazing

- Aerospace
- Automotive
- Moulding (i.e. plastic injection)
- Power Generation and Energy
- Medical, Scientific and General Engineering
- Nuclear
- Offshore and Petrochemical

The above Picture shows some brazing surface applications. From this picture, dynamic brazing surfaces, paste/foil/tape/preformed alloy samples can be seen.

Please contact us for your spesific requirements..



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