BODYCLAD® for protection and easy repairs

AB – Atmospheric Brazing
Additive coating of surfaces through brazing in an open-air atmosphere

>> Applications: wear and corrosion protection, and refurbishing and repair of surfaces that are worn, incorrectly produced or not dimensionally stable

Wear and corrosion causes losses amounting to billions of euros in Germany every year. Protecting component surfaces appropriately saves significant costs and makes production processes much more efficient. Repair helps to quickly improve the availability of high-quality components which may be expensive and very time-consuming to replace. The coatings can be individually adapted to the respective application.

In the case of the additive brazing of coatings, the parent metal is not melted and, unlike in the case of buildup welding, it is not re-melt. This means that even brittle or temperature-sensitive materials can be processed. In conventional procedures vacuum/inert gas furnaces and continuous furnaces are used as well as induction processes. Large components and surfaces that are difficult to access pose limitations. In these procedures the complete components must be heated to the brazing temperature, and the on-site mobile coating of components is not possible.

The BODYCLAD® AB procedure provides the solution to such problems. Surface coatings can be applied directly in an open-air atmosphere by using special coating systems.

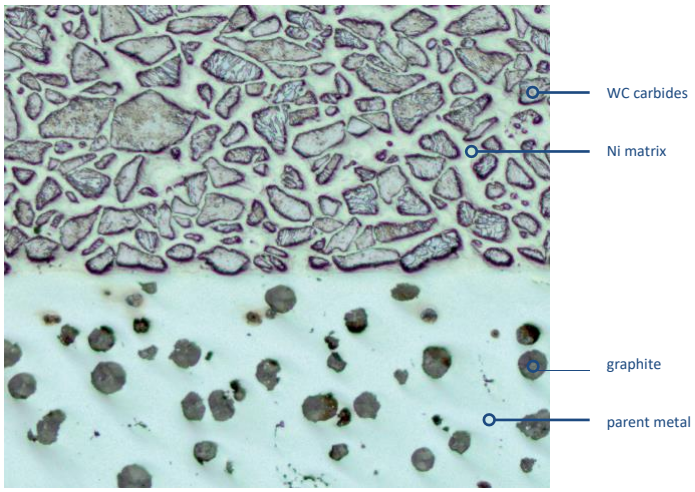
BODYCLAD®

BODYCLAD® benefits

- >> Carried out in an open-air atmosphere
- >> The component doesn't have to be fully heated to the brazing temperature
- >> Reliable and reproducible application of coatings
- >> Coatings can be directly applied to the component or be applied on-site
- >> Numerous coating materials based on Fe, Ni and Co are available for different applications
- >> Surface coatings can be reworked/finished
- >> Good levels of layer-adhesion due to diffusion, no mixing with the parent metal (unlike in the case of laser or buildup welding)
- >> Layer thicknesses of 0.05 to 10 mm
- >> Local coatings can be applied, for instance, in corners or grooves or on edges
- >> Extremely good wear resistance of up to 80% due to carbide additives
- >> Initial layer for buildup welding for the purpose of stress reduction

Applications:

- >> Repair and renovation
- >> Refurbishing of surfaces that are worn or not dimensionally stable
- >> Coatings for new parts
- >> Coating of cast irons and steels
- >> Agricultural engineering, motors, gearboxes, diesel engines, pistons, valve seats, moulds, fine screens, blades, mixers, runners, guides, vanes, screw conveyors, feed pipes, wear plates, augurs, cutting tools, conduits, chain segments, brackets, pump housings etc.



BODYCLAD® AB coating on cast iron (GGG-60). Layer type AB Ni63TC

Coatings:

Layer types	Hardnesses [HRC]	Description
Ni17, Ni 21, Ni26, Ni33, Ni36, Ni40	13-17, 18-21, 22-26, 28-33, 32-36, 35-40	Moulds, tools, seat/sealing surfaces, cast iron, steel and Al bronze
Ni50, Ni63	45-50, 56-63	Good wear and corrosion resistance, cast iron, steel, layers with formation of CrC
Ni63TC, Ni64TC	58-63, 59-64	High-temperature-resistant boride coatings with carbide additives in the layer