

## **Technical remarks and information on offers and order execution for heat treatment, coating, sintering and brazing technology**

Heat treatment, coating, brazing and sintering are processes whose success depends on numerous parameters. This also includes factors that are not within EUROMAT's sphere of influence. However, these can strongly influence the order result.

In order to achieve the best possible result, some points should be explained, taken into account or clearly clarified in advance:

### **A. Material properties / Product properties / Process properties**

- In the case of specified or predefined time-temperature cycles for soldering, sintering or heat treatment, we have no influence on the resulting material properties, as well as the mechanical (e.g. strength properties) or chemical properties. This is a complex process with many influencing variables.
- Basically, there is a risk of not discovering parts that have not been handled by the customer or have not been handled in accordance with the regulations, despite intensive and specified incoming inspection.
- Oxidation or surface discolouration can occur due to heat treatment, for instance on steels containing Cr, Ti or ceramics.
- Heat treatment can cause residual stresses from previous product steps to be released; this must be taken into account, especially in the case of brittle ceramics. Also, the parts may deform or relax during heat treatment. Therefore, no guarantee or warranty can be given for freedom from cracks, dimensional and shape accuracy. These properties are influenced by numerous factors that lie outside the heat treatment. We have no influence on the following failures of any kind, wear and/or cracking caused by post-treatment, post-processing or by the use of components and can therefore not provide any guarantee.
- Recommended process parameter curves cannot always be adhered to in brazing due to individual furnace characteristics. Negative effects on the material properties can therefore not be excluded. In the event of deviations, the brazing cycle must be checked on a case-by-case basis using the process documentation.
- When using active solders (e.g. containing Ti), very strong chemical reactions may occur with the base material. Solder can splash in the process and precipitate onto the component. Check this beforehand and protect the component with suitable covers if necessary. A warranty or guarantee for an absolutely plumb-free surface can therefore not be given.

### **B. Delivery and delivery conditions**

- The components are free of impurities, without preservatives, metallicly bright and without chips in stable packaging suitable for in-house and return transport.
- For components that have not been prepared or reconditioned by EUROMAT or that have not been assembled with the product we cannot give any assurance for an optimal heat treatment result.
- Any changes in the material or delivery conditions compared to the offer and successfully performed tests may lead to deviations in the result.

EUROMAT does not assume any warranty for deviations arising in this way. Changes must be indicated so that a continuously consistent quality can be ensured.

- A 100% inspection of the features ordered is not part of our offers, unless otherwise mentioned.

**C. Documentation and data to be supplied**

- All data, information and test parameters required for heat treatment, in particular for parts that are used in an area of application requiring documentation, such as EUV technology, the automotive industry, medicine and aerospace, must be enclosed by the customer with the order. In the event of an order, please refer to our offer on your delivery note or order.
- Our offer includes manually executed individual steps, if necessary.

**D. Other**

- We would like to draw your attention to the fact that requirements such as general terms and conditions of delivery, purchasing conditions, quality agreements, etc., which have not been agreed in writing with EUROMAT, will not be taken into account either for the offer or for the processing of the order.
- If subsequent technical changes to the component or in the manufacturing process, as well as additions, changes to packaging, testing, charging, transport regulations, or increased qualification costs are requested in deviation from the offer, EUROMAT reserves the right to adjust the price in accordance with the additional expenditure incurred.
- We generally cannot give any assurance of the success of the heat treatment for initial orders, trial samples, and sample and prototype production, . Sample parts should be treated in advance. Series production is only released after successful sample treatment.
- EUROMAT can only guarantee the result of a heat treatment until the time of delivery. It is the customer's responsibility to ensure through suitable measures in subsequent processes that the desired product properties are also given beyond this. Therefore, additional test steps or, as far as possible, process-inherent technical solutions are recommended for these processes. we are happy to offer these on request.
- The general terms and conditions -AGB- of EUROMAT remain unaffected by these technical statements.