



Technical Data Sheet

Ceramium® BD

Ceramium BD is a cold-setting two-component construction adhesive on basis of epoxy resin / ceramic for high-strength bonding

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MultiMetall
the MetalExistenceCompany™

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Technical Data Sheet

Ceramium® BD

Product description

Ceramium BD is a cold-setting two-component construction adhesive on basis of epoxy resin / ceramic, which has been developed for high-strength bonding. The application is the joining of materials (i.e. metals, ceramics and plastics) with high strength at high mechanical, static and dynamic loads.

Advantages of Ceramium BD

- outstanding strength after short hardening at room temperature
- very good temperature resistance
- excellent chemical resistance
- easy and small dispensing

Technical data

| | |
|--|----------------------------|
| Application consistency: | brushable |
| Compressive strength (DIN EN ISO 604): | 130 MPa (18850 psi) |
| Tensile strength (DIN EN ISO 527): | 42 MPa (6090 psi) |
| E-module (DIN EN ISO 527): | 11.435 MPa (1.658.075 psi) |

At the following measurements the samples hardened first for 24 h at 23 °C. The tensile shearing strength has been determined according to DIN EN 1465.

| Tensile shearing strength in MPa (in psi) | Steel St37 Steel St37 | Tin Tin | Al ₂ O ₃ 92% Steel St37 | Al ₂ O ₃ Polyamide (nylon) |
|---|--------------------------|--------------|--|--|
| at test temperature 23 °C in | 41 (5945) | 14 (2030) | 40 (5800) | 5,5 (797,5) |
| at test temperature 200 °C | | | 4 (580) | |
| after storage 1000 h at 200 °C | | | 6 (870) | |
| after storage 1000 h at temperature change - 40 °C - + 80 °C | | | 36 (5220) | |
| after storage 1000 h and climate test at 85°C and 85% relative humidity | | | (4930) | 346,5 (942,5) |

Ability of filling gaps

(Tolerance compensating): approx. 4 mm
Operation temperature: approx. -40 °C to +200 °C

Corrosion:

Electrochemical corrosion

(DIN 50900):

Density (mixed components): 1,95 g/cm³

Chemical resistance

Already after curing a very good resistance is existent; highest resistance is effected after curing for approx. 6 days at approx. 21°C (alternatively for approx. 4 h at approx. 21°C followed by approx. 15 h at 35 - 40°C). The resistance to chemical stress like acids, caustic solutions, solvents, salts, gases, etc. depends on the concentration, temperature and duration of the exposure. Further details can be given on request.

Further information indicating resistances to certain chemicals/media can be sent upon request. Nevertheless

we recommend carrying out tests before starting the actual operation with Ceramium BD to check the influence of the particular medium on the strength of the bonded compounds.

Surface preparation

- Best strengths are reached when the surfaces are mechanically roughened, blasted or chemically treated.
- Thoroughly degrease with MM-Degreaser Z or MM-Degreaser C or at least a good grease dissolver (ethyl acetate, acetone,...); don't use alcohol, benzine or paint thinner

Processing data

| Mixing ratio by: | Weight | Volume |
|-----------------------------|-------------|------------------------|
| Ceramium BD | 15 | 8 |
| Hardener BD | 1 | 1 |
| Tool | | Measuring spoon yellow |
| Pot life at 23 °C: | 30 – 40 min | |
| Handling strength at 23 °C: | 4 h | |
| Curing at 23 °C: | 24 -48 h | |

A bonding should not be carried out below temperatures of +5 °C.

Application instruction

Before mixing the components, the areas to be joined should be prepared in accordance with the surface preparation. Always use clean tools for the removal of the components to avoid a reaction within the tins. We recommend mixing only the quantity of material which can be processed within the pot life. Under consideration of the mixing ratio the components must be mixed very thoroughly until the hardener has been evenly spread among the resin.

The available measuring spoons yellow can be used to measure the required volume parts of the components. The large measuring spoon is for the use of Ceramium BD, the small spoon is for Hardener BD. Spoons must be filled levelled. The resulting quantity of the filled spoons is approx. 38 g. This small dosage facilitates an easy quantity with easy processing.

The mixture can be applied to the pre-treated and dry surfaces with a spatula. After the application the work pieces should be joined and fixed immediately. A good contact pressure guarantees an optimum bonding. Adhesive joints of a thickness of 0,1 – 0,2 mm generally lead to the best strengths.

A post-curing over 2 h at a temperature of approx. 65 °C gives even higher strengths.

All used tools should be cleaned straight after use.

Working security

Avoid eye and skin contact. In case of skin contact, wash thoroughly with soap and water. In case of eye contact, rinse thoroughly with water.

Storage

Both components (Ceranium BD + Hardener BD) can be stored for at least 5 years, if kept at temperatures below 25 °C. The materials do not lose their high quality performance after repeated openings of the containers.

the products lie outside our possible control and are therefore the sole responsibility of the user.

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Order information

| No. | Product | Unit |
|-----|------------------------|---------|
| 455 | Ceranium BD, pasty | 750 g |
| 456 | Hardener BD, liquid | 50 g |
| No. | Accessories | Unit |
| 26 | Measuring spoon yellow | 1 set |
| 10 | MM-Degreaser Z, liquid | 1000 ml |
| 11 | MM-Degreaser Z, liquid | 250 ml |
| 24 | MM-Degreaser C, liquid | 250 ml |

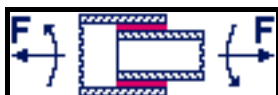
Bonding structures



A simple and economically effective adhesive bond with good strength values
(load type tensile and compressive fatigue)



For the highest requirements. No deformation of the bond due to symmetrical force distribution
(load type tensile and compressive fatigue)



With the right application, the tubular socket connection can replace expensive fitting
(load type tensile and compressive fatigue, torsion)



The effect of peeling forces should be avoided by means of correct adhesion
(load type tensile and compressive fatigue)

Availability

Technical data sheets are generally available in German or English language. Ceranium BD is only produced in Germany and delivered worldwide within short time by MultiMetall. In addition to that our products are internationally available from many MultiMetall-partners. Ask for further products from MultiMetall.

Note

The product information and instructions provided in this leaflet were prepared to the best of our knowledge and serve information purposes only. We recommend that appropriate tests are carried out prior to application in order to ensure that the products and methods fulfil the purpose desired by the user. In this procedure, the given data may serve as a basis. Application and processing of

