# Munkadur® TW Bfree – Technical Data Sheet

## Munkadur® TW Bfree

**Solvent-and benzyl alcohol-free Epoxy hot spraying coating for metal and concrete for use in the drinking water sector**

**Product**

- Solvent-free 2-components coating based on epoxy resin
- Surface area processing in 2-components hot spraying process
- Extremely durable, chemically resistant, and long-lasting
- Physiologically harmless
- Tested by experts according to KTW-BWGL and DIN EN 16421:2015-05
- certified according to System 1+ with external monitoring

**Areas of application**

- Internal coating for tanks and containers in the drinking water sector
- References for drinking water
- Proven for more than 15 years in daily use

**Product characteristics**

- Suitable for drinking water up to 23° C
- Very good adhesion to steel, stainless steel, aluminum and mineral surfaces
- Single coat application
- Testing of coating for porousness with electro-conductive substrates

## Product Data

**Colour**

| | |
|---|---|
| Base component: | blue |
| Hardener component: | bluewhite |
| Mixture: | light blue |

(All information to colours are approximate values and no RAL-colours.)

**Appearance**

Satin-finished, smooth, glassy surface

**Packaging**

| | |
|---|---|
| Base component: | 12.5 liter UN bucket |
| Hardener component: | 12.5 liter UN bucket |

**Shelf life**

Original buckets filled and unopened
2 years in a dry and cool storage area

**Coating-Suggestions**

Steel, stainless steel, aluminum

- 1x Munkadur® TW Bfree
- Minimum layer thickness: 400 µm
- Maximum layer thickness: 700 – 800 µm according to ambient conditions


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Concrete
- Reprofiling and applying a sustainable coat made of physiologically harmless polymer mortar
- 1x Munkadur® TW Bfree
- Minimum layer thickness: 400 µm
- Maximum layer thickness: 700 – 800 µm according to ambient conditions

**Surface preparation**

Steel
- Removal of welding beads, grinding down of welding seams and welding-seam overlaps
- Shot blasting according to SA 2 ½, free of dirt, grease and oil
- Average surface roughness: Rz > 40 µm

Stainless steel/aluminum
- Clean and blast with a non-ferritic blasting abrasive
- Average surface roughness: Rz > 40 µm

Concrete
- The surface to be coated must comply with technical building standards, be load bearing, solid, and free of bond-damaging substances.
- The surface tensile strength should be at least 1.5 N/mm$^2$ on average and may not fall below 1.0 N/mm$^2$ with the smallest individual value.
- Maximum residual moisture of 4 % according to CM-method.
- After blasting, at least one layer of physiologically harmless polymer-mortar adapted to the system has to be used for reprofiling and creating a continuous base course.

## Technical Data

**Material consumption**

Approx. 1.2 kg/sq. meter (depending on the size of the container and ambient temperature)

**Density**

Base: approx. 1.245 kg/l
Hardener: approx. 1.520 kg/l
Mixture: approx. 1.380 kg/l

**Mixing ratio**

1 : 1 (proportion of weight)
1.25 : 1 (proportion of volume) Pump with fixed mixing ratio


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**Resistance**

Chemical influences
- For pure chemicals: see M+S Resistance List
- For cleaning and disinfection agents: see M+S Compatibility List

Mechanical influences
Hardness > 90 according to Buchholz

Temperature
<23 °C water, higher temperatures and media after testing

**Munkadur surface roughness**

Rz: 1.5 – 2.0 µm
Ra: 0.2 – 0.3 µm

**Pull-off test adhesion** (ISO 4624:2016-08)

> 5 N/mm²

## Processing Instructions / Conditions

**Preparation of the material**

Heat up buckets with base and hardener separated from each other to approx. 60 °C for maximally 18 h, fill into 2-components hot spraying unit and start coating procedure.

Please note:
Hardener material that has already been heated up once has to be used with caution. Hardener material is temperature sensitive. Not more than 30 % of Hardener in the spraying unit may consist of material that has been heated up more than one time.

**Processing methods**

Hot spraying
With special 2-components hot spraying unit
Undiluted

| | |
|---|---|
| Spray nozzle: | 0.68 - 0.83 mm (0.68 mm) |
| Temperature of base: | 60 - 70 °C* |
| Temperature of hardener: | 60 °C* |
| Temperature of tank wall: | > 10 °C |
| Relative humidity: | max. 80 % |

Dew-point temperature must be at least 3 °C below the temperature of the substrate to be coated.

Smoothing over / painting
Only for small surface repair spots or improvements only, see also:
Repair instructions for Munkadur® TW Bfree

Please note:
Munkadur® TW Bfree must not be diluted!

| | |
|---|---|
| **Pot life** | approx. 40 minutes at 18 °C |
| **Curing time** | - At a minimum of 18 °C after 8 days, surface will be resistant to mechanical stresses and chemicals<br>- Temperatures > 18 °C will not shorten the hardening |
| **Waiting time between two operations** | - Maximum of 2 hours at no more than 20 °C<br>- For longer intermediate hardening times, shot blasting the coating is necessary |
| **Reworking** | Solely with itself |
| **Final drying time** | - Fully resistant to mechanical stress and chemicals after 8 days at a minimum of 18 °C<br>- Tanks/containers can be closed immediately after the coating work<br>- No fresh air supply is required for full cure |
| **Advice for initial filling** | Before their initial filling, newly coated tanks or containers are to be cleaned and, if necessary, disinfected in compliance with the M+S Compatibility List for cleaning and disinfection agents. |
| **Data basis** | All technical data, dimensions and information in this data sheet are based on laboratory results and measurements. Depending on different environmental parameters and influences that are beyond our area of influence, the actual data may vary. |
| **Exclusion of liability** | The afore-mentioned information, especially the recommendations for processing and using our product, are based on our knowledge and experience in a normal case, provided that the product has been properly stored and used. Due to the varying substrate materials and differing working conditions, a guarantee of work results or liability from any kind of legal relationship cannot be established from this information or from verbal consultation. |


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