

## Munkadur GL – Technical Data Sheet

### Munkadur GL

**Solvent-free Epoxy hot spraying coating for metal and concrete for use in the food 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 EU and US guidelines (FDA)
- Areas of application**
- Internal coating for tanks and containers in the food industry
  - References for beer, wine, sparkling wine and mineral water
  - Proven for more than 15 years in daily use
- Product characteristics**
- Suitable for foods such as beer, wine, sparkling wine and mineral water; further foods upon request
  - 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**
- |                     |                    |              |
|---------------------|--------------------|--------------|
|                     | <b>sand yellow</b> | <b>brown</b> |
| Base component:     | transparent yellow | yellow       |
| Hardener component: | sand yellow        | dark brown   |
| Mixture :           | sand yellow        | dark brown   |
- (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 GL
- |                          |  |
|--------------------------|--|
| Average layer thickness: | 500 µm                                       |
| Minimum layer thickness: | 350 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 GL

Average layer thickness: 500 µm  
 Minimum layer thickness: 350 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<sup>2</sup> on average and may not fall below 1.0 N/mm<sup>2</sup> with the smallest individual value
- Maximum residual moisture of 4 % according to CM-method
- After blasting, only physiologically harmless polymer-mortar adapted to the system may be used for reprofiling and creating a continuous base course

## Technical Data

### Material consumption

Approx. 1.5 kg/sq. meter (depending on the size of the container and ambient temperature)

### Specific weight

Colour	sand yellow	brown
Base:	approx. 1,410 kg/l	approx. 1,413 kg/l
Hardener:	approx. 1,408 kg/l	approx. 1,412 kg/l
Mixture:	approx. 1,409 kg/l	approx. 1,413 kg/l

### Mixing ratio

1 : 1 (proportion of weight)  
 1 : 1 (proportion of volume)

### 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

40 °C water, higher temperatures and media after testing

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**Heat conductivity** 0.25 kcal/m/h/°C or 2.9 W/cm x K at 10 °C

**Munkadur surface roughness** Rz: 1.5 – 2 µm  
Ra: 0.2 – 0.3 µm

### Processing Instructions/Conditions

**Preparation of the material** Heat up bucket with base and hardener separated from each other to approx. 70 °C, homogenize and fill in 2-components hot spraying unit

**Processing methods** Hot spraying

- With special 2-components hot spraying unit
- Undiluted
- Spray nozzle: 0.53 mm to 0.76 mm
- Temperature of base: 80 °C
- Temperature of hardener: 80 °C
- Temperature of tank wall: > 15 °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

- Undiluted
- For small surface repair spots or improvements only,  
See: Repair instructions for Munkadur GL

Munkadur GL 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
- Temperatures > 18 °C will not shorten the hardening

**Waiting time between two operations**

- Maximum of 2 hours at no more than 20 °C
- For longer intermediate hardening times, shot blasting the coating is necessary

**Reworking** Solely with itself

**Final drying time**

- Fully resistant to mechanical stresses and chemicals after 8 days at a minimum of 18 °C
- Tanks/containers can be closed immediately after the coating work
- 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.

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<b>Data basis</b>	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.
<b>Exclusion of liability</b>	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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