



# ELASTOMASTIC™ TFN

## EPOXY-POLYURETHANE LIQUID PLASTIC

Revised 09/2023 Issue 2

### PRODUCT DESCRIPTION

A thick-layer 2-pack epoxy-polyurethane liquid plastic for creating tough elastic and mechanically high resistant coatings on steel and concrete.

- High performance corrosion protection
- Mechanical, tough elastic- and impact resistant
- Very good adhesion on steel and concrete
- Anti-slip surface

### RECOMMENDED USE

Can be used as a high-quality coating e.g. for bridge decks, inspection sidewalks, pavements, bicycle tracks, traffic areas, railway bridges, curbs and inside of ballast troughs.

For application of thick-layer, wear-resistant, highly mechanically resistant and at the same time chemically resistant corrosion protection system.

For levelling or producing slope surfaces to avoid standing water puddles.

### PRODUCT TECHNICAL DATA

<b>Volume Solids:</b>	100 ± 2% (ISO 3233-3)
<b>Weight Solids:</b>	100 ± 2%
<b>VOC:</b>	0 g/l determined practically in accordance with Protective Coatings Directive of German Paint Industry Association (VdL-RL 04). 6 g/l calculated from formulation to satisfy EC Solvent Emissions Directive. 4 g/kg calculated from formulation to satisfy EC Solvent Emissions Directive (UK).
<b>Colours:</b>	Dust grey (approx. RAL 7037)
<b>Flash Point:</b>	Base: > 101°C, Hardener: > 101°C.
<b>Cleaner/Thinner:</b>	Cleaner 26 or Thinner EG (for cleaning). Thoroughly clean tools and equipment immediately after use. Do not thin Elastomastic™ TFN.
<b>Pack Size:</b>	A two component material supplied in separate containers to be mixed prior to use: 20 kg (15.3 litre) unit when mixed. Volume will vary with colours and density.
<b>Mixing Ratio:</b>	40 parts base to 60 parts hardener by weight + aggregate (quartz sand or DUROP)
<b>Density:</b>	Without aggregate: 1.3 kg/l With aggregate quartz sand: 1.75 kg/l With aggregate DUROP: 1.9 kg/l (may vary with colours)
<b>Shelf Life:</b>	2 years from date of manufacture, stored in originally sealed containers in a cool and dry environment.
<b>Recommended Application Methods:</b>	Trowel, serrated trowel, squeegee.

Typical Thickness:		
Recommended Spreading Rate Per Coat - For road surface and side walk according to ZTV-ING, part 6, chapter 5:		
	Pavements and bicycle tracks	Road surface
Primer coat Theoretical Consumption for 80 µm:	Macropoxy® HM Primer Plus: 0.176 kg/m <sup>2</sup> 0.118 l/m <sup>2</sup>	Macropoxy® HM Primer Plus: 0.176 kg/m <sup>2</sup> 0.118 l/m <sup>2</sup>
Topcoat	Elastomastic™ TFN	Elastomastic™ TFN
Layer thickness	≥ 4 - 6 mm	≥ 6 - 10 mm
Mixing ratio* binder/aggregate:	1: 1	1: 1
Aggregate and broadcasting material	Quartz sand 0.7-1.2 mm <sup>†</sup>	DUROP 2-3 mm <sup>††§</sup>
Theoretical material consumption	for 6 mm thickness 4.5 kg/m <sup>2</sup> binder 4.5 kg/m <sup>2</sup> aggregate 3.0 kg/m <sup>2</sup> broadcasting aggregate	for 10 mm thickness 8.5 kg/m <sup>2</sup> binder 8.5 kg/m <sup>2</sup> aggregate 4.0 kg/m <sup>2</sup> broadcasting aggregate
Practical broadcasting material consumption	6 kg/m <sup>2</sup>	8 kg/m <sup>2</sup>
Coloured top sealer (optional)	1 x Acrolon® EG-5 0.5 - 0.7 kg/m <sup>2</sup>	

\* If application temperatures are lower than +15°C the addition of aggregate can be reduced down to a ratio of 1: 0.7.

† 2 layer system: The aggregate for filling the 1st and 2nd layer and for broadcasting the 1st layer (not in excess) is quartz sand 0.4-0.7 mm. The 2nd layer has to be broadcasted with quartz sand 0.7-1.2 mm.

†† 2 layer system: The aggregate for filling the 1st and 2nd layer and for broadcasting the 1st layer (not in excess) is DUROP 1/2. The 2nd layer has to be broadcasted with DUROP 2/3.

§ Source of DUROP: KORODUR Westphal Hartbeton GmbH & Co.KG (www.korodur.de)

Before applying the 2nd layer the non-adherent bonded quartz sand resp. DUROP has to be brushed off.

For slope surfaces 0.5-1.5% by weight extender ARBOTHIX® PE-100 (related to ready mixed material) must be added to prevent sagging; the dosage depends on the ambient and material temperature.



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### PRODUCT TECHNICAL DATA (cont.)

**For ballast troughs according to DBS 918084 (German Railway) Elastomastic™ TFN not filled with quartz sand:**

Optional 1 x Macropoxy® HM Primer Plus, dry film thickness 80 µm  
Horizontal surfaces: Layer thickness 4 mm.

Apply Elastomastic™ TFN in 3 mm, consumption approx. 3.9 kg/m<sup>2</sup>.

Broadcasting with quartz sand 0.4-0.7 mm in excess (8-10 kg/m<sup>2</sup>).

Vertical surfaces: Layer thickness 2 mm.

Apply Elastomastic™ TFN in two layers, 1 mm each by adding 2-3% w/w extender ARBOTHIX® PE-100, consumption approx. 1.3 kg/m<sup>2</sup> per layer.

Broadcasting with quartz sand 0.4-0.7 mm after each layer.

**Elastomastic™ TFN, filled with quartz sand:**

Optional 1 x Macropoxy® HM Primer Plus, dry film thickness 80 µm  
Horizontal surfaces: Layer thickness 4 mm.

Apply Elastomastic™ TFN, 1:1 filled with quartz sand 0.4-0.7 mm in 4 mm.

Consumption of binder and quartz sand each approx. 3.0 kg/m<sup>2</sup>.

Broadcasting with quartz sand 0.4-0.7 mm in excess (6 kg/m<sup>2</sup>).

Vertical surfaces: Layer thickness 2 mm.

Apply Elastomastic™ TFN, 1:1 filled with quartz sand 0.4-0.7 mm in two layers, 1 mm each by adding 2-3% w/w extender ARBOTHIX® PE-100.

Consumption of binder and quartz sand each approx. 0.75 kg/m<sup>2</sup> per layer.

Broadcasting with quartz sand 0.4-0.7 mm after each layer.

**For concrete surfaces:**

System	Product	Material consumption
<b>1st Primer coat</b>	Resuprime™ ST	approx. 0.4 kg/m <sup>2</sup>
	broadcasted with quartz sand 0.4-0.7 mm	approx. 1.2 kg/m <sup>2</sup>
<b>2nd Primer coat</b>	Resuprime™ ST	approx. 0.4 kg/m <sup>2</sup>
<b>Top coat</b> horizontal: 5 - 6 mm binder aggregate broadcasting	Elastomastic™ TFN quartz sand 0.4-0.7 mm quartz sand 0.4-0.7 mm	for 6 mm thickness approx. 4.5 kg/m <sup>2</sup>
		approx. 4.5 kg/m <sup>2</sup> approx. 6.0 kg/m <sup>2</sup>
<b>Top coat</b> vertical: 3 mm binder aggregate broadcasting	Elastomastic™ TFN quartz sand 0.4-0.7 mm quartz sand 0.4-0.7 mm	for 3 mm thickness approx. 2.5 kg/m <sup>2</sup>
		approx. 2.5 kg/m <sup>2</sup> approx. 2.0 kg/m <sup>2</sup>
<b>Coloured top sealer</b> (optional)	1 x Acrolon® EG-5	approx. 0.5 - 0.7 kg/m <sup>2</sup>

**Pot Life:**

+ 10°C	+ 20°C	+ 30°C
1.5 hours	1 hour	0.5 hours

Pot life is dependent on temperature and volume.

### AVERAGE DRYING TIMES

**For 4 - 10 mm Dry Film Thickness:**

	+ 10°C	+ 15°C	+ 20°C	+ 30°C
Walkable	48 hours	20 hours	12 hours	6 hours

Minimum and maximum recoat intervals (at + 20°C)

Between Macropoxy® HM Primer Plus and Elastomastic™ TFN:

Min. 1 day

Max. 1 month

Prime once again with 1 x Macropoxy® HM Primer Plus in the case of extended recoating times.

Between 1st and 2nd layer of Elastomastic™ TFN:

Min. 1 day

Max. 1 month

In the case of extended recoating times the surface must be grinded or sweep-blasted.

Between Elastomastic™ TFN and Acrolon® EG-5:

Min. 1 day

Max. 1 month

Between Resuprime™ ST and Elastomastic™ TFN:

Min. 12 hours

Max. 2 days

Prior to further applications all contamination must be removed.

Final cure: 1 week, depending on film thickness and temperature.

Ballast can be placed after 3 days.

These figures are given as a guide only. Factors such as air movement, film thickness and humidity must also be considered.

### APPROVALS & ENDORSEMENTS

- Approved according to the German standard 'TL RHD-ST' (road surface and sidewalk)
- Approved according to the German Railway Standard DBS 918084 (Blatt 84) for riveted and welded steel bridges with ballast (ballast troughs)
- For use as an anti-slip-finish according to DIN 51130 a test report is available (anti-slip factor R 12 resp. R 13).
- Coating based on epoxy-polyurethane resin for concrete protection according to EN 1504-2, DoP, with CE-mark.



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### SURFACE PREPARATION

#### Concrete:

Concrete substrates must be structurally sound and of sufficient compressive strength (min. 25 N/mm<sup>2</sup>).

The surface must be dry, firm, fine gripping, free from loose and friable particles, mortar laitance, dust and other contaminations. Residual moisture content not above 4% according to CM. The average value of surface tensile strength should not be below 1.5 N/mm<sup>2</sup>.

Concrete substrates and PCC mortars must be prepared mechanically using suitable abrasive blast-cleaning or milling equipment to remove cement laitance and achieve an open textured gripping surface profile.

#### Steel:

Ensure surfaces to be coated are clean, dry and free from all surface contamination such as oil, grease, dirt and corrosion products to achieve satisfactory adhesion.

Steel substrates shall be blast-cleaned to Sa 2½ according to ISO 8501-1 (ISO 12944-4).

Average surface profile Rz ≥ 50 µm (medium (G)), according to ISO 8503-2. For ballast troughs surface profile Rz ≥ 85 µm (coarse (G)) is required.

### MIXING

Stir component A very thoroughly using a mechanical paint mixer (start slowly, then increase up to approx. 300 rpm). Add component B carefully and mix both components very thoroughly (including sides and bottom of the container). Mix for at least 3 minutes until a homogeneous mixture is achieved. We recommend to fill the mixed material into a clean container and mix again shortly to avoid incorrect mixing. Add the aggregates if necessary and mix again as described above. During mixing and handling of the materials always wear protective goggles, suitable gloves and other protective clothing.

### APPLICATION CONDITIONS

Substrate temperature shall be between + 10°C and + 40°C\* and at least 3°C above the dew point.

Material temperature shall be above + 20°C.

Relative air humidity shall be below 85%.

### APPLICATION EQUIPMENT

#### Trowel

Apply Elastomastic™ TFN by using a trowel, squeegee, serrated trowel or similar.

Spread the freshly applied layer with a spike roller and broadcast with quartz sand resp. DUROP approx. 15 minutes after application (at + 20°C).

### RECOMMENDED SYSTEMS

#### Coating system for sidewalks (4 - 6 mm)

1 x Macropoxy® HM Primer Plus

1 x Elastomastic™ TFN

1:1 filled with quartz sand 0.7-1.2 mm broadcasted in excess with quartz sand 0.7-1.2 mm

1 x Acrolon® EG-5 (optional coloured top sealer if required)

#### Coating system for road surfaces (6 - 10 mm)

1 x Macropoxy® HM Primer Plus

1 x Elastomastic™ TFN

1:1 filled with DUROP 2-3 mm broadcasted in excess with DUROP 2-3 mm

#### Coating system for ballast troughs of railway bridges (2 - 4 mm)

1 x Macropoxy® HM Primer Plus (optional)

1 x Elastomastic™ TFN

1:1 filled with quartz sand 0.4-0.7 mm (optional without quartz sand) broadcasted in excess with quartz sand 0.4-0.7 mm

#### Coating system for concrete

2 x Resuprime™ ST

first layer broadcasted with quartz sand 0.4-0.7 mm

1 x Elastomastic™ TFN

1:1 filled with quartz sand 0.4-0.7 mm

broadcast in excess with quartz sand 0.4-0.7 mm

### ADDITIONAL NOTES

Drying times, curing times and pot life should be considered as a guide only.

#### Chemical resistance:

Resistant to water, sea water, sewage water, thinned Inorganic acids and alkalis, salt, detergents, grease, oil and short term resistant to fuel and solvents.

#### Temperature resistance:

Dry heat up to approx. + 100°C, short term up to approx. + 250°C.

#### Shore hardness:

Shore-D hardness according to ISO 868: approx. 40.

Numerical values quoted for physical data may vary slightly from batch to batch.



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### HEALTH & SAFETY

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

### WARRANTY

Whilst all statements made about our products (whether in this data sheet or otherwise) are correct and accurate to the best of our knowledge, we have no control over the quality or the condition of the substrate, the application conditions or the many other factors affecting your use and application of our product.

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