

## Technical Data Sheet

# Rajasil GFM

(mortar for timber framing infills)

<b>Rajasil GFM:</b>	mineral dry factory-mixed mortar in accordance with DIN 18 557, LW CS III W 0 in accordance with DIN EN 998-1 (P II according to former DIN V 18 550); quick-setting, thermally insulating mortar for the infilling of timber framings.																								
<b>Areas of Application:</b>	timber-frame refurbishment - for the complete or partial infilling of timber framings. closing of chases large-thickness single-layer filling of chases and hollows																								
<b>Composition:</b>	lime hydrate, special cement, carefully selected sands and lightweight mineral aggregates up to a 3mm max. grain size, clay mineral																								
	<table border="1"> <tr> <td>Mortar group:</td> <td>Lightweight plaster mortar LW with DIN EN 998-1 P II according to former DIN V 18 550</td> </tr> <tr> <td>Strength:</td> <td>CS III with DIN EN 998-1</td> </tr> <tr> <td>Granulation:</td> <td>0 - 3 mm</td> </tr> <tr> <td>Gross density:</td> <td>0,8 kg/dm<sup>3</sup></td> </tr> <tr> <td>Compressive strength:</td> <td>3,5 - 7,5 N/mm<sup>2</sup></td> </tr> <tr> <td>adhesive strength:</td> <td>≥ 0,08 N/mm<sup>2</sup></td> </tr> <tr> <td>Thermal conductivity <math>\lambda_{10, dry, mat}</math> (Tabellenwert with DIN EN 1745)</td> <td>≤ 0,25 W/(m·K) (für P = 50 %) ≤ 0,27 W/(m·K) (für P = 90 %)</td> </tr> <tr> <td>e-module:</td> <td>4.000 N/mm<sup>2</sup></td> </tr> <tr> <td>shrinkage:</td> <td>ca. 0,9 mm/m</td> </tr> <tr> <td>μ-value:</td> <td>≤ 20</td> </tr> <tr> <td>water absorption:</td> <td>W 0 with DIN EN 998-1</td> </tr> <tr> <td>fire behavior:</td> <td>A1, non-flammable</td> </tr> </table>	Mortar group:	Lightweight plaster mortar LW with DIN EN 998-1 P II according to former DIN V 18 550	Strength:	CS III with DIN EN 998-1	Granulation:	0 - 3 mm	Gross density:	0,8 kg/dm <sup>3</sup>	Compressive strength:	3,5 - 7,5 N/mm <sup>2</sup>	adhesive strength:	≥ 0,08 N/mm <sup>2</sup>	Thermal conductivity $\lambda_{10, dry, mat}$ (Tabellenwert with DIN EN 1745)	≤ 0,25 W/(m·K) (für P = 50 %) ≤ 0,27 W/(m·K) (für P = 90 %)	e-module:	4.000 N/mm <sup>2</sup>	shrinkage:	ca. 0,9 mm/m	μ-value:	≤ 20	water absorption:	W 0 with DIN EN 998-1	fire behavior:	A1, non-flammable
Mortar group:	Lightweight plaster mortar LW with DIN EN 998-1 P II according to former DIN V 18 550																								
Strength:	CS III with DIN EN 998-1																								
Granulation:	0 - 3 mm																								
Gross density:	0,8 kg/dm <sup>3</sup>																								
Compressive strength:	3,5 - 7,5 N/mm <sup>2</sup>																								
adhesive strength:	≥ 0,08 N/mm <sup>2</sup>																								
Thermal conductivity $\lambda_{10, dry, mat}$ (Tabellenwert with DIN EN 1745)	≤ 0,25 W/(m·K) (für P = 50 %) ≤ 0,27 W/(m·K) (für P = 90 %)																								
e-module:	4.000 N/mm <sup>2</sup>																								
shrinkage:	ca. 0,9 mm/m																								
μ-value:	≤ 20																								
water absorption:	W 0 with DIN EN 998-1																								
fire behavior:	A1, non-flammable																								
<b>Coverage:</b>	7 kg/m <sup>2</sup> /cm 1kg dry mortar will yield approx. 1.4 litres wet mortar																								
<b>Preparation of the Product:</b>	<p>Free substrate from loose particles and dust. Prior to the application of Rajasil GFM, where required prime wooden parts with suitable wood preservative or impregnate if necessary. If timber replacement is required, pay particular attention to only use dry wood of the same type. The best choice is wood that has reached equilibrium moisture content. The type of wood also has a substantial effect on shrinkage and swelling properties. It is therefore best to use heartwood or laminated timber.</p> <p>In cases where timber framings are to be filled completely, install a sufficiently rigid casing inside (e.g. lightweight wood-shavings construction boards etc.). Auxiliary casings can be removed after the mortar has cured.</p> <p>Rajasil GFM can also be used in conjunction with new beam fillings or old structurally sound loam infills. Where substrates are not sufficiently structurally sound (e.g. loam), install a plaster lath (e.g. STAUSS Fassadenmatte mit Edelstahlrat) first. If Rajasil GFM is the only material used for beam filling, install a frame of trapezoid strips (25/25mm) using rustproof screws or screw nails first. Before placing the strips, windtightness can be improved by inserting natural fibres of a denser type (hemp or jute) between the strips and the timber framing.</p> <p>Timber framings with potential brick backing or doubled-up existing timber framings (especially where planking is used) can be infilled with Rajasil GFM only to a limited extent. With such properties, additional on-site advice is required.</p>																								
<b>Application and Substrate Temperature:</b>	+ 5 °C minimum; low temperatures (< 10 °C) prolong the setting process; higher temperatures shorten it.																								
<b>Preparation of the Product:</b>	<p>with plastering machines, e.g. mixing pumps.</p> <p>When applying the product using a mixing pump, curing will be accelerated.</p> <p>The mortar must not remain inside the hose for longer than 10 minutes. To prevent congestion, elutriate hoses with lime slurry prior to mortar pumping.</p>																								

**Mortar Application and Surface Treatment:**

**Infilling of timber framings**

In terms of the entire timber-framed wall, work from top to bottom. Apply mortar in layers until the interior of the timber framing or chase is completely filled without any voids; application in layers of 6 to 8cm thickness is possible. Proceed with application of subsequent layer about 10 to 30 minutes (depending on environmental temperature and absorbency of the substrate) after previous layer has begun to set. In areas with smooth auxiliary casings apply only a thin first layer in order to prevent the mortar from slipping off. Cover existing structurally sound beam fillings, loam infills etc. with an at least 5cm layer of Rajasil GFM. Anchoring is done using a suitable plaster lath. As the finishing coat inside the timber framing is to be flush with the wood beams, it is necessary to work back the topmost layer of Rajasil GM after beginning of the setting process with a lattice plane in such a way that the required finishing coat thickness (approx. 5mm) can be obtained.

**Apply a clean pointing between Rajasil GM and timber.**

Cover timber framing infills made with Rajasil GM on the same day (or on the next day at the latest) with a top-coat plaster such as Rajasil KFP, either as intermediary protective coat or as finishing coat with a thickness of 5mm.

**Filling of chases**

Sheath tubes in order to prevent sound bridges. Filling is done in a layer thickness of 6cm without leaving any voids. With wider chases, allow previous layers to cure before proceeding. After filling the chase, trowel flush with the surface.

When chases are plastered over, embed Rajasil AGG in plaster.

**Potlife:**

10 to 40 minutes

**After Treatment:**

Protect freshly applied Rajasil GFM adequately from premature loss of mixing water (sun, wind, high temperatures), frost and rain. In cases of rapid water loss, moisten finished surface once or several times in order to prevent it from drying out too quickly.

**Surface Coating:**

Allow adequate time to pass, then apply Rajasil KFP, Rajasil RP directly onto Rajasil GFM after working it over with plaster plane.

**Apply a clean pointing between finishing coat and timber frame while plaster is still soft.**

*Coating systems:*

Applying a coloured finish can be done using Rajasil SIF; with water-repellent finishing coats ( $w \leq 0.5 \text{ kg/m}^2 \cdot \text{h}^{0.5}$ ), e.g. Rajasil EP or Rajasil RP, use Rajasil SIF.

Observe all relevant WTA recommendations on timber framing refurbishment "Fachwerksinstandsetzung" in accordance with WTA I - XII!

**Safety Instructions:**

Rajasil GFM contains lime and cement and thus reacts alkaline when fresh. Avoid contact with eyes and skin. Protect eyes and skin. If product gets on skin, wash off immediately. If product gets in eyes, thoroughly rinse with water immediately and seek medical attention. Keep product out of the reach of children.

For further information see Safety Data Sheet.

**Storage:**

Store in a dry place; shelf-life: approx. 3 months. Longer storage times or inappropriate storage conditions can have a negative effect on setting properties.

**Quality Control:**

Constant monitoring of production through laboratory analyses.



The information given herein is based on our present knowledge and experience. However, it implies no liability on our part. We reserve the right to make changes according to technological progress or further developments. This information serves to describe the properties of our products and services, and no warranty is intended or implied. The customer is not released from the obligation to conduct careful inspection of the functions and applications of incoming goods by qualified personnel. This is also valid with regard to existing third party intellectual property rights. Reference to trade names used by other companies is neither a recommendation nor does it imply that other similar products could not be used. With this publication, earlier Technical Data Sheets become invalid.

**HECK Wall Systems GmbH**  
Thöläuer Straße 25  
95615 Marktredwitz / Germany  
T: +49 9231 802-330  
F: +49 9231 802-330  
[www.wall-systems.com](http://www.wall-systems.com)