

Technical Data Sheet

Rajasil NIG

(impregnation and primer)

Rajasil NIG:	Silicon based, solvent free hydrophobizing injection, priming and impregnation agent, based on the latest developments in nano technology. Depending on the area of application, the Rajasil NIG concentrate must be diluted with water in the prescribed ratio.
Properties:	<p>Where it penetrates, Rajasil NIG forms a hydrophobic zone and prevents capillary water transport and minimizes capillary water absorption.</p> <ul style="list-style-type: none"> – Water repellent – Easy to dilute – Very good penetration properties – High alkali resistance – Dries tack free – Quickly driving-rain resistant
Areas of Application:	<ul style="list-style-type: none"> – Subsequent horizontal sealing against capillary rising moisture using the Rajasil multi-stage process. This method is not suitable for masonry areas containing water under hydrostatic pressure. – Transparent-when-dry water repellent impregnation for absorbent, mineral construction materials. Only use on vertical surfaces. – Primer for Rajasil SHF, Rajasil SHF FILL and HECK FF UNI. Only use on vertical surfaces. <p>The responsibility for any usage outside these areas of application lies solely with the user.</p>
Coverage:	<ul style="list-style-type: none"> – Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection): 15 to 25 litres per m² of wall cross-section (ready for application, mixed 1:9 with tap water) depending on masonry properties, test injection may be necessary – Water repellent impregnation: 0.2 to 0.8 litres per m² (ready for application, mixed 1:9 with tap water) exact coverage must be determined on test surface at the site of application – Primer for Rajasil SHF and Rajasil SHF FILL: 0.2 to 0.3 litres per m² (ready for application, mixed 1:14 with tap water) depending on absorbency of the substrate
Substrate:	<ul style="list-style-type: none"> – Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection): capillary absorbent masonry; in case of drill-hole injection, pre-examination of the masonry is required – Water repellent impregnation: absorbent, mineral construction material surfaces, e.g. mineral renders, fairfaced concrete, fibre cement, lime sand stone, aerated concrete, natural stone, mineral paint coats – Primer for Rajasil SHF and Rajasil SHF FILL: mineral substrates, e.g. mineral renders, fairfaced concrete, fibre cement, lime sand stone, aerated concrete, natural stone, mineral paint coats
Preparation of the Substrate:	<ul style="list-style-type: none"> – Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection): Remove existing old render only after completion of the horizontal damp proof barrier. Onto unrendered masonry, apply Rajasil SPP or Rajasil DS (observe respective Technical Data Sheet) first, in order to prevent Rajasil NIG from leaking through joints. – Water repellent impregnation: Substrate must be open porous, clean, structurally sound, dry and absorbent. Close wider cracks (larger than 0.3mm) prior to application of the impregnation. Clean any dirt off facades as gently as possible. After wet cleaning, facades must be allowed to dry thoroughly before application of the impregnation. Before applying the impregnation, make sure all parts not to be treated, such as glass surfaces, window frames and varnished parts, are covered; this also applies to decorative and useful plants. If Rajasil NIG does get on unprotected surfaces, remove it immediately. – Primer for Rajasil SHF and Rajasil SHF FILL: Substrate must be open porous, clean, structurally sound, dry and absorbent. Clean any dirt off facades gently. After wet cleaning, facades must be allowed to dry thoroughly prior to the application of the primer. Before applying the primer, make sure all parts not to be treated, such as glass surfaces, window frames and varnished parts, are covered; this also applies to decorative and useful plants. If Rajasil NIG does get on unprotected surfaces, remove it immediately.
Application and Substrate Temperature:	+ 5 °C to + 25 °C

Preparation of the Product:

- Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection):
Mix 1 litre of Rajasil NIG with 9 litres of tap water.
- Water repellent impregnation:
Mix 1 litre of Rajasil NIG with 9 litres of tap water.
- Primer for Rajasil SHF and Rajasil SHF FILL:
Mix 1 litre of Rajasil NIG with 14 litres of tap water.

Use up prepared material within one working day. Under no circumstances dilute again or process on the next day.

Application:

- Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection):

Preparatory measures:

Choose a distance of 8 to 10cm between drill holes, depending on the type of the substrate. The drill hole diameter for Rajasil Lamellenschlagpacker is 18mm. Normally, a single row of holes with a 10° to 30° down tilt is sufficient. Create blind holes that have the same diameter throughout their entire depth, leaving a remaining wall thickness of 5cm. Use an electropneumatic drill that works as vibration-free as possible and suitable drill bits. For injection of the individual system components, use conventional devices such as spiral pumps, plunger pumps etc.

Stage 1:

(perform if brickwork is inhomogeneous and has hollow areas)

Using the installed packers, inject Rajasil IM 0,1 at a pressure of 3 - 5 bar. During the setting process, while the cement suspension is still soft, slide a lance through the packer. Alternatively, the injection canal can be kept open by inserting a bare metal rod. Remove the rod after the mortar has begun to set.

Stage 2:

(always necessary)

Application of the active component; pressure-injection with Rajasil NIG (injection pressure 3 - 5 bar, duration 10 minutes approx.) wet-in-damp into the previously prepared injection canal or drill hole.

Stage 3:

(perform in case of high moisture levels inside brickwork if stage 1 was omitted)

After 1 to 2 days, perform another injection with Rajasil BLF. Rajasil BLF constitutes an alkaline system which activates the hydrophobizing effect of Rajasil NIG even with high levels of moisture inside the brickwork.

Fill drill holes void-free with Rajasil IM 0,1.

- Water repellent impregnation:

Effectiveness and durability of facade impregnations depend on penetration depth. Decisive factors in this are the absorbency of the substrate and the quantity applied of the impregnating agent.

Apply Rajasil NIG without too much spraying pressure twice wet-on-wet, using the flood method if possible. Apply to the facade moving from top to bottom and keeping the nozzle at a distance of approx. 10cm from the wall. Move nozzle ahead slowly once the impregnating agent is not fully absorbed by the substrate anymore but trickles down for 30 to 40cm. Make sure substrate is evenly and fully saturated. On smaller substrates, brush or roller application is possible as well. Pay particular attention here, as this application method can easily result in insufficiently saturated areas.

Avoid interruptions as far as possible. Always complete previously marked-off facade sections.

In general, impregnation does not change the colour of the construction material; with some substrates, however, this possibility exists (set up a test panel!). Construction materials of a very high density (such as marble, clinker brick, exposed-aggregate concrete and granite), where the entire grid of mortar joints has to be impregnated due to the high absorbency of the mortar joints, must be freed from shiny surface layers by re-washing 20 to 30 minutes after application of the impregnation if necessary.

- Primer for Rajasil SHF and Rajasil SHF FILL:

Soak surfaces to be treated pressure less using flood method or brush. With highly absorbent substrates as well as at wall bases and with large-area application on exposed surfaces (e.g. steeples etc.), two pass wet-in-wet flood priming is recommended in order to ensure even penetration. Coverage may decrease slightly in some cases. On structurally sound dispersion coatings and silicon resin renders no priming is necessary.

After Treatment:

- Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection): provide suitable drying conditions
 - Water repellent impregnation:
protect from frost and rain for approx. 12 hours (depending on weather conditions)
 - Primer for Rajasil SHF and Rajasil SHF FILL:
protect from frost and rain for approx. 12 hours (depending on weather conditions)
-

Notes:

- Subsequent horizontal sealing using the multi-stage process (Rajasil multi-stage injection):

Auxiliary measures:

After completion of the horizontal damp proof barrier, apply Rajasil SPB, fully covering, and Rajasil SPP, thickness 1 - 1.5cm, up to a height of 30cm above the moisture barrier level (if not present already). Above Rajasil SPP, use the Rajasil SP2 or Rajasil SP3 system as auxiliary measure.

- Water repellent impregnation: Under adverse conditions, the possibility of the formation of microorganisms, such as algae, cannot be ruled out; this does not constitute a reason for complaint.
-

Cleaning of Tools:

Immediately after use, with water

Safety Instructions:

Do not breathe aerosol and vapours. Only work in well ventilated areas. Avoid contact with skin. Immediately remove soiled and soaked clothing. Wear protective goggles. If product gets in eyes, rinse with water immediately and seek medical attention. Wear suitable protective gloves. If product is swallowed, seek medical attention immediately. Keep out of the reach of children. For further information, see Safety Data Sheet.

Storage:

Store in a dry place; shelf-life in original container: approx. 3 months.
Longer storage or inadequate storage conditions can have negative effects on setting properties.
Protect from sunlight and do not expose to temperatures exceeding 30°C.

Quality Control:

Constant monitoring of production through laboratory analyses.
Rajasil NIG is WTA-certified for suitability for brickwork moisture levels > 95%. All requirements as laid down in WTA Recommendation 4-4-04/D are met. The products may carry the WTA® service mark.



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