

Processing instructions REFRALITE® L 08

The specifications listed in this document are to be observed when processing and installing the respective lightweight refractory concrete! Modification of or deviation from the processing specifications can lead to considerable installation problems and possibly to a complete failure of the installed refractory material! This processing specification describes general guidelines for the storage, processing and installation of the refractory material specified. If, e.g. due to individual construction site conditions, it seems necessary to deviate from the procedure described here, be sure to consult Refratechnik Ceramics GmbH before processing!

General:

- REFRALITE® L 08 is a ready pre-mixed lightweight refractory concrete. Volume change during storage and transport has no effect on the quality.
- This product is a hydraulically setting lightweight refractory concrete. Delivered dry in 20 kg bags, it is mixed with water at the construction site, poured and slightly compacted. It hardens at room temperature.

Storage:

- In general: store in a dry, cool and frost-free place!
- The shelf life specified on the product information applies when stored according to our recommendations and from the production date. This date is printed on the package.
- Refractory concrete that has become wet or lumpy or passed its shelf life cannot be used.
- In case of incorrect storage, a product can become unusable or its quality limited well before the expiry of the specified shelf life.

- The original shrink wrap foil should be left around the pallets for as long as possible for additional protection. The pallet protection foil does not replace a storage under cover.
- Standing wetness, e.g. through insufficient drainage of the storage space can also damage the material.
- Stacking of the goods delivered by us (bagged goods, big bags, etc.), is at the liability of the forwarder or customer. Refratechnik Ceramics GmbH bears no responsibility for any resulting consequential damages (damage to the packaging, personal injury, etc.).

Health and safety:

- Always use suitable eye protection, dust mask, protective clothing and work gloves!
- Direct skin contact should be avoided due to alkaline reactions.
- Wash thoroughly after processing the material!
- Observe the safety data sheet!

Mixing:

- Mixers, tools, conveying equipment, etc. need to be clean and free of any contamination!
- A clean gravity mixer is required for mixing (normal concrete mixer)
- Always mix complete packaging units (1 sack). Processing of partial quantities can lead to demixing and deviating material properties. The ideal mixing batch can be up to 100kg.
- There should be absolutely no contaminations (e.g. cement residues) in the mixer.
- Only use water in drinking water quality, otherwise the setting characteristics could be affected.
- Addition of water:
25-30 Liter/100kg
5-6 Liter/bag
- Before processing, tip out the contents of a bag (20 kg) and mix dry (30 seconds). First, slowly add the minimum amount of water and mix for 2 minutes. If necessary, add more water up to the specified maximum amount and mix for a maximum of 1 more minute. The total

wet mixing time should not exceed 3 minutes under optimal conditions. The maximum water addition should not be exceeded.

Longer mixing times (max. 4 minutes) cause pulverisation of the light raw materials and thus property changes (processing/product properties) and changes in the amounts required (higher consumption).

- The water temperature should be between 15 and 25°C, but should under no circumstances be below 5°C.

Processing:

- Store material in a dry place until use!
Only process at over 5°C.
- The temperature of the finished mixture and the materials to be mixed should be between 10 and 25°C during processing. Lower or higher temperatures considerably slow down or accelerate the setting process.
- When applying the mass to a formwork or mould, this needs to be sturdy and well braced. The formwork needs to be smooth and clean, made of water repellent material and well coated with formwork oil. When applying to existing masonry, this should first be cleaned of slag or the like, then hosed down or covered with foil.
- After pouring the refractory concrete, this is only lightly compacted behind the formwork by knocking, poking, pounding or short vibration. Before the next layer is processed, the surface of the previous

layer should be slightly roughened. This prevents the formation of layers. The processing time of the mass depends on the temperature and should therefore not exceed 30 minutes.

- If water accumulates on the surface during processing and compacting of the mass, the mass is too wet. The formation of layers due to excess water should be avoided at all costs as this results in impaired product characteristics among other things through elutriation of the cement components, demixing, slower setting and moderate structural strengths.

Setting – curing:

- Low temperatures (<10°C) may delay or even prevent the setting process. To shorten the setting time, air preheating should be carried out (e.g. with a radiant burner). Under no circumstances should the mass freeze during the hardening process. It may be necessary to heat the installation site itself.
- At temperatures above 25 °C on the other hand, the setting process can be considerably accelerated.
- The hardening of REFRALITE L 08 can be accelerated by heating to 100-120°C, at the earliest after 24 hours, however.
- Cement-containing masses generate heat during the setting process. Due to this temperature, part of the moisture contained in the lining evaporates, which leads to incomplete setting and thus, among other things, results in reduced strength of the mass. In order to

reduce the formation of heat and vaporisation of the moisture, the surface of the lining has to be kept moist and cool, by lightly and regularly spraying the surface, which is covered with, e.g. jute or cloths, or by covering with foil.

- The formwork can only be stripped from the mass once dimensional stability has been reached. The mass needs at least 24-48 hours to set. During this time, the mass should not be processed in any way. After the hardening process has finished, the drying and heating can be started according to the instructions.

Heating:

- The heating process is to be carried out strictly according to the heating recommendation, otherwise damage can be caused to the structure of the refractory concrete. Once started, the process should not be interrupted or stopped. If, for example, a burner fails, the lining is to be kept warm. If cooling cannot be avoided, re-heating should be carried out very carefully and as the first step.
- Optimum product properties are only obtained if the processing guidelines and heating recommendation are complied with.