

Leca BLOCKset Mortar - 1010

High Bond Strength & Lightweight Mortar



Version & Date:
V7 - Aug 2025

Description

Leca BLOCKset Mortar M1-1010 is a ready-to-mix, curing cementitious mortar made with graded Leca aggregate, mineral binders, Portland cement, and polymeric additives. It ensures strong mechanical bonding and adhesion between blocks to surfaces, offering high-strength bond performance when mixed with water.

Fields of Application:

for bonding of aerated concrete and any other high water absorbing construction elements such as Leca blocks, Pumic blocks, Fly ash bricks, and AAC blocks & panels.

Advantages

Leca BLOCKset Adhesive - 1010 offers a unique set of advantages that make it a valuable material for specific construction applications. Here's a detailed breakdown of its merits:

- **Reduced dead load (weight reduction):**

The biggest advantage of Leca mortar is its significantly lighter weight compared to traditional mortar mixes. lighter walls and structures put less stress on the foundation, allowing for potentially smaller footings and foundation elements. This can lead to significant cost savings during construction.

- **Easier Handling:**

lighter weight makes Leca mortar easier to transport, mix on-site, and maneuver during application. This translates to reduced labor costs and improved worker safety.

- **Enhanced Thermal Isolation:**

The key to Leca's insulation properties lies in its internal structure. The rounded pebbles contain numerous air pockets that act as natural insulators. this translates to:

- **Improved Energy Efficiency:**

Buildings constructed with Leca mortar benefit from better thermal insulation, leading to reduced heating and cooling costs.



- **Increased Comfort:**

the improved insulation helps maintain a more comfortable indoor temperature year-round, reducing reliance on HVAC systems.

- **Potential Thinner Walls:**

in some cases, the superior insulating properties of Leca mortar might allow for thinner wall construction while maintaining desired thermal performance.



- Sound Dampening Properties:

Similar to its thermal insulation qualities, Leca mortar's air pockets also contribute to better soundproofing.

- Reduced Noise Transmission:

the internal air gaps help absorb and dampen sound waves, making Leca adhesive a good choice for applications where soundproofing is desirable. Such as interior partition walls between noisy areas.

- Quieter Living Spaces:

buildings constructed with Leca mortar can experience a noticeable reduction in noise transmission, promoting a quieter and more peaceful living or working environment.

Advantages:

- Single component, just add water.
- Withstand hammering and chiseling.
- Fast construction and higher productivity
- High bond Strength (Tensile Split Strength)
- Construction Accuracy.
- Flexible & Improved Workability
- Reduces structural load.
- Perfect Adherence
- Water curing for 24 hours after finishing, done 3 times.
- Long open time.
- Rapid settings.
- Less shrinkage mortar.
- Thin bed solution. Zero wastage.
- Sound damping properties.
- Enhance thermal isolation
- Good for adjusting layers
- Easy Transportation
- Easily Trowelable



Guidelines for Leca BLOCKset Mortar - 1010 Application

Key Points

- During application, ensure the ambient and surface temperatures are between +5°C and +45°C for optimal performance.
- For outdoor use, water curing should be conducted three times within the first 24 hours.
- High temperatures speed up hydration, reducing working time, while low temperatures delay hydration and extend it. For proper curing, both floor and ambient temperatures must remain above the minimum recommended level throughout the process.

Shelf Life

When stored correctly at temperatures between +5°C and +40°C, away from direct sunlight, the product has a shelf life of 12 months from the production date. Once opened, packages should be used within one week and properly resealed after each use.

Storage Recommendations

- Keep the product in its original packaging in a cool, dry location protected from frost.
- For short-term storage, stack no more than two pallets, and follow the "first in, first out" rule for shipments.
- Avoid stacking pallets on top of each other for long-term storage to prevent damage.

Disclaimer

This technical document reflects the best current knowledge. While Leca Co. guarantees the product's quality, it is not liable for issues arising from improper use or applications outside the recommended guidelines. This document remains valid until superseded by a new version, which will render previous versions void.

Technical Characteristics

Physical Parameter	BLOCKset Mortar - 1010	Standard
Appearance	Gray	ASTM D1500
Water / Bag ration [L/Bag]	8.00 ~ 9.00	-
Dry Bulk Density [Kg/m ³]	950 ~ 1000	EN1015-10
Compressive Strength [Mpa]	≥ 15	EN1015-11
Split Tensile Strength [Mpa]	≥ 2.5	
Fire Resistance	A1	EN13501-1
Atmospheric Ambient Strength	Resistant	-
Thermal Conductivity [W/m.k]	0.24	EN1745
Thickness of Layer [mm]	5 - 30	EN13501-1
Bond Strength [N/mm ²]	≥ 0.9	EN1015-12
Sound Absorbion Coefficient NRC (Noise Reduction Coefficient) [dB]	46 ~ 51	EN1015-19
Application Temperature Range [C°]	+5 ~ +45	-
Dry Time (at appropriate ambient) [h]	24	EN13501-1
Consumption (5 mm thickness) [Kg/m ²]	10	-
Maximum Size of Grain [mm]	4.75	-
Mixing Time and Method [min] Machine (40 ~ 80 RPM)	3 ~ 5	-
Shelf Life From Production Date [months]	12	-
Pot Life (Operating Time) [minutes after adding water]	120	-

Results:

According to the **BS EN 998-2:2016 specifications**, the tested cement mortar (**Leca BLOCKset Mortar 1010**) meets the required limit for grade **M15**, and **it can be used in the locations subjected to high wind loads.**

The values above are given for +23°C and 50% relative humidity. While higher temperatures shorten the period, lower temperatures extend it.



Application Methodology

- Preparation of Substrate
 - Ensure the masonry units (blocks, bricks etc.) are clean and free of dust or debris
 - Wet the units slightly to improve bonding with the mortar
- Mixing mortar
 - Mix the adhesive according to the manufacturer's instructions, achieving a smooth, workable consistency
- Applying adhesive
 - Use a trowel to scoop and spread mortar onto the bearing surface (usually the bottom and one vertical side) of the masonry unit.
 - Maintain a consistent adhesive thickness (typically around 3 mm)
 - For vertical joints, create a "key" by pushing the trowel edge vertically into the adhesive to create a notched indentation
- Setting the Unit:
 - Carefully place the unit onto the adhesive bed, tapping it gently to ensure proper adhesion and level placement
 - Use a level to ensure each unit is straight and plumb
- Cleaning and Finishing
 - Remove excess adhesive from the surface with a damp cloth as you work

