

PRODUCT DATA SHEET

King® 2-1-9

Masonry mortar for laying applications



PRODUCT DESCRIPTION

The King® 2-1-9 is a premixed, factory-bagged Type S mortar specially designed for laying bricks, natural stones, concrete blocks and other masonry products, when a higher compressive strength is required. King® 2-1-9 is formulated with Portland Cement, Type S hydrated lime, an air-entraining admixture, and masonry sand with controlled grain size.

WHERE TO USE

- Laying bricks, natural stones or concrete blocks where greater compressive strength is required
- Masonry applications where superior bond strength is required
- Plastering work
- Repointing work where very high compressive strength is required (Contact your Sika Technical Representative)
- Can be used for interior and exterior applications

CHARACTERISTICS / ADVANTAGES

- Factory calibrated mix
- High compressive strength
- Superior adhesion
- Superior workability
- Good resistance to freeze-thaw cycles
- Self-healing property

ENVIRONMENTAL INFORMATION

King® 2-1-9 contribute towards satisfying the following LEED®v4/v4.1 Credits:

- MR Credit - Building Product Disclosure & Optimization: Environmental Product Declaration
- MR Credit - Building Product Disclosure & Optimization - Material Ingredients: Manufacturer Inventory
- MR Credit - Building Product Disclosure & Optimization - Sourcing of Raw Materials: Raw material source & extraction reporting

[LEED documentation](#) is available on Sika Canada Website

APPROVALS / CERTIFICATES

King® 2-1-9 complies with Table 6 of CSA-A179-14 for Type S mortar with addition of water in the field.

PRODUCT INFORMATION

CSC MasterFormat®	04 05 13 - Masonry Mortaring and Grouting Specifications template are available on Sika Canada Website
Packaging	30 kg (66 lb) triple-lined bags or 1500 kg (3307 lb) FIBC and polywrapped on wooden pallets.
Shelf Life	12 months in original, unopened bag
Storage Conditions	Always store in a dry area, protected from the weather. At the job site, an additional tarpaulin must be used to cover the product to prevent water

infiltration.

Appearance / Colour

Powder / Grey, Cream, White or custom colours

Note: May be factory-coloured or at the job site using the King® Colour-Plus Pigment System exclusive to Sika Canada. All pigments used conform to the requirements of *ASTM C979 Pigments for Integrally Colored Concrete*.

TECHNICAL INFORMATION

Compressive Strength

ASTM C109 - Minimum

7 days

8.5 MPa
(1233 psi)

28 days

12.5 MPa
(2175 psi)

Note: The pigments used to colour the mortar have no effect on its mechanical properties.

Shrinkage

ASTM C596

0.119 % at 91 days

Water Absorption

ASTM C1506 / Water Retention

70 % Minimum

Permeability to Water Vapour

ASTM E96

15 Perms

Porosity

EN-1015-7 Method / Air Content

Maximum 18%

Freeze thaw resistance

ASTM C666M

100 cycles

APPLICATION INFORMATION

Yield

Approx. 0.018 m³ (0.65 ft³) of fresh mortar per 30 kg (66 lb) bag

Flowability

ASTM C1437 / Flow

110 % +/- 5 %

Product Temperature

Refer to the "Placement condition" section on the [Specifications template](#) document on Sika Canada Website.

Ambient Air Temperature

Refer to the "Placement condition" section on the [Specifications template](#) document on Sika Canada Website.

Substrate Temperature

Refer to the "Placement condition" section on the [Specifications template](#) document on Sika Canada Website.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

All values required by the CSA A-179-14 Standard, as well as values of the King® 2-1-9 product, are obtained under laboratory conditions. The values of the King® 2-1-9 product are applicable when the product is used as a laying mortar; if the product is used as a repointing or parging mortar, the values will be different.

LIMITATIONS

- Do not use King® 2-1-9 when Type N mortar is specified; use King® 1-1-6.
- Never add admixtures at the job site to modify set time, workability, or any other property of the mortar in its plastic or hardened state.
- Always use potable water.
- Use only the recommended water dosage to obtain the desired properties of the mortar in its plastic or hardened state.
- Never use on frozen surfaces.

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June 2024, Version 01.02

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- Colour variations on the hardened mortar can be observed even if the mortar in-place has been previously factory-prepared and complies with the project specifications. These colour variations are mainly attributable to inadequate application conditions such as delay between mixing and tooling of joints, lack of protection against the weather during installation, or variable absorption/moisture rates of the construction elements. In order to avoid an undesirable result, we recommend that you pay particular attention to these points.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

MIXING

Small batch

Important: In order to avoid segregation issues, always mix the total content of one bag. If less than a 30 kg (66 lb) of King® 2-1-9 is required, dry mix - without water – the total content of the bag in a clean mixing container, take the required amount, and then add water to the amount withdrawn from the mixture.

Large batch

Always mix the entire content of the bag. Mix the King® 2-1-9 with a maximum of 5 L (1.3 US gal) of water per 30 kg (66 lb) bag in a clean mortar mixer. Pour 4.5 L (1.2 US gal) of water into the mixer and add 30 kg (66 lb) of King® 2-1-9. Mix for three (3) to five (5) minutes, or five (5) to ten (10) minutes when using a coloured mortar or when a colourant is added at the job site. Allow the mortar to stand for a short period of time. Using the remaining water, adjust the mortar to obtain the desired consistency.

Once the desired consistency is achieved, it is not recommended to add water to the coloured mortars in order to compensate for water loss caused by evaporation. Adding water may affect the final colour of the product.

APPLICATION

The application of the mortar must comply with the requirements of Sections 6 and 7 of CSA-A371-14.

APPLICATION METHOD / TOOLS

TOOLING OF THE JOINTS

The tooling of joints exposed to rain is an important step that contributes to the waterproofing of the masonry system and must be done using a jointer. The amount of water present in the mortar joint at the time of tooling will determine the final colour of the cured mortar. To avoid colour variation, ensure that the mortar joint always contains the same amount of

water when it is tooled. As a general rule, the joint is considered ready to be tooled when the mortar has hardened sufficiently such that a finger mark remains. Unless otherwise stated, a concave joint is preferred.

CLEANING

In order to avoid the use of chemicals, it is always recommended to remove as much mortar splashes or stains as possible before the material hardens. Use water, a piece of burlap or wood. If the use of cleaning products is necessary, be sure to contact the manufacturer of the product to validate the compatibility and the procedure to follow. It is important to mention to the manufacturer that it is a hydrated lime-based mortar with the addition of iron and titanium oxides pigments when coloured.

Regardless of the technique or product selected, it is essential to preserve the integrity of the mortar.

Be sure to clean a test area before proceeding with the work.

Clean all tools and equipment after use with water. Once hardened, the product can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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