

**TYPE S MORTAR  
DIVISION 04**

# KING 2-1-9 GREY

**All KING products are manufactured using ISO 9001:2008 Certified Processes**

## FEATURES & BENEFITS

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

## USES

- › Laying brick, natural stone or concrete blocks where greater compressive strength is required
- › Plastering
- › Repointing work where very high compressive strength is required (Contact your KING Technical Representative)

## CAUTION

Colour variations on the hardened mortar can be observed even if the mortar in-place has been previously coloured in the factory and complies with the project specifications.

These colour variations are mainly attributed to various implementation conditions such as delay between mixing and tooling of the joints, lack of protection against the weather during implementation, or rate of absorption/humidity variability. In order to avoid an undesirable result, we recommend that you pay particular attention to these points.

KING 2-1-9 GREY is a pre-mixed, pre-bagged, Type S mortar specially formulated to be used laying brick, natural stone, concrete blocks and other masonry products, when a higher compressive strength is required. This mortar is a blend of grey Type GU Portland Cement, Type S hydrated lime, an air entraining agent, and sand with controlled grain size. KING 2-1-9 GREY mortar complies with Table 6 of CSA-A179-14 for Type S mortar with addition of water on-site. This product is grey in colour, but may be coloured in the factory or field using KING's exclusive **Colour Plus System**.

## EXECUTION

- The application of the mortar must comply with the requirements of Sections 6 and 7 of CSA A371-14
- Never spread mortar on frozen surfaces

## MIXING

Mix KING 2-1-9 GREY with a maximum of 5.0 L (1.3 US gallons) of potable water per 30 KG (66 lb) of mortar in a clean mortar mixer. Pour 4.5 L (1.2 US gallons) of water into the mixer and add 30 KG (66 lb) of KING 2-1-9 GREY mortar. Mix for 3 to 5 minutes, or 5 to 10 minutes when a colourant is added on-site. Allow the mortar to rest for a short period of time. Using the remaining water, adjust the mortar to obtain the desired consistency.

## PLACEMENT OF MORTAR

The placement of the mortar must be done in the period of time stipulated in article 6.3.1. of CSA A179-14.

## JOINT CLEANING

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 determinate 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 fingerprint mark remains. Unless otherwise stated, a concave joint is preferred.

## CLEANING

Using a little water, a piece of jute or a small piece of wood, make sure to remove as much splash or mortar stains as possible before the mortar has hardened to prevent the use of cleaning agents. If the use of cleaning products is necessary, be sure to contact the manufacturer of the product to validate the compatibility of the product and the procedure to follow.

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

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**LIMITATIONS**

- » Do not use KING 2-1-9 when Type N mortar is specified. In this case, it is recommended to use KING 1-1-6
- » Never add admixtures on-site to modify set time, handling or any other properties of the plastic or hardened mortar
- » Use only the recommended amount of water to obtain the desired plastic or hardened properties

**PACKAGING**

This product is packaged in 30 KG (66 lb), triple-lined bags or bulk bags, wrapped on wooden pallets.

**STORAGE AND SHELF LIFE**

Always store in a dry area, protected from the weather. On-site, an additional tarpaulin must be used to cover the product to prevent water infiltration. Unopened, properly stored bags have a shelf life of 12 months.

**SAFETY PROCEDURES**

This product is made of Portland Cement. Wearing safety equipment used for the handling of cement-based products is therefore recommended: rubber gloves, dust mask and safety glasses. Safety Data Sheets can be provided upon request.

**TECHNICAL DATA\***

|                                    | <b>REQUIREMENT OF CSA A179-14 STANDARD</b> | <b>AVERAGE VALUE OF KING 2-1-9 GREY</b>                      |
|------------------------------------|--|--|
| <b>COMPRESSIVE STRENGTH</b>        |  |  |
| ASTM C 109                         |  |  |
| <b>7 Days</b>                      | 7.5 MPa (1088 psi)                         | 8.5 MPa (1233 psi)   |
| <b>28 Days</b>                     | 12.5 MPa (1813 psi)                        | 15 MPa (2175 psi)  |
| <b>FLOW</b>                        | 110% +/- 5%                                | 110% +/- 5%  |
| <b>AIR CONTENT</b>                 |  |  |
| CSA A 3004                         | 18% Maximum                                | 10%-12%  |
| <b>WATER RETENTION</b>             |  |  |
| ASTM C 1506                        | 70% Minimum                                | 70%  |
| <b>VAPOUR TRANSMISSION</b>         |  |  |
| ASTM E 96                          | N/A  | 15 Perms   |
| <b>WITHDRAWAL</b>                  |  |  |
| ASTM C 596 - 91 Day                | N/A  | 0.119%   |
| <b>FREEZE-THAW RESISTANCE</b>      |  |  |
| ASTM C 666M                        | N/A  | Excellent after 100 cycles                                   |
| <b>YIELD PER 30 KG (66 LB) BAG</b> | N/A  | 0.018 m <sup>3</sup> (0.65 ft <sup>3</sup> ) of fresh mortar |

\*All values required by the CSA A-179-14 Standard, as well as the average values of the KING product, are obtained under laboratory conditions. The average values of the KING product are applicable when the product is used as a bedding mortar; if the product is used as a repointing or parging mortar, the average values will be different.

**Note:** The contents of this Technical Data Sheet are updated regularly. To ensure that you have the most recent version, please visit our website at the following address: [www.king-masonry.com](http://www.king-masonry.com)

This product is designed to meet the performance specifications outlined in this product Technical Data Sheet. If the product is used in conditions for which it was not intended, or applied in a manner contrary to the written recommendations contained in the product data sheet, the product may not reach such performance specifications. The foregoing is in lieu of any other warranties, representations or conditions, expressed or implied, including, but not limited to, implied warranties or conditions of merchantable quality or fitness for particular purposes, and those arising by statute or otherwise in law or from a course of dealing or usage of trade.

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