

WRITERS' PROFESSIONAL LIABILITY

¹This document is made available to you by Sika Canada Inc. ("Sika"). It contains information related to Sika products for the sole purpose of helping you making your own free, enlightened, and informed decisions. It is not our intention, and we cannot assume in anyway the role and professional liability of the architect or engineer who executed, signed, and sealed these plans and specifications.

As such, this document was diligently drafted by experienced Sika's representatives and therefore must not be copied integrally; rather you must adapt or even modify it according to your project, which our technical representatives and engineering service would be more than happy to help you with.

IMPORTANT: You and/or the end user determines solely suitability of Sika products for intended use and assumes all risks. No warranty express or implied shall apply including any warranty of merchantability or fitness for a particular purpose. Sika shall not be liable for and expressly disclaim any damages or losses arising from the use or reuse of any information provided in this document, including, but not limited to, (i) any property damages, (ii) any loss of profit (whether incurred directly or indirectly), (iii) any loss of goodwill or business reputation or other intangible loss and (iv) any legal theory for special or consequential damages.

Additional information available:

Although this document covers a wide variety of applications, we also invite you to refer to our resource center. Thus, following a detailed description of your project, we will recommend one or more products. These recommendations all the technical information related to our products can be found on our [Website](#).

¹ The information contained herein, and any other advice 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. The information only applies to the application(s) and product(s) expressly referred to herein. In case of changes in the parameters of the application, such as changes in substrates etc., or in case of a different application, consult Sika's Technical Service prior to using Sika products. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 under consideration, copies of which will be supplied on request.

PART 1 – GENERAL

1.1 REFERENCES

- .1 CSA Standards
 - .1 CSA A-179 Mortar and grout for unit masonry
 - .2 CSA A-371 Masonry for buildings
- .2 ASTM Standards
 - .1 ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes
 - .2 ASTM C270 Standard Specification for Mortar for Unit Masonry
 - .3 ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete
- .3 National Building Code (Quebec)
 - .1 Section 9.20 (Load-bearing and non-load-bearing masonry)
 - .2 Sections 9.20 and 9.22 (chimney and fireplace)
- .4 Documents from l'Institut de la Maçonnerie du Québec (IMQ)
 - .1 Travaux de maçonnerie pour les bâtiments
 - .2 Bulletins techniques No 7-8R (Le mortier – juin 2013)
 - .3 Bulletin technique No 13 (L'épaisseur des joints de mortier – juin 2013)
 - .4 Bulletin technique No 14 (Le sable à mortier – avril 1993)
 - .5 Bulletin technique No 15r (Le coulis – Janvier 2005)
- .5 Technical Documents from L'Association des entrepreneurs en maçonnerie du Québec (AEMQ)
 - .1 Voir section pour les professionnels sur le site Internet

1.2 DOCUMENTS/SAMPLES/INFORMATION TO SUBMIT FOR APPROVAL

- .1 Submit the required technical data sheets and the samples conforming to section 01 33 00 –Documents and samples to submit.
- .2 Submit the required Environmental Product Declarations (EPD) and Manufacturer's Inventory Report (MIR) as per Section 01 35 21 – LEED Requirements
- .3 Submit three (3) samples of each mortar used by presenting them in the U-shaped plastic extrusions measuring 10 mm X 10 mm X 100 mm in length. The samples must be correctly identified.
- .4 Submit the technical data sheet of each mortar or grout used. The Product data sheet must include the product's characteristics, performance criteria and limits.
- .5 Submit two (2) copies of the material's safety data sheet (for each mortar or grout used).
- .6 No requests for equivalency will be accepted after the bid closing date.

1.3 HANDLING AND STORAGE

- .1 The bags of mortar and grout must be delivered in their original packaging with the legible identification of the manufacturer.
- .2 The mortar and grout product bags must be stored on wooden pallets and protected against inclement weather.

1.4 WALL Mock-up

- .1 Erect a wall mock-up with a minimum height and length of 1000 mm X 1000 mm.
- .2 Erect a wall mock-up for each mortar and grout specified.
- .3 The wall mock-up should display what the final colour and texture of the joint will look like.
- .4 The wall mock-up must form an integral part of the works.
- .5 Do not start work until the wall mock-up has been approved by the professional in charge of the project.

1.5 PLACEMENT CONDITIONS

.1 Cold weather placement during construction:

.1 -4 °C to +4 °C:

The mortar shall have a minimum temperature of +4 °C and a maximum, temperature of +50 °C.

.2 -7 °C to -4 °C:

1.5.2.1 The mortar shall have a minimum temperature of +4 °C and a maximum, temperature of +50 °C.

1.5.2.2 Source heat shall be provided on both sides of the walls

1.5.2.3 Windbreaks shall be employed when the wind speed exceeds 25 km/h

.3 -7 °C and below:

1.5.3.1 The mortar shall have a minimum temperature of +4 °C and a maximum, temperature of +50 °C.

1.5.3.2 Enclosures and supplementary heat shall be provided to maintain an air temperature above 0 °C

.2 Cold weather protection for completed masonry or section not in progress:

- .1 0 °C to +4 °C: Masonry shall be protected from rain or snow for 48 hours
- .2 -4 °C to 0 °C: Masonry should be completely covered for 48 hours
- .3 -7 °C to -4 °C: Masonry shall be completely covered with insulating blankets for 48 hours
- .4 -7 °C and below: The masonry temperature shall be maintained above 0 °C for 48 hours by enclosure and supplementary heat.

.3 Hot weather placement:

- .1 Cover the works with a waterproof tarpaulin to prevent them from drying too quickly. Make sure to use a tarpaulin that does not stain.
- .2 Never wet the masonry units, unless otherwise indicated by the professional in charge of the project.

1.6 PROTECTIVE MEASURES

- .1 Unfinished masonry works must be wrapped with waterproof tarpaulins that do not stain. The tarpaulins must cover the walls and extend them by 600 mm on each side to protect the works against gusts of rain caused by wind.
- .2 Finished masonry works must be protected from mortar spatter by covering them with stain-free tarpaulins or polyethylene.
- .3 Protect the windows, frames, doors and sills from spatter or other damaging elements.

PART 2 – PRODUCTS

2.1 MATERIALS

- .1 Mortar and grout materials must be provided by Sika Canada Inc. and covered by an Environmental Product Declaration (EPD type III - Product Specific) and a Manufacturer Inventory Certificate (MIC)
- .2 All mortar and grout must be manufactured in a plant where processes are certified ISO 9001:2015.
- .3 Portland Type GU Cement, conforming to standard CSA A-3000.
- .4 Hydrated lime Type "S", conforming to standard ASTM C207.
- .5 Sand: Fine-grain sand particle size conforming to table 1 of standard CSA A-179.
- .6 Water: Only use clean, potable water, free of contaminants such as oils, acids, salts, and organic matters.
- .7 Pigments: Must be ASTM C979 compliant. Use only pigments distributed by Sika Canada Inc. The percentage of pigments should not exceed 10 % of the binder density.
- .8 It is strictly prohibited to use any type of additive to alter the setting time, workability, or any other property of the plastic or cured mortar.

2.2 MORTARS

- .1 All mortars described hereafter are manufactured by Sika Canada Inc.
- .2 Each type of mortar must be factory pre-blended with Portland cement, lime, sand, and colouring agents, and then mixed with water at the construction site according to the manufacturer's instructions.

If pigments need to be added on site, use only the King® Colour-Plus Pigment System exclusive to Sika Canada Inc.

- .3 Mortar for exterior masonry work, above ground level.
 - .1 Mortar for load-bearing walls: As a minimum, use a Type "S" mortar such as King® 2-1-9, prepared according to the batching specifications.
 - .2 Mortar for non-load-bearing walls: As a minimum, use a Type "N" mortar like King® 1-1-6, prepared according to the batching specifications.
 - .3 Mortar used in the case of parapets and masonry exposed to a high level of saturation such as chimneys and self-supporting exterior walls: Use a Type "S" mortar, prepared according to dosage specifications such as King® 2-1-9 mortar.

V0923

- .4 Mortar for exterior masonry work at ground level or below.
 - .1 Mortar used for foundation walls, retaining walls, manholes, sewers, pavements, aisles, and patios: Minimally use a Type “S” mortar such as the King® BLOCK or a mortar prepared according to the specifications relating to the dosage, such as King® 2-1-9 mortar.
- .5 Mortar for interior masonry works
 - .1 Mortar for load-bearing walls: As a minimum, use a Type “S” mortar like King® Block or a mortar prepared according to the dosage specifications such as King® 2-1-9.
 - .2 Mortars for non-load-bearing walls requiring low compressive strength resistances or non-load-bearing walls: Minimally use a Type “N” mortar like King® MasonGo 100 or a mortar prepared according to the dosage specifications such as King® 1-1-6.

2.3 GROUTS

- .1 All grouts described hereafter are manufactured by Sika Canada Inc.
- .2 It is strictly prohibited to use mortar as grout.
- .3 Each type of grout must be factory pre-blended with the raw materials, and then mixed with water on the construction site according to the manufacturer’s instructions.
- .4 The grouts must conform to table 7 of standard CSA A179.
- .5 Grout should be an expansive type.
- .6 Unless otherwise indicated, to fill the cells of the block, use a grout with 20 MPa at 28 days, such as King® CELLFILLER E-20.

PART 3 – EXECUTION

3.1 MIXING

Important: In order to avoid segregation issues, always mix the total content of one bag. If less than 30 kg is required, dry mix - without water – the total contents of the bag in a clean

container, take the required amount, and then add water to the amount withdrawn from the mixture.

- .1 Always use a clean mixer for each type of mortar and colour.
- .2 Conformity: Comply with the requirements, recommendations, and specifications on the manufacturer's product data sheet.

3.2 PLACEMENT

- .1 Unless otherwise indicated by the architect, place the masonry mortar and grout in compliance with standards CSA A-179 and CSA A-371.

3.3 JOINTS

- .1 Unless otherwise indicated by the architect, the joints must be 10 mm thick.
- .2 The joints must be smoothed so that they have a concave profile.

3.4 PLACEMENT TIMEFRAME FOR MORTAR AND GROUT

- .1 Mortar
 - .1 If room temperature is equal to or greater than +25 °C, mortar must be placed in under 1 h 30 min after mixing. If room temperature is less than +25 °C, mortar must be placed in under 2 h 30 min after mixing.
- .2 Grout
 - .1 Expansive grout must be placed at the latest 20 minutes after mixing. Regular grout must be placed in under 1 h 30 min after mixing.

3.5 REMIXING

- .1 Remixing is a criteria of placing mortar and grout. It is done to ensure the necessary workability.
- .2 Once the desired consistency is obtained, it is not recommended to add water to the coloured mortars in order to compensate for the loss of water caused by evaporation. Adding water could affect the final colour of the product.

3.6 COLOUR UNIFORMITY

- .1 In order to ensure colour uniformity of the mortar, the contractor must:
 - .1 Use the same supplier for all mortar and grout.

V0923

- .2 Once the desired consistency is obtained, it is not recommended to add water to the coloured mortars in order to compensate for the loss of water caused by evaporation. Adding water could affect the final colour of the product.
- .3 Process of tooling joints when the mortar has hardened sufficiently such that a fingerprint mark remains
- .4 Ensure that the quantity of water in the mortar joints remains the same while smoothing them.
- .5 Always use a clean water container
- .6 Always use a clean mixer.

3.7 CLEANING

- .1 Once finished the work, remove the excess mortar using a wooden blade. Once the mortar has sufficiently cured, the contractor must:
 - .1 Moisten the wall surface with clean water, starting from the bottom.
 - .2 Scour the wall surface using water and a brush with nylon bristles.
 - .3 Do NOT use any form of acid, unless otherwise indicated by the professional in charge of the project.
 - .4 If the use of cleaning product is necessary, contact the product manufacturer to validate the compatibility of the product and the procedure to follow. All coloured mortars distributed by Sika Canada Inc. contain iron or titanium oxides.
 - .5 Regardless of the technique or product selected, it is essential to preserve the integrity of the mortar.
 - .6 Proceed with a witness section of 2000 mm high X 2000 mm long minimum.
 - .7 Wait for approval of the cleaning control zone by the professional in charge of the project before proceeding with the entire building.

END OF SECTION