

PRODUCT DATA

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**Metallic Non-Shrink  
Grouting**

# SS MORTAR®

## Splice-sleeve grout

### Description

SS Mortar® is a cement-based metallic-aggregate mortar for grouting of NMB Splice Sleeves. This nonshrink, high-strength, ready-to-use grout is used for NMB Class-1 and Class-2 splice sleeves.

### Yield

One 55 lb (25 kg) bag of SS Mortar® mixed with 8.25 lbs (3.75 kg) of water, produces approximately 0.42 ft³ (0.012 m³) of material.

### Packaging

55 lb (25 kg) multi-wall paper bags

### Shelf Life

1 year when properly stored

### Storage

Store in a cool, clean, dry environment.

### Features

- Extended working time
- Can be installed from 40 to 90° F (4 to 32° C)
- Can be pumped or poured
- Hardens free of bleeding, settlement, or drying shrinkage

### Benefits

- Allows for ease of placement
- Apply over a wide range of temperatures and conditions
- Facilitates rapid placement
- Lessens weather dependency

### Where to Use

#### APPLICATION

- NMB splice-sleeve mechanical connectors for Class-1 and Class-2 sleeves; the purchaser should specify the type of coupler being grouted

### How to Apply

#### Surface Preparation

1. For pre-grout applications, ensure that the splice sleeves are clean and free of all debris, water, and any other foreign matter before starting grouting operations.
2. For post-grout applications, remove the hole seals in the grout inlet and outlet tubes and inspect for blockage. Inspect the sleeves and grout tubes with a bright light to ensure there are no foreign materials or obstructions. Blow air through the sleeves using the inlet or outlet tube to verify there are no obstructions.

### Temperature

1. Store and mix mortar to produce the required mortar temperature under jobsite conditions. Use warm water in cold weather and cold water in hot weather. Ideally, the splice sleeve or substrate should be in the 50 to 90° F (10 to 32° C) range. Mixed mortar temperatures should also fall between 50 and 90° F (10 and 32° C).

### Recommended Temperature Guidelines

PREFERRED RANGE 50 – 80° F (10 – 27° C)

	MINIMUM ° F (° C)	MAXIMUM ° F (° C)
Splice sleeves	40 (4)	90 (32)
Mixing water	40 (4)	90 (32)
SS Mortar® as mixed and placed	50 (10)	90 (32)

**CAUTION:** When grouting at minimum temperatures, see that the splice-sleeve and grout temperatures do not fall below 40° F (4° C) until after final set. Protect the grout from freezing (32° F [0° C]) until it has reached 1,500 psi (10.3 MPa) compressive strength. Excessive grout temperatures may result in difficult pumping and premature stiffening.

## Technical Data

### Composition

SS Mortar® is a hydraulic cement-based metallic-aggregate mortar.

### Compliances

- ICBO requirements for Type II couplers

### Test Data

PROPERTY	RESULTS	TEST METHODS
<b>Compressive strengths, psi (MPa), at 70° F (21° C)</b>		ASTM C 942
1 day	4,000 (28)	
3 days	5,400 (38)	
7 days	7,000 (49)	
28 days	11,000 (76)	
<b>Typical flexural strengths, psi (MPa)</b>		ASTM C 348
7 days	1,000 (6.9)	
28 days	1,100 (7.6)	

The data shown are based on controlled laboratory tests. Expect reasonable variations from the results shown because of varying temperatures and atmospheric conditions at the jobsite. Control field and laboratory tests on the basis of the desired placing consistency rather than strictly on water content.

### Consistency

#### Description of flow test

Use the BASF Flow Guide that consists of a 2 by 4" (51 by 102 mm) cylinder placed in the center of a level, smooth, nonabsorbent surface. The cylinder is filled with SS Mortar® level with the surface and immediately but slowly lifted until the SS Mortar® is discharged. Measure the diameter of the spread in two locations perpendicular to one another and take the average of the two readings. The BASF Flow Guide is available from BASF but may also be assembled on the jobsite using rigid, non-absorbent materials.

Flow tests were run using the BASF Flow Guide at a spread of 5 – 6" (127 – 152 mm).

### Mixing

1. Use potable water only. For mixing grout, use an electric drill with a mixing blade or a horizontal-shaft mortar mixer. Do not mix by hand. Do not add cement, sand, aggregate, admixtures, or other additives unless specifically advised in writing by BASF Technical Service.
2. The amount of water needed to produce the desired consistency will depend upon mixing time, the type of mixer, the temperature of the grout following mixing, and the size of the batch. A batch should contain increments of full bags. The recommended field consistency is 5.0 – 6.0" (127 – 152 mm) as determined by the use of the BASF Flow Guide.
3. The suggested amount of mixing water for the initial trial mix to produce this flow is 12 – 15% by weight of SS Mortar® or 1 gallon (8.34 lbs) [3.8 L or kg] per 55 lb (25 kg) bag.
4. If additional water is required to meet the consistency specification, it should not result in a BASF Flow Guide diameter of greater than 6.5" (165 mm), and the total water content of the mix should not exceed a maximum of 17% by weight of SS Mortar or 1.1 gallon (9.36 lbs) [4.2 L or kg] per 55 lb (25 kg) bag.

5. As the first step in mixing, place all water into the mixing pail, then pour all of the SS Mortar® into the pail while stirring it with a high-speed mixer. The water requirement should be established in a test batch. After all materials are put into the pail, mix grout for a minimum of 5 minutes or longer, if required, for a uniform mixture. After the grout has been mixed, use it within 30 minutes. Do not retemper grout by adding water and remixing after it stiffens.
6. The BASF Flow Guide for SS Mortar® is designed for placement at a spread of 5 – 6" (127 – 152 mm) (maximum of 6.5" (165 mm) when a cylinder of nominal dimensions—2" (51 mm) in diameter by 4" (102 mm) in length—is filled and lifted off a nonabsorbent flat surface (such as a BASF Flow Guide). The exact amount of water needed will depend upon the temperature of the grout following mixing and the size of the batch mixed, but it should not be greater than 17% of the total mix by weight. Warm mixing water, not exceeding 90° F (32° C), may be used either with cold grout or with placements at the lower temperature limit of 50° F (10° C).

### Application

1. In pre-grout applications, pour the grout continuously into the sleeve and rod with a small diameter rod (such as a welding rod) to remove any entrapped air.
2. In post-grout applications, pump the grout into the inlet tube until it flows freely without air bubbles from the outlet tube. Seal the outlet tube with a rubber stopper of the proper size. Remove the pump nozzle from the inlet tube and immediately seal the inlet tube with a rubber stopper to avoid any loss of grout.
3. Following grouting operations, remove the filling connections and verify the absence of any voids and trapped debris.

### Curing

Cure all exposed grout by wet curing for 24 hours and then applying a recommended curing compound compliant with ASTM C 309 or preferably ASTM C 1315.

## For Best Performance

- The water requirement may vary with mixing efficiency, temperature, and other variables.
- Do not add plasticizers, accelerators, retarders, or other additives unless advised in writing by BASF Technical Service.
- Contact your local representative for a pre-job conference to plan the installation.
- Store SS Mortar® in a dry area at a controlled temperature (50 to 90° F [10 to 32° C]). Mix SS Mortar® to produce the desired mixed-grout temperatures under jobsite conditions. Material may be stored warmer for cold-weather applications or cooler for hot-weather applications.
- Ideally, the splice sleeve or substrate should be in the 50 to 90° F (10 to 32° C) range. The temperature of the mixed grout should fall between 50 and 90° F (10 to 32° C). Consider using heated water in cold weather or chilled water in hot weather to help adjust the mixed grout temperature.
- When grouting at minimum temperatures, see that the splice sleeve and grout temperatures do not fall below 40° F (4° C) until final set and that the grout is protected from freezing (32° F [0° C]). Maintain heat until the grout in the sleeves has reached a minimum of 1,500 psi (10.3 MPa) compressive strength as determined by 2" by 2" by 2" (51 mm) restrained cubes (ASTM C 942 or ASTM C 1107) in metal cube molds. Grout temperatures outside the recommended range may result in difficulty pumping and premature stiffening.
- An authorized laboratory should perform testing of SS Mortar®; conduct sampling at the jobsite. Follow ASTM C 942 or ASTM C 1107 for sampling, fabrication, storage, and curing of specimens. Samples must be moist cured or cured under water at the jobsite for 24 hours before transfer to the laboratory for wet or moist-room curing. Samples may be tested to determine early strength gain to determine when the sleeves have developed sufficient strength to remove temporary supports or to determine compliance with project requirements. Consult your local BASF representative for additional information.
- Do not use if bag is damaged.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

## Health and Safety

SS MORTAR®

### Caution

### Risks

Eye irritant. Skin irritant. Causes burns. Lung irritant. May cause delayed lung injury.

### Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with eyes. Wear suitable protective eyewear. Avoid prolonged or repeated contact with skin. Wear suitable gloves. Wear suitable protective clothing. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. Wash soiled clothing before reuse.

### First Aid

Wash exposed skin with soap and water. Flush eyes with large quantities of water. If breathing is difficult, move person to fresh air.

### Waste Disposal Method

This product when discarded or disposed of is not listed as a hazardous waste in federal regulations. Dispose of in a landfill in accordance with local regulations.

For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

### Proposition 65

This product contains materials listed by the state of California as known to cause cancer, birth defects, or reproductive harm.

### VOC Content

0 lbs/gal or 0 g/L.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**

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