

SONOFLOW®

Cementitious self-leveling
floor underlayment

PRODUCT DATA

3 03540

**Cementitious
Underlayment**

Description

Sonoflow® is a Portland-cement-based, flowable, self-leveling floor underlayment for uneven, rough, or deteriorated floors. When sealed, it will bear traffic.

Yield

45 ft²/50 lb (4.18 m²/22.7 kg) bag at 1/8" (3 mm) thickness.

Cured Sonoflow® produces a bulk density of 120 – 125 lbs/ft³ (1,922 – 2,002 kg/m³).

0.46 ft³/50 lbs (0.013 m³/22.7 kg) of Sonoflow® mixed with 5-1/4 quarts (5.0 L) of water

Mortar:

0.64 – 0.69 ft³/50 lbs (0.018 – 0.02 m³/22.7 kg) when extended with 25 – 50 lbs (11.3 – 22.7 kg) of 1/8" (3 mm) course-graded, washed sand

Packaging

Sonoflow®:

50 lb (22.7 kg) bags of powder

Sonoflow® Primer 100 and Primer 150:

1 gallon (3.8 L) pails, 4 gallons (15.1 L) per carton

5 gallon (18.93 L) pails.

Color

Sonoflow®: concrete gray

Primer 150: mint green

Primer 100: light blue

Features

- One component
- Range of application thicknesses
- High early strength
- No troweling
- Pumpable
- Portland cement based
- Nondusting
- Heat refractive

Shelf Life

Sonoflow®:

1 year when properly stored

Primer 100 and Primer 150:

1 year when properly stored

Storage

Store in a cool, clean, dry place. Keep Primer 100 and Primer 150 from freezing in the container; do not store below 35° F (2° C).

Where to Use

APPLICATION

- Light-duty wearing surfaces
- Warehouses
- Office facilities
- Light industrial facilities

LOCATION

- Horizontal
- Interior

SUBSTRATE

- Aged concrete

Benefits

- Easily mixed with water
- Handles tough jobsite conditions
- Accepts early foot traffic
- Reduces labor costs
- Improves productivity
- Will not spark when struck with conductive metal
- Improves air quality
- Appropriate for use with radiant heating floor systems

How to Apply

Surface Preparation

1. Follow all standard ACI recommendations for surface preparation. Remove all contaminants such as dirt, oil, paint, wax, grease, bitumens, and forming, curing, and release agents, efflorescence, or other foreign matter. Concrete must be fully cured.
2. All floors to be covered must be solid and have a rigid base.
3. Repair all deep or wide nonmoving cracks with Sonocrete® repair products 24 hours before installation (see Form Nos. 1017930 SonoPatch® 100, 1017951 SonoPatch® 200, and 1017958 SonoPatch® 300).
4. Profile or roughen smooth or steel-troweled substrates before applying Sonoflow®.
5. Floors must be thoroughly dry before application of Sonoflow®. Before proceeding, determine the moisture content of the floor. One of two methods can be used.

Technical Data

Composition

Sonoflow® contains ferric oxide, crystalline silica, calcium carbonate, calcium aluminates cement, and Portland cement.

Typical Properties

PROPERTY	VALUE
Set Times , at 70° F (21° C), and 50% humidity	
Initial set	< 2 hours
Final set	< 3 hours

Test Data

PROPERTY	RESULTS	TEST METHODS
Compressive strength , psi (MPa)		ASTM C 109, modified*
1 day	2,700 (18.6)	
3 days	3,100 (21.4)	
7 days	3,600 (24.8)	
28 days	4,400 (30.3)	
Flexural strength , psi (MPa)		ASTM C 348, modified*
28 days	1,000 (6.9)	

Cured at 70°F (21°C), and 50% relative humidity

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

- Polyethylene sheet test: Tape a 4 ft² (0.5 m²) sheet of polyethylene or other clear plastic film to the slab surface according to ASTM D 4263. If no moisture accumulates on the underside of the plastic film after a 24 hour period, the slab is dry enough for coating. If moisture collects under the plastic film, repeat the test until it is no longer visible.
- Moisture meter: Various types of meters are available to measure the appropriate moisture content.

Priming

Sonoflow® Primer 100 and Primer 150 ensure maximum adhesion between the substrate and the underlayment. Primer 100 produces best results with absorbent substrates; Primer 150 should be used for low-absorbency substrates.

1. Lightly dampen the substrate before primer application.
2. For nonporous floors, use 1 coat of undiluted Primer 150 by roller or sprayer.
3. Due to variable substrate porosity and texture, choose one of the following options: a) Primer 100 undiluted applied at 200 – 400 ft²/gallon (5 – 10 m²/L); b) Primer 150 diluted 1 to 1 with potable water applied at 200 – 400 ft²/gallon (5 – 10 m²/L). Allow the primer to dry completely to a tack-free film (3 – 4 hours). Drying time will vary with temperature and humidity.

4. Very porous concrete floors may require 2 applications. In such cases, dilute 1 part Primer 100 with 2 parts of potable water. Apply to cover approximately 200 – 300 ft²/gal of mixed primer. (5 – 7.4 m²/L). Allow to dry at least 1 hour. Dilute second coat 1 to 1 with potable water. Allow to dry 3 – 4 hours.
5. If the primer dries for more than 12 hours before the application of Sonoflow®, the substrate must be reprimed with Primer 100 or 150 diluted 1 to 1 with potable water. Protect all primed surfaces from traffic and dust.

Mixing

1. For best results, mix with a Jiffy (PS-2) or similar mixer attached to a heavy-duty electric drill (minimum 650 rpm). A diaphragm or rotor-stader-type pump may be used for larger areas.
2. Use approximately 5-1/4 quarts (5.0 L) of water per 50 lbs (22.7 kg) of Sonoflow®. Gradually add the powder to the water and mix for 1 – 2 minutes to ensure a uniform, lump-free, smooth consistency.
3. Self-leveling working time is approximately 30 minutes at 68° F (20° C). Increased temperatures will significantly reduce working times.

Application

1. Pour Sonoflow® over the substrate in a continuous operation, distributing with a long-handled spreader and spiked roller where needed. No troweling is required.
2. When hand-mixing Sonoflow®, use a spiked roller to improve the healing of subsequent pours.

3. For applications 1/2" – 1" (13 – 25 mm) thick, Sonoflow® must be extended by adding 25 – 50 lbs (11.3 – 22.7 kg) of clean, 1/8" (3 mm), coarse, graded, washed sand per 50 lb (22.7 kg) bag.
4. For placements exceeding 1", contact Technical Service for placement and aggregate extension recommendations. First mix Sonoflow®, then add the required aggregate during the last minute of mixing. If a finish coat is required, apply a non-aggregate extended layer of Sonoflow® after the first pour becomes walkable (3 – 4 hours). If not possible and the first layer is more than 12 hours old, reprime with Primer 100 or 150 diluted 1 to 1 with potable water.
5. All floor adhesives compatible with normal concrete may be used with Sonoflow®.

SONOFLOW® AS A LIGHT TRAFFICBEARING SURFACE

Sonoflow® must be placed in accordance with this Product data sheet at a minimum thickness of 1/4" (6 mm) when coated over and 1/8" (3 mm) when carpeted or tiled over and allowed to cure for at least 48 hours (75°F [24°C] and 50% relative humidity). At thicker applications, additional curing time may be required.

Drying Time

Sonoflow® will accept foot traffic in 3 – 4 hours. Under normal conditions, floors can be covered within 24 hours. Protect the pour from excessive dryout from heat and wind.

For Best Performance

- Do not install Sonoflow® below 40° F (4° C), and use cool water at temperatures above 90° F (32° C).
- Do not apply Primer 100 or 150 at substrate temperatures below 40° F (4° C) or above 90° F (32° C).
- Test installations are encouraged.
- For floor slabs below- or on-grade, make sure that moisture is not percolating up from the soil below.
- Do not overwater or retemper.
- Do not use admixtures.
- Good construction practices dictate that all joints be continued through a topping where they exist in the subfloor.
- Use a spiked roller for applications less than 1/4" (6 mm) thick.
- Sonoflow® must be coated if it will be subjected to traffic; tests are recommended to determine the appropriateness of the selected system to existing traffic conditions.
- Featheredge installations can produce poor performance and durability.
- Not recommended for use on wood.
- This system is not recommended for steel wheeled traffic.
- For vehicular traffic the minimum recommended placement is 3/8" (10 mm).
- 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 version.
- Proper application is the responsibility of the user. Field visits by Degussa personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

SONOFLOW®

Caution

Sonoflow® contains ferric oxide, crystalline silica, calcium carbonate, calcium aluminates cement, Portland cement, and anhydrite.

Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin and eyes. Prevent inhalation of dust. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or is used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION. Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

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

VOC Content

0 lbs/gal or 0 g/L

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

Degussa Building Systems

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Customer Service 800-433-9517
Technical Service 800-243-6739

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