

THORITE® GENERAL PURPOSE

Fast-setting cement-based repair mortar

PRODUCT DATA

3 03930

**Concrete
Rehabilitation**

Description

Thorite® General Purpose is a fast-setting, nonsag cement-based repair mortar for small repairs on vertical, horizontal, and overhead surfaces.

Yield

0.45 ft³/50 lb bag
(0.013 m³/22.7 kg bag)

0.54 ft³/60 lb pail
(0.015 m³/27.2 kg pail)

Yields are approximate, depending on job site conditions.

Packaging

12 lb (5.4 kg) cans

50 lb (22.7 kg) polyethylene-lined bags

60 lb (27.2 kg) metal pails

Color

Dark gray

Shelf Life

1 year when properly stored

Storage

Transport and store in original containers protected from moisture and dampness in a cool, clean, dry area between 45 and 90° F (7 and 32° C). Do not stack bags more than 2 pallets high to avoid compression set. Do not allow Acryl 60® to freeze.

Features

- Fast setting
- Long-lasting repairs
- Resistant to wind-driven rain and below-grade hydrostatic pressure
- Withstands freeze/thaw cycles and temperature extremes
- One component
- Can be mixed with Acryl 60®

Benefits

- Can be painted or coated over faster than normal concrete
- Extends life of the structure
- Provides long-lasting waterproof repairs
- Suitable for all climates
- Easy to mix; enhances quality control
- Increases high-performance properties

Where to Use

APPLICATION

- Deteriorated or uneven cast-in-place or precast, and steel-reinforced concrete
- Filling and leveling honeycombs
- Form tie-wire holes, small spalls, surface irregularities, and other minor surface defects
- Immersion service
- Bridges
- Tunnels
- Basements

LOCATION

- Vertical and overhead
- Nontraffic-bearing horizontal surfaces
- Interior or exterior
- Above or below grade

SUBSTRATE

- Concrete
- Masonry

How to Apply

Surface Preparation

1. Area to be repaired must be clean, structurally sound, and free of all loose, dirty, oily, and scaly material or any material that may affect proper bonding.
2. Repair area should have sawcut straight edges at a minimum depth of 1/4" (6 mm).
3. Clean all reinforcing steel to a white-metal finish.

Mixing

1. Product can be mixed with water only, or with a water and Acryl 60® mixture to enhance its properties. Prepare a mixture of 1 part Acryl 60® to 3 parts water. To improve bonding, Acryl 60® may be mixed 1 to 1 with water.
2. Elevated material and mixing water temperatures will shorten open time. Precondition Thorite® General Purpose to 70° F ±5° (21° C ±3°) before mixing.
3. Mix only enough material that can be placed within 10 – 15 minutes.
4. Add 3 quarts (2.8 L) of water and Acryl 60® mixture to a clean container. Gradually add powder while mixing at low speed to obtain a uniform, lump-free consistency. Mechanically mix with slow-speed drill and mixing paddle at 400 – 600 rpm or use an appropriately sized mortar mixer.



Technical Data

Composition

Thorite® General Purpose is a proprietary mix composed of cement, graded silica, calcium sulfate, fillers, and additives.

Test Data

Thorite® General Purpose modified with Acryl 60® diluted with water in a 1 to 3 ratio at 3.75 qts (3.5 L) per 50 lb (22.7 kg) bag.

PROPERTY	RESULTS	TEST METHODS
Initial set , min	10 – 15	ASTM C 807, modified
Final set , min	20 – 30	ASTM C 807, modified
Density , lb/ft ³ (g/cm ³)		ASTM C 138
Wet	128 – 133 (2.05 – 2.12)	
Cured	125 – 131 (2.00 – 2.10)	Lab Method
Compressive strength , psi (MPa)		ASTM C 109
1 day	2,700 (18.9)	
7 days	4,000 (28)	
28 days	4,800 (34)	
Flexural strength , psi (MPa)		ASTM C 348
7 days	680 (4.7)	
28 days	990 (6.9)	
Tensile strength , psi (MPa)		ASTM C 190
1 day	210 (14.7)	
7 days	580 (4.06)	
28 days	830 (5.81)	
Modulus of elasticity , psi (MPa)		ASTM C 469
28 days	2.18 x 10 ⁶ (1.5 x 10 ⁴)	
Freeze/thaw resistance , % weight loss at 300 cycles	4.5	ASTM C 666, Method A
Scaling resistance , rating after 50 cycles	1	ASTM C 672
Water-vapor transmission , perms	18.6	ASTM E 96
Coefficient of thermal expansion , linear, in/in/° F	2.77 x 10 ⁻⁶	ASTM C 531
Surface burning characteristics		ASTM E 84
Smoke	5	
Flame spread	0	
Rating	Class 1	

Test results are averages obtained under laboratory conditions at 70° F (21° C) and 50% rh. Reasonable variations can be expected.

5. Mix for 2 – 3 minutes. Do not overmix. Add up to 3/4 quart (0.7 L) of water and Acryl 60® mixture, only if needed for workability. Do not exceed 3.75 quarts (3.5 L) of liquid per 50 lb (22.7 kg) bag or 4.5 quarts (4.23 L) per 60 lb (27 kg) pail.

6. For applications exceeding the above recommendations, extend Thorite® General Purpose with up to 15 lbs (6.8 kg) of washed, graded, surface saturated-dry (SSD) aggregate per 50 lb (22.7 kg) bag. When extended, up to 3 50 lb (22.7 kg) bags of Thorite® General Purpose can be used at once.

Application

1. Prewet the substrate to a saturated surface-dry (SSD) condition. Some substrates may require extended and even overnight soaking. Remove any ponding water from the surface before placing the scrub coat.

2. As a scrub coat, apply the fresh mortar by brush to the properly prepared, prewetted substrate, vigorously scrubbing it into the exposed surface. Do not allow scrub coat to dry prior to placement of the trowel mix. If the scrub coat dries out before the wet mortar can be placed, it must be removed as if it were laitance.

3. Immediately trowel apply fresh mortar to the wet brush coat using firm trowel pressure. Completely fill all voids around steel reinforcement.

4. Maximum single lift recommendation is 1" (25 mm) on vertical surfaces and 1/2" (13 mm) overhead. Minimum placement depth is 1/8" (3 mm).

5. As Thorite® General Purpose hardens, score material between layers to improve adhesion. After initial set, apply second layer, building out the patch above the final profile required. Shave back the patch, working from the center towards the perimeter to achieve the final profile before the patch fully hardens.

6. Use a wet sponge float for final shaping once the surface cannot be marred. Finishing with a straight edge may be required.

Curing

In normal conditions, keep patch moist by water mist or fog spray until final set. Refer to ACI 308 Practice for Curing Concrete. In hot, dry, windy conditions longer periods of moist curing may be necessary, or use an ASTM C 309 compliant curing compound.

Clean Up

Clean tools and equipment immediately with water. Cured material must be removed by mechanical means only.

For Best Performance

- Do not apply to unsound, cracked, or microfractured concrete or to concrete surfaces that are not clean and free of all contaminants.
- Do not apply to frozen or frost-covered substrates or when surface and air temperatures are below 40° F (4° C) or expected to fall below 40° F (4° C) within 24 hours after application.
- Use with proper ventilation.
- Thorite® General Purpose is not intended for continuous contact with acid or sulfate-containing water. Very soft water will have an adverse affect on performance.
- Over-mixing can reduce density, strength, and durability.
- Do not apply over dynamic cracks, control joints, or expansion joints.
- This product is not designed for large placements. Consult Technical Service for recommendations.
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

THORITE® GENERAL PURPOSE

Caution

Thorite® General Purpose contains crystalline silica, calcium carbonate, Portland cement, calcium aluminate, and calcium sulfate.

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 a small amount of 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. Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or 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. 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, less water and exempt solvents.

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

Degussa Building Systems

889 Valley Park Drive
Shakopee, MN, 55379

www.degussabuildingsystems.com

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

LIMITED WARRANTY NOTICE Every reasonable effort is made to apply Degussa exacting standards both in the manufacture of our products and in the information which we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, Degussa MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and Degussa shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the Degussa Technical Manager.

This information and all further technical advice are based on Degussa's present knowledge and experience. However, Degussa assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, Degussa disclaims all WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. DEGUSSA SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. Degussa reserves the right to make any changes according to technological progress or further developments. It is the customer's responsibility and obligation to carefully inspect and test any incoming goods. Performance of the product(s) described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used.

For professional use only. Not for sale to or use by the general public.

Form No. 1019079 9/03 (Replaces 1/02)
Printed on recycled paper including 10% post-consumer fiber.

© 2003 Degussa
Printed in U.S.A.