



**packaging**

## self leveling underlayment



### 1. Product Name

**ASH GROVE PRO® Self Leveling Underlayment**

Product Number: 441

### 2. Manufacturer

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### 3. Product Description

**Ash Grove Pro® Self Leveling Underlayment** is a Portland based, polymer modified leveling compound that can be applied to most substrates to level floors before a floor finish is applied.

#### BASIC USE:

An interior Underlayment OVER:

- Concrete floors & decks
- Ceramic Tile
- Wooden floors
- Quarry Tile
- Stone

An Interior Underlayment FOR:

- Asphalt
- Carpeting
- Ceramic Tile
- New and existing floors and decks
- Quarry Tile
- Vinyl
- Wood flooring

#### COMPOSITION & MATERIALS:

**Ash Grove Pro® Self Leveling Underlayment** is a polymer-modified portland cement based underlayment material.

### 4. Advantages/Benefits

**Ash Grove Pro® Self Leveling Underlayment** has several advantages including:

- Self-leveling capabilities
- Open to light traffic in six hours
- Pumpable
- Stronger than concrete

### 5. Preparation

Evaluation of the substrate by a qualified engineer, architect or contractor using means that determine the cause of deterioration is strongly recommended. Particular attention is to be given but not limited to

chloride penetration, corrosion of steel, galvanic activity, materials selection and compatibility, waterproofing, constructability, quality assurance and methods of application and maintenance by the owner.

Clean area and remove all unsound concrete, grease, oil, paint, and any other foreign materials that will inhibit performance. Slick or sealed surfaces must be thoroughly roughened.

Refer to:

- ASTM D 4259 Abrading Concrete
- ACI 201.1R Guide for Making a Condition Survey of Concrete in Service
- ACI 201.3R Guide for Making a Condition Survey of Concrete Pavements
- ACI 224.1R93 Causes and Repair of Cracks in Concrete Structure
- ICRI Surface Preparation Guidelines for Repair of Deteriorated Concrete Resulting from Reinforcing Steel Oxidation

Repair areas over 1" in depth with **Ash Grove Pro® Fast Patch** or **Ash Grove Pro® Vinyl Patch**. Allow the repair products to cure at least three hours before applying **Ash Grove Pro® Primer/Admix**.

#### ON OR BELOW GRADE FLOORS

Only when acceptable moisture levels and effective restrictions on moisture transmission are in place may floor coverings be installed.

Absorbent concrete will require 2 applications of the diluted **Ash Grove Pro® Primer/Admix** to avoid bubbles, pinholes and reduced flow of the underlayment. To determine if 1 or 2 applications are needed, apply a 1:1 dilution of the **Ash Grove Pro® Primer/Admix**. If the primer turns clear in approximately 30 minutes under the recommended temperatures, two coats are needed. Allow the first coat to dry before applying the second coat.

Place the test area with the same tools and procedures as will be used in the actual construction. Install a minimum of 50 sq. ft. in a high traffic area. Allow the test area to cure for at least 3 days. Evaluate the test area for adhesion, appearance and suitability for the intended use.

Install a bond breaker where vertical surfaces meet the new topping. Extend existing expansion and control joints in the concrete through the topping cement.



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**Note:** Ash Grove Pro® Self Leveling Underlayment will not correct or compensate for a structurally defective substrate. Faults in the substrate can appear in the underlayment. The use of alkali resistant glass fabric or galvanized metal reinforcing (Federal Specification QQL 101C) can be helpful in reducing reflective cracking.

Mix the Ash Grove Pro® Primer/Admix in a 1:1 ratio with water. One gallon of Ash Grove Pro® Primer/Admix diluted with 1 gallon of water will cover 500-800 sq. ft. Apply the diluted primer with a soft push broom or roller. A thin uniform application (4-6 wet mils) will perform better than a thick film, which forms a soft rubbery surface resulting in cracking of the Self Leveling Underlayment.

Allow the primer to dry for 1 to 3 hours, but not more than 24 hours. If primer is permitted to dry beyond 24 hours, reapply the primer.

### 6. Mixing Instructions

Mix only the amount that can be applied in 15 minutes. The product will remain fluid for about 15 minutes. Add 7 quarts of clean water to the mixing container for each 55 lb. bag of Ash Grove Pro® Self Leveling Underlayment. As temperature rises above 70° F, working time will decrease. Up to 8 quarts of water per 55 lb. bag may be added between 80° F and 90° F. Over watering and over mixing will affect strength, abrasion resistance and may cause cracking or surface defects.

Installations of less than 1,000 sq. ft. are usually done by the "mix and spill" method. This involves mixing the material with a drill mixer-generally 2 bags at a time.

Once the water has been placed in the mixing drum, gradually add the Self Leveling Underlayment to the mixing water and mix until material is wet, free of lumps and of a flowable consistency. Mix for about two minutes. In temperatures above 80° F, use cold water to retard the set. Use a high torque electric drill with 450 RPM maximum and self-leveling mixing blade. For applications over 1,000 sq. ft., using a progressive cavity (rotor stator tube) grout pump is recommended.

For applications greater than 1", extend the Self Leveling Underlayment by adding up to 25 lbs. of clean, graded 1/8" damp aggregate per 55 lb. bag. Mix the product per instructions, then add the aggregate. If the aggregate is damp, no additional mixing water will be needed. If the aggregate is dry, up to 1 pint of mixing water may be needed to obtain material flow characteristics.

Addition of aggregate reduces the working characteristics of the material. It may be necessary to apply a finish layer the next day as a final coat. Ash Grove Pro® Primer/Admix must be applied before the finish layer of Self Leveling Underlayment.

### 7. Placement

Ideal placement temperatures are:

	Minimum	Maximum
Substrate	50°F	80°F
Mix	60°F	80°F
Air	50°F	90°F

Use a spreader tool to pull the Ash Grove Pro® Self Leveling Underlayment into place. Troweling is not recommended. Divide the area to permit continuous placement without cold joints. To prevent ridges between batches, use the smoother tool and work a narrow dimension. Self Leveling Underlayment will rapidly adapt to the temperature of the substrate and the environment.

Application thicknesses down to 1/16" are acceptable at points of termination. Most applications are 1/4" to 1/2" in thickness.

Consult Ash Grove Technical Services for applications over wooden floors.

When vinyl, wood, or other types of floor coverings are to be installed over Self-Leveling Underlayment, the requirements of the floor covering manufacturer are to be followed with respect to but not limited to levels of moisture.

Refer to:

- RFCI (Resilient Floor Covering Institute publication MRP Nov 95): [Addressing Moisture Related Problems Relevant to Resilient Floor Coverings Installed Over Concrete](#)
- NOFMA (National Oak Flooring Institute) publication: [Installing Hardwood Flooring, Rev. March 98/10](#)

### 8. Curing

Protect from freezing and sudden rain for 24 hours. Air and surface temperature of the substrate will affect the working time and method of curing needed.

Materials modified with Ash Grove Pro® Acrylic Admix or Ash Grove Pro® Primer/Admix should be air cured, unless hot and/or drying winds or low humidity are present. Under such conditions, cure per Portland Cement Association - [Design and Control of Concrete Mixes \(EB001.12T\)](#) and/or American Concrete Institute 308- [Standard Practice for Curing Concrete](#).



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9. Technical Information

COMPRESSIVE STRENGTH:

ASTM C-109

- Cured 6 hours 500 psi ( 3.44 Mpa)
• Cured 24 hours 1,500 psi (10.34 Mpa)
• Cured 7 days 3,800 psi (26.20 Mpa)
• Cured 28 days 5,500 psi (37.90 Mpa)

SET TIME (Temp 70°F):

ASTM C-191

- Initial Set .....1 to 1-1/2 hours
• Final Set.....4+ hours

Flexural Strength:

ASTM C-580

- Cured 28 days .....1370 psi

Tensile Strength:

ASTM C-190

- Cured 28 days .....780 psi

Bond Strength Slant Cylinder:

ASTM C-882 with Ash Grove Pro Primer/Admix

- Cured 7 days.....1360 psi

ANSI A 118.1 Plywood with Ash Grove Pro Primer/Admix

- Cured 7 days .....160 psi

ANSI A 118.1 Quarry tile with Ash Grove Pro Primer/Admix

- Cured 7 days .....240 psi

Wt.lbs./ft3

ASTM C-138

- Wet (Plastic) .....117 lbs. + 2%
• Dry (Hardened) .....105 lbs. + 2%

10. Limitations

- Do not trowel
• Do not use as a wear surface or finished floor
• Do not apply over substrates that are frozen or contain frost
• Do not retemper
• Do not use without primer
• Do not coat with materials that will trap water in the substrate
• Do not use in an area that is continually or intermittently exposed to water
• Do not overmix
• Do not apply over 1" thick without adding 1/8" aggregate
• Do not apply over wood without metal lath
• Do not add more than 7 qts. of water per bag if temperature is below 80° F
• Do not apply to slabs on grade without an effective vapor barrier present under the slab temperature will exceed 90° F

- Do not use in areas of high moisture in the substrate

11. Coverage

One 55 lb. bag (24.97 kg) covers approximately 24 to 27 sq. ft. at 1/4" thickness.

12. Warning

ASH GROVE® Self Leveling Underlayment contains portland cement. Normal safety wear such as protective clothing, boots, rubber gloves, dust masks, eye safety glasses should be worn while handling cement-based products. Material Safety Data Sheets are available upon request or at www.ashgrovepkg.com.

13. Limited Warranty

This product meets or exceeds applicable ASTM standards in force at the time of packaging. Packager, having no control over the use of the material, does not guarantee finished work. Replacement of any defective product or refund of the purchase price of defective product shall be the buyer's sole remedy under this warranty.

THIS LIMITED WARRANTY EXCLUDES ANY LIABILITY FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT OR SPECIAL DAMAGES.

EXCEPT FOR THE LIMITED WARRANTY MADE ABOVE, PACKAGER SPECIFICALLY DISCLAIMS AND EXCLUDES ANY OTHER EXPRESS WARRANTY, ANY IMPLIED WARRANTY OF MERCHANTABILITY OF GOODS AND ANY IMPLIED WARRANTY OF FITNESS OF GOODS FOR ANY PARTICULAR PURPOSE.

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