

HENRY®

The Professional's Formula For Success™

HENRY® 542 Liquid BackerBoard® Self-Leveling Underlayment

HENRY® 542 Liquid BackerBoard® is a self-leveling underlayment formulated from a blend of Portland cements and other hydraulic cements that smooths wood (no lath mesh required) and concrete.

- Installs 50% faster than traditional backer boards - no cuts, no screws
- Use to level and smooth plywood, concrete, existing tile
- No lath mesh required over wood
- A blend of Portland cement and other hydraulic cements
- Installs up to 1 1/4" (3.1 cm) thick neat
- Can be tapered to meet existing elevations
- Walkable in 2-3 hours; install ceramic tile in 6 hours
- Ideal for in-floor, electric heating systems
- Interior use only



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HENRY® 542

Liquid BackerBoard®

Self-Leveling Underlayment

Description and Usage

HENRY® 542 Liquid BackerBoard® is a self-leveling underlayment formulated from a blend of Portland cements and other hydraulic cements that smooths wood (no lath mesh required) and concrete. HENRY 542 is ideal for encapsulating in-floor, electric heating systems and is the easiest and fastest way to prepare wooden subfloors for the installation of tile and stone. Use HENRY 542 in place of traditional backer board, eliminating the need to cut, fit and mechanically fasten the backer board.

Substrate Preparation

For each of the substrates listed below, acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means for cleaning the substrate. Substrate and ambient temperatures must be a minimum of 50°F (10°C) for the installation of HENRY® products. Substrates must be dry during installation and cure.

Prior to application, use 1/2" weather stripping or similar to keep the HENRY 542 from flowing under cabinets or drywall, around plumbing or into adjacent rooms. Protect wall base and door moldings with painter's tape and plastic sheeting. Remove this course after the product has hardened (approx. 3 hours at 70°F/21°C).

Concrete

All concrete substrates must be solid, structurally sound, thoroughly clean and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds, sealers and any contaminant that might act as a bond breaker. If necessary, mechanically clean down to sound, solid concrete by shot blasting or similar. Overwatered, frozen or otherwise weak concrete surfaces also must be cleaned down to sound, solid concrete by mechanical methods. Sanding equipment is not an effective method to remove contaminants from concrete.

Wood

The wood subfloor either must be solid hardwood flooring; a minimum of 3/4" (19 mm) tongue-and-groove, APA-rated Type 1, exterior exposure plywood; or an approved OSB equivalent. The wood subfloor must be constructed according to prevailing building codes and must be solid and securely fixed to provide a rigid base free of undue flex. Any boards exhibiting movement must be refastened to create a sound, solid subfloor. The surface of the wood must be clean and free of oil, grease, wax, dirt, varnish, shellac and any contaminant that might act as a bond breaker. If necessary, sand down to bare wood. A commercial drum sander can be used to sand large areas. Do not use solvents, strippers or cleaners. Vacuum all dust and debris. Open joints should be filled with HENRY® 549 FeatherFinish™ Underlayment Patch and Skimcoat or HENRY® 547 UniPro™ Universal Underlayment mixed with HENRY® 546 Feather Edge Additive. It is the responsibility of the installation contractor to ensure that the wood subfloor is thoroughly clean and properly anchored prior to the installation of any HENRY® material.

Note on Asbestos-Containing Materials

Please note that when removing existing flooring, any asbestos-containing materials should be handled and disposed of in accordance with applicable federal, state and local regulations.

Recommended Tools

Mixing paddle, 5-gallon mixing drum, gauge rake, smoother, liquid measuring device (4.75 quarts / 4.5 L per 40 lbs. / 18 kg bag), a 1/2" (12 mm) heavy-duty drill (min. 650 rpm), 1/2" (12.7 mm) weather stripping or similar, painter's tape, plastic sheeting and baseball or soccer shoes with non-metallic cleats. For smaller installations, a steel trowel can be used in place of the gauge rake and smoother.

Priming

Note: HENRY® primers may need longer drying times with low surface temperatures and/or high ambient humidity. Do not install HENRY 542 before the primer has dried thoroughly.

Absorbent Concrete

Standard absorbent concrete must be primed with HENRY® 564 FloorPro™ Underlayment Primer, HENRY® 554 LevelPro™

Underlayment Primer or HENRY® 543 Floor Primer diluted 1:1 with water. Apply evenly with a soft bristled push broom. Do not use paint rollers, mops or spray equipment. Do not leave any bare spots. Brush off puddles and excess primer. Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours).

Extremely absorbent concrete may require two applications of HENRY 564, HENRY 554 or HENRY 543 to minimize the potential for pinholes forming in the HENRY 542. Make an initial application of HENRY 564, HENRY 554 or HENRY 543 diluted with 3 parts water by volume. Let dry thoroughly (1 to 3 hours), and install a second application of HENRY 564, HENRY 554 or HENRY 543 mixed 1:1 with water as stated above.

Wood

Wood subfloors require priming with HENRY 564, HENRY 554 or HENRY 543 at full strength (do not dilute). Apply directly to the prepared wood with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not use a push broom. Do not leave any bare spots. Brush off puddles and excess primer. Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours).

Joints and Cracks

Under no circumstances should HENRY 542 be installed over any moving joints or moving cracks. All existing expansion joints, isolation joints and construction joints, as well as all moving cracks, must be honored up through the underlayment and flooring.

As needed, dormant cracks and dormant control joints can be filled with HENRY 549 or HENRY 547 mixed with HENRY 546, following the instructions in each product's technical data sheet.

However, please be advised that while dormant control joints and dormant cracks in the slab may be filled with HENRY 549 or HENRY 547 mixed with HENRY 546 prior to installing HENRY 542, this filling is not intended to act as a repair method that will eliminate the possibility of joints and cracks telegraphing. HENRY 549, HENRY 547 and HENRY 542 are non-structural materials and are, therefore, unable to restrain movement within a concrete slab. This means that while some dormant joints and dormant cracks may not telegraph through the HENRY® materials and up into the finish flooring, cracks will telegraph in any area that exhibits movement, such as an active crack, an expansion or isolation joint, or an area where dissimilar substrates meet. We know of no method to prevent this telegraphing from occurring.

Mixing and Application

HENRY 542 is mixed one bag at a time. Mix each 40 lbs. (18 kg) bag with 4.75 quarts (4.5 L) of clean water. Pour the water in the mixing drum first, and then add the HENRY 542 while mixing with a mixing paddle and a 1/2" (12 mm) heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 to 3 minutes to obtain a lump-free mix. **Do not overwater!** Yellowish foam while mixing, or settling of the sand aggregate while placing, indicates overwatering.

HENRY 542 has a flow time of 10 minutes at 70°F (21°C). Pour the mix onto the floor and spread with a gauge rake. Immediately smooth the material with a smoother. Work in a continuous manner during the entire self-leveling installation. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid HENRY 542.

Thickness of Installation

Install HENRY 542 at a minimum thickness of 1/8" (3 mm) over the highest point in the floor, which typically results in an average thickness of 1/4" (6 mm) or more over the entire floor. HENRY 542 can be installed up to 1 1/4" (3.1 cm) thick.

To match existing elevations, HENRY 542 can be tapered to as thin an application as the sand in the material will allow. If a true featheredge is needed, The W.W. Henry Company recommends using HENRY 549 or HENRY 547 mixed with HENRY 546 for transitions.

Wear Surface

HENRY 542 is not to be used as a permanent wear surface, even if coated or sealed. HENRY 542 must be covered by a suitable floor covering material, such as tile and stone flooring, engineered wood plank or laminate flooring.

Installation of Flooring

HENRY 542 is walkable 2 to 3 hours after installation.

The cure time required prior to installing flooring will vary with the thickness of the HENRY 542 installation and the type of flooring being installed. See the chart below for details. All dry times are calculated at 70°F (21°C).

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	Installation thicknesses of 1/2" (12.7 mm) or less	Installation thicknesses greater than 1/2" (12.7 mm)
Moisture-insensitive tile (ceramic, quarry, porcelain):	6 hours	Mat test*
Moisture-sensitive stone, laminate and wood	Mat test*	Mat test*

*Where mat testing is required, allow the installation to dry 48 hours prior to mat testing in accordance with ASTM D4263. To do this, place a piece of heavy plastic or a smooth, rubber mat over a 2' x 2' area. Wait 24 hours, and then lift and inspect for surface darkening. Surface darkening indicates that further drying is needed. Repeat the test as necessary until no surface darkening is observed (estimated 3-4 days).

Drying time is a function of jobsite temperature and humidity conditions, as well as the installation thickness. Low substrate temperatures and/or high ambient humidity will extend the drying time. Adequate ventilation and heat will aid drying. Forced drying can dry the surface of the underlayment prematurely and is not recommended.

Notes

HENRY 542 can be used in areas exposed to intermittent topical moisture, such as bathrooms and kitchens. However, do not use in areas of constant water exposure or in areas exposed to permanent or intermittent substrate moisture, as this may jeopardize the performance of the underlayment and the floor covering. This product is not a vapor barrier, and it will allow free passage of moisture. **Follow the directives of the floor covering manufacturer regarding the maximum allowable substrate moisture content, and test the substrate prior to installing HENRY 542.** Where substrate moisture exceeds the maximum allowed, The W.W. Henry Company recommends the use of ARDEX Moisture Control Systems. For further information, please refer to the ARDEX technical data sheets at www.ardexamericas.com

Always install an adequate number of properly located test areas, including the finish flooring, to determine the suitability of the products for the intended use. As floor coverings vary, always contact and rely upon the floor covering manufacturer for specific directives, including maximum allowable moisture content, adhesive selection and intended end use of the product.

Never mix with cement or additives. Observe the basic rules of concrete work. Do not install below 50°F (10°C) surface and air temperatures. Install quickly if the substrate is warm, and follow warm weather instructions available from the HENRY® Technical Service Department.

Dispose of packaging and residue in accordance with federal, state and local waste disposal regulations. Do not flush material down drains.

Precautions

Carefully read and follow all precautions and warnings on the product label. For complete safety information, please refer to the Safety Data Sheet (SDS) available at www.wwhenry.com

Technical Data According to HENRY® Quality Standards

Physical properties are typical values and not specifications. All data based on a partial, in-lab mix. Mixing and testing completed at 70°F / 21°C and in accordance with ASTM C-1708, where applicable

Mixing Ratio:	4.75 quarts (4.5 L) of water per 40 lbs. (18 kg) bag
Coverage:	26 sq. ft. per bag at 1/4" (2.4 sq. m at 6 mm) Coverage will vary depending on the texture of the surface being smoothed.
Flow Time:	10 minutes
Compressive Strength (ASTM C109/mod - Air cure only):	3,000 psi (210 kg/cm ²) at 28 days
Flexural Strength (ASTM C348):	700 psi (49 kg/cm ²) at 28 days
Walkable:	2 to 3 hours
Install Flooring:	See Installation of Flooring Section above.
VOC:	0
Packaging:	40 lbs. (18 kg) bag
Storage:	Store in a cool, dry area. Do not leave bags exposed to sun.
Shelf Life:	1 year, if unopened
ASTM C627 rating (Robinson -Type Floor Tester):	Classified as extra heavy
Warranty:	HENRY® Standard Limited Warranty applies.

Made in the USA.

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Updated 02-16-2015. Supersedes all previous versions. Check www.wwhenry.com for most recent version and for technical updates, which may supersede the information herein.