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# ARDEX HC 100R™

## High-Capacity Rapid Self-Leveling Underlayment

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Designed for the ARDEX ARDIFLO™ high- and medium-capacity pumping systems

Use to level and smooth interior concrete, terrazzo, ceramic and quarry tile, epoxy coating systems and non-water soluble adhesive residue on concrete

Ideal for rough-screeded concrete surfaces

A blend of Portland cement and other hydraulic cements

Installs up to 1 1/2" (3.8 cm) neat

Can be tapered to meet existing elevations

Walkable in 2 to 3 hours

Install moisture-insensitive tile and stone after 6 hours, all other floor coverings after 16 hours

Designed specifically for fast-track installations

Interior use only



**SystemOne™**

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# ARDEX HC 100R™

## High-Capacity Rapid Self-Leveling Underlayment

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### Description and Usage

ARDEX HC 100R™ is a blend of Portland cements, other hydraulic cements and polymers that is used to level and smooth interior concrete, terrazzo, ceramic and quarry tile, epoxy coating systems and non-water soluble adhesive residue on concrete prior to the installation of finished flooring – on, above or below grade. It can also be installed over concrete treated with certain curing compounds (see below). Designed specifically for the fast leveling of floors using the ARDEX ARDIFLO™ pumping systems, ARDEX HC 100R provides a durable, flat, smooth floor surface with minimum labor and installation time. It is pumpable when mixed with water and seeks its own level.

### 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 ARDEX products. Substrates must be dry during installation and cure. For more detailed information on substrate preparation, please refer to the ARDEX Substrate Preparation Brochure at [www.ardexamericas.com](http://www.ardexamericas.com).

**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 the floor down to sound, solid concrete by shot blasting, grinding or similar. Over-watered, 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.

**\*NOTES ON CURING COMPOUNDS:** Test areas of ARDEX HC 100R can be installed and evaluated over concrete slabs that have been treated with either silicate or acrylic resin curing compounds. These compounds must be installed in strict accordance with the compound manufacturer's written recommendations. If a silicate type has been used, all residual salts must be removed. For instructions on priming concrete with acceptable curing compounds, please refer to the Priming section of this brochure.

Please be advised, however, that there are a number of curing compounds sold today that are wax- or petroleum-based emulsions. These are permanent bond breakers that must be removed completely prior to patching or leveling. Dissipating compounds must also be removed completely by mechanical means prior to installing any ARDEX material.

It is imperative to be able to determine the type of curing compound that was used before proceeding. Any curing compound that cannot be identified should be completely, mechanically removed.

**ADHESIVE RESIDUES ON CONCRETE:** ARDEX HC 100R also can be installed over non-water-soluble adhesive residue on concrete only. The adhesive must first be tested to make certain it is not water-soluble. Water-soluble adhesives must be removed mechanically down to clean concrete.

Non-water-soluble adhesives should be prepared to a thin, well-bonded residue using the wet-scraping technique as recommended by the Resilient Floor Covering Institute ([www.rfci.com](http://www.rfci.com)) to remove thick areas and adhesive build-up, as well as any areas that are weak or not well bonded to the concrete. Any existing patches below the adhesive must be removed completely.

### OTHER NON-POROUS SUBSTRATES:

ARDEX HC 100R also can be applied over other clean, sound and solidly bonded non-porous substrates, including terrazzo, burnished concrete, epoxy coating systems, and ceramic and quarry tile. The substrate must be clean, including the complete removal of existing waxes and sealers, dust, dirt, debris and any other contaminant that may act as a bond breaker. Substrate preparation must be by mechanical means, such as shot blasting.

### 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.

### Priming

**NOTE:** ARDEX primers may need longer drying times with low surface temperatures and/or high ambient humidity. Do not install ARDEX HC 100R before the primer has dried thoroughly.

**ABSORBENT CONCRETE:** Standard absorbent concrete must be primed with ARDEX P 51™ 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 ARDEX P 51 to minimize the potential for pinholes forming in the ARDEX HC 100R. Make an initial application of ARDEX P 51 diluted with 3 parts water by volume. Let dry thoroughly (1 to 3 hours), and install a

second application of ARDEX P 51 mixed 1:1 with water as stated above.

**NON-POROUS:** Non-porous substrates such as burnished concrete, terrazzo, ceramic and quarry tile, epoxy coating systems, non-water soluble adhesive residue on concrete and concrete treated with silicate compounds must be primed with ARDEX P 82™ Ultra Prime. Follow the mixing instructions on the container, and apply with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not leave any bare spots. Back roll with a dry roller to remove excess primer. ARDEX P 82 should be applied within 1 hour of mixing. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).

**Note:** If an approved acrylic curing compound is used, test the surface for porosity. If the concrete is porous, prime with ARDEX P 51. If it is non-porous, prime with ARDEX P 82.

## Joint and Cracks

Under no circumstances should ARDEX HC 100R 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 joints can be filled with ARDEX FEATHER FINISH® or ARDEX ARDIFIX™, following the instructions in each product's technical brochure. Please note that if ARDEX ARDIFIX is used, it must be sand-broadcast to refusal.

However, please be advised that while dormant control joints and dormant cracks in the slab may be filled with ARDEX FEATHER FINISH or ARDEX ARDIFIX prior to installing ARDEX HC 100R, this filling is not intended to act as a repair method that will eliminate the possibility of joints and cracks telegraphing. ARDEX FEATHER FINISH, ARDEX ARDIFIX and ARDEX HC 100R 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 ARDEX 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

ARDEX HC 100R can be pumped as part of the ARDEX ARDIFLO System using the ARDEX POWERFLO™ High-Capacity Pump Trailer.

**Contact the ARDEX Technical Service Department for complete pump operation instructions.**

## Contact the ARDEX Technical Service Department

ARDEX HC 100R has a flow time of 10 minutes at 70°F (21°C). Pump the mix onto the floor and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 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 ARDEX HC 100R.

## Thickness of Application

Install ARDEX HC 100R 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. ARDEX HC 100R can be installed up to 1 1/2" (3.8 cm) thick.

For areas requiring a thickness greater than 1 1/2" (3.8 cm) up to 5" (12.7 cm), use ARDEX K 15® Premium Self-Leveling Underlayment mixed with aggregate. Follow the instructions in the ARDEX K 15 technical brochure.

The addition of aggregate will diminish the workability of ARDEX K 15 and may make it necessary to install a neat course to obtain a smooth surface. ARDEX HC 100R can be used for the neat course. Allow the ARDEX K 15 to dry for 12 to 16 hours, and then prime this layer with ARDEX P 51 mixed 1:1 with water. Allow the primer to dry (min. 3 hours, max. 24 hours) before installing the ARDEX HC 100R.

To match existing elevations, ARDEX HC 100R can be tapered to as thin an application as the sand in the material will allow. If a true featheredge is needed, ARDEX recommends using ARDEX FEATHER FINISH for transitions.

## Wear Surface

ARDEX HC 100R is not to be used as a permanent wear surface, even if coated or sealed. ARDEX HC 100R must be covered by a suitable floor covering material, such as carpet, vinyl flooring, ceramic tile, etc. For resurfacing and leveling indoor concrete floors in warehouses, storage areas, hallways or other areas where a wear surface is required, use ARDEX SD-T® Self-Drying, Self-Leveling Concrete Topping.

## Installation of Flooring

ARDEX HC 100R is walkable 2 to 3 hours after installation. Allow a 6-hour cure for moisture-insensitive tile, such as ceramic, quarry and porcelain, and a 16-hour cure for all other floor coverings. 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.

## Notes

FOR PROFESSIONAL USE ONLY. This product is intended for interior use over dry substrates only. 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 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 ARDEX HC 100R.** Where substrate moisture exceeds the maximum allowed, ARDEX recommends the use of ARDEX Moisture Control Systems. For further information, please refer to the ARDEX technical brochures at [www.ardexamericas.com](http://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, such as 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 ARDEX Technical Service Department.

Dispose of container 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 Material Safety Data Sheet (MSDS) available at [www.ardexamericas.com](http://www.ardexamericas.com).

Made in the USA by ARDEX Engineered Cements, Aliquippa, PA 15001

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06-04-2013  
AT-383

## Technical Data According to ARDEX Quality Standards

All data based on a mixing ratio of 3.5 parts powder to 1 part water by volume at 70°F / 21°C and in accordance with ASTM C1708 as applicable. Physical properties are typical values and not specifications.

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<b>Flow Time:</b>	10 minutes
<b>Initial Set (ASTM C191):</b>	Approx. 30 minutes
<b>Final Set (ASTM C191):</b>	Approx. 90 minutes
<b>Compressive Strength (ASTM C109/mod – Air cure only):</b>	4100 psi (287.0 kg/cm <sup>2</sup> ) at 28 days
<b>Flexural Strength (ASTM C348):</b>	1000 psi (70 kg/cm <sup>2</sup> ) at 28 days
<b>Walkable:</b>	2 to 3 hours
<b>Install Flooring:</b>	6 hours for moisture-insensitive tile, such as ceramic, quarry and porcelain; 16 hours for all other floor coverings
<b>VOC:</b>	0
<b>Storage:</b>	Store in a cool, dry area. Do not leave bags exposed to sun.
<b>Shelf Life:</b>	1 year, if unopened
<b>Warranty:</b>	ARDEX Engineered Cements Standard Limited Warranty applies. Also eligible for the ARDEX/HENRY SystemOne™ Warranty when used in conjunction with select HENRY® Flooring Adhesives.

For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App at the iTunes Store or Google Play.



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