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# **ARDEX SD-M<sup>TM</sup>** **Designer Floor Finish<sup>TM</sup>**

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**Use over concrete, terrazzo and existing tile, as well as over all ARDEX underlayments and toppings**

**Provides a smooth, permanent, durable finish**

**Easy to mix and apply**

**Mixes with water only, no additives necessary**

**Outstanding coverage with excellent bond**

**Mold and mildew resistant**

**Portland cement-based**

**Use for interior floors only**

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# ARDEX SD-M™

## Designer Floor Finish™

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### Description and Usage

ARDEX SD-M™ is a self-drying, Portland cement-based, trowelable topping for fast track finishing or resurfacing of interior concrete and certain non-porous surfaces. Use ARDEX SD-M to provide a hard, flat, smooth surface for warehouses, utility rooms and light manufacturing. ARDEX SD-M can also be installed to create ARDEX DESIGNER FLOORS™ in areas such as retail, hospitality, lobbies, stores, and all interiors requiring such a surface.

ARDEX SD-M can be installed at a minimum thickness of only 20 mils (0.020"), minimizing height transition issues, and can be sealed in as little as 2 hours.

### Substrate Preparation

Substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing and sealing compounds, and any contaminant that might act as a bond breaker. If necessary, mechanically clean the floor down to sound, solid concrete by grinding, shot blasting or similar. Overwatered, frozen or otherwise weak concrete surfaces must always be cleaned down to sound, solid concrete by mechanical methods. Acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means of cleaning the substrate. The use of sanding equipment is not an effective method to remove curing and sealing compounds. Substrate and ambient temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX products. For further information, please refer to the ARDEX Substrate Preparation Brochure.

### Recommended Tools

ARDEX T-2 Ring Mixing Paddle, mixing bucket, margin trowel, steel trowel, and a 1/2" heavy-duty drill (min. 650 rpm).

### Priming

#### Standard absorbent concrete and ARDEX

**Underlayments or Toppings:** No primer is required.

However, highly porous or absorbent surfaces can cause pinholes to develop. In this case, use ARDEX P 51™ PRIMER diluted with 3 parts water. Apply evenly with a soft 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). Applying ARDEX P 51 PRIMER will also help to increase the working time for ARDEX SD-M.

**Non-porous substrates:** Prime with P 82™ ULTRA PRIME. Follow mixing instructions on container and apply with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not leave any bare spots. Brush off puddles and excess primer. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).

**NOTE:** For critical areas where reflective cracking is a concern, apply ARDEX EP 2000™ SUBSTRATE PREPARATION EPOXY PRIMER with sand broadcast, carefully following the instructions given in the ARDEX EP 2000 Technical Brochure.

### Moving Joints and Cracks

Under no circumstances should ARDEX SD-M be installed over any moving joints or cracks. All existing expansion joints, isolation joints, construction joints and control joints (saw-cuts), as well as any moving cracks, must be honored up through the topping. Failure to do so may result in cracking and/or disbonding of the topping. Even the slightest amount of movement in a control joint will cause the ARDEX SD-M to show a hairline crack in a pattern reflective of the joint.

### Mixing And Application

For one 10 lb (4.5 kg) bag of ARDEX SD-M, use 2 quarts (1.9 liters) of clean water. Pour the water in the mixing container first, and then add the ARDEX SD-M. For best results, mix with an ARDEX T-2 Ring Mixing Paddle and a 1/2" heavy-duty drill. To mix smaller quantities by hand, use 2.5 parts powder to 1 part water by volume for the scratch and finish coat. For filling pop-outs and spalls up to 2" in diameter and 1/2" deep, use 3.5 parts powder to 1 part of water by volume.

**Do not overwater!** Use a margin trowel and mix vigorously for 2 to 3 minutes. Using mechanical mixing will produce a creamier, smoother consistency. Just prior to application on the substrate, the mixture should be stirred again to ensure a lump-free consistency. The pot life of ARDEX SD-M is approximately 30 to 40 minutes at 70°F (21°C). If hardening starts to occur within this time, remix before using.

After mixing, apply a scratch coat of the mix to the substrate with the flat side of a steel trowel to obtain a solid mechanical bond. Apply sufficient pressure to fill all defects and to feather the product onto the subfloor surface. It is necessary to have a minimum of two coats of ARDEX SD-M with a total finished thickness of 20 mils (about the thickness of a standard business card). Use the least amount possible to attain the desired smoothness. The scratch coat, or base coat, should be applied to pre-smooth the surface, and the finish coat may be applied as soon as the trowel will not damage the base coat. A third application of ARDEX SD-M is optional depending on the desired finish and texture. This application is used primarily to achieve a very smooth, troweled finish. Total thickness should not exceed 1/16".

### Wear Surface

The surface of ARDEX SD-M must always be protected from oil, salt, water and surface wear by applying a suitable protection system, such as concrete sealer or paint. ARDEX recommends the use of ARDEX CG CONCRETE GUARD™ to seal ARDEX SD-M that will be exposed to normal foot traffic. Sealing with ARDEX CG™ can proceed as soon as the surface

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of the ARDEX SD-M hardens sufficiently to work on without damaging it (approx. 2 to 3 hours under standard conditions of 70°F (21°C) and 50% RH). Low ambient temperatures and/or high humidity can extend this time. The floor can be open to traffic as soon as the ARDEX CG has dried to ARDEX recommendations. For installation instructions for ARDEX CG, please refer to the ARDEX Technical Brochure.

For certain ARDEX DESIGNER FLOOR applications, ARDEX STONE OIL™ may be specified. For installation instructions, please refer to the ARDEX Technical Brochure.

For areas to receive heavier traffic, as well as areas such as restaurants and food courts, sealing should be done using an appropriate wear protection coating. As the performance of coating systems varies greatly, the installer is responsible for assessing the suitability of these coatings. If a waterborne sealer is to be applied at a thickness not-to-exceed a total of 20 mils, the coating can be applied as soon as the surface of the ARDEX SD-M is hard (2 to 3 hours at 70°F/21°C). When using a solvent-borne or 100% solids coating applied at a total thickness of 20 mils or less, the ARDEX SD-M must cure for a minimum of 24 hours at 70°F (21°C). When the total application thickness will exceed 20 mils, the ARDEX SD-M must cure 3 to 5 days at 70°F (21°C) prior to installing the protection layer.

Once installed, any finished floor surface requires routine cleaning and maintenance. After installing the initial coats of sealer, the best way to ensure the long-term appearance of a newly installed floor is by the use of a sacrificial floor finish (“wax” or “polish”) applied over the surface of the newly installed and sealed floor. This sacrificial coating is the best way to ensure the long-term appearance of a newly installed floor. All floor coatings will wear as a function of traffic and maintenance, and the use of a sacrificial coating avoids wear on the original sealer while providing a simple maintenance solution.

ARDEX SD-M wear surfaces are intended for foot and moderate, rubber-wheeled forklift traffic and similar uses. Excessive service conditions, such as steel- or hard plastic-wheeled traffic, or the dragging of heavy metal equipment or loaded pallets with protruding nails over the floor, will cause gouging and indentations. ARDEX SD-M is not a resurfacing topping for heavy-duty manufacturing, industrial floors, or for chemical environments requiring customized industrial toppings.

## Cracks

ARDEX SD-M is formulated as a highly durable, non-structural wear surface. As such, it is important to note that no one can predict with 100% accuracy the appearance of cracking in a non-structural topping. While there can be several causes for cracking, it must first be understood that the installation of thin layers of non-structural toppings are not capable of restraining movement in the structural slab, which could

lead to reflective cracking. Areas most likely to telegraph include those with deflection of a concrete slab, vibration of a concrete slab in metropolitan areas due to truck traffic and subways, high rise buildings that sway or “rack” in the wind, existing cracks in the floor, control joints or saw-cuts, expansion joints and small cracks off of the corners of metal inserts such as electrical boxes or vents in the floor. While priming with ARDEX EP 2000 is the best way to minimize the possibility of reflective cracking, cracks may telegraph up into the surface in any area that exhibits movement.

## Notes

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 topping and sealer. This product is not a vapor barrier and will allow free passage of moisture. **Follow the directives of the sealer manufacturer regarding the maximum allowable substrate moisture content, and test the substrate prior to installing ARDEX SD-M.** Where substrate moisture exceeds the maximum permitted, ARDEX recommends the use of ARDEX Moisture Control Systems. For further information, please refer to the ARDEX Technical Brochures.

Always install an adequate number of properly located test areas, including the wear protection system, to determine the suitability and aesthetic value of the products for the intended use. As coatings vary, always contact and rely upon the coating manufacturer for specific directives such as maximum allowable moisture content, coating selection and intended end use of the product.

Low substrate temperatures and/or high ambient humidity require longer drying times for ARDEX primers. Do not install ARDEX SD-M before the primer has dried thoroughly.

To preserve its freshness, ARDEX SD-M must be protected from air while not in use. Protect unused material by removing the air from the bag and sealing tightly. Open and reseal as necessary.

Never mix with cement or additives other than ARDEX approved products. 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 the warm weather instructions available from the ARDEX Technical Service Department.

## Precautions

ARDEX SD-M contains Portland cement. Avoid eye and skin contact. Mix in a well-ventilated area and avoid breathing powder or dust. KEEP OUT OF REACH OF CHILDREN. Carefully read and follow all cautions and warnings on the product label. For complete safety information, please refer to the Material Safety Data Sheet, or visit our website at [www.ardex.com](http://www.ardex.com).

## Technical Data According to ARDEX Quality Standards

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All data based on a mixing ratio of 2.5 parts powder to 1 part water by volume at 70°F (21°C).

<b>Mixing Ratio:</b>	2 quarts (1.9 L) of water to one 10 lb bag (4.5 kg) For smaller batches, use 2.5 parts powder to 1 part water by volume for the scratch and finish coat, or 3.5 parts powder to 1 part water for filling small spalls
<b>Coverage:</b>	80 to 100 sq. ft. per bag in 2 coats (Actual coverage may vary)
<b>Initial Set (ASTM C191):</b>	Approx. 45 minutes
<b>Final Set (ASTM C191):</b>	Approx. 90 minutes
<b>Compressive Strength (ASTM C109/mod – Air cure only)</b>	5000 psi at 28 days
<b>Flexural Strength (ASTM C348)</b>	1200 psi at 28 days
<b>Walkable:</b>	2 hours
<b>Install Sealer:</b>	Waterborne: When hard (approx. 2 hours) Solvent-borne or 100% solids epoxy (less than 20 mils): 24 hours High build polymer coating (greater than 20 mils): 3 to 5 days
<b>Colors Available:</b>	Gray and White
<b>Packaging:</b>	10 lb (4.5 kg) bag net weight
<b>Storage:</b>	Store in a cool dry area. Do not leave bags exposed to sun. Protect unused material by removing air from bag and sealing tightly.
<b>Shelf Life:</b>	One year if unopened
<b>Warranty:</b>	ARDEX Engineered Cements Standard Limited Warranty applies.

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