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DS-042.0-0312



1. PRODUCT NAME

DRYTEK® 7400

2. MANUFACTURER

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3. PRODUCT DESCRIPTION

DRYTEK 7400 is a superior quality, fast drying, dual purpose self-leveling underlayment/interior wear surface topping that can be accented with a wide variety of coloring systems & finishes. Designed for use as a durable and attractive interior wear surface topping or a high performance underlayment. For application over a wide variety of substrates including concrete, VCT and tile*. DRYTEK 7400 can be placed from 1/16" to 1-1/4" (1.5 to 32 mm) in a single lift.

Advantages

- Dual purpose; for use as an attractive interior wear surface or as a high performance underlayment
- Can be topically stained or integrally colored to match specific design needs
- For use as underlayment where fast turn around time and high strength is desired
- Fast drying
- Can be applied directly over wet concrete (RH 95% or less per ASTM F2170)
- Inorganic; will not contribute to or harbor growth of mold or mildew

- Will not contribute to damaging emissions or irritating fumes upon settling or curing

Suitable Substrates

- Concrete
- Vinyl Tile[^]
- Cement backer board*
- Non-cushioned Sheet Vinyl[^]
- Linoleum[^]
- DRYTEK MVB Moisture Vapor Barrier[^]
- Exterior glue plywood**
- Ceramic tile and stone**
- Cement mortar beds
- Cement terrazzo**

* Consult cement backer board manufacturer for specific installation recommendations.

** See 5. Installation—Surface Preparation

[^] See Section 5 Installation Over Vinyl Tile, Linoleum, Sheet Vinyl and DRYTEK MVB Moisture Vapor Barrier

Packaging

55 lb (25 kg) bag/40 bags per pallet

Color: Grey and White

Approximate Coverage

Yield/coverage is only an estimate and may vary depending on the amount of water, mixing equipment, temperature and field conditions.

Per 55 lb (25 kg) bag

Nominal Thickness	Approximate Coverage
1/16" (1.5 mm)	103 ft ² (9.5 m ²)
1/8" (3 mm)	51 ft ² (4.8 m ²)
1/4" (6 mm)	26 ft ² (2.4 m ²)
1/2" (12 mm)	13 ft ² (1.2 m ²)
3/4" (18 mm)	8.6 ft ² (0.8 m ²)
1" (25 mm)	6.4 ft ² (0.6 m ²)
1-1/4" (32 mm)	5.1 ft ² (0.5 m ²)

Shelf Life

Factory sealed containers of this product are guaranteed to be of first quality for one (1) year† if stored off the ground in a dry area.

† High humidity will reduce the shelf life of bagged product.

Limitations

- DRYTEK DM1 Reinforcement Mat or 3.2# galvanized diamond metal lath must be used when installing over wood substrates.
- Apply only over ceramic or quarry tile which is applied to a concrete substrate and well-bonded.
- For interior use only.
- Do not install when surface temperature is below 40°F (4°C) or above 90°F (32°C), or when ambient air temperature is expected to fall below 50°F (10°C) during placement or before material takes final set.
- Do not install over painted or gypsum-based surfaces.
- Do not exceed recommended mixing ratio as indicated in mixing instructions. Over watering may weaken product properties.
- Never mix with cement or admixtures.
- Do not apply DRYTEK 7400 over waterproofing or crack isolation membranes.
- Adhesives/mastics, mortars and grouts for ceramic tile, pavers, brick and stone are not replacements for waterproofing membranes. When a waterproofing membrane is required, use a LATICRETE® Waterproofing Membrane (see Section 10 FILING SYSTEMS).
- Do not bond directly to luan, OSB, particle board or Masonite® surfaces.
- Not for use in submerged applications
- DRYTEK® 7400 should not be installed over any moving joints or structural cracks (cracks greater than 1/16" [1.5mm] in width or any crack which experiences vertical displacement). All existing expansion joints, cold joints and control joints must be brought up through the wear surface cement. Failure to honor movement joints will result in cracking or loss of bond.
- Note: Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes. Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/360 for thin bed ceramic tile/brick installations or L/480 for thin bed stone installations where L=span length (except where local building codes specify more stringent deflection requirements)

Cautions

Before using any DRYTEK product

- Read and understand the Product Data Sheet and Material Safety Data Sheet.
- Perform a mock-up to ensure product will perform as required and achieve the desired finish appearance. Refer to TDS 185D Drytek Wear Surface Variation for more information.

- Check www.drytek.com for any technical bulletins or updated information about the product and its application
- Contact your local DRYTEK Technical Sales Representative with any questions
- Consult MSDS for more safety information.
- During cold weather, protect finished work from traffic until fully cured.
- Contains portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water.
- Do not take internally. Silica sand may cause cancer or serious lung problems. Avoid breathing dust. Wear a respirator in dusty areas.
- Keep out of reach of children.

4. TECHNICAL DATA

Physical Properties (when used as an underlayment)

TENSILE BOND STRENGTH ^A	300–320 PSI (2.1–2.2 MPA)
FLEXURAL STRENGTH ^B	1620–1700 PSI (11.1–11.7 MPA)
COMPRESSIVE STRENGTH ^C	5000–5300PSI (34.5–36.5 MPA)

Specifications are subject to change without notification. Results shown are typical but reflect test procedure used. Actual field performance will depend on the type of tile/stone used, installation methods and site conditions.

A. Tensile Bond Strength per ASTM C 1583 test at 28 days, DRYTEK/Primer system over concrete substrate.

B. Flexural Strength at 28 days per ASTM C 348 – center point loading.

C. Compressive Strength per ASTM C 109 (air dry) – test at 28 days, 2" (50 mm) cubes, air dry.

Working Properties

Working Time	15–20 minutes
Time To Traffic	1–2 hours
Install Floor Goods	6 hours depending on thickness

5. INSTALLATION

Surface Preparation

Installation Over Concrete Slabs

- If DRYTEK® 7400 is intended for use as a self-leveling underlayment (not as a wearing surface) then ALL CONCRETE SURFACES MUST BE SHOT BLASTED/MECHANICALLY ABRADED if minimum 72 psi (0.5 MPa) tensile pull strength is not achieved or the substrate is contaminated.
- If DRYTEK 7400 is intended for use as a wearing surface (not as a self-leveling underlayment) then ALL CONCRETE SURFACES MUST BE SHOT BLASTED/MECHANICALLY ABRADED if a minimum 217 psi (1.5 MPa) tensile pull strength is not achieved or the substrate is contaminated.
- All surfaces must be primed with DRYTEK Multi-Purpose Primer and should be between 40°F (4°C) and 90°F (32°C). Surfaces should be structurally sound, clean and free from all dirt, oil, grease, adhesives, paint, sealers or curing compounds.

- New concrete surfaces must be at least 28 days old.
- Expansion joints shall be provided through the tile work from all construction or expansion joints in the substrate. Follow ANSI specification A108.01-3.7 "requirements for movement joints: preparations by other trades" or TCNA detail EJ-171 "Movement Joints—Vertical & Horizontal". Do not cover expansion joints with mortar.

Installation Over Wooden Sub-Floors

- Installer must verify that deflection under all live, dead and impact loads of interior plywood floors does not exceed industry standards of L/360 for ceramic tile and brick or L/480 for stone installations where L=span length.
- Minimum construction for interior plywood floors:

SUBFLOOR: 5/8" (15 mm) thick exterior glue plywood, either plain with all sheet edges blocked or tongue and groove, over bridged joists spaced 16" (400 mm) o.c. maximum; fasten plywood 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. along intermediate supports with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) between sheets and 1/4" (6 mm) between sheets edges; all sheet ends must be supported by a framing member; glue sheets to joists with construction adhesive.

UNDERLAYMENT: 5/8" (15 mm) thick exterior glue plywood fastened 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. in the panel field (both directions) with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) to 1/4" (6 mm) between sheets and 1/4" (6 mm) between sheet edges and any abutting surfaces; offset underlayment joints from joints in subfloor and stagger joints between sheet ends; glue underlayment to subfloor with construction adhesive. Refer to Technical Data Sheet 152 "Bonding Ceramic Tile, Stone or Brick Over Wood Floors" for complete details.

- Prime cleaned and properly prepared surface with DRYTEK Primer as described in "Priming" section.
- Allow primer to dry accordingly. Install 3.2# galvanized diamond metal lath over entire wood floor. Ensure proper fastening to eliminate any loose sections. Do not install over wet primer.
- **Note:** Galvanized diamond metal lath can be omitted when installing DRYTEK 7400 over LATICRETE Floor HEAT.
- Install DRYTEK 7400 over floor in accordance with "Application" section below.

When using DRYTEK DM1 Reinforcement Mat:

1. Place DRYTEK DM1 Reinforcement Mat on substrate with the fabric side down/matrix side up.
2. Staple DRYTEK DM1 Reinforcement Mat every 12" to 16" (300 – 400mm) on center.
3. Dilute DRYTEK Multi-Purpose Primer at a 3:1 primer to water ratio and spray apply to DRYTEK DM1 Reinforcement Mat. Allow DRYTEK Multi-Purpose Primer to dry accordingly.
4. Mix and pour the specified DRYTEK self-leveling underlayment at 3/4" (19mm) depth. Refer to DRYTEK

DM1 Reinforcement Mat data sheet (050.0) for more information.

Installation Over Cutback Adhesive (over concrete only)

- Mechanical removal of cutback (i.e. grinding, sanding, blasting) can be hazardous, as old cutback adhesive may contain asbestos. Consult adhesive manufacturer and any governmental agencies for proper removal of any adhesive containing asbestos.
- For adhesives that do not contain asbestos remove the non-water soluble cutback adhesive to a thin residue by razor scraping or equivalent and then remove any loose particles by thoroughly sweeping, vacuuming and then wet mopping the substrate.
- Since the weakest link of the system will be the bond of the adhesive to the substrate, it is important that the adhesive be very thin, firm and have a good bond to the substrate. After scraping the non-water soluble cutback down to a thin "transparent" residue, and if the floor then passes the pull strength requirements (as stated under Surface Preparation - Installation Over Concrete Slabs) then DRYTEK® 7400 can be placed without shot blasting. If the floor does not pass the minimum tensile pull strength requirements (as stated under Surface Preparation - Installation Over Concrete Slabs) you must thoroughly shot blast the floor to a CSP of 3–5. It is the responsibility of the installation contractor to ensure the substrate is properly prepared prior to the installation of any DRYTEK material.
- Water soluble vinyl adhesives must be completely removed (e.g. shot-blasted) from the floor surface.

Installation Over Vinyl Tile, Linoleum, Sheet Vinyl and DRYTEK MVB Moisture Vapor Barrier (over concrete only)

- All vinyl tile, linoleum, non-cushioned sheet vinyl and DRYTEK MVB Moisture Vapor Barrier must be well adhered to the substrate and free from any bond breaking or bond inhibiting surface contaminants. Ensure tensile pull strength of the vinyl tile, linoleum, non-cushioned sheet vinyl and DRYTEK MVB Moisture Vapor Barrier to the substrate is a minimum 72 psi (0.5 MPa) when DRYTEK 7400 will be used as a self-leveling underlayment, or, a minimum 217 psi (1.5 MPa) tensile pull strength is achieved when using DRYTEK 7400 as a wearing surface. If the floor does not pass the 72 psi (0.5 MPa) pull strength test you must remove the tile and thoroughly shot blast the floor to a CSP of 3–5. It is the responsibility of the installation contractor to ensure the substrate is properly prepared prior to the installation of any DRYTEK material. Cementitious decorative coatings and epoxy resin floor coverings including epoxy terrazzo are excluded from this application. Consult Technical Services prior to any installation over vinyl tile. See "Priming" section for specific instructions over vinyl tile, linoleum, sheet vinyl and DRYTEK MVB Moisture Vapor Barrier.

Installation Over Existing Ceramic Tile, Stone or Cement Terrazzo

- All tile and stone must be well adhered to the substrate and free from any bond breaking or bond inhibiting surface contaminants. If DRYTEK 7400 is intended for use as a wearing surface (not as a self-leveling underlayment) then

existing tile or stone must achieve a minimum of 217 psi (1.5 MPa) tensile pull strength. If DRYTEK 7400 is intended for use as a self-leveling underlayment (not as a wearing surface) then existing tile or stone must achieve a minimum of 72 psi (0.5 MPa) tensile pull strength. If the floor does not pass the minimum pull strength test requirements you must remove the tile or stone and thoroughly shot blast the floor to a CSP of 3–5.

- Mechanically abrade existing ceramic tile and stone with a carborundum disk. Wash and rinse thoroughly with clean water. Allow to dry. Skim coat existing ceramic tile, cement terrazzo or stone with DRYTEK Premium Skimcoat Patch Underlayment (min. 1/8" [3 mm] thick continuous coating). Allow to dry.
- Prime surface according to "Priming" section and install DRYTEK 7400 according to "Application" section.

Priming

Use DRYTEK Multi-Purpose Primer with every application of DRYTEK self-leveling products. Shake DRYTEK Multi-Purpose Primer thoroughly before using. Pour, mop or spray DRYTEK Multi-Purpose Primer onto the surface and distribute evenly using a bristle broom to ensure complete saturation of the entire surface. Remove any puddles or areas where DRYTEK Multi-Purpose Primer is especially thick. Allow DRYTEK Multi-Purpose Primer to dry to a clear film (usually 3 – 5 hours), but no more than 24 hours prior to application of DRYTEK 7400. DRYTEK Multi-Purpose Primer should not be applied when the surface temperature is below 40°F (4°C) or above 90°F (32°C). Insufficient drying time or poor film formation of DRYTEK Multi-Purpose Primer due to low temperature and/or high humidity may result in pinholes in the surfacing layer. Maintain adequate ventilation during and after application of DRYTEK Multi-Purpose Primer to help ensure quicker drying. If DRYTEK Multi-Purpose Primer dries within 45 minutes, substrate is excessively dry and will require another application as directed on DRYTEK Multi-Purpose Primer data sheet (047.0).

For installation of DRYTEK Multi-Purpose Primer over sheet vinyl, linoleum, VCT/VAT, or DRYTEK MVB Moisture Vapor Barrier; apply DRYTEK Multi-Purpose Primer (diluted 1:1 with water) over entire substrate then lightly scatter DRYTEK self-leveling underlayment powder over the wet primer and broom to form a light slurry. Allow slurry to dry prior to applying DRYTEK self-leveling product.

Note: Keep primed surface clean. Do not allow any foot traffic onto primed surface. DRYTEK Multi-Purpose Primer is milky when wet and clear when dry. DRYTEK Multi-Purpose Primer allowed to sit on substrate for more than 24 hours without a DRYTEK self-leveling product being installed must be re-primed.

Mixing

DRYTEK 7400 should be mixed with 5.6 to 6 quarts (5.3–5.7 l) of water per 55 lb (25 kg) bag when used as underlayment and 4.5 to 5.5 quarts (4.3 – 5.2 l) when used as wear surface. Do not over water. For manual application, add product to water and mix for 2–3 min. with a heavy duty drill (650 rpm) to obtain a lump free mix. DRYTEK 7400 can also be used in most pump equipment. Please consult with a DRYTEK representative to verify equipment compatibility. A slump test should always be performed to ensure that mix is homogenized and free from separation. The ideal slump range for DRYTEK 7400 is 11–12" (280– 300 mm) for underlayment,

10–11" (250 – 280 mm) for wear surface using a DRYTEK Flow Test Kit.

Note: Keep primed surface clean. Do not allow any foot traffic onto surface.

Application

Pour blended material onto substrate at a thickness of 1/16" to 1 1/4" (1.5–32 mm) for all surfaces except lightweight concrete, where a thickness of 1/4" – 3/8" (6–10 mm) must be maintained. Immediately smooth the poured slurry with a smoother. After initial set of material, remove all overlap marks, seams, and inconsistencies by scraping with steel trowel. Material can be walked on after 1–2 hours.

Perimeter Isolation Strip

It is essential that all walls and building elements are isolated from the self leveling underlayment pours to ensure proper expansion allowance against all restraining surfaces.

Note: It is recommended to install a perimeter isolation strip before the installation of DRYTEK 7400. Attach the perimeter isolation strip to the perimeter wall of the entire subfloor, as well as around the perimeter of any protrusions, in order to isolate the floor and wall/restraining surfaces. Temporarily fasten perimeter isolation strip in place with staples masking, duct, or carpet tape. The perimeter isolation strip can then be removed after the tiles have set firm. The joints can then be filled with LATICRETE® Latasil™.

All concrete surfaces are to be shot blasted/mechanically abraded to ensure any contaminants, such as sealers or glue, are removed. Pour or pump the DRYTEK® 7400 over the primed substrate and spread with a spike roller or gauging rake. Use a smoothing paddle to combine pours and to obtain a flat smooth surface. When DRYTEK 7400 has hardened, ceramic tile may then be installed using a LATICRETE Latex Thin-Set Mortar. Follow manufacturer's recommendations for installing vinyl tile, linoleum, carpet, wood parquet or seamless epoxy flooring over concrete. Before installing wood or resilient flooring, consult manufacturer for recommendations on substrate moisture content requirements. Allow DRYTEK 7400 to dry in accordance with those recommendations.

Time to Traffic

Allow 1-2 hours for foot traffic, 24 hours for light traffic and can bear full load (i.e. fork truck, etc...) after 7 days at 70°F (21°C).

Flooring Installation

Finished floor goods can be applied to surface 6 hours after application, depending on thickness, drying conditions and type of finished floor. Due to the relatively low pH level of DRYTEK floor leveling underlayments, finished floor goods can be applied rapidly. Consult finish flooring manufacturer for the required relative humidity levels which underlayments need to achieve prior to the installation of finishes. RH levels should be determined according to ASTM F2170. Always test performance suitability and compatibility of finished floor systems prior to their application. Sample surfaces should be installed as a field test so as to be representative of entire surface and tested for intended use. Always refer to finished floor manufacturers recommendations regarding installation instructions, restrictions and compatibility.

6. AVAILABILITY AND COST

Availability

For Distributor information, call:

Telephone: +1.203.393.0010

For on-line Distributor information, visit DRYTEK at www.drytek.com.

Cost

Contact a DRYTEK Technical Sales Representative in your area.

7. WARRANTY

See 10. FILING SYSTEM

DS 230.16: DRYTEK 3 Year Product Warranty

8. MAINTENANCE

Some cleaning products/processes may alter the color of the installed DRYTEK floor. Test cleaning product and process in a small area prior to applying to the entire floor. Refer to TDS 184D "Maintenance of DRYTEK Cementitious Decorative Toppings", available at www.laticrete.com for more information.

9. TECHNICAL SERVICES

Technical assistance

Information is available by calling the DRYTEK Technical Service Hotline (hours 8:00 AM to 5:30 PM EST):

Telephone: +1.877.DRYTEK1, ext. 247 or;
+1.877.379.8351, ext. 247

Fax: +1.203.393.1948

Technical and safety literature

To acquire technical and safety literature, please visit our website at www.drytek.com.

10. FILING SYSTEM

Additional product information is available on our website at www.drytek.com. The following is a list of related documents:

DS 230.16: DRYTEK 3 Year Product Warranty

DS 047.0: DRYTEK Multi-Purpose Primer

DS 6200.1: LATICRETE Latasil

DS 605.0: LATICRETE Floor HEAT Mat

DS 046.0: DRYTEK Premium Skimcoat Patch Underlayment

DS 048.0: DRYTEK 104S Premium Epoxy Primer

TDS 184D: Maintenance of DRYTEK Cementitious Decorative Toppings

TDS 185D: DRYTEK Wear Surface Variation

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