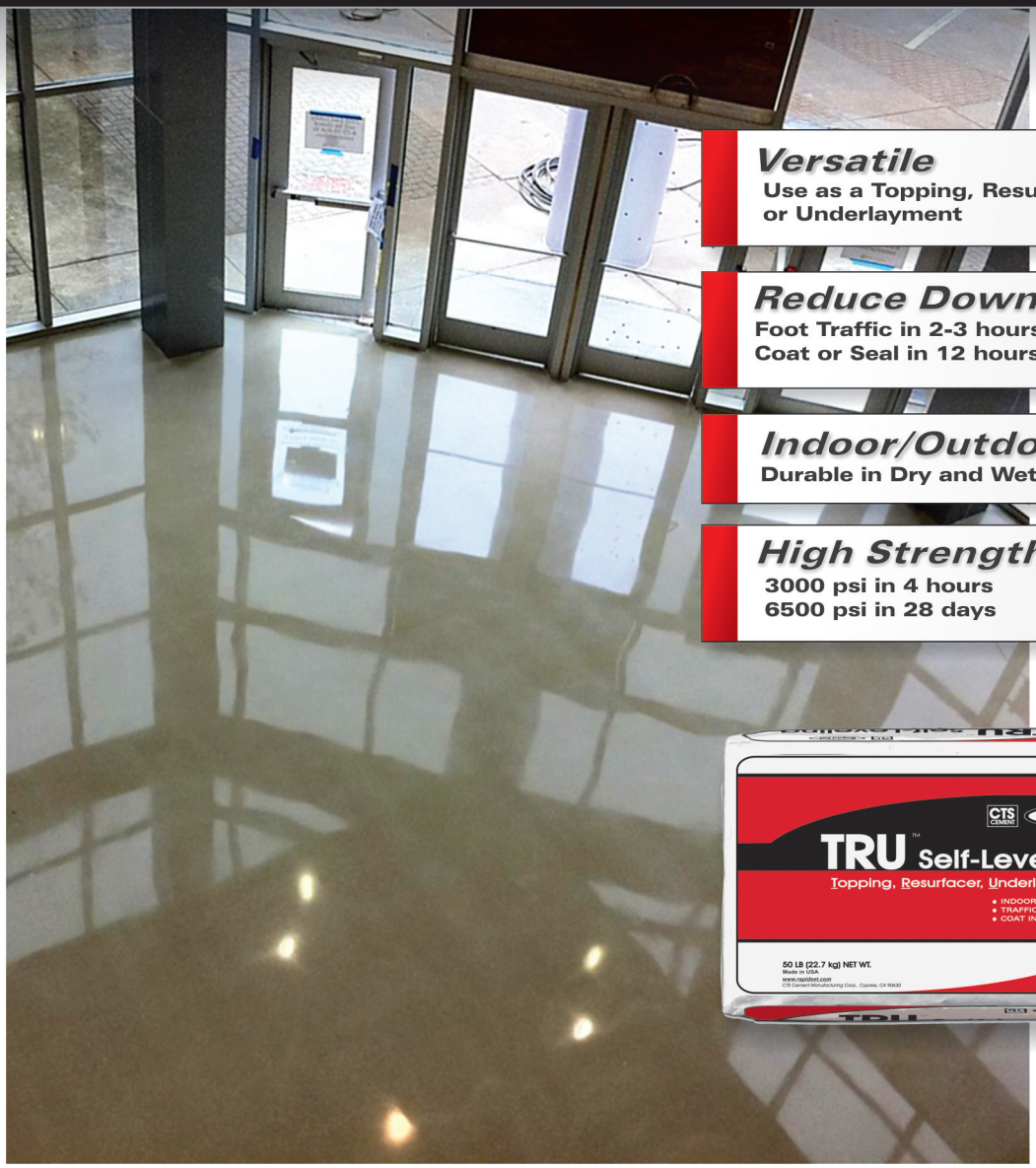
Rapid Set®

TRU™ Self-Leveling

Topping, Resurfacer, Underlayment



Versatile
Use as a Topping, Resurfacer or Underlayment

Reduce Downtime
Foot Traffic in 2-3 hours
Coat or Seal in 12 hours

Indoor/Outdoor
Durable in Dry and Wet Areas

High Strength
3000 psi in 4 hours
6500 psi in 28 days

www.rapidset.com

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MANUFACTURER:
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DESCRIPTION:
Rapid Set® TRU™ Self-Leveling is an advanced hydraulic cement-based self-leveling topping, resurfacer and underlayment that can be used both indoors and outdoors. It rapidly levels, maintains workability for up to 30 minutes and produces a smooth, strong surface with high bond strength. It is able to receive foot traffic in 2 - 3 hours and coatings in about 12 hours. TRU™ Self-Leveling is a one-component system, crack resistant, durable and won't deteriorate in damp conditions.

Applications:
Use TRU™ Self-Leveling when a high-quality topping, underlayment or surface is required in a limited amount of time. It is ideal for projects that need long flow life and working time while achieving high early strength. TRU™ Self-Leveling cures to a light off-white color ideal for stained or colored floors and decorative embedded aggregate flooring. It also grinds and polishes well, making it ideal for polished decorative floors.

Technical Data:

Working Time	approx. 30 min. (70°F)
Flow Life	approx. 15 min. (70°F)

Compressive Str. (ASTM C109)

4 hours	3000 psi
24 hours	5000 psi
28 days	6500 psi

Set Time (ASTM C266)

Initial	60 min.
Final	90 min.

Slant Shear Bond Str. (ASTM C882)

7 days	2100 psi
28 days	2900 psi

Tensile Strength (ASTM C307)

7 days	210 psi
28 days	365 psi

Flexural Strength (ASTM C348)

24 hours	850 psi
28 days	1900 psi

Surface Preparation:
Substrate must be clean, sound, and free of oil, curing compound, dust, mastic and other bond-breakers. Mechanical methods of surface preparation such as hydroblasting, shotblasting or sandblasting are preferred. Acid etching the substrate is not recommended. Surface must be dry, have a minimum temperature of 50°F and be properly primed.

Prime:
Apply Rapid Set® Acrylic Primer to all surfaces following the product specifications.

Mix:
Add one bag of TRU™ Self-Leveling to 4.5 quarts (4.3 liters) of potable water. Mix 3 - 5 minutes until the mixture is smooth and lump free. Avoid mixers that entrap large amounts of air. Mixed TRU™ Self-Leveling should be used within 30 minutes at 70°F. Maintain material temperature above 50°F.

Placing:
Arrange work area to permit continuous placement without cold joints. Pour or pump the TRU™ Self-Leveling onto the prepared and primed substrate with a minimum thickness of 1/8″. It will flow and level out within its 15-minute flow life. Use a gauge rake, spreader or other tools to coax the material into place as required. Use a porcupine-type roller to remove any entrapped air.

For thicknesses greater than 1.5″, extend each 50-lb. bag of TRU™ Self-Leveling with 25 lbs. of clean, dry 3/8″ pea gravel. Place the extended material to ½″ below desired floor level and then place neat TRU™ Self-Leveling for the final ½″ within 24 hours.

Cure:
No wet curing is required under normal conditions at 70°F. If used in excessively dry, windy, hot or sunny conditions, apply a fine water mist to the newly hardened surface of TRU™ Self-Leveling as soon as it can be done without marring the surface and continue until one hour after final set.

Adhesives, thin set or paint can be applied after 6 hours. If used as a topping that will receive traffic, a high-quality sealer or epoxy can be applied per the manufacturer's recommendations after 12 hours.

Yield & Packaging:
TRU™ Self-Leveling is available in 23 kg (50-lb.) polyethylene-lined bags. Yield is .45 cf per 50-lb. bag. Coverage is 21.6 sf at ¼″ thickness and 10.8 sf at ½″ thickness for flat surfaces.

Limited Warranty:
CTS Cement Manufacturing Corporation warrants its materials to be of good quality and, at its sole option, within one year of sale, will replace defective materials or refund the purchase price thereof and such replacement or refund shall be the limit of CTS's responsibility. Except for the foregoing, all warranties, express or implied including merchantability and fitness for a particular purpose are excluded. CTS shall not be liable for any consequential, incidental, or special damages arising directly or indirectly from the use of the material.

TECHNICAL DATA - PRODUCT INFORMATION

Con-Spec Industries Ltd.

9525 - 63 Avenue
Edmonton, Alberta
T6E 0G2
Bus: (780) 437-6136
Fax: (780) 437-5242

CON-SPEC TRU PRIMER

DESCRIPTION:

Con-Spec TRU Primer is a concentrated non-reemulsifiable liquid bonding primer for use in cement based overlay materials. Con-Spec TRU Primer is used to improve the bond of cement based overlay materials on a properly prepared concrete surface. It also seals porous concrete surfaces to prevent pinholes and outgassing bubbles from forming in the finished surface.

SURFACE PREPARATION:

Concrete or other surfaces to be topped or parged must be clean and structurally sound. New concrete and masonry surfaces must be cured 7 days. Remove all laitance, weak, loose or faulty concrete. Remove all oil, grease, asphalt or other foreign matter.

MIXING AND APPLICATION:

Shake or mix well to ensure that there is no settlement. Add one part primer to one part water in a clean container. Mix thoroughly by hand or with a jiffy mixer at low speed.

Apply diluted primer at 150-200 square feet per gallon to the surface and work into the concrete surface with a stiff-bristle push broom. Spread evenly to thoroughly coat the surface and avoid any puddling.

Wood or excessively porous or absorbent surfaces should be double primed. Allow primer to dry between coats.

Allow primer to dry to a tack free surface before application of the overlay material. Lower temperatures or a high humidity environment will require a longer dry time. Apply overlay material within 24 hours of the primer application.

CLEAN UP:

Clean tools and equipment with detergent and water immediately following use. Clean drips, spills, and smears while primer is still wet.

STORAGE AND HANDLING:

Keep from freezing. Do not apply in temperatures below 5°C(40°F). Clean tools soon after use with water. If swallowed, induce vomiting immediately. If splashed in eyes or on skin flush thoroughly with water. Keep out of reach of children.

WARRANTY:

Seller warrants that the product described on the face hereof has been manufactured of selected raw materials by skilled technicians. Neither seller nor manufacturer shall be responsible for any claims resulting from the failure to utilize the product in the manner in which it was intended and in accordance with instructions provided for use of product. The only obligation of either the seller or manufacturer shall be to replace any quantity of this product which proved to be defective. Neither seller nor manufacture assumes any liability, loss, or damage resulting from use of this product.

REV 11/21/11

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TECHNICAL BULLETIN

Subject: Placing TRU™ in multiple coats

TRU™ Self Leveling is designed to be poured over sound concrete that has been prepared to an ICRI Concrete Surface Profile (CSP) of 3-5. In some cases where the floor must be built up TRU™ can be applied in multiple coats using the following procedure.

Outline of Steps for Placing TRU™ in Multiple Coats:

1. Prepare the substrate

The surface must be clean, sound and free of all bond-breakers. Surface should be prepared to ICRI CSP of 3-5. Shot-blasting is known to be the best method to achieve the proper surface profile.

2. Prime the substrate

Prime the substrate thoroughly and uniformly with Rapid Set® Acrylic Primer according to the Data Sheet guidelines. Apply multiple coats if necessary. Multiple coats of Rapid Set® Acrylic Primer help eliminate formation of pin holes and loss of material working time due to loss of mix water to a porous substrate.

3. Place the first coat of TRU™

Mix and place the TRU™ as per CTS Cement specifications. Do not exceed 4.5 quarts of water per 50 lb. bag. Apply at a minimum thickness of 1/8" over the highest point in the floor. The average thickness should be 1/4" or greater.

4. Prime the TRU™

When the first coat of TRU™ is properly hydrated (usually 3 hours at 70°F), dilute the Rapid Set® Acrylic Primer with 3 parts water to 1 part primer. Apply the primer to the first coat of TRU™ with a stiff-bristle push broom. Spread evenly to thoroughly coat surface and avoid any puddling. The coverage on this coat should be roughly 600 to 800 sq. ft. per gallon of diluted primer (2400 to 3200 sq. ft. per gallon of undiluted Rapid Set® Acrylic Primer).

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5. Place the second coat of TRU™

Let primed surface dry to a tacky, transparent thin film (min. 3 hrs, max. 24 hrs). When primer is dry apply TRU™ Self Leveling as above.

Test results have proven that this method can yield a floor with greater than 150 psi direct pull adhesion strength. For greater strengths, the first coat of TRU™ should be prepared to an ICRI CSP of 3-5 or an epoxy with sand broadcast should be applied prior to applying the second coat of TRU™. For more information about these methods please visit www.rapidset.com or contact a Rapid Set® technical representative.

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TECHNICAL BULLETIN

Subject: Polishing TRU™ Self Leveling

TRU™ Self Leveling is the only overlay specifically designed for polishing. TRU™ is *not* a modified Portland cement-based product. Unlike portland cement-based products, which are typically highly polymer modified, TRU™ has only trace amounts of polymer. The strength of TRU™ comes from the Rapid Set Cement base. Rapid Set Cement, manufactured by CTS, forms an ultra-dense interlocking matrix as it hydrates with the mixing water. When TRU is mixed it efficiently uses up the mix water and the advanced cement chemistry creates a three-dimensional lattice that results in a very dense material that is ideal for polishing. With the absence of high amounts of polymer, TRU™ takes dyes and stains extremely well. TRU™ has 24 hour compressive strengths of 5000 psi, and high flexural strengths of 850 psi in 24 hours and 1900 psi in 28 days.

Outline of Steps for Polishing TRU™:

1. *Prepare the surface*

The surface must be clean, sound and free of all bond-breakers. Surface should be prepared to ICRI surface profile of 3-5. Shot-blasting is known to be the best method to achieve the proper surface profile.

2. *Prime the substrate*

It is important to seal the substrate to minimize water loss and allow the TRU to properly hydrate. A properly sealed substrate also eliminates the formation of pin holes and maintains working time. The preferred method is 100% solids epoxy with sand broadcast, which can seal the substrate in one coat. Alternatively, the substrate can be sealed with Rapid Set Acrylic Primer but this may require multiple coats on very porous surfaces

a. 100% solids epoxy: Follow manufacturer recommendations for mixing and placing the epoxy. Immediately after application, broadcast a washed, graded silica sand with blends ranging from #30 - #65 to refusal (2/3 - 1 pound per square foot) into the epoxy. All loose sand should be thoroughly removed roughly 4-6 hours after application depending on the setting time of the epoxy. TRU Self Leveling can be applied directly over well bonded sand at this time. No further priming is necessary.

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b. Rapid Set Acrylic Primer: Prime the substrate thoroughly and uniformly with Rapid Set Acrylic Primer according to the Data Sheet guidelines. Apply multiple coats if necessary.

3. Use of integral colors

Integral colors may be used as required; however, the type of color and the amount used may alter and/or decrease the performance characteristics of TRU™. For this reason, a test pour should be conducted using uncolored TRU™ as well as TRU™ with the intended color for comparison. All performance characteristics such as water demand, flow time, set time, ease of finishing, need for water curing, and TRU™ film formation should be noted. If the color used significantly alters one or more of these characteristics the color additive should be reduced or eliminated.

Color additives should always be blended into the mix water prior to adding TRU™. Never add more than the recommended water dosage even if the color adversely affects the flow.

4. Placing the TRU™

Mix and place the TRU™ as per CTS Cement specifications. Do not exceed 4.5 quarts of water per 50 lb. bag. Apply at a minimum thickness of 5/16" over the highest point in the floor. The average thickness should be 3/8" or greater.

5. Grinding and Polishing

TRU™ Self Leveling may be polished after 24 hours at normal conditions. At this time the compressive strength will exceed 5000 psi, roughly 75% of its total strength. In 28 days the strength will exceed 6500 psi.

Although it is acceptable to start the dry grinding process in as little as 24 hours, the TRU™ has a built in film or skin that is designed to allow the material to hydrate properly. Removing this thin polymer film at such an early stage of the curing process can contribute to surface micro-cracking due to improper hydration. To offset this, it is good practice to wet the surface with a floor scrubber or similar method after each diamond cut until the film is replaced with a densifier and/or guard product from an approved manufacturer. The grind and polish process generally creates heat and the water introduced by the floor scrubber is generally enough to allow for proper hydration.

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6. Topical Dyes and Stains

Since TRU™ cures to a light gray / off-white color and has just trace amounts of polymer, it accepts dyes and acid stains very well. Consult with a dye or stain manufacturer on when and how best to apply the dye or stain.

Polishing any topping material requires a high degree of experience and craftsmanship. CTS Cement suggests performing a meaningfully sized mockup prepared exactly as the finished floor will be. The owner's acceptance should be obtained prior to installation.

CTS Cement has worked in conjunction with several polishing equipment manufacturers. For best practices from these equipment manufacturers, contact your local Rapid Set representative.