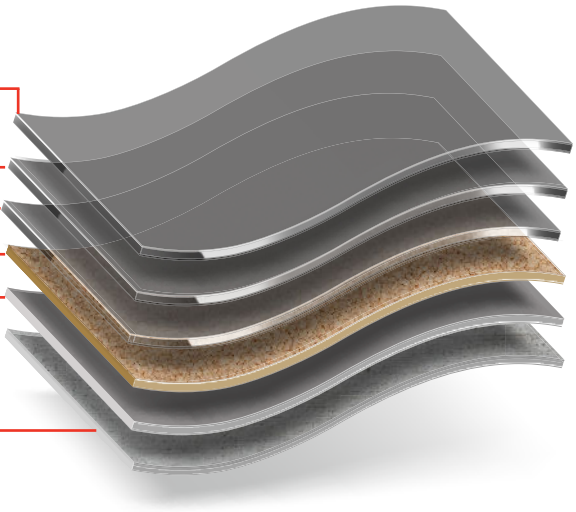
285 Mils Epoxy Power Trowel System

Technical System Sheet (TSS)

8120 High Traffic Urethane	•••	500 Ft²/Gal
8320 CrownShield™ Epoxy Pigmented	•••	130 Ft²/Gal
8320 CrownShield™ w/ Fumed Silica	•••	130 Ft2/Gal
8318 CrownShield™ Pigmented w/ Sand	•••	56 Ft²/Kit
8318 CrownShield™ Clear	•••	200 Ft²/Gal
Prepared Concrete	•••	CSP 4-5



OPTIONAL COMPONENTS

• **Moisture Mitigation Primer :**
8303 CrownShield® Clear 100 ft²/gal @ 16 mils

• **Waterproofing & Crack Suppression Membrane :**
8502 CrownFlex Clear 40 ft²/gal @ 40 mils

• **Cove Binder :**
8503 CrownFlex Thixotropic Epoxy 35 lf/gal @ 6”

• Joint Filler:
7136 Polyurea Joint Filler 24 lf/ cartridge

*For complete details refer to each optional components Technical Data Sheet (TDS).

MECHANICAL PROPERTIES

For complete details refer to each components Technical Data Sheet (TDS)

CHEMICAL RESISTANCE

Refer to CrownTech Chemical Resistance Guideline Technical Bulletin No. 9

SYSTEM DESCRIPTION

Epoxy Power Trowel System is a 5-layer robust flooring system with an overall nominal thickness of 285 mils for the most demanding environments. It is designed to withstand impact, heavy traffic and chemical exposure. The system is comprised of a primer using either 8318 or 8320, epoxy mortar using 8318 mixed with sand, grout coat using 8312, 8318, or 8320 thickened with fumed silica, build coat using 8318 or 8320 and a topcoat using 8120. It is SCAQMD compliant for Industrial Use Only.

TYPICAL USES

- Animal Care and Housing
- Automotive Maintenance & Repair
- Commercial Bakeries and Kitchens
- Food & Beverage Processing
- Hospital and Health Care Facility Floors
- Laboratories and Research Floors
- Manufacturing Facility Floors
- School & University Floors
- Pharmaceutical & Vivarium Floors
- Meat & Poultry Processing

BENEFITS

- Complies with USDA, FDA, FSMA. See Crown Polymers Technical Bulletin: 3 Food and Beverage Compliance.
- Slip Resistance (ADA) See Crown Polymers Technical Bulletin: 4 Coefficient of Friction.
- LEED requirements. See Crown Polymers Technical Bulletin: 5 LEED information
- Cures to an inert finish. See Crown Polymers Technical Bulletin: 2 VOC Compliance

COLORS

Light Grey | Medium Grey | Light Tan | Tan

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APPLICATION EQUIPMENT

Personal Protective Equipment
Jiffy Mixing Paddle
18"x3/8" Nap Roller Cover
Screed Box
8-12 Mil Notched Squeegee
Epoxy Power Trowel
Mortar Mixer
Spike Shoes

SURFACE DIAGNOSTICS

Concrete must be structurally sound and free of all contaminants and bond breakers. Test concrete compressive strength using a Schmidt or Rebound Hammer to ensure substrate has compressive strength of 3500 psi or higher.
Perform a PH test using concrete PH test strips or meter to ensure substrate PH is between 9-12.
Perform Moisture Test using either Calcium Chloride per ASTM F1869 or In-Situ Relative Humidity Probe per ASTM F2170 to ensure substrate has Moisture Vapor Emission Rate of 3 lbs or less and Relative Humidity of 80% or less. See CrownTech Bulletin 6: Moisture Mitigation Negative Side Moisture Barrier

If Moisture Vapor Emission Rate is above 20 lbs. but below 25 lbs. and relative humidity is above 80% but below 99% then apply 8303 Moisture Barrier Primer first at 16 mils with a coverage rate of 100 Ft²/ Gal.

SURFACE PREPARATION

Use Mohs scratch test to determine concrete hardness for proper diamond bond selection.
Concrete should be mechanically profiled and prepared to produce a Concrete Surface Profile (CSP) level between #2 & #4 per ICRI Guideline no. 310.2R. See CrownTech Bulletin 1: Concrete Surface Preparation.
All perimeter areas of coating termination shall be masked for protection. Saw cut and key-in all termination points.

SURFACE REPAIR

All depressions, divots and cracks should be profiled and free of dust and contaminants. Repair surface imperfections to reduce the ability to see the defect through the coating.
Honor all dynamic (moving) joints, static joints may be filled, use dynamic joints as initiation and termination points during application process where needed.

TEMPERATURE EVALUATION

Ambient and substrate temps should be above 50°F and a minimum of 5°F above Dew Point.
Product temps should be between 70-80°F.
Relative Humidity should not exceed 80%. See CrownTech Bulletin 7: Temperature & Relative Humidity

REFER TO SAFETY DATA SHEETS (SDS) FOR SAFETY PRECAUTIONS.

SAFETY PRECAUTIONS MUST BE FOLLOWED DURING STORAGE, HANDLING AND USE.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

SHALL BE WORN AT ALL TIMES INCLUDING BUT NOT LIMITED TO LONG SLEEVE SHIRTS OR DISPOSIBLE ARM SLEEVES, SAFETY GLASSES, DISPOSIBLE NITRILE GLOVES, AND PROPERLY FITTED NIOSH RESPIRATORS

ALL SOURCES OF IGNITION SHOULD BE TURNED OFF AND ENVIRONMENT SHOULD HAVE PROPER AND ADEQUATE VENTILATION DURING APPLICATION AND CURING PROCESS

MIXING AREA SHOULD BE PLACED ON OR IN CLOSE PROXIMITY TO PROJECT. AREA SHOULD BE SECURELY COVERED WITH PLASTIC, CARDBOARD OR TARP. STAGE MATERIALS , TOOLS AND CLEANING SUPPLIES IN MIXING AREA PRIOR TO APPLICATION PROCESS.

Do not mix more material than can be applied in 20 minutes

8318 MIXING PROCEDURE

1. Pre-Mix A-Component in its respective container using Jiffy mixer and drill at slow speeds for 30 seconds.
2. Pre-Mix B-Component in its respective container using clean Jiffy mixer and drill at slow speeds for 30 seconds or until thoroughly homogeneous.
3. Transfer B-component and A-component at a mix rate of 2A:1B by volume into a clean 5-gal bucket and mix for 2-3 minutes until thoroughly blended

8318 COVERAGE RATE

200 Ft² / Gal @ 8 mils

8318 WORKING TIME

15-30 Minutes @ 75°F

8318 PRIMER PROCEDURE

1. Pour a band of mixed material across the surface roughly 4-6" wide. Use 8-12 mil notched squeegee to spread material across the floor
   • Maintain wet edge
   • Do not allow more than 10 mins ahead of next mixed batch.
   • Always pour next mixed batch onto wet edge.
   • Honor all joints. Use as termination points as needed
2. Backroll surface using 18"x 3/8" nap roller perpendicular to first pass.
   • Don't overwork material
   • Proceed with next steps while primer is wet, if application conditions dont allow for application of the epoxy mortar to be done wet on wet, broadcast dry aggregate to assure adhesion between broadcasted primer and epoxy mortar.

8318 MORTAR MIXING PROCEDURE

1. Pre-Mix A-Component using Jiffy mixer and drill at slow speeds for 30 seconds or until pigment is fully homogenous. If using Pigment Packs add to A-Component.
2. Mix A & B component at a mix rate of 2A:1B by volume for 1 minute using jiffy mixer and slow speed drill and pour mixed material into mortar mixer.
3. Add sand at a rate of 110 lbs per 1.5 gal kit into mortar mixer and mix for 1 minute or until thoroughly mixed.

8318 MORTAR COVERAGE RATE

56 Ft² / Kit @ 1/4"
70 Ft²/ Kit @ 3/16"

8318 WORKING TIME

10-15 Minutes @ 75°F

MORTAR APPLICATION PROCEDURE

1. Pour mixed material into screed box and screed material over surface.
   • Calibrate Screed Box accordingly
   • For 1/4" floor set screed box at 5/16"
   • For 3/16" floor set screed box at 1/4"

Epoxy sets quicker in mass, mixed material should not remain in bucket for extended periods of time

2. Use low speed power trowel <60 rpm to compact and achieve finished texture as soon as possible. Use hand trowels along edges.
3. ✓ Allow coating to dry 6-8 hours. Use grinder to remove high spots and ensure a continous surface. Vacuum up dust and loose material.

GROUT COAT MIXING PROCEDURE

1. Pre-Mix A-Component using Jiffy mixer and drill at slow speeds for 30 seconds or until pigment is fully homogenous. If using Pigment Packs add to A-Component.
2. Add A & B Components at a mix rate of 2A:1B by volume and mix for 1 minute with a Jiffy mixer and drill at slow speeds, add 10-20 ounces of fumed silica and mix for additional minute or until fully homogenous.

GROUT COAT COVERAGE RATE

130 Ft² / Gal @ 12 mils wet film

GROUT COAT WORKING TIME

15 Minutes @ 75°F

GROUT COAT APPLICATION PROCEDURE

1. Pour a band of mixed material across the surface roughly 4-6" wide. Use 8-12 mil notched squeegee to spread material across the floor
   • Maintain wet edge
2. ✓ Backroll surface using 18"x 3/8" nap roller perpendicular to first pass.
   • Don't overwork material
   Allow coating to dry 8-10 hrs @ 75°F
   • Proceed with next steps within 24 hours or surface will be need to be abraded to promote adhesion of subsequent coats.

BUILD COAT MIXING PROCEDURE

1. Pre-Mix A-Component using Jiffy mixer and drill at slow speeds for 30 seconds or until pigment is fully homogenous. If using Pigment Packs add to A-Component.
2. Add A & B Components at a mix rate of 2A:1B by volume and mix for 2-3 minutes with a Jiffy mixer and drill at slow speeds until thoroughly homogeneous.

BUILD COAT COVERAGE RATE

130 Ft² / Gal @ 12 mils

BUILD COAT WORKING TIME

15-30 Minutes @ 75°F

BUILD COAT APPLICATION PROCEDURE

1. Pour a band of mixed material across the surface roughly 4-6" wide. Use 8-12 mil notched squeegee to spread material across the floor
   • Maintain wet edge
   • Do not allow more than 10 mins ahead of next mixed batch.
   • Always pour next mixed batch onto wet edge.
   • Honor all joints. Use as termination points as needed
2. ✓ Backroll surface using 18" x 3/8" nap roller perpendicular to first pass.
   • Don't overwork material
   Allow coating to dry 8-10 hrs @ 75°F
   • Proceed with next steps within 24 hours or surface will be need to be abraded to promote adhesion of subsequent coats.

TOPCOAT MIXING

1. Pre-mix pigment pack into A-Component and mix for 1 minute or until fully homogeneous.
2. Transfer A-component and B-component at a mix rate of 3A:1B by volume into a clean 5-gal bucket and add C-component at a rate of 4 lbs per gal and mix for 2-3 minutes at low RPMs being sure to scrape sides of the bucket with a stir stick ensuring both components are thoroughly blended

TOPCOAT COVERAGE RATE

500 Ft² / Gal @ 3.2 mils

TOPCOAT WORKING TIME

15-20 Minutes @ 75°F & 50% RH

TOPCOAT APPLICATION STEPS

1. Cut-in stem walls using a 4" chip brush. Do not work edges more than 10 minutes ahead of main body of the floor.
2. Apply mixed material across surface using dip and roll method from paint tray with 18"x 1/4" nap mohair roller
   • Maintain wet edge
   • Do not allow more than 10 mins ahead of next mixed batch.
3. Back roll the surface with 18" x 1/4" nap roller by walking into the wet material wearing spike shoes and roll the surface wall to wall with overlap perpendicular to your first pass
   • Do not overwork material
4. ✓ Allow coating to dry 4-10 hours.
   Light Traffic: 24 hours
   Heavy Traffic: 48 hours
   Equipment Traffic: 72 Hours

SLIP RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See Crown Polymers Technical Bulletin: 4 Coefficient of Friction.

CLEAN-UP

Clean-up mixing station, tools, and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health, and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

DISPOSAL

Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations.

MAINTENANCE

Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. See Crown Polymers Technical Bulletin: 8 Care and Maintenance.

TECHNICAL SUPPORT

For questions, contact a Crown Polymers Representative. Additional Support Documents are available from Crown Polymers, including brochures, application guidelines, videos and more. Visit Crownpolymers.com or contact Crown for additional resources

DISCLAIMER

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