



PRECIDIUM™ PCI Seamless Floor System

PRODUCT DESCRIPTION

The **PRECIDIUM™ PCI LS-1150D Aliphatic Slow-Set** polyurea is a VOC-free, two-component coating used in our **PRECIDIUM™ PCI Seamless Floor System** that was developed to provide an attractive, durable, chemically-resistant floor coating. In our layered floor system it could be used as the color base coat with our accent system or broadcast media as well as the final clear top coat that may or may not have a non-slip additive. As the color coat it is available in five standard colors, though we have many colors that have been color matched for customers that are also available. It can also be custom color formulated for a one-time charge to any desired color. When used with varying colours for accents or combined with **PRECIDIUM™ PUD Splash Accent Colours**, a decorative natural rock appearance can be achieved. For a flawless and elegant finish, the **PRECIDIUM™ PCI Seamless Floor system** is applied by professional qualified applicators and is for professional use only.

FEATURES

- **Solvent Free** – zero VOC, no flammability issues, low odor, and minimal environmental impact
- **Aliphatic** – unparalleled UV resistance, excellent color and gloss retention
- **Fast Cure** – quick return to service, even with elaborate designs
- **Chemical Resistant** – many chemicals have already been tested, plus our in-house lab will test additional chemicals upon request
- **Food Safe** – approved for incidental food contact on floors, walls, and ceilings, making it an ideal choice for food processing facilities
- **Unique Designs** – our splash accent system adds improved durability and elegance with unlimited color combinations for the base coat and accent colors. Many customers also use broadcast media such as paint chips or quartz which work well with our seamless floor system.

RECOMMENDED USES

- Garage and basement floors
- Industrial and commercial floors
- Food processing plants
- Restaurants
- Manufacturing plants
- Abrasion, graffiti and chemical-resistant floors
- Contact Quantum for additional requirements

PROPERTIES of FINISHED FLOOR

| | |
|-----------------------------|--|
| Finishes: | High Gloss, semi-gloss non-skid (20; 50; 75; 100) |
| Volume solids: | 100% |
| VOC: | 0% |
| Service Temp: | -40°C to 200°C |
| Durometer Hardness: | 85A |
| Tensile Strength: | ASTM D412 2500 psi |
| Elongation: | ASTM D412 73% |
| Tear Strength: | ASTM D624 320 pli |
| Pot Life: | 40 minutes |
| Tack Free: | 60 minutes |
| Foot Traffic: | 2 hours |
| Recoat: | 1 to 18 hours |
| Working Temperature: | up to 100°C |
| Incidental contact: | up to 180°C |

Chemical Resistance: PRECIDUM™ PCI LS-1150D is resistant to many chemicals. For a complete chemical resistance chart, contact your distributor or Quantum Chemical.



SURFACE PREPARATION

A successful application for a durable and beautiful floor will be the result of a thoroughly prepared substrate. This is time well spent and crucial in achieving a long-lasting floor.

New concrete should be allowed to cure a minimum of 28 days. For concrete brick, the mortar must also be allowed to cure 28 days.

Moisture present on or in the concrete will compromise the floor coating.

Bare concrete should be tested for pH and have a level between 7 and 11 by using a pH test kit. Refer to **ASTM F-710**, ("Standard Practice for Preparing Concrete Floor to Receive Resilient Flooring") for further information on pH testing.

Testing for moisture may be done with the following tests. **ASTM D-4263** (Plastic Sheet Test) Using 2" Duct tape, secure an 18"x18" sheet of transparent polyethylene to the slab, sealing it completely. Leave for at least 24 hours. Moisture under the plastic will indicate excessive moisture in the concrete and requirement for further testing.

ASTM F1869 (Standard Method for Measuring Moisture Vapour Emission Rate of Concrete Sub Floor using Anhydrous Calcium Chloride Moisture Emissions Test) can be used to determine the rate of moisture emission. A small dish of calcium chloride is weighed and placed under a plastic cover for 24 hours. The dish is removed and weighed again. The amount of water gained in the water vapor moisture will then determine the emission rate of the concrete. Moisture vapor transmission rate should not exceed 3 lbs. per 1000 sq. ft. in 24 hours as tested.

ICRI (International Concrete Repair Institute) Guide 03732 (Selecting and Specifying Concrete Preparation for Sealers, Coatings, and Polymer Overlays) can be used to determine the suitability of the concrete for this floor system.

Do not apply when the relative humidity of the concrete is greater than 75% as tested to the **ASTM F2170-02** (Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes).

The concrete must be structurally sound and free of all dirt, oil, grease, curing compounds, form

release chemicals, coatings, and all contaminants prior to any abrasive blasting. When oil or grease are present, successful penetration and adhesion of the **PRECIDIUM™ PCI Seamless Floor System** will be at risk.

A simple test for grease that may not be visible is to mist water on the surface of the concrete. If the water beads up, contaminants are present and must be removed. If the water is absorbed into the concrete surface, oils are not present.

If any contaminants are present, the use of proper detergents may be required. Standards for cleaning concrete are available in SSPC (Society for Protective Coatings) SP-13.

Do not apply the **PRECIDIUM™ PCI Seamless Floor System** when the temperature of the concrete substrate exceeds the surrounding air temperature by more than 10°C; 18° F, due to outgassing. The porosity in concrete contains air. When the temperature of the concrete rises, the air in the pores expands, causing blisters or pinholes in the coating. An increasing surface temperature is a strong indication that outgassing will occur.

Keeping the concrete slab and ambient temperature within the above range is essential as outgassing is further aggravated when abrasive blasting or scarifying breaks the thin concrete crust, thus opening more air packets and bug holes. Concrete is very dynamic. It cracks, leaks, shrinks, moves, breathes, absorbs water and releases water vapor. By honouring the dynamics of concrete when applying this floor system, the best possible outcome is achieved.

Abrasive shot blasting of concrete surfaces is required prior to the coating application to provide a suitable surface texture for proper adhesion. A visual standard for an acceptable concrete profile is available in ICRI CSP 2-4.

If repair and crack filling is required, the use of **PRECIDIUM™ PCI 2100 Slow-Set Membrane** would be used. Follow mixing and application instructions on the product's technical data sheet. Before using any alternative concrete repairs, consult Quantum Chemical for compatibility.



Using or combining any other products with the **PRECIDIUM™ PCI Seamless Floor System** without prior written approval by the manufacturer will void our defective product warranty for the **PRECIDIUM™ PCI Seamless Floor System**.

APPLICATION

PRODUCT MIXING: PRECIDIU™ PCI LS-1150D is a two-component system mixed 1:1, Resin:Iso. Thoroughly mix the resin component prior to combining with ISO. Using graduated plastic mix containers, combine equal parts, by volume, of Resin and Iso. Thoroughly mix Resin and Iso with a low speed drill and mixing attachment, taking no longer than 1.5 minutes and being careful not to incorporate any air into the mixture.

Mix only the amount of material that can be applied within 10 minutes. On average, a ten-minute batch of **PRECIDIUM™ PCI LS-1150D** is 1-3 quarts of mixed material. Pour ribbons of **PRECIDIUM™ PCI LS-1150D** over the application area. The above amount will be enough material to pour out 2-4 ribbons.

EQUIPMENT: When applying the **PRECIDIUM™ PCI LS-1150D**, proper equipment is essential. The standard application tool for applying the primer coat, base coat, and final clear top coats, will be a high-quality 18" epoxy roller cover with adjustable 9-18" roller cage. For the decorative splash accents, applicators must be properly trained on application techniques required to achieve the various decorative finishes. Spiked shoes will be required to apply this multi-layered floor system.

Do not use a roller tray. Ribbons can be squeegeed over the area and back rolled with an epoxy roller sleeve. During the project the roller should be rolled dry every 100-300 sq. ft. This will prevent the roller from becoming tacky and it will increase the life of the roller. After the initial roll, it is important to back roll the floor. Back rolling is done to ensure even application and will help with breaking any balloons that may have formed from filling pinholes. On average a roller cover will do 500-1000 sq. ft. before replacement.

LAYERING SYSTEM: This floor coating is a layered system and optimum mil thickness of each layer will vary from 3-10 mils depending on project specifics and the layer being applied.

PRIMER: The **PRECIDIUM™ PCI 2100Slow-Set Membrane** is excellent for repairs, levelling and crack finishes but the modified **PRECIDIUM™ PCI 2200 Primer** is an excellent primer for this floor system as it has a lower viscosity and therefore better penetration into the concrete. It adds a degree of impact resistance and also has excellent adhesion. Detailed application instructions are available for each component of this seamless floor system. On a properly prepared substrate, the **PRECIDIUM™ PCI LS-1150D** is also often used as a primer. Depending on the preparation of the concrete (shot blasted or diamond ground) it would typically be thinned with 10% Xylene to increase penetration into the concrete. Thickness would be ~3-4 mils. Once tack-free (1-3 hours), the colour base coat would be applied. If the concrete isn't shot blasted or ground, discuss the suitability of this floor system with the manufacturer.

COLOR BASE COAT: Apply the **PRECIDIUM™ PCI LS-1150D** color base coat at ~4-7 mils. Again this could vary depending on whether this will be a cast coat for broadcast media or the base color coat for the splash accent system. For splash accent colors allow the 5-7 mil color base coat to cure until tack free (1 to 3 hours depending on temperature and humidity).

PRECIDIUM™ PCI PUD ACCENT COLORS
Contact the distributor or manufacturer for proper application equipment for the desired finish. This one-component system has an unlimited potlife. Excess materials can be returned to the containers. For accent colours the first accent is applied once the surface is tack free. Due to the relatively short cure-time, additional accent colours can typically be applied within 10-30 minutes. One to three accents are typically applied.

COLOR BASE COAT and BROADCAST MEDIA
When using colour chips or quartz the first color coat would be applied at 3-4 mils. Once tack free, apply a second coat at 2-3 mils and immediately apply color chips or quartz to the surface. Allow the surface to cure approximately 3-4 hours. Remove excess color chips or aggregate with a stiff brush. For additional hiding of more severe substrate imperfections, another layer of broadcast media may be used by applying another 2-3 mil coat color coat and following the procedures above.



CLEAR and CLEAR NON-SKID TOP COATS

The final clear coat(s) will vary depending on the floor system. A chipped floor may require ~10 mils or more of clear coat to ensure zero exposure of chips, while leaving enough texture to provide a suitable co-efficient of friction. When splash accent colors are used, a clear coat of ~3-4 mils is applied followed by the final clear coat with non-skid at ~2-3 mils. This is a guide only and must be carefully reviewed for appropriateness for a project, and edited accordingly to comply with project-specific requirements as determined by the qualified applicator during the initial site visit.

Allow the finished system to cure 24 hours before being put into service. Longer cure time improves the overall success of this floor system.

CLEAN-UP

Clean tools and application equipment immediately after use with solvent such as MEK, Xylene, or Acetone. Clean spills or drips immediately with solvent. Cured **PRECIDIUM™ PCI LS1150D** must be mechanically abraded for removal. Do not use alcohol or lacquer thinner blends that contain alcohol to clean equipment or tools.

STORAGE AND DISPOSAL

Store tightly sealed containers in cool dry storage, for product integrity. Keep from freezing. If moisture contaminated, discard product.

Product for disposal must be either catalyzed or absorbed with suitable absorbent material and disposed of in accordance with relevant regulations.

LIMITATIONS

- Lower temperatures and humidity will slow cure time.
- Do not install over a grade concrete slab unless a moisture barrier has been placed under the slab.
- Not intended for pool applications.

MAINTENANCE and CARE

The **PRECIDIUM™ PCI Seamless Floor System** is easier to clean because it is seamless and also dirt and debris remain on the surface. It is also more resistant to chemicals than many other types of flooring.

- Clean the **PRECIDIUM™ PCI Seamless Floor System** regularly to remove all dirt, stains and debris as these do remain on the surface of the floor and will eventually mar the finish in heavy traffic environments.
- Do not use soap because it will create a film that is difficult to remove with rinsing. This film will become slippery when wet, plus it attracts dirt and debris, causing the floor to look dirty much sooner.
- Floor stripping agents, citrus-based cleaners and corrosive chemical degreasers not recommended as they damage the floor if they are applied and remain on the floor for an extended period of time.
- A simple mixture of a pH neutral cleaner, diluted with water, is recommended for regularly scheduled cleaning.
- Thoroughly clean the soiled area with a synthetic mop, scrubbing stains with a soft-bristled brush. Cotton mops will catch on chips, quartz and the more aggressive non-skid additives.
- If a cleaning chemical is required, use a commercially available alkaline cleaner or degreaser.
- Thoroughly rinse the cleaned area to remove remaining dirt and cleaning agents.
- Use a foam squeegee to remove excess water.
- Allow the surface to dry before returning to service.
- Contact the manufacturer for removal of stains that are resistant to the above cleaning instructions.

TECHNICAL SUPPORT

For additional information and project specifics, or to obtain an SDS, call your distributor or Quantum Chemical at 780.458.3355 during regular business hours (8:00-4:30 MST) or send your inquiries to info@quantumchemical.com.