

UnderFlor® CR021 Pressure-Sensitive Adhesive

DESCRIPTION

UnderFlor® CR021 Adhesive is an aggressive, pressure-sensitive adhesive designed for the installation of a wide variety of resilient flooring types. CR021 has been specifically formulated to provide extended working time, develop strength quickly, perform well under rolling loads and provide good moisture resistance.

FEATURES AND BENEFITS

- Dries quickly with aggressive tack properties
- Up to 2+ hours of working time
- Excellent indentation and shrinkage resistance
- Low VOC content

WHERE TO USE

- Approved for use with luxury vinyl tile and luxury vinyl plank; vinyl-enhanced tile; bio-based tile; fiberglass-reinforced vinyl sheet flooring; solid vinyl sheet flooring and reground rubber underlayment
- Interior residential (rental apartments, condominiums and homes)
- Interior commercial (office buildings, hotel rooms and hallways, and restaurant dining areas)
- Interior heavy commercial (hotel lobbies, convention centers, airports and department stores)
- Interior institutional (hospitals, schools, universities, libraries and government buildings)

LIMITATIONS

- Do not install over substrates containing asbestos.
- For interior installations only
- Install flooring only in areas that are recommended by the flooring manufacturer.
- Do not install into wet adhesive over nonporous substrates.
- Do not use to install luxury vinyl tile or luxury vinyl plank with known dimensional stability issues.
- Do not use to install luxury vinyl tile or luxury vinyl plank in areas that are subject to high heat or direct sunlight.
- Do not apply directly over any adhesive residues, including cutback adhesive.
- Do not install when the moisture vapor emission rate (MVER) using the anhydrous calcium chloride test (ASTM F1869), the relative humidity (RH) of the concrete slab (ASTM F2170), or the pH exceeds the limits listed in the table below:

Floor Covering	MVER limit	RH% limit	pH limit
Luxury Vinyl Tile/Plank	15	99%*	12
Solid vinyl sheet, fiberglass-reinforced sheet vinyl, and rubber flooring	12	95%	11

- Do not install in areas with known hydrostatic moisture problems.
- Do not install in areas with known alkali silica reaction or osmotic blistering problems.
- Use only when the substrate temperature is between 65°F and 90°F (18°C and 32°C)

*See Disclaimer on page 5 for proper use of CR021 Adhesive with 99% RH limit.

SUITABLE SUBSTRATES

- Concrete (at least 28 days old)
- Properly prepared cement terrazzo
- Exterior-grade plywood and other approved wood substrates (per the wood-flooring manufacturer's recommendations)
- Cement-based self-leveling underlayments and patching compounds
- Properly prepared, primed gypsum underlayments that meet the requirements for compressive strength according to ASTM F2419
- Radiant-heat systems that have been properly installed and that are maintained at a maximum of 85°F (29°C) surface temperature

Contact the Congoleum Technical Services Department for installation recommendations regarding substrates and conditions not listed, at 609-584-3805 during Eastern Time Zone business hours.

SURFACE PREPARATION

- All substrates must be structurally sound, dry, solid and stable.
- Substrate should be clean and free of dust, dirt, oil, grease, paint, curing agents, concrete sealers, loosely bonded toppings, loose particles, old adhesive residues, and any other substance or condition that may prevent or reduce adhesion.
- Substrates must be flat to 3/16" in a 10-foot span (4.5 mm in a 3.05-m span)

MIXING

Ready to use; no mixing necessary

Note: Choose all appropriate safety equipment before use. Refer to Safety Data Sheet (SDS) for more information.

APPLICATION

Read the flooring manufacturer's guidelines for acclimation requirements and complete installation instructions. Read all installation instructions thoroughly before installation.

1. Select the appropriately notched trowel (see the "Approximate Coverage" chart) and spread the adhesive evenly over the subfloor, keeping the trowel at a 45-degree angle to the subfloor.
2. On nonporous substrates, allow the adhesive to remain open until trowel valleys are clear.
3. On porous substrates, flooring can be installed into wet-tacky adhesive.
4. Protect the open adhesive from dust and debris, which will inhibit proper bond and decrease tack.
5. Once the flooring is placed into the adhesive, roll slowly the flooring surface across the width and length with the flooring-manufacturer-recommended roller to break down adhesive ridges and/or to ensure complete removal of trapped air. Pull (rather than push) the roller, so that footprints are not left on the floor. Re-roll the flooring 30 minutes after initial rolling.

CLEANUP

Clean adhesive smudges from the flooring surface and tools with water while the adhesive is fresh/wet.

Note: Refer to technical and safety data sheets for complete information regarding uses, application, limitations and safety.

PROTECTION

Protect the finished installation from light traffic for at least 12-24 hours and from heavy traffic for at least 24-48 hours, refer to floor covering recommendations.

SHELF LIFE

2 years when stored in original packaging at 73°F (23°C)

PROTECT FROM FREEZING

Protect containers from freezing in transit and storage. If frozen, material should not be stirred until it has completely thawed. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Product Performance Properties

Laboratory Tests	Results
Percent Solids	45-65%
VOC	<20 g/L
pH	8 to 10
Density	8.5 lbs./gallon (1.0 Kg/L)
Consistency	Buttery
Flash Point (Tag)	>212°F (100°C)

Shelf Life and Product Characteristics

Shelf Life	24 months when stored in original, unopened packaging at 73°F (23°C)
Storage Conditions	Store at 50°F to 90°F (10°C to 32°C)

Application Properties at 73°F (23°C) and 50% relative humidity

Polymer Type	Acrylic Based
Color	Off-White
Flash Time †	30 to 60 minutes
Working time ††	Up to 2 hours

† Flash time is the recommended amount of time for a freshly applied adhesive to remain exposed to the air before the installation of a floor covering.

†† Working time is the maximum amount of time that an adhesive can remain exposed to the air and still effectively bond to the floor covering.

Note: Flash time and working time vary based on temperature, humidity, substrate porosity, trowel size, and jobsite conditions.

Approximate Coverage*

Flooring Type	Typical Trowel	Coverage
LVT, LVP, solid vinyl sheet flooring and fiberglass-reinforced sheet vinyl on porous and nonporous substrates	1/32" x 1/16" x 1/32" U-notch trowel (0.8 x 1.6 x 0.8 mm)	185 to 245 sq. ft. (17.2 to 22.8 m ²) per 1 U.S. gal. (3.79 L)

* Trowel dimensions are depth/width/space. Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions, type of trowel used and setting practices.

Refer to the SDS (www.congoleum.com) for specific data related to health and safety as well as product handling.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in effect at the time of the product installation. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED WARRANTIES.** Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN THIRTY (30) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

Disclaimer: Proper Use of CR021 Adhesive with 99% RH Limit

CR021 Adhesive has been formulated for the installation of Luxury Vinyl Plank/Tile in elevated Relative Humidity concrete substrate conditions up to 99% (ASTM F2170). For a full warranty it is essential to allow the adhesive to completely dry to a pressure-sensitive state before flooring installation occurs. It must be noted that while the adhesive is warranted to maintain a bond to the flooring and substrate in these elevated RH conditions it is not and must never be considered a substitute for a moisture mitigation system. This adhesive is designed to be used only on concrete substrates that meet ASTM F710 (Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring) and ACI 302.2R-06 (Guide for Concrete Slabs that Receive Moisture Sensitive Flooring Materials) both of which require the placement of an impervious vapor retarder/barrier beneath the concrete substrate. The vapor retarder/barrier shall be intact and meets ASTM E1745 standard. Note that if the presence of an intact vapor retarder/barrier underneath the concrete substrate cannot be confirmed then moisture mitigation or continued slab drying is required prior to installation. The use of this adhesive as a corrective measure for an existing moisture related flooring failure will void the warranty.

When using CR021 Adhesive in elevated moisture conditions, the use of an exterior rated patch or self-leveler is required to maintain the bond warranty. The concrete substrate surface must be porous, free of dust, debris, paint, chemical contaminants, adhesive residue, concrete sealers or topical curing agents. The pH of the concrete substrate surface must not exceed 12.0 when using CR021 Adhesive to install Luxury Vinyl Plank/Tile.

Further Warranty Restrictions include but are not limited to the following:

- Concrete substrate with moisture vapor emission rate (MVER) that exceeds 15 lbs. per 1,000 sq. ft. (6.80 kg per 92.9 m²) per 24 hours, when using the anhydrous Calcium Chloride test (ASTM F1869)
- Concrete substrate must be at least 28 days old
- Concrete substrate with highly polished or burnished non-porous surfaces
- Concrete substrate that is visibly wet or has been flooded
- Concrete substrate without a functioning vapor barrier system that meets ASTM E1745
- Concrete substrate with known hydrostatic moisture, visible presence of water or water droplets, osmotic blistering or alkali-silica reaction problems
- The floor covering manufacturer limitations regarding concrete substrate moisture conditions (RH, ASTM 2170 & MVER, ASTM 1869), pH and others supersede CR021 recommendations
- Not recommended for use with non-breathable floorings such as sheet and large format tile made of vinyl or rubber when the concrete substrate Relative Humidity is above 95% (ASTM F2170); the moisture vapor emission rate (MVER) exceeds 10 lbs. per 1,000 sq. ft. (4.54 kg per 92.9 m²) per 24 hours, when using the anhydrous Calcium Chloride test (ASTM F1869); or the pH is greater than or equal to 11.0
- High moisture-related issues such as mold, mildew, and air quality

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