

Installation Guidelines (Revised 06/06/14)

Commercial & Residential

There are three (3) basic requirements necessary to assure a long lasting, attractive Tandus Centiva LVT floor:

1. Proper Subfloor Preparation
2. Installation
3. Adhesives

These guidelines when followed will ensure complete satisfaction with your installation.

1.0 SUBFLOOR PREPARATION

1.1 Testing

Moisture Test Methods

A moisture test is essential on all concrete floors. Two methods are recognized. ASTM F 1869 (calcium chloride test) or ASTM F 2170 (relative humidity). Care should be taken to follow proper testing procedures for both to insure accuracy. Testing should be performed in several areas including the perimeter of the room, at columns, and wherever else moisture might occur. The moisture level from the concrete should not exceed 6.0 lbs./1000 sq. ft. (CC) or 75% relative humidity in a 24 hour time period. If the concrete exceeds the moisture limitations, the installation should not proceed until the problem is corrected. A moisture problem can be corrected by using various methods. After remediation, always retest to ensure that the problem has been corrected. A moisture test indicates the conditions at the time of testing only. The flooring contractor cannot be held responsible if the moisture appears in the future causing adhesive failure. A new concrete floor contains a high percentage of moisture; therefore, it must be allowed adequate drying time. This drying time normally requires 28 to 30 days, but it can vary depending on several conditions such as the type of concrete used, average air temperature, and the thickness or location of the slab.

pH Test

pH levels are important. A concrete slab should have a pH level not to exceed 9.0 before, during, and after installation.

1.2 Preparation of New Floors

Underlayment panels can be used to correct deficiencies in the subfloor and to provide a smooth, sound surface for Tandus Centiva LVT tiles and planks. There are numerous suitable underlayment panels such as Structurwood®, Multiply, and Masonite™ brand underlayments. The most common of these is 1/4" APA underlayment grade plywood. RFCI does not recommend Luan, particle board, strand board, and flake board; therefore, they are not recommended as a subfloor for Tandus Centiva LVT tiles and planks.

Always fasten underlayment panels in accordance with the manufacturer's recommendations because any failure of the underlayment or Tandus Centiva LVT flooring as a result of the underlayment is the responsibility of the

underlayment manufacturer and installer. Suitable underlayment with a fully sanded surface and a minimum thickness of 1/4" is preferred. Always make sure that the subfloor is free of any foreign material such as dust, grease, oil, polish, and loose material that may cause staining, telegraphing, or adhesive failure.

Concrete subfloors are acceptable as long as the concrete's moisture content is within the specified parameters.

Tandus Centiva fully supports the ASTM F 710 standard practices methods of preparing concrete floors to receive resilient flooring. The customer or installer is responsible to assure the subfloor meets all associated manufacturer's recommendations including local codes/standards.

A Portland based patching compound or leveler should be used to cover subfloor irregularities such as seams, cracks, indentations, etc. Tandus Centiva does not recommend that calcium sulfate/plaster/gypsum* based patching or leveling compound materials be used for these same type subfloor issues as these compounds can harbor moisture, promote mildew growth, offer poor permanent bonding that affects adhesive strength, and typically have low indentation resistance.

*Tandus Centiva does recommend a synthetic gypsum based material such as Schönox® AP, within their family of leveling compounds.

1.3 Preparation Existing Floors

Asbestos

Tandus Centiva luxury vinyl tile or planks contain no asbestos fibers. When removing existing resilient floor coverings, carefully observe the following warning:

Existing resilient floor coverings and black asphalt adhesive may contain asbestos. Improper procedures used to remove these products could release asbestos fibers into the air. Asbestos fibers, if inhaled, may cause serious bodily harm. Do not sand or dry scrape these materials. A preferred alternative to removal is to install a new floor over the old asbestos-containing floor whenever possible. If removal of existing floor covering is necessary, be sure that all precautions are taken and proper procedures are followed. For information regarding proper removal procedures, please consult Tandus Centiva US LLC or the Resilient Floor Covering Institute, 401 East Jefferson Street, Suite 102, Rockville, MD, 20850, phone: 301-340-8580. Request the "Recommended Work Practices for Removal of Resilient Floor Coverings" brochure or view it online at www.rfci.com. Check state and local laws regarding removal of asbestos-containing materials.

After removing existing flooring, make sure to also remove old cutback adhesive, grease, wax, or other foreign matter. Painted and/or varnished surfaces must be sanded and dust free. In some cases old concrete subfloors must be shot blasted and a floor leveler should be applied prior to installation. Poor subfloor preparation may eventually telegraph through the Tandus Centiva LVT flooring causing visible irregularities. Between floor prep and start of installation, make sure to keep the floor dry, free from dirt, dust, and grit.

If the flooring contractor and owner want to install over an existing floor, they are accepting the responsibility of the condition of the floor and Tandus Centiva US LLC retains the right to negate or limit their warranty.

2.0 INSTALLATION (Extremely Important)

Before any installation takes place, please read the following information carefully:

The Victory Series, homogeneous products including Coral Reef, Magics, and Mineral Chip achieve natural and realistic appearance through their variations. These products are non-directional and should be pre-blended before installation begins. This is similar to shuffling a deck of cards and will blend the different shades and patterns that occur at random within the tiles. In larger tile sizes (18" x 18", 36" x 36") less blend is possible in ratio to the size of the room.

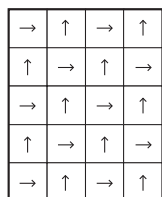
The Victory Series, multi-layered tiles including C-Tech, Glitter, and US Solids are recommended to be installed quarter turn (tessellated) or unidirectional due to light reflection on the surface. See the illustration below for recommended installation patterns.

The Contour Series multi-layered square tiles are to be installed quarter turn (tessellated) or in unidirectional. However, for best design appeal and results Tandus Centiva recommends the quarter turn method.

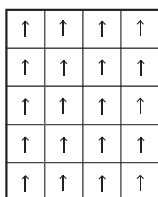
Most Event Series multi-layered square tiles are recommended to be installed quarter turn (tessellated) or unidirectional due to light reflection on the surface.

Venue Series square tiles with lineal designs may be installed quarter turn (tessellated) or unidirectional to achieve desired aesthetic. It is recommended that other Venue square tiles be installed quarter turn. However, Slate designs should always be installed quarter turn. See the illustrations below for recommended installation patterns.

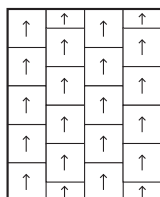
Quarter turn



Unidirectional



1/2 Off



2.1 Material Supply Check

Check all materials at the jobsite to the order. Check color, size, and design to be sure everything is correct before commencing the job. Inspect the cartons to be sure all colors are the same shade. Remember that in some Tandus Centiva LVT styles, shading and subtle color variations may be part of the design. This is desirable to enhance the look of the tile. When working with an Imaginations™ Custom Flooring Design, find the CAD drawing which accompanies the shipment and be sure all pieces are included. Tandus Centiva does an outstanding job of quality control, but checking the shipment beforehand will assure there is no work stoppage. Do not install materials with an apparent defect.

2.2 Acclimation

All Tandus Centiva LVT tiles, planks, and adhesive should be present at the jobsite for at least 48 hours at a temperature between 68-72 degrees F in order to acclimate properly. Avoid installations with ambient temperatures above 80 degrees F and below 60 degrees F. The tiles, room, and existing floor must be at room temperature (68-72 degrees F). It is helpful to stack the cartons two high around the area. Slabs in 36" x 36" stacked on a pallet, may have to be acclimated up to 72 hours prior to installation. Avoid extreme cold and hot situations.

2.3 Tools

Pencil and paper
Chalk line and chalk
Carpenter's square
Steel measuring tape and steel rule
Utility knife and blades, straight edge knife, and curved edge knife
Trowels (notched to meet the adhesive being used and the subfloor requirements)
Clean cloths and clean water
100 lb roller

2.4 Calculating

Tiles and Planks - The number of tiles you will need:

Measure the room's length and width. Multiply the width times the length to get the square footage. Measure all offsets and alcoves separately, and add the square footage for each area to arrive at the total square footage. Always add approximately 5% allowance for cutting waste, and always round up to the next full carton.

12" x 12"— Each 12-inch tile covers one square foot, so the number of square feet in the installation area equals the number of tiles that you will need. Add for waste.

18" x 18"— An 18-inch tile covers 2.25 sq. ft. Simply take your total square footage and divide it by 2.25. Again, add 5% for waste.

36" x 36" — A 36-inch slab covers 9 sq. ft. Slabs are mostly used for larger applications, and waste should be considered between 5 - 8%. Slabs are boxed in 90 sq. ft. cartons. For larger orders, due to environmental reasons, Tandus Centiva US LLC retains the rights to load a pallet of 240 slabs (2,160 sq. ft.) without packaging other than skirt and shrinkwrap.

Tandus Centiva LVT also offers other sizes such as **9" x 9"**, **12" x 18"**, **12" x 36"**, **18" x 36"**, **12" x 24"**, **6" x 48"**

Feature Strips

Feature Strips around a tile are easy to calculate.

You will need 2 linear ft. for each 12-inch tile
 " " 3 linear ft. for each 18-inch tile
 " " 6 linear ft. for each 36-inch slab

To figure out quantity on Imaginations™ Custom Flooring Design patterns, please submit plans to your Tandus Centiva account executive or call 1-800-633-3380.

2.5 Laying Out the Job Site Using Tiles

Carefully determining where to begin your tile installation, results in the most professional looking job. Always try to end up with at least half a tile at each wall for best appearance.

Follow these steps:

1. Treat the room as a rectangle, disregarding offsets, alcoves, etc. Find the center points of the two end walls and strike a chalk line between them.



Figure 1

2. Find the center of the chalk line, using T-square or a tile to line up. Strike a second chalk line at right angles to the first one. The room is now divided into four equal parts.

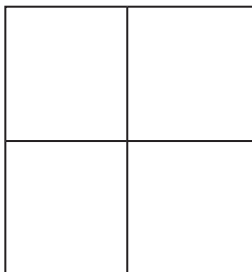


Figure 2

3. Starting in center of room where the two chalk lines intersect, loose lay several tiles in a row to one end of wall and a second row to a sidewall. Measure distance from last tile to wall. If it is less than half a tile, move centerline a half a tile nearer the opposite wall. Do this in both directions.

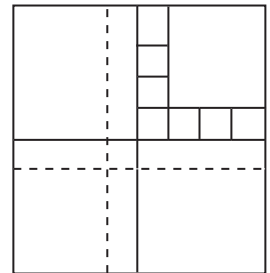


Figure 3

2.6 Diagonal Layout Using Tiles

Extra measurements and guidelines are needed for diagonal installations. A sketch is useful for any complicated installation. Follow these guidelines for diagonal installations:

1. Divide the room into equal quarter sections and adjust the same way you would for normal installations.

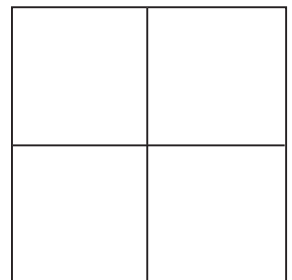


Figure 1

2. Measure and mark a point 4'3" from the center point on each centerline. Snap a chalk line to connect the four new points.

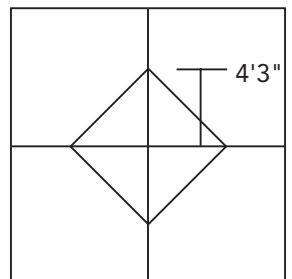


Figure 2

3. Mark the midpoint on the new guidelines and snap another chalk line to its opposite midpoint. These lines should intersect the original center point or the measurements will be incorrect.

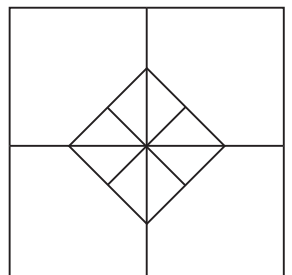
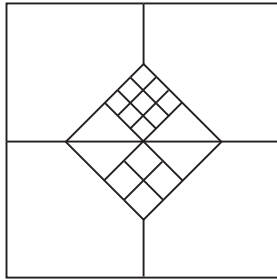


Figure 3

4. Use the guidelines for the installation. Nine 12-inch tiles, four 18-inch tiles, or one 36-inch slab will start towards all four directions.

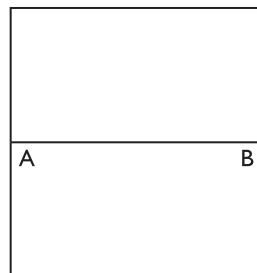
Figure 4



2.7 Layout of Room Using Planks

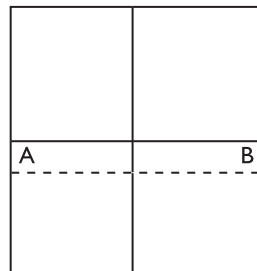
Find the center point of the room. Strike a line (A-B).

Figure 1



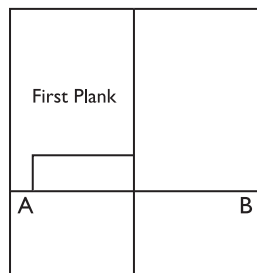
Obtain a true 90° angle by using a carpenter's square. Strike a second line, which will divide the room into four equal parts. Measure the distance from the center to the wall parallel to the direction of the plank. Divide that measurement by the width of a plank (3"). If less than half a plank (1½") remains as the border plank, adjust the point by 1½". This will give a large border along the wall and reduce the chance of having to cut a small sliver of flooring to place along the wall.

Figure 2



Tandus Centiva LVT Plank features beveled and square edges to accent individual planks and create a distinct plank effect. For this reason, anytime you make a cut, you will want to place that cut edge along a wall. Placing a cut edge against the uncut edge of another piece of flooring will not look natural or realistic. However, for special patterns, the floor may be installed cut edge to cut edge and beveled edge to beveled edge for a consistent and finished look.

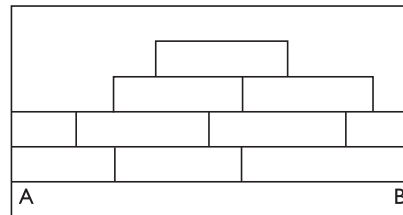
Figure 3



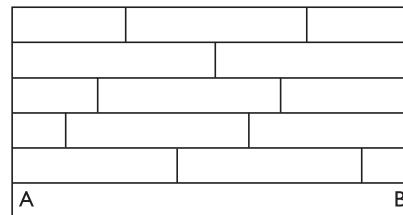
2.8 Laying of the Plank

Spread adhesive following the specific recommendations outlined in Section 4.0 Adhesives. Place the first piece of plank at the junction of the chalk lines. Continue to lay the plank, making sure each plank is flush against the chalk line and tight against the adjoining plank. Make sure the plank is well seated into the adhesive, paying special attention to the edges. Lay row by row or in a pyramid fashion. Roll the installed floor approximately five minutes after installation and again, 15 minutes after installation. Promptly remove any excess adhesive that appears after rolling.

Pyramid Fashion

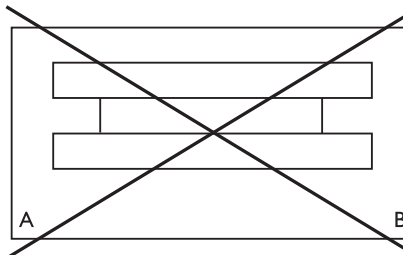


Row by Row Fashion



*Row by row fashion installation specially recommended when using CENTI 2001 Wet Set Adhesive.

This is the incorrect way to lay the plank!



Fitting the Border:

Measure the distance from the last plank in the row to the wall. Mark the plank and cut it against the mark. Lay the plank in place, making sure the cut edge is against the wall.

Fitting Around Irregular Objects:

Make a pattern out of heavy paper to fit around pipes and other irregularities. Place the pattern on the plank, trace, cut along the trace lines with scissors or a sharp knife. Place the cut plank into position.

The manufacturer or supplier will not be liable for any loss, damage, or complaint of any kind if the specific procedures in the Installation Guidelines are not followed. Refer to tandus-centiva.com for the latest Installation Guidelines.

2.9 Useful Installation Tips

- It is always recommended to fit in intricate cuts around door frames, cabinets, and transitions prior to spreading adhesive. See also adhesive pages.
- Have several clean white cloths and a container of denatured alcohol or mineral spirits available for cleaning off excess adhesive from the tile as you work. Any excess adhesive must be removed from the tile surface, in between tile seams, or the surrounding area. As long as the adhesive has not dried, CENTI 2001 Wet Set and CENTI 6000 SP may be cleaned with soap and water while CENTI 2000 EP may only be cleaned with denatured alcohol or mineral spirits. DO NOT ALLOW EPOXY ADHESIVE TO DRY ON TILE SURFACE. To obtain best results, dampen a clean cloth with cleaner and gently rub areas as to not move the tiles out of place. Do not saturate the area with cleaner and make sure that you clean up any excess cleaning solution as you go.
- Never begin installation without all necessary tools available. (straight edge knife, curved edge knife, ruler, trowel, roller, etc.)
- Like any flooring material, Tandus Centiva LVT should not be installed over expansion joints. As with real stone or wood products a cut should be made through the LVT to open the joint. Because of visual appearance this method is mostly not preferred. It is left to the discretion of the end consumer. For more information please contact your Tandus Centiva account executive or call customer service at 1-888-CENTIVA.
- Following installation, see Manufacturer's recommended maintenance instructions for post-construction clean-up and routine cleaning at tandus-centiva.com.

3.0 Imaginations™ Custom Flooring Design

Please contact your Tandus Centiva account executive or visit tandus-centiva.com for more information.

4.0 ADHESIVES

Tandus Centiva US LLC recommends that all tiles and planks be installed with Tandus Centiva LVT preferred adhesives only. Choose the following adhesives that apply to your specific job specifications.

4.1 Handy Adhesive Reference Guide

Adhesive	CENTI 2001 Wet Set	CENTI 6000 SP	CENTI 2000 EP	SCHÖNOX® ROLL AND GO™
Installation	wet set	wet set with pressure sensitive characteristics	epoxy mix	wet set (thin) applied with included Schonox Roll and Go™ Roller
Sub-floor	porous only	porous/non-porous	porous/non-porous	porous only
Over old vinyl	No	Yes ¹	Yes ¹	No
Rating	Commercial	Commercial	Commercial	Commercial
Trowel size	1/16 x 1/16 x 1/16 sq. notch	Porous: 1/16 x 1/16 x 1/16 sq. notch Non-porous: 1/32 x 1/16 x 1/32 U-notch	1/16 x 1/16 x 1/16 sq. notch	No Trowel; Apply with included ⁵ Schonox Roll and Go™ Roller
Spread rate	~125 sq. ft. per gallon per trowel size	~120-130 sq. ft. per gal.	~130-150 sq. ft. per gal.	~540 sq. ft. per 1.56 gal. unit
Open time ²	25 minutes	45 minutes	40-50 minutes	~2 hours
Roller	100 lb.	100 lb.	100 lb.	100 lb.
Max. moisture ³	6 lbs/1,000 sq. ft. in 24 hours	6 lbs/1,000 sq. ft. in 24 hours	6 lbs/1,000 sq. ft. in 24 hours	6 lbs/1,000 sq. ft. in 24 hours
Centiva Floor	Victory, Contour, Event, Venue	Victory ⁴ , Contour, Event, Venue	Victory, Contour, Event, Venue	Contour, Event, Venue

¹ If the flooring contractor and owner want to install over an existing floor, they are accepting the responsibility of the condition of the floor and Tandus Centiva US LLC retains the right to negate or limit their warranty.

² Open time is subject to temperature/humidity and sub-floor porosity.

³ For installation over 6 lbs/1,000 sq. ft. in 24 hours, please contact your Tandus Centiva account executive.

⁴ Excluding Coral Reef, Magics, and Mineral Chip.

⁵ Schönox Roll and Go™ comes as a boxed kit and includes one container (4 kg/1.06 gal.) of Schönox Roll and Go™ Adhesive, Roll and Go Roller, Handle, Tray, two containers (1kg/0.25 gal.) of KH Fix Primer, and KH Fix Primer Roller.

CENTI 2001 Wet Set Adhesive

Resilient Floor Tile and Plank Adhesive Specification

Product Description

CENTI 2001 Wet Set adhesive is solvent-free, non-flammable, freeze/thaw stable, and odorless when dry. CENTI 2001 Wet Set can be used where other adhesives might present potential health risks. It is suitable for office buildings, hotels, hospitals, schools, restaurants, assisted living facilities, etc. CENTI 2001 Wet Set contains micro-biocides to inhibit the growth of mold and mildew. CENTI 2001 Wet Set can be used to install luxury vinyl tile and vinyl plank flooring over porous floors. CENTI 2001 Wet Set exhibits quick grab, excellent moisture resistance, and spreads easily. Only Tandus Centiva LVT adhesive is to be used for installing Tandus Centiva LVT.

CENTI 2001 Wet Set may be used to install Event, Contour, Victory & Venue Series products.

CENTI 2001 Wet Set is manufactured in the USA for Tandus Centiva US LLC

Product Specifications

Base:	Latex
Color:	Cream
Weight:	9.3 lbs/gal
VOCs:	-0- calculated*
Consistency:	Medium Paste
Shelf Life:	One year, unopened
Open Time:	approximately 25 minutes, depending on temperature/humidity and sub-floor porosity
Coverage:	125 sq. ft./gal. Coverage will vary depending on floor type

* All Tandus Centiva LVT adhesives meet SCAQMD Rule 1168 standards. For specific LEED® documents concerning Tandus Centiva LVT adhesives, see tandus-centiva.com

Prepare Surface

1. Do not use CENTI 2001 Wet Set over existing resilient flooring or painted sub-floors. **Not for use over non-porous floors** such as sealed concrete, metal, existing sheet flooring. It is the responsibility of the user to determine whether or not the sub-floor to be covered is porous. To determine if a sub-floor is porous, place two droplets of water in various areas. If the sub-floor is porous, the water will be absorbed within a few seconds.

2. Use CENTI 2001 Wet Set on grade, above grade, or below grade. CENTI 2001 Wet Set may be used over porous structurally-sound surfaces of plywood and concrete.
3. Make sure all sub-floors are clean, dry, free of dirt, dust, old adhesives, grease, wax, and other foreign matter that might interfere with the adhesive bond. Painted or varnished surfaces must be sanded and dust-free. Concrete floors must be fully cured, free from dust, moisture, excessive alkalinity, curing agents, and excessive moisture vapor emissions. If applying over old cutback, all old adhesive must be removed so that the floor is smooth.
4. Use a high-quality latex/Portland cement based-type patching compound to fill or level any irregular areas.
5. The sub-floor, flooring material, and adhesive must be acclimatized to the installation area for a minimum of 48 hours prior to installation. The area should be fully enclosed, weather-tight, with permanent HVAC system set and maintained at a minimum temperature of 68-72°F for 48 hours prior to, during, and after installation.
6. It is essential that moisture tests be performed on all concrete sub-floors regardless of grade level or whether or not the concrete is freshly poured or is classified as an older slab. Moisture testing should be performed using ASTM F 1869 (calcium chloride test) or ASTM F 2170 (relative humidity). Moisture levels should not exceed 6 lbs/1,000 sq. ft. (CC) or 75% relative humidity in a 24 hour time period. If test results exceed the limitations, the installation should not proceed until the problem is corrected. See ASTM F 710 for additional information.

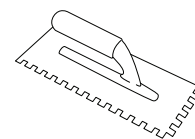
Apply Adhesive

7. Apply adhesive using a 1/16 x 1/16 x 1/16 inch square notched trowel.
8. Apply only that amount of adhesive that can be covered in 25 minutes. Open time will vary according to temperature, humidity, and porosity of the sub-floor. For best results, let the adhesive flash off before installing the planks or tile. **Do not allow adhesive to skin over.** If the open time is exceeded and the film has skinned over, adhesive must be scraped up, then reapplied.

9. Check open time periodically by lifting a section just laid to be certain that at least 95% of the adhesive pattern has been transferred to the back of the plank or tile.
10. Position planks or tile firmly in the adhesive without sliding them.
11. Roll each section immediately upon completion with a 100 lb sectional roller. Re-roll the entire floor after 1-2 hours.
12. Remove wet adhesive immediately with a damp cloth. Use mineral spirits to remove dried adhesive. Do not apply solvents directly to flooring material as a loss of strength/gloss/texture may result. If a tile needs to be cleaned of excess adhesive material on the finished surface, use the solvent sparingly in a slight rubbing manner.

Limitations

13. Store indoors only. Protect from freezing. Adhesive is freeze/thaw stable to 10°F. Prolonged or repeated freeze/thaw cycles should be avoided. Should adhesive freeze, allow to thaw at room temperature and stir well before using. The finished installation must be protected from moisture and/or freezing for a minimum of 48 hours.
14. Restrict heavy foot traffic or rolling loads for at least 24 hours.
15. Do not wash or wax the floor for a minimum of 48 hours after installation.
16. Not for use over non-porous floors.



Use a 1/16 x 1/16 x 1/16 inch square notched trowel.

CENTI 6000 SP Special Purpose Adhesive

Resilient Floor Tile and Plank Adhesive Specification

Tandus | Centiva
A Tarkett Company

Product Description

CENTI 6000 SP Special Purpose adhesive is solvent-free, non-flammable, freeze/thaw stable, and odorless when dry. CENTI 6000 SP can be used where other adhesives might present potential health risks. It is suitable for office buildings, hotels, hospitals, schools, restaurants, assisted living facilities, etc. CENTI 6000 SP contains micro-biocides to inhibit the growth of mold and mildew. CENTI 6000 SP can be used to install luxury vinyl tile and vinyl plank flooring over porous and non-porous floors. CENTI 6000 SP exhibits quick grab, excellent moisture resistance, and spreads easily. Centi 6000 SP has excellent resistance to plasticizer migration and sets to a tough permanent bond. Only Tandus Centiva adhesive is to be used for installing Tandus Centiva LVT.

CENTI 6000 SP may be used to install Event, Contour, Victory & Venue Series products, excluding Coral Reef, Magics, and Mineral Chip.

CENTI 6000 SP is manufactured in the USA for Tandus Centiva US LLC

Product Specifications

Base:	Acrylic
Color:	White
Weight:	9.7 lbs/gal
VOCs:	-0- calculated*
Consistency:	Medium Paste
Shelf Life:	1 year at 70°F, unopened
Open Time: on	45 minutes, depending temperature/humidity and sub-floor porosity
Coverage:	120-130 sq. ft./gal. Coverage will vary depending on floor type

* All Tandus Centiva LVT adhesives meet SCAQMD Rule 1168 standards. For specific LEED® documents concerning Tandus Centiva LVT adhesives, see tandus-centiva.com

Prepare Surface

1. CENTI 6000 SP may be used on all grade levels of concrete-on, above, or below grade, in the absence of moisture, as well as suspended approved wood floors (APA).
2. Make sure all sub-floors are clean, dry, free of dirt, dust, old adhesives, grease, wax, and other foreign matter that might interfere with the adhesive bond. Painted or varnished surfaces must be sanded and

dust-free. Concrete floors must be fully cured, free from dust, moisture, excessive alkalinity, curing agents, and excessive moisture vapor emissions.

3. Use a high-quality latex/Portland cement based-type patching compound to fill or level any irregular areas.
4. The sub-floor, flooring material, and adhesive must be acclimatized to the installation area for a minimum of 48 hours prior to installation. The area should be fully enclosed, weather-tight, with permanent HVAC system set and maintained at a minimum temperature of 68-72°F for 48 hours prior to, during, and after installation.
5. It is essential that moisture tests be performed on all concrete sub-floors regardless of grade level or whether or not the concrete is freshly poured or is classified as an older slab. Moisture testing should be performed using ASTM F 1869 (calcium chloride test) or ASTM F 2170 (relative humidity). Moisture levels should not exceed 6 lbs/1,000 sq. ft. (CC) or 75% relative humidity in a 24 hour time period. If test results exceed the limitations, the installation should not proceed until the problem is corrected. See ASTM F 710 for additional information.
6. CENTI 6000 SP is recommended for **porous and non-porous** applications. It is the responsibility of the user to determine whether or not the sub-floor to be covered is porous. To determine if a sub-floor is porous, place two droplets of water in various areas. If the sub-floor is porous, the water will be absorbed within a few seconds.

Apply Adhesive

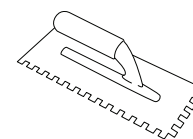
7. For **porous sub-floors**, apply adhesive using a $\frac{1}{16} \times \frac{1}{16} \times \frac{1}{16}$ inch square notched trowel. Once troweled, the adhesive should be allowed to remain open (flash off) for 5-10 minutes before placement of the flooring material. Once placed, the material should be rolled immediately using a 100 lb roller. Remove any excess adhesive when rolling.
8. For **non-porous sub-floors**, apply adhesive using a $\frac{1}{32} \times \frac{1}{16} \times \frac{1}{32}$ inch U-notched trowel. Adhesive must be allowed to dry to touch, so that there is little or no transfer of adhesive to the finger. Once the adhesive dries to the touch, it is ready to accept flooring material. Roll immediately after the flooring material has

been placed into the adhesive with a 100 lb roller. Remove any excess adhesive when rolling.

9. From the time the adhesive is allowed to dry to the touch, to the time it must be covered is 30-40 minutes depending on temperature and humidity. If the adhesive is allowed to remain uncovered, after initially drying, for periods longer than recommended, a loss in adhesion strength will result. The installer must take care not to spread more adhesive than can be worked appropriately within the recommended time frame.
10. Remove wet adhesive immediately with a damp cloth. Use mineral spirits to remove dried adhesive. Do not apply solvents directly to flooring material as a loss of strength/gloss/texture may result. If a tile needs to be cleaned of excess adhesive material on the finished surface, use the solvent sparingly in a slight rubbing manner.

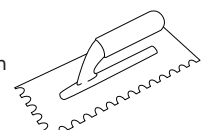
Limitations

11. Store indoors only. Protect from freezing. Adhesive is freeze/thaw stable 5 cycles to 0°F. Prolonged or repeated freeze/thaw cycles should be avoided. Should adhesive freeze, allow to thaw at room temperature and stir well before using. The finished installation must be protected from moisture and/or freezing for a minimum of 48 hours.
12. Restrict heavy foot traffic and rolling loads for 24 hours.
13. Do not wash or wax the floor for a minimum of 48 hours after installation.



Use a $\frac{1}{16} \times \frac{1}{16} \times \frac{1}{16}$ inch square notched trowel. (porous)

Use a $\frac{1}{32} \times \frac{1}{16} \times \frac{1}{32}$ inch U-notched trowel. (non-porous)



CENTI 2000 EP Epoxy Adhesive Parts A & B

Resilient Floor Tile and Plank Adhesive Specification

Product Description

CENTI 2000 EP Epoxy adhesive is solvent-free, non-flammable, and odorless when dry. CENTI 2000 EP can be used where other adhesives might present potential health risks. It is suitable for office buildings, hotels, hospitals, schools, restaurants, assisted living facilities, etc. CENTI 2000 EP contains micro-biocides to inhibit the growth of mold and mildew. CENTI 2000 EP is a two-component product and cures to a tough, flexible film. It is recommended for the installation of vinyl flooring products on approved sub-floors for both porous and non-porous applications. It is especially recommended for use on non-porous sub-floors. Only Tandus Centiva adhesive is to be used for installing Tandus Centiva LVT.

CENTI 2000 EP may be used to install Event, Contour, Victory & Venue Series products.

CENTI 2000 EP is manufactured in the USA for Tandus Centiva US LLC

Product Specifications

Base:	Epoxy
Color:	Beige
Weight:	12.5 lbs/gal
VOCs:	-0- calculated*
Consistency:	Medium Paste
Shelf Life:	1 year at 70°F, unopened
Open Time:	40-50 minutes, depending on temperature/humidity and sub-floor porosity
Coverage:	130-150 sq. ft./gal. Coverage will vary depending on floor type

* All Tandus Centiva LVT adhesives meet SCAQMD Rule 1168 standards. For specific LEED® documents concerning Tandus Centiva LVT adhesives, see tandus-centiva.com

Prepare Surface

1. CENTI 2000 EP may be used on all grade levels of concrete-on, above, or below grade, in the absence of moisture, as well as suspended approved wood floors (APA).
2. Make sure all sub-floors are clean, dry, free of dirt, dust, old adhesives, grease, wax, and other foreign matter that might interfere with the adhesive bond. Painted or varnished surfaces must be sanded and dust-free. Concrete floors must be fully cured, free from dust, moisture, excessive alkalinity, curing agents, and excessive moisture vapor emissions.

3. Use a high-quality latex/Portland cement based-type patching compound to fill or level any irregular areas.
4. The sub-floor, flooring material, and adhesive must be acclimatized to the installation area for a minimum of 48 hours prior to installation. The area should be fully enclosed, weather-tight, with permanent HVAC system set and maintained at a minimum temperature of 68-72°F for 48 hours prior to, during, and after installation. If adhesive is subject to heat, setup time will be shortened significantly. The opposite will occur if stored in a cold area.
5. It is essential that moisture tests be performed on all concrete sub-floors regardless of grade level or whether or not the concrete is freshly poured or is classified as an older slab. Moisture testing should be performed using ASTM F 1869 (calcium chloride test) or ASTM F 2170 (relative humidity). Moisture levels should not exceed 6 lbs/1,000 sq. ft. (CC) or 75% relative humidity in a 24 hour time period. If test results exceed the limitations, the installation should not proceed until the problem is corrected. See ASTM F 710 for additional information.

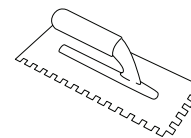
Apply Adhesive

6. A unit of CENTI 2000 EP consists of two (2) parts labeled Part A and Part B. After opening each container use a can opener to cut the rims off both containers. Thoroughly mix Part A and Part B separately. Combine the two (2) parts making sure that ALL of the contents of one can are added to ALL the contents of the second can. Mix the two parts together thoroughly until they are a uniform color. Immediately after mixing the two parts together, pour the contents into an open, flat pan or on the floor. Epoxy adhesive cures by chemical reaction; the heat generated by that process reduces the open time and curing is accelerated if left in the can.
7. Spread the adhesive using a 1/16 x 1/16 x 1/16 inch square notched trowel. After spreading the adhesive lay the tile into it immediately. Check open time periodically by lifting a section just laid to be certain there is transfer of adhesive to the back of the floor covering. The open time will vary with the temperature, humidity, and porosity of the sub-floor. Use a kneeling board or work off of the tile whenever possible.

8. After installation roll the floor using a 100 lb sectional roller, first in one direction and then in a direction at a right angle to the first line of direction. Remove any excess adhesive when rolling. **THE FLOOR MUST BE ROLLED BEFORE THE ADHESIVE HARDENS.**
9. Use denatured alcohol or mineral spirits to remove wet adhesive. Do not apply solvents directly to flooring material as a loss of strength/gloss/texture may result. If a tile needs to be cleaned of excess adhesive material on the finished surface, use the solvent sparingly in a slight rubbing manner. Cured adhesive is very difficult to remove.

Limitations

10. Store indoors only. Protect from freezing. Adhesive is freeze/thaw stable to 0°F. Prolonged or repeated freeze/thaw cycles should be avoided. Should adhesive freeze, allow to thaw at room temperature and stir well before using. The finished installation must be protected from moisture and/or freezing for a minimum of 24 hours.
11. Allow 8-12 hours for light foot traffic and 24-48 hours for heavy foot traffic.
12. Do not wash or wax the floor for a minimum of 48 hours after installation.



Use a 1/16 x 1/16 x 1/16 inch square notched trowel.

5.0 TESTING

All Tandus Centiva Event, Contour, Victory, and Venue products pass the following tests.

ASTM E 648	Critical Radiant Flux	Class 1 CRF > 0.45
ASTM E 662	Smoke Density	<450
ASTM F 925	Chemical Resistance	Excellent
Slip Resistance	ADA Compliant	
	Varies with Surface Texture	
	FTC Slip Resistant Classified Product	

ASTM F 925

This test was conducted in accordance with ASTM F 925, Resistance to Chemicals of Resilient Sheet Flooring. This method provides a procedure for determining the resistance of resilient sheet vinyl floor covering on surface deterioration when exposed to various chemicals.

The following categories are rated:

- Surface Dulling-indicating that the specimen suffered a loss of gloss
- Surface Attack-indicating that the specimen suffered surface damage such as softening, warping, swelling, blistering, peeling, raised, or rough area
- Color Change-indicating that the specimen suffered discoloring or bleaching or both

Each category is rated as No Change=NC, Slight Change=SC, Moderate Change=MC, or Severe Change=SC.

Chemical	Five Minutes			24 Hours		
	Surface Dulling	Surface Attack	Color Change	Surface Dulling	Surface Attack	Color Change
White vinegar	NC	NC	NC	NC	NC	NC
Rubbing alcohol	NC	NC	NC	NC	NC	NC
White mineral oil	NC	NC	NC	NC	NC	NC
Sodium hydroxide solution	NC	NC	NC	NC	NC	NC
Hydrochloric acid solution	NC	NC	NC	NC	NC	NC
Household ammonia solution	NC	NC	NC	NC	NC	NC
Household bleach solution	NC	NC	NC	NC	NC	NC
Disinfectant	NC	NC	NC	NC	NC	NC
Unleaded gasoline	NC	NC	NC	NC	NC	NC

ASTM F925 Chemical/Stain Resistance

Chemical	One Hour	24 Hours
	Color Change	Color Change
Proline Handcleaner with Natural Scrubber	NC	NC
GoJo Premium Handwash with Skin Conditioner	NC	NC

6.0 CERTIFICATION

All Tandus Centiva Event, Contour, Victory, Venue, and Centiva SnapLock® series products have received FloorScore® Certification through Scientific Certification Systems (SCS).

All Tandus Centiva LVT adhesives have received GREENGUARD Certification and GREENGUARD Children & Schools® Certification through GREENGUARD Environmental Institute (GEI).

Visit tandus-centiva.com and learn more about Tandus Centiva's environmental program.



7.0 AIR QUALITY

Studies show that we spend 90% of our time indoors. The quality of the air surrounding us is crucial to our health. Poor indoor air quality can be caused by a number of reasons, including insufficient ventilation, poor cleaning practices, and excessive emissions of volatile organic compounds (VOCs). Therefore, the products inside our spaces have to be safe. Tandus Centiva US LLC assists with offering certified flooring. All our adhesives and products adhere to the most stringent standards.

7.1 FloorScore® and Tandus Centiva LVT

Tandus Centiva LVT products have all undergone the rigorous FloorScore program. FloorScore was developed by the Resilient Floor Covering Institute (RFCI) in conjunction with Scientific Certification Systems (SCS) that tests and certifies flooring products for compliance with indoor air quality emission requirements adopted in California.

All Tandus Centiva Event, Contour, Victory, Venue, and Centiva SnapLock® series products have achieved FloorScore certification.

FloorScore tests to the California Section 01350 specifications for Collaborative High Performance Schools (CHPS). Section 01350 was developed by a California interagency task force on healthy, sustainable buildings. This includes maximum emission concentrations for more than 83 VOCs emitted from any building materials in schools and office buildings as established by the California Office of Environmental Health Hazard Assessment.

To earn the FloorScore certification, a flooring product must satisfy all requirements of section SCS-EC-10-2004 Environmental Certification Program listed as Indoor Air Quality Performance. This includes:

- Testing demonstrating compliance with emission concentrations for listed VOCs under California Section 01350
- Manufacturing facility site audits
- Annual product re-testing/certification
- Product record keeping
- A documented quality control plan

7.2 Rule 1168, GREENGUARD Certifications, LEED® Eligibility

All Tandus Centiva LVT adhesives meet the California South Coast Air Quality Management District (SCAQMD) requirement Rule 1168 for low VOCs.

All Tandus Centiva LVT adhesives also meet the more stringent standards of GREENGUARD Certification and GREENGUARD Children & Schools Certification.

Because they meet these standards, Tandus Centiva products and adhesives can contribute to LEED® credits.



8.0 RECYCLED CONTENT

While Tandus Centiva LVT is a 100% recyclable product, it also contains recycled content. As part of our continuous improvement goals, Tandus Centiva is striving to increase its pre- and post-consumer recycled content while maintaining strict quality standards.

Depending on the construction and series of the product, the recycled content varies. Please contact your local Tandus Centiva account executive or visit tandus-centiva.com