

III. INSTALLATION OF RESILIENT SHEET FLOORING PRODUCTS

A. SPECIFICATIONS/RECOMMENDED USE — RESILIENT SHEET FLOORING PRODUCTS

The following are specifications and other information which will be helpful when installing Congoleum resilient sheet flooring products:

Wearlayer Type	Width(s) Available	Square Yards Per Roll		Weight (lb.) per P.S.Y.	Reference Specifications*	Recommended Use			
		6'	12'			Public Commercial	Light/Medium Commercial	Residential	
RESIDENTIAL INSTALLED									
Xclusive	Natural-Gloss, Vinyl Resin and Urethane Reinforced with Nylon and Aluminum Oxide and Scotchgard™ Protector	12'	—	80-160	4.1	ASTM F1303; Type I, Grade 2			✓
Ultima	Natural-Gloss, Vinyl Resin and Urethane Reinforced with Nylon and Aluminum Oxide	12'	—	80-160	3.5	ASTM F1303; Type I, Grade 2			✓
Bravada	Natural-Gloss, Vinyl Resin and Urethane Reinforced with Nylon and Aluminum Oxide	12'	—	80-190	3.0	ASTM F1303; Type I, Grade 2			✓
Highlight	High-Gloss, Vinyl Resin and Urethane	6' & 12'	40-100	80-190	2.6	ASTM F1303; Type I, Grade 3			✓
Pacesetter	Natural-Gloss, AlumaTEC Polymer Based Reinforced with Aluminum Oxide	6' & 12'	40-80	80-190	2.9	ASTM F1303; Type I, Grade 2			✓
Concept	Natural-Gloss, Vinyl Resin Composition	6' & 12'	40-100	80-190	2.7	ASTM F1303; Type I, Grade 3			✓
Prelude	Natural-Gloss, Vinyl Resin Composition	6' & 12'	40-130	80-190	2.5	ASTM F1303; Type I, Grade 3			✓

Wearlayer Type	Overall Gauge (Nominal)	Wearlayer Gauge (Nominal)	Width(s) Available	Square Yards Per Roll		Weight (lb.) per P.S.Y.	Reference Specifications*	Recommended Use			
				6'	12'			Public Commercial	Light/Medium Commercial	Residential	
COMMERCIAL											
Flor-Ever Plus	Satin-Gloss, Vinyl Resin Composition Fortified with Aluminum Oxide	.080"	.020"	12'	—	80-160	3.8	ASTM F1303; Type I, Grade 1, Class A backing	✓	✓	✓
Specifications	Satin-Gloss, Through-Chip Vinyl Resin Composition	.080"	.050"	6'	30-80	—	5.5	ASTM F1303; Type II, Grade 1, Class A backing	✓	✓	✓
Foundations	Satin-Gloss, Through-Chip Vinyl Resin Composition	.080"	.050"	6'	30-80	—	5.5	ASTM F1303; Type II, Grade 1, Class A backing	✓	✓	✓

* All products listed above **pass** N.B.S. Smoke Density testing (ASTM E662-450 or less) required in hospitals and nursing homes. All products listed above **pass** Critical Radiant Flux (ASTM E648-0.45 w/cm² or greater).



* All products listed are FloorScore Certified for indoor air quality performance. FloorScore certified hard surface flooring products are an alternative compliance to LEED credit EQ4.3 Low-Emitting Materials: Carpet Systems.

B. WHITE SHIELD BACKING

Congoleum residential and commercial resilient sheet floors are produced on Congoleum White Shield felt backing. White Shield felt, which is manufactured by Congoleum, sets the standard in the industry. It is

flexible, and highly resistant to cracking and breaking. This backing can be installed on suspended wood subfloors, and concrete subfloors on all grade levels.

C. INSTALLATION SYSTEMS BY PRODUCT

The following chart lists all Congoleum resilient sheet products that are recommended for permanent installation and the various systems recommended for installation.

**Installation Systems
Congoleum Products Recommended for Permanent Installation**

Product	Installation System	Adhesive	Seaming Methods	Seam Sealers	Seam Sealing Application ⁽¹⁾
RESIDENTIAL					
Xclusive	Your Choice	3044	Overlap and Double Cut	SU106	Insert
Ultima	Your Choice	3044	Overlap and Double Cut	SU106	Insert
Bravada	Your Choice	3044	Overlap and Double Cut	SU106	Insert
Highlight	Your Choice	3044	Overlap and Double Cut	SU102	Insert
Pacesetter	Your Choice	3044	Overlap and Double Cut	SU80/SU92	Insert
Concept	Your Choice	3044	Overlap and Double Cut	SU80/SU92	Insert
Prelude	Your Choice	3044	Overlap and Double Cut	SU80/SU92	Insert
COMMERCIAL					
Flor-Ever Plus	Fully Adhere*	3044	Overlap and Double Cut	SU80/SU92	Insert
Specifications	Fully Adhere**	3044	Recess Scribe	SU80/SU92	Top Seal/ Heat Weld
Foundations	Fully Adhere**	3044	Recess Scribe	SU80/SU92	Top Seal/ Heat Weld

⁽¹⁾ The insert seam sealer application refers to inserting the slotted fin of the applicator into the seam cut to achieve a chemical weld from top to bottom. By comparison, a top sealing application is achieved by applying seam sealer only on the top surface of the seam cut.

* This product can be installed by the Your Choice System in *residential installations only* if the subfloor is approved wood, concrete or properly prepared existing resilient flooring products.

** These products can be perimeter adhered in residential installations only if the subfloor is concrete.

D. GENERAL INFORMATION

For the best installation results, the information which follows are requirements for installing Congoleum resilient sheet flooring products:

- Congoleum resilient sheet products are designed to be installed in enclosed areas where temperatures will not fall below 55°F (13°C) or go above 100°F (38°C).
- Store the flooring on a smooth, level floor or rack with continuous, rigid support in a clean, dry, interior area where it is protected from the elements. Stand 6' wide rolls on end, whenever possible, and secure them from falling. Ideal long-term storage temperatures range from 50°F (10°C) to 85°F (29°C).
- The subfloor, flooring material, and adhesive should be conditioned at a constant temperature between 65°F (18°C) and 85°F (29°C) for 48 hours prior to, during, and for 48 hours after installation. Thereafter, maintain room temperature between 55°F (13°C) and 100°F (38°C).
- Material may be pre-cut for installation, but must be rolled face out around a continuous rigid tube until ready for installation.
- Install sheets in the order they are taken from the roll. Install rolls, if using more than one, in consecutive roll number order.
- Do not write on the backing with an ink pen, felt-tipped marker, or wax crayon; use a graphite pencil only.
- Flooring laid out and fitted to the room should be adhered within 4 hours. **NOTE:** Seam edges can curl if sheets are allowed to lay unadhered for an extended period of time.
- Avoid creasing or folding the flooring material because the backing could break or a permanent crease could be made in the flooring surface.
- When moving appliances, furniture, or other heavy objects over the floor, always roll or slide these items on strips of 1/4" (6.4mm), or thicker, hard-board or plywood. This includes carts or dollies with wheels.
- It takes about 48 hours for the adhesive to dry. Protect the new flooring in adhered areas from heavy furniture (such as sofas, tables, and chairs) by placing a wide furniture rest under each leg during this time frame. Furniture rests are recommended on a continuing basis.
- Congoleum resilient sheet flooring products are not recommended for installation on ramps. However, they can be installed fully adhered on treads and risers on stairs, provided that a slip-resistant stair-nose molding (generally metal or rubber) is utilized on the leading edge of the tread.

- Visually inspect the floor covering prior to installing. Do not install material with obvious defects.

E. CONGOLEUM 3044 RESILIENT SHEET ADHESIVE

See the following chart for the properties of the adhesive recommended for installing Congoleum resilient sheet flooring products.

Properties of 3044 Adhesive

Advantages	Moisture and alkali resistant, hard setting, resists indentations, nonstaining.
Type	Water based/latex
Subfloors	Dry concrete on all grade levels, suspended wood floors, metal, terrazzo, ceramic, marble, approved resilient floor covering, and suitable portland cement-based embossing leveler.
Trowel	1/16" w x 1/32" d x 1/32" apart, all substrates; for Foundations and Specifications over porous surfaces use: 1/16" w x 1/16" d x 1/16" apart
Spread Rate	Fully Adhered: 150 to 270 sq. ft./gallon. Perimeter: 4 in. band - 750 lin. ft./gallon. Perimeter: 6 in. band - 500 lin. ft./gallon. Seams: 8 in. band - 375 lin. ft./gallon.
Working Time	15-20 minutes
Freeze/Thaw Stable	Yes
Flammability	Nonflammable
Tracer Colors	Green/Ultramarine
Cleanup	Wet: Soap and Water. Dry: Clean cloth dampened with mineral spirits.
Shelf Life	One year if unopened.
Sizes	Quart (12/carton) 1 Gallon (4/carton), 4 Gallon

3044 — WARNING: Eye and skin irritant.

Mineral spirits — CAUTION: Flammable materials; read and follow cautionary statements on labels.

F. INSTALLATION OF WHITE SHIELD FELT-BACKED PRODUCTS

Most Congoleum floors with White Shield felt backing can now be installed by the Your Choice Installation System. This system provides you with options for installing the flooring either fully adhered or perimeter fastened over approved wood subfloors, concrete, and properly prepared existing resilient flooring products.

The Your Choice Installation System is not recommended for commercial applications. Flor-Ever Plus, when used in commercial installations should be installed by the Fully Adhered System. Foundations and Specifications can be installed by the Perimeter Fastening System in residential applications only if the subfloor is concrete or concrete covered with an existing floor. Flooring installed in commercial applications must be fully adhered.

1. YOUR CHOICE INSTALLATION SYSTEM (FULLY ADHERE OR PERIMETER FASTEN)

- FULLY ADHERED INSTALLATION SYSTEM – The Fully Adhered System is recommended when

installing White Shield felt-backed products on self-coved installations, complicated room layouts, and where a lot of net fitting is required, as well as all other installations where the subfloor is in sound condition.

- PERIMETER FASTENING INSTALLATION SYSTEM – Congoleum floors that utilize the Your Choice Installation System can be installed Perimeter Fastened. This feature often provides several advantages including quick, easy installation, better subfloor masking properties, lower adhesive cost, ease of repair in addition to lower future replacement costs. While there is no substitute for proper subfloor preparation, the Perimeter Fastening System reduces the likelihood of underlayment joint telegraphing and show-through of design embossing on floors that were prepared with embossing leveler. The subfloor must be smooth in all areas, particularly where adhesive will be applied.

2. FITTING

The products can be fit using the freehand, direct scribing or pattern scribing methods. (See "Fitting Flooring to the Room", Section VII, pages 28 through 35). **NOTE:** The factory selvage edge may contain printed information that should be trimmed off.

Do not take the material from one temperature extreme to another, e.g., laying it in direct sunlight for trimming, then transferring it to the room.

3. ADHESIVE AND APPLICATION

Congoleum 3044 Premium Flooring Adhesive is the only adhesive required for installing floors with White Shield backing. Use 3044 for fully adhered or perimeter fastened floors over all approved substrates; including wood, concrete, existing flooring, and embossing levelers.

- On perimeter fastened floors apply a 4" to 6" band of adhesive around the room perimeter where staples are not used and an 8" band centered under the seam. Apply the adhesive to the subfloor with a notched trowel. The recommended notch size for floors installed fully adhered or perimeter fastened is 1/16" wide, 1/32" deep and 1/32" apart (1.6mm wide, 0.8mm deep and 0.8mm apart) as shown in Figure 3.
- For Specifications and Foundations, over porous surfaces, use a trowel with notches that are 1/16" wide, 1/16" deep and 1/16" apart (1.6mm wide, 1.6mm deep and 1.6mm apart) as shown in Figure 4.



Fig. 3.

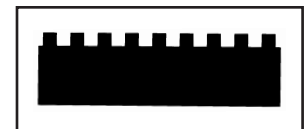


Fig. 4.

Proper adhesive application is critical. Too little adhesive can lead to bonding problems. Too much adhesive can cause an uneven dimpled appearance in the finished floor and increase the potential for permanent indentation from furniture or foot traffic.

4. FULLY ADHERED INSTALLATION SYSTEM

- After subfloor preparation has been completed, carefully remove all dirt and debris from the subfloor with a vacuum cleaner, a broom, or a brush with fine bristles (Figure 5).



Fig. 5.

- Pre-cut the floor covering to fit the room allowing extra length and width (generally 3" or 7.6cm) for fitting. When seams will be required, additional flooring must be added to match the design.
- Position the material in the room allowing enough flooring to fit into doorways, closets, alcoves, etc. Be certain that the design has been aligned squarely with the walls in the room.
- If the room is not square, allow the run-off of the design to fall in the most inconspicuous area of the room. Use caution to avoid kinking or distorting the floor covering while handling.
- Fit the flooring to the room using an appropriate fitting method (See "Fitting Flooring To The Room" Section VII, pages 28 through 35).
- After the sheet of flooring has been completely fitted to the room, the next step is to apply adhesive on the subfloor, one-half of the sheet at a time.
- Lap back, or tube, the flooring to expose approximately one-half of the subfloor below the sheet. The sheet of flooring cannot be allowed to shift during the adhesive application process. One way to help prevent shifting is to place a 100-pound (45 kilogram) floor covering roller or other weighted object on the flooring to keep it in place.
- The adhesive must be spread on 100% of the exposed subfloor with no voids, puddles, or thin spots. Uniform coverage can be maintained by using a clean, properly notched trowel. The adhesive should be spread in a straight line to where the flooring laps or tubes back on itself.
- If the subfloor is a nonporous type, it is desirable to allow "open-time" (maximum of 10 minutes) before placing the flooring into the wet adhesive. The "open-time" allows the adhesive to develop tack and body, and will help to keep air bubbles, or pockets, from forming.

CAUTION

Do not let the adhesive film over because this will reduce the adhesive bond.

- Place the flooring into the adhesive by gently rolling it forward. This will help to eliminate trapped air.

Do not flop or drop the flooring into the adhesive because this could cause it to shift and make removal of trapped air more difficult and time consuming.

- After the flooring material has been placed into the wet adhesive, it must be rolled immediately with a 3-section, steel, 100-pound (45 kilogram) or heavier flooring roller. Rolling flattens the adhesive ridges formed by the notched trowel, and embeds the backing tightly against the subfloor into the wet adhesive. (Figure 6)

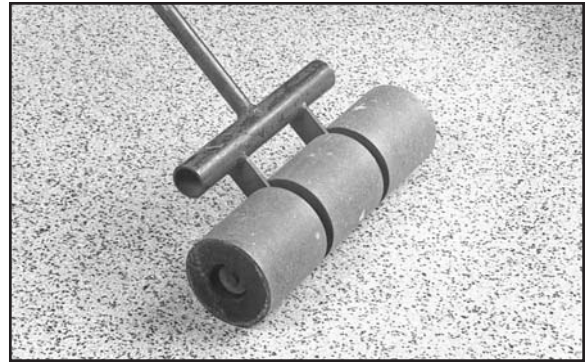


Fig. 6. Roll seam with a 100-pound (45 kilogram) floor covering roller.

- Start rolling in the center of the sheet. Roll the flooring in both directions being certain that no trapped air remains between the sheet of flooring and subfloor. In areas where the large roller cannot reach, a wall or hand roller should be used to complete the process.

NOTE: Do not short-cut the rolling procedure, because omission could lead to adhesive ridge telegraphing (on smooth materials particularly) or poor adhesion. Additionally, if rolling with the floor covering roller is eliminated, there is a possibility of permanent indentations caused by furniture.

- After the flooring has been rolled, small gas bubbles, normally 2" (5.1cm) or less in diameter, will occasionally appear in the floor covering. These small air pockets or gas bubbles occur when the subfloor cannot absorb the vapor from the adhesive as it is drying. Nonporous subfloors, such as existing resilient or very smooth concrete floors, are the most prone to developing this condition. Gas bubbles will generally completely flatten and disappear within a few hours; puncturing to press out air is rarely required. If puncturing is necessary, use a sharp needle, push out the air, and seal the puncture with a drop of the recommended seam sealer.

5. PERIMETER FASTENING INSTALLATION SYSTEM

Congoleum flooring products with White Shield felt backing as listed on the chart on page 10 can be installed perimeter fastened when the requirements below are met.

- **PREPARATION AND FITTING** — Flooring products that utilize the Your Choice Installation System can be installed over suspended wood floors, concrete,

and most properly prepared old resilient floors. Flor-Ever Plus, Specifications, and Foundations can be perimeter fastened in residential applications only if the subfloor is concrete or concrete covered with existing resilient flooring.

- The room temperature and flooring must be a minimum of 65°F (18°C) for 48 hours prior to, during, and for 48 hours after installations. This is particularly critical during cooler seasons. Conditioning makes it more flexible and easier to install.
- The flooring should not be distorted before or during installation. To prevent distortions, store and transport material on a level, flat surface, tightly rolled, face out, around a continuous rigid tube at least 4" (10.2cm) in diameter.
- **Do not roll the material face in before taking it into the room for installation.** If you must roll it face in, unroll it immediately after taking it into the room and let it recover for at least 15 minutes before perimeter fastening.
- Although the Perimeter Fastening Installation system reduces the likelihood of subfloor show-through, it will not hide such items as protruding staples, nailheads, or grit (Figure 7). The subfloor requires thorough cleaning to remove all traces of grit and dirt.

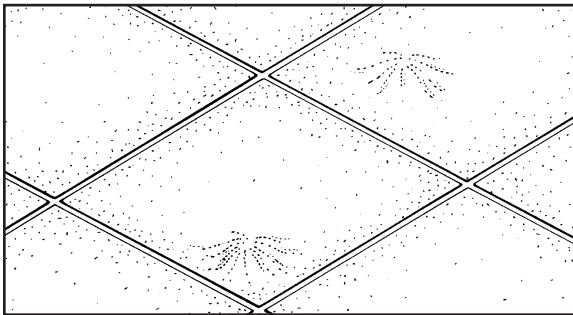


Fig. 7.

NOTE: When installing flooring perimeter fastened, it is **especially important that they are installed flat** without buckles or waves.

- When ready for installation, unroll the floor in the room, being careful to avoid folding or kinking it. To avoid kinking it, keep the flooring low while positioning it.
- After the material is positioned in the room, make relief cuts at inside and outside corners so it will lay flat.
- When extending into alcoves or another room, make sure the flooring is straight, not bowed. You can extend a string along a continuous grout line to make sure the floor is straight.
- Where finished trim will be used, fit the floor with a 1/16" gap between the edge of the sheet and the wall. Where no finished trim will be used, fit the floor flush or net to the walls. Tight or compression fitting is not recommended as it will cause a buckle to form after the floor is adhered.

- Fit the flooring to the room using an appropriate fitting method. (See "Fitting Flooring to the Room", Section VII, pages 28 through 35).
- After fitting the material to the room, fasten the entire perimeter with adhesive or staples. If using a combination of adhesive and staples, complete the adhered areas first.

Congoleum 3044 is the only adhesive needed on fully adhered or perimeter fastened floors regardless of whether the subfloor is porous or nonporous. Adhesive is required under all seams, at net fitted areas, in front of cabinet toe spaces, around floor vents, and over concrete or other hard surfaces.

■ **ADHESIVE APPLICATION** — To adhere the flooring, roll the edge of the sheet back, taking care to avoid bending or creasing it. Spread a 4" to 6" (10.2 cm to 15.2 cm) band of adhesive along the perimeter. Remove any excess adhesive at the edge of the band to avoid ridges in the finished floor. Roll the flooring back into the wet adhesive immediately after completing each section. Push any minor fullness that may have developed, out toward the wall. Then roll the adhered area with a 100-pound (45 kilogram) floor covering roller. If using a wall roller or a steel hand roller, be sure to apply uniform pressure to avoid a lumpy appearance caused by moving the adhesive around.

■ **STAPLES** — Staples are actually preferred in areas where finish trim will be installed. The minimum size staple should have a 1/2" (12.7mm) crown with a 3/8" (9.5mm) leg. Use the longest staple length that can be seated tightly to the floor surface. Staple every 2" (5.1cm) along the wall and 1/4" (6.4mm) away from the edge of the sheet. After the floor has been fastened, reinstall trim.

Any minor fullness can be removed by warming the area with a heat gun and then covering it with a board or other flat object until it cools.

■ **SEAMING** — If seaming is required, use the overlap and double cut seam method, the same as used for installing floors fully adhered.

- Install the first sheet, leaving the seam edge and approximately 12" to 18" inches at the ends of the sheet near the seam unfastened.
- Match the design of the next sheet at the seam. Then fit and adhere or staple this sheet along the perimeter as with the previous one, leaving 12" to 18" unfastened at the ends.
- Position a 3" piece of scrap flooring material face down, centered under the seam to protect the subfloor.
- Cut the seam with a sharp utility knife following a metal straight edge. Cut the seam in the center of a grout line whenever possible.
- Remove the selvage pieces and turn the flooring back to expose the subfloor.
- Apply a 4" to 6" band of adhesive at the ends, and an 8" band centered under the seam.

- Place the sheet that was on the bottom during the seam cutting process into the adhesive and roll up to the seam edge. Then tuck the other sheet into place, using extreme care to avoid getting adhesive into the seam cut.
- Roll the seam area using a floor covering roller. Then level the seam edges using a seam roller.
- Clean the seam and apply the recommended seam sealer.