

PRODUCT DESCRIPTION

Congoleum vinyl composition tiles (VCT) are recommended for installation in commercial, light commercial and residential applications over properly prepared suspended wood floors and approved underlayments, concrete on all grade levels, metal, terrazzo, ceramic and marble. In light commercial or residential applications, vinyl composition tiles can also be installed over approved, single layer existing resilient flooring over on and above-grade levels only. Do not install tile over existing flooring installed below grade level.

ADHESIVE

Congoleum recommends using UnderFlor® AD42 pressure-sensitive adhesive for installing all Congoleum vinyl composition floor tiles. The only exception is in areas of heavy rolling or static loads, where extreme temperature fluctuations may occur i.e. near freezer sections in grocery stores or frequent wetting is likely. In this case we recommend the use of MAPEI Ultrabond G15, a fast-setting, two-part reactive epoxy adhesive.

WARNING! ■ Existing Resilient Flooring

DO NOT SAND, DRY SWEEP, DRILL, SAW, BEADBLAST, OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC “CUTBACK” ADHESIVE, OR OTHER ADHESIVE. THESE PRODUCTS MAY CONTAIN ASBESTOS FIBERS AND/OR CRYSTALLINE SILICA. AVOID CREATING DUST. INHALATION OF SUCH DUST IS A CANCER AND RESPIRATORY TRACT HAZARD.

Various federal, state, and local government agencies have regulations governing the removal of in-place asbestos containing material. If you are considering the removal of a resilient floor covering structure that contains or is presumed to contain asbestos, you must review and comply with all applicable regulations. Regulations outside the United States may vary.

Copies of the Resilient Floor Covering Institute Recommended Work Practices for the Removal of Resilient Floor Coverings are available from:

Resilient Floor Covering Institute
115 Broad Street
Suite 201
LaGrange, GA 30240
www.rfci.com

MOLD AND MILDEW ISSUES

Prior to removing an existing floor following the RFCI Recommended Work Practices for Removal of Resilient Floor Coverings (unless state or local law requires other measures), if there are visible indications of mold or mildew or the presence of a strong musty odor in the area where resilient flooring is to be removed or installed, the source of the problem should be identified and corrected before proceeding with the flooring work. To deal with mold and mildew issues you should refer to the EPA guidelines that address mold and mildew. Depending on the mold and mildew condition present, those remediation options range from clean up measures using gloves and biocide to hiring a professional remediation contractor to address the condition. Remediation measures may require structural repairs such as replacing the underlayment and/or subfloor contaminated with mold and mildew as a result of prolonged exposure to moisture.

The EPA mold guidelines are contained in two publications “A Brief Guide to Mold, Moisture and Your Home” (EPA 402-K-02-003) and “Mold Remediation in Schools and Commercial Buildings” (EPA 402-K-01-001). Appendix B of the “Mold Remediation in Schools and Commercial Buildings” publication describes potential health effects from exposure to mold, such as allergic and asthma reactions and irritation to eyes, skin, nose and throat. These publications can be located on EPA’s website www.epa.gov/mold.

LEAD PAINT

Installers must follow the EPA’s 2008 Lead-Based Paint Renovation, Repair and Painting (RRP) Rule (as amended in 2010 and 2011). Under the rule, firms performing renovation, repair and painting projects that disturb lead-based paint in homes, child care facilities, and kindergartens built before 1978 must be EPA- or state-certified and must use certified renovators who follow specific work practices to prevent lead contamination. This includes in-house maintenance staff and many types of outside contractors.

SAFETY PRECAUTIONS

Safety for yourself and others on the job site is your responsibility as a professional flooring installer. Read and observe the following safety precautions.

- Keep work areas free of obstructions, such as tools, scraps or loose tiles, and dispose of scrap materials promptly and properly to eliminate a slip or trip hazard.
- Always use the correct lifting practices.

- Use heavy-duty extension cords and keep them in good repair.
- If using minerals spirits as suggested in this guide, CAUTION: Minerals spirits is a flammable material. Read and follow cautionary instructions on the labels of these products.
- Wear protective equipment when appropriate such as safety glasses, respirators, NIOSH-designated dust masks, knee-pads, gloves, etc.

Read and follow the safety precautions and warnings printed on the label of the installation accessory products being used. Obtain the appropriate Safety Data Sheets (SDS) for information that may be required for products which may contain hazardous materials. You may obtain an SDS for Congoleum products by calling or writing to your Congoleum distributor or contacting Congoleum Corporation, Installation Department, P.O. Box 3127, Mercerville, NJ 08619, or calling at 609-584-3805.

GENERAL INFORMATION

- Flooring installation should be scheduled after all other trades have completed their work.
- The HVAC systems must be in operation for at least 7 days prior to flooring installation and thereafter to maintain a constant temperature.
- It is important to maintain proper temperature at the time of installation in order to minimize thermal dimensional changes. The subfloor, all flooring material, and adhesive must be conditioned at a constant temperature between 65°F (18°C) and 85°F (29°C) for 48 hours prior to, during, and 48 hours after installation. Thereafter, maintain the room temperature between 55°F (13°C) and 100°F (38°C). Failure to condition the materials and subfloor or maintain proper temperatures can lead to tile joint peaking or separation. Congoleum will not assume liability for installation or performance failures resulting from improper temperatures.
- Un-opened cartons of flooring should be neatly stacked in the room (maximum 5 cartons high) where they will be installed during the acclimation period. Avoid placing cartons in direct sunlight during acclimation. Open cartons just prior to installation.
- When using flooring from two or more cartons, make sure pattern and run numbers found on the carton are the same.
- Install flooring from several different cartons to achieve a random appearance. Install flooring to achieve a balance of color without clusters of similar tiles.
- When installing flooring edge to edge, lay each piece net at the joints and room perimeter without excessive tightness.

TOOLS AND MATERIALS

- UnderFlor AD42 Adhesive
- 1/16" x 1/32" x 1/32" U-notched trowel
- 100-pound, 3-section, steel roller
- Chalk line
- Carpenter square
- Sharp utility knife and replacement blades (tile cutter optional)
- Heat gun
- Cutting board
- Tape measure
- Pencil

PREPARING THE AREA

- Move all furniture, appliances, and fixtures from the room.
- Remove all wood, metal or vinyl transition strips, base moldings or other restrictive molding from doorways, walls, etc.
- Undercut wood door casing where possible so that the flooring can be slid under it.

Subfloor Surface	Requirements
Suspended Wood Subfloor over joist or trusses up to 19.2" OC over 18" of well-ventilated air space	Double layer construction, minimum 1" thick with suitable 1/4" thick underlayment panel. Do not install directly adhered over oriented strand board or particle board.
Wood Panel Underlayment	APA rated Underlayment grade plywood and other underlayment grade veneer panels that are intended for use as flooring underlayment and that carry a written warranty by the panel manufacturer.
Concrete, on, above and below grade	ASTM F1869 - MVER not to exceed 5 lbs./1000 ft ² /24 hrs. when tested with anhydrous calcium chloride test kits. ASTM F2170 – Relative Humidity not to exceed 80%.
Lightweight Concrete or Gypsum Topping with a minimum 100 lb. dry density and minimum 3000 psi compression rating	Must be smooth, dry and in sound condition. Repair all cracks and damaged areas. Seal with a sealer/primer recommended by the topping manufacturer. A bond test is recommended. Do not install over powdery surfaces.
Radiant Heated Floors	The temperature of the floor should be limited to 70°F (21°C) for 48 hours before, during and 48 hours after installation. There after the temperature should be raised gradually to the desired temperature. The maximum floor temperature should not exceed 85°F (29°C).
Existing Resilient Flooring and Tile	Must be single layer, fully adhered, and in good condition. Do not install over heavily cushioned floors, cushioned-backed flooring, flooring containing asbestos, self-adhered tile, tile installed below grade level, or products with ScotchGard or other non-stick coatings. Remove wax or polish and level embossed areas with a Portland cement-based patching compound.
Ceramic, Marble, and Granite	Tile must be well bonded. Grind high spots and fill low areas and grout joints to a smooth, flat surface with a latex modified Portland cement underlayment.
Patching Compound	Portland cement-based compound such as Mapei Plani-Patch, Ardex Feather Finish or equal.

SUBFLOOR INFORMATION

The existing subfloor type and condition, preparation involved, cost and replacement ease, are all important considerations when selecting the best installation method for a particular job. The chart above provides a list of common subfloors and requirements for adhered installation methods.

SUBFLOOR PREPARATION

All subfloor surfaces must be clean, dry, smooth, and structurally sound. The surface should be free of contaminants or reagents that can interfere with adhesion or cause discoloration to the floor such as paint, wax, oil, grease, solvent, adhesive residue, curing and parting compounds, sealers and surface hardeners when installing floors that are to be directly bonded to the subfloor.

Deviations in the flatness of the subfloor cannot exceed 1/16" in 1' or 3/16" in 10'. Regardless of the installation method, all surface imperfections should be leveled with a Portland cement-based patching compound. Gypsum-based patching compounds are not recommended.

Wood floors must be structurally sound and free of movement with at least 18" (46 cm) of well-ventilated air space below. An effective vapor barrier laid on the ground surface must be used in a crawl space. Do not install flooring over wood subfloors laid directly on concrete or over sleeper construction laid over concrete subfloors. Sand joints smooth and set fasteners 1/32" (.8 mm) below the surface. Fill joints wider than 1/32" (.8 mm) when bonding flooring directly to the subfloor. Rough, weathered or damaged subfloor panels must be sanded smooth or covered with a suitable underlayment panel. Always follow underlayment manufacturer installation recommendations.

Congoleum will not assume responsibility for claims related to subfloor problems regardless of the underlayment or subfloor material used.

Concrete floors must be constructed, finished and cured in accordance with the latest guidelines of the American Concrete Institute (ACI) 302 Guide for Concrete Floor and Slab Construction and ASTM F710 "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring". The concrete slab must be protected from ground moisture with an effective and intact vapor retarder. Moisture vapor emissions must not exceed 5-lbs. /1000 ft.²/24 hrs when tested with anhydrous calcium chloride test kits in accordance with ASTM F1869 or be greater than 80% RH (relative humidity) when tested with in situ probes

in accordance with ASTM F2170. Surface pH must be between 5 and 9. Level rough or uneven surfaces, cracks and control joints with a Portland cement-based patching compound. Do not install flooring over expansion joints or in areas with excessive moisture vapor emissions, known hydrostatic pressure problems or high alkali conditions exist.

Existing resilient floors must be single layer, fully adhered and well bonded over an approved subfloor. Remove all wax, floor finish or polish prior to installation. Use Portland cement-based patching compound to level embossed floors. Do not install new flooring over loose laid or perimeter fastened floors, soft or heavily cushioned floors, cushioned-backed flooring, flooring containing asbestos, self-adhered tile, tile installed below grade level, or products with ScotchGard or other non-stick coatings. Installation over existing flooring may reduce the indentation resistance of the new floor.

Adhesive residue must be completely removed on installations where flooring will be directly bonded to the subfloor. Refer to the Resilient Floor Covering Institute (RFCI) Recommended Work Practices for procedures involving adhesive removal. Do not use solvent or liquid adhesive removers to remove old adhesive residue. These products can have a damaging effect on the new floor and adhesive.

INSTALLATION RECOMMENDATIONS

LAYOUT

There are two basic tile layouts: square and diagonal. Two or more colors from the same or coordinating product lines can also be mixed or matched to create decorative borders and special effects.

Square Layout

Place a mark in the center of the floor at each end of the room. Snap a chalk line down the center of the floor to connect the marks (AB).

Find the center of the line and snap a second chalk line at a right angle using the 3', 4', 5' method to form a right angle (Fig. 1).

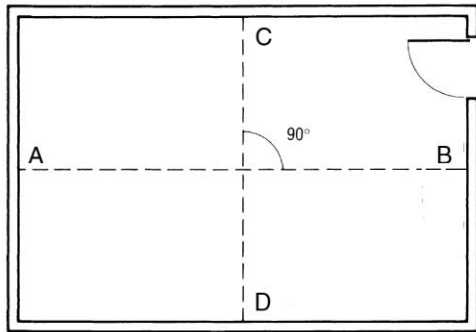


Figure 1: Square Layout

Measure or make a dry layout of loose tiles along the chalk lines to one end wall and one side wall. If the distance between the edge of the last full tile and the wall is less than a half tile, establish a new center line(s) one-half the dimension of a full tile away (Fig. 2).

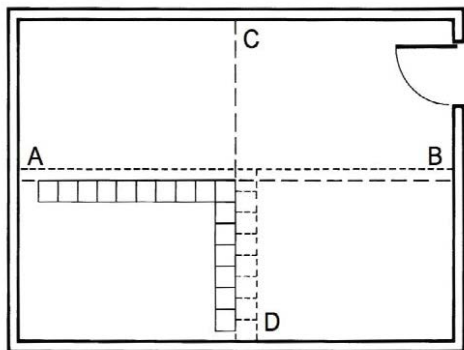


Figure 2: Adjust the center line(s)

When installing tile in irregular shaped rooms, check the size of the last tile along all walls and adjust the center lines if necessary to achieve the best layout.

Diagonal Layout

Lay out the center and perpendicular lines as previously covered under Square Layout.

Place a mark on each line, an equal distance away from the center point (E, F, G, H).

Using a slightly larger measurement, swing an arc on both sides of each line from points E, F, G, H. Snap diagonal chalk lines at the point where the marks intersect (Fig. 3). If done correctly, the chalk lines will intersect the center point.

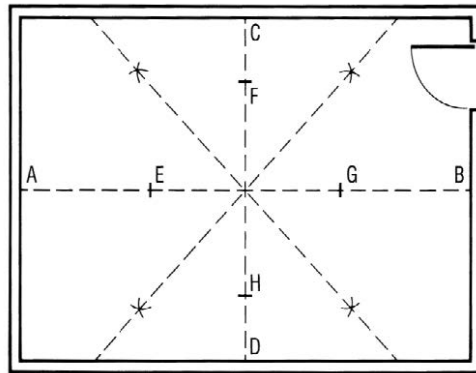


Figure 3: Diagonal layout

If the layout includes a border, adjust the size of the border to allow whole tiles to be used at the edge of the field tiles. When using two different colors, i.e. checkerboard design, it will be necessary to adjust the layout to allow the same colored tile to be used at the edge of the field.

To adjust the layout, snap new diagonal chalk lines one-half the distance of a full tile away from the original lines (Fig. 4). It may also be necessary to adjust the size of the border.

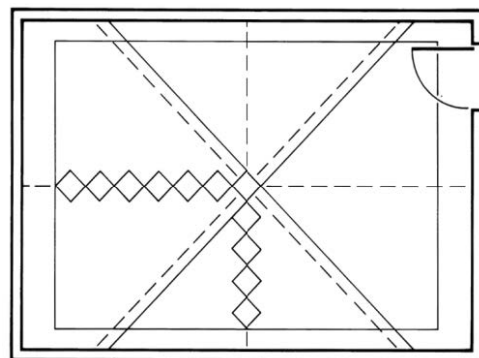


Figure 4: Adjust the layout to allow the same colored tile to be used at the edge of the field.

The chalk lines on both square and diagonal layouts will serve as guidelines for positioning the tile and adhesive application

INSTALLATION PROCEDURE

Prepare the subfloor and determine the layout as previously described. The adhesive can be spread over one-half of the floor provided it can be covered with tile in approximately 6 hours. Periodically check the trowel for wear, particularly on concrete floors. Worn trowels should be replaced. The use of the correct adhesive and proper application is critical for a quality, trouble-free installation. Excessive amounts of adhesive will result in increased indentation, telegraphing or exudation (oozing) between the tile in service depending upon the type of adhesive used; whereas, insufficient coverage, caused by spreading too thin or using worn trowels, will prevent proper adhesion of the tile.

NOTE: Some concrete floors are excessively porous and absorptive. Premature set-up of the adhesives is first-hand evidence of excessive absorption (i.e., when adhesive sets up in less open time than specified on the label). This condition can be corrected by priming the subfloor with the required adhesive (using a straightedge steel trowel for application of the adhesive). The prime coat should be as thin as possible. Apply adhesive with a 1/16" x 1/32" x 1/32" notched trowel uniformly over the subfloor up to the chalk line(s). Allow the adhesive to dry to a tack before starting to install tile. The adhesive is dry when the beige color has changed to light beige and the adhesive does not transfer to the finger when pressed into it lightly. Drying time varies with temperature and humidity. A typical set-up time is 30-60 minutes.

The floor should be installed with alternating tiles quarter-turned for the best overall appearance and joint quality. Tiles should be laid starting at the center of the room, working towards the wall. The border tiles should be scribed to the wall, cut and fit in place after the field tiles have been installed.

Carefully set the first tile into the adhesive at the intersection of the chalk lines. The tile will bond instantly on contact so it must be positioned accurately without sliding it into position. Continue setting the tiles in a stair-step pattern along the center and perpendicular lines. Hold the tile in a low angle to ensure tight fitting joints. Position each tile tightly, but do not force against the edges of the previously installed tiles before pressing down firmly. Continue working toward the walls to complete the area. Check to make sure corners are lined up and adjust if necessary to prevent run-out.

Spread the adhesive on the second half of the floor so it can dry while the last row of tiles are cut and installed along the wall. Complete the second half of the room following the same procedures.

Immediately upon completion, roll the entire floor in both directions with a minimum 100 pound (45.4 kg), three-section steel roller.

Remove any adhesive that gets on the face of the tile with a clean, white cloth dampened with mineral spirits.

CAUTION: Mineral spirits is extremely flammable. Read and follow cautions on container label.

Reroll the entire floor after one to two hours.

Do not wash or apply polish to the floor for a minimum of 48 hours after installation.

CUTTING AND FITTING

The last row of tiles will need to be cut to fit to walls and other vertical surfaces.

Straight Cuts

Place a loose tile directly over the top of the last full tile, making sure all edges are lined up. Use a whole tile as a measuring device, position one edge against the wall and mark the loose tile with a pencil along the opposite edge (Fig. 5).

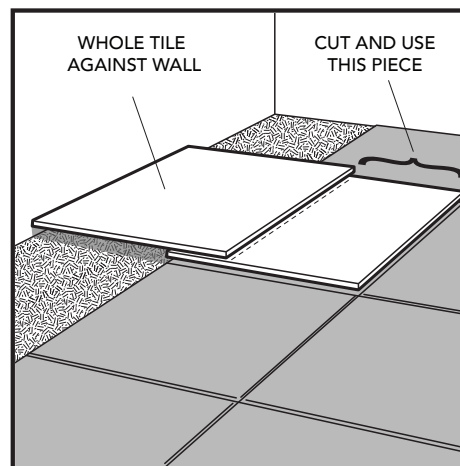


FIGURE 5: Use a full tile to measure the distance to the wall.

Next, place the marked tile on a cutting board. Using a carpenter square as a guide, score the pencil line carefully with a sharp utility knife. Break or cut the tile along the score mark. Or, use a tile cutter to cut the tile at the mark.

Irregular Walls/Obstacles

Scribe the tile to fit to irregular shapes such as door trim, pipes, etc. Cut with a sharp utility knife. For intricate cuts, it may be necessary to heat the tile from the back before cutting.

Pattern Scribing

TIP: Cover adhesive with wax paper to avoid adhesive transfer if scribing felt is used. Remove wax paper before installing the tile.

Cut a piece of scribing felt the exact size of the tile. Position the felt in the area to be fit and trim approximately 1/4" (6.4 mm) short of the walls. Scribe the felt with dividers and extend reference lines. Remove the felt and reposition it accurately on a piece of tile. Transcribe the marks. Heat the back of the tile before cutting.

Diagonal Layout

Make a square template out of rigid sheet flooring or other rigid material. Use the exact dimensions of the tile when measured diagonally from corner to corner. (The diagonal dimension of a 12" x 12" tile is approximately 17".)

Follow the steps for fitting straight walls on square layouts, using the templates in place of the whole tile.

IMMEDIATELY AFTER INSTALLATION

- If necessary, use lighter fluid, paint thinner or mineral spirits applied with a clean white cloth to remove scuffs marks and adhesive residue. Keep traffic off treated area for 30 minutes.

CAUTION: Lighter fluid, paint thinner and mineral spirits are flammable. Carefully read and follow cautionary information on label.

- Install the base moldings and fasten the trim to the wall not to the subfloor. Do not drive fasteners into the floor or underlayment.
- Seal all areas that may be exposed to surface spills, i.e. tubs, toilet and showers with a high quality acrylic caulking.
- After polish has been applied to the floor and allowed to dry fully, return appliances and furniture to the room by rolling or sliding them over strips of hardboard.

TILE REPAIRS

To remove one or more tiles use a heat gun to apply heat a few inches in from the corner. While still warm, drive a putty knife or screwdriver into the heated area with a hammer.

Pry upward to release the tile from the adhesive. Continue lifting and applying heat until it is completely removed. Use work gloves to protect hands from heat.

NOTE: If the adhesive layer, subfloor or underlayment below the tile was damaged during the repair, it will be necessary repair that as well. Scrape off all of the remaining adhesive, prepare the area with a Portland cement-based patching compound to create a smooth surface and allow it to dry completely.

The recommended adhesive should then be reapplied with the proper trowel.

Apply the recommended adhesive using the flat side of a trowel; it is not necessary to remove the old adhesive.

Follow the adhesive's recommended open time and then re-install the new tile.

Roll the tile with a steel hand roller.

Replacing VCT tiles will require the entire floor to be stripped and recoated with floor polish.

MAINTENANCE

Vinyl composition tile must be maintained with floor polish and a regular maintenance schedule to seal and protect the surface against soil and staining. Prior to use, apply a minimum of three to five coats of high quality metal cross-linked acrylic floor polish.

Protect the floor with heavy Kraft paper on construction sites where other trades are active and the initial application of floor polish is prohibited. Do not use asphalt-saturated felt paper.

CAUTION: Wet floors are slippery. Water, other liquids and foreign matter on the surface of the floor can cause it to be slippery and should be removed immediately. Improper waxes and finishes can also cause slipperiness. Whenever washing, waxing or stripping floors, traffic should be excluded from the area due to the possibility of slipping and signage to warn against a slip hazard should be prominently placed. The use of walk-off mats at entrances will reduce tracked-in water.

WARNING! An electric shock hazard exists when performing maintenance with a floor machine. Use a ground fault circuit interrupter for any electrical connection in a wet environment.

CAUTION: DO NOT DRY BUFF, SPRAY BUFF, OR BURNISH VINYL COMPOSITION (WITH OR WITHOUT ASBESTOS) OR ASPHALT FLOOR TILE WITHOUT PRIOR APPLICATION OF A METAL CROSS-LINKED ACRYLIC POLISH WHICH IS RESISTANT TO NEUTRAL CLEANERS. DO NOT DRY STRIP UNDER ANY CONDITIONS.

INITIAL MAINTENANCE

- Allow adhesive to dry a minimum of 48 hours before washing or waxing the floor. Initial maintenance **MUST** be performed on vinyl composition tile. If these instructions are not followed, permanent staining may occur.
- Protect the floor from rolling or static loads for at least 48 hours after installation to allow adhesive to set firm.
- Always use strips of hardwood or plywood when moving heavy objects such as furniture or equipment over the floor even when using carts or dollies with wheels.

Sweep or vacuum the floor to remove loose dirt.

Damp-mop with a dilute solution of neutral cleaner, No-Rinse Cleaner or other suitable resilient floor cleaner and rinse the floor with clean water. Avoid flooding the floor. Be sure it is thoroughly dry before applying polish.

NOTE: If the floor becomes heavily soiled it may be necessary to strip the factory finish prior to applying polish.

Apply a minimum of three to five coats of floor polish. Five coats are recommended in medium to heavy commercial applications.

PREVENTIVE CARE

- Make sure furniture legs have large surface, non-staining floor protectors.
- Replace small, narrow metal or dome-shaped glides with smooth, flat glides that are in flat contact with the floor. Glides should be equipped with self-adhesive felt pads to avoid scratching the surface of the floor. The pads should be checked periodically for grit and wear and replaced when necessary.
- Heavy furniture or appliances that are not moved often should be equipped with flat, non-staining composition furniture casters or cups of appropriate size – available square

from 1 1/2" to 2 5/8" and round from 1 3/8" to 1 5/8".

- Mobile appliances and furniture should be equipped with easily swiveling casters. They should be at least 2" in diameter with non-staining hard rubber treads at least 3/4" wide. Do not use ball-shaped casters; they can damage the floor.
- Place mats at outside entrances to prevent dirt grit and soil from being tracked onto your floor.

REGULAR CARE

- Vacuum, sweep, or dust with an untreated mop, daily, to remove loose dirt and grit. Do not use sweeping compounds or oil treated mops.
- Damp-mop floor regularly with a dilute solution of No-Rinse Cleaner. Follow all label instructions. To remove heavy soil use a slow speed floor machine equipped with a medium-grade, natural fiber scrubbing brush and a concentrated cleaner. Rinse floor after scrubbing.
- To refurbish and restore the gloss, clean the floor and spray buff with a high speed floor machine (1000 to 1500 RPM) equipped with a white, tan or red-colored buffing pad. A dilute solution (1 part polish/2 parts water) can be used for spray buffing.
- After repeated spray buffing operations; additional coats of polish must be applied.

DO NOT USE STEAM CLEANERS ON RESILIENT VINYL FLOORS, THEY CAN PERMANENTLY DAMAGE THE SURFACE.

CAUTION: AVOID ONE-STEP "MOP AND POLISH" PRODUCTS, DISHWASHING LIQUIDS AND OIL-BASED CLEANERS. THESE MAY LEAVE A RESIDUE WHICH CAN ATTRACT DIRT AND DULL THE FLOOR'S FINISH. AVOID CLEANERS THAT CONTAIN ABRASIVES OR SOLVENTS WHICH MAY PERMANENTLY DAMAGE THE FLOOR.