

# COMMERCIAL FLOOR TILE INSTALLATION

## Temperature

Congoleum tile products are designed to be installed in enclosed, heated areas only.

For best results the tile should be installed at the same temperature as the room(s) will be when occupied or in service. 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 before, during and 48 hours after installation. Thereafter, maintain 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.

## Storage and Handling

Proper storage of tile is necessary to prevent distortion. Store tile on a smooth floor in a clean, dry, interior area where it is protected from the elements. Ideal long-term storage temperatures range from 50°F (10°C) to 70°F (21°C). Storage on an uneven surface or in extreme temperature can cause distortion.

Limit stacking tile to five cartons high. Stack in straight tiers. Do not place heavy weight on top of cartons. Always handle cartons carefully and avoid dropping.

## Suitable Substrates

Congoleum tile flooring is recommended for installation over properly prepared suspended wood floors, concrete on all grade levels, metal, terrazzo, ceramic and marble. Refer to Section II Subfloor Recommendations for details.

Composition tile can also be installed over approved, existing resilient flooring over on- and above-grade levels. Do not install tile over existing flooring installed below grade level.

Installation over existing flooring may reduce the indentation resistance of the new floor. The use of an embossing leveler is not recommended. The substrate must be clean, dry, smooth, structurally sound, and free of paint, varnish, oil, grease, wax, solvent and other foreign material than can affect the adhesive bond. Do not install tile in areas where excessive moisture, hydrostatic pressure, or alkali conditions exist.

# GENERAL INFORMATION

When using tile from two or more cartons, make sure the pattern and shade numbers are the same. Pattern and shade numbers are stencilled on the outside of each carton. On large installations, mix tiles from several different cartons to help blend minor shade variations.

Tiles with arrows printed on the back should be installed with arrows pointing in the same direction unless stated otherwise on the carton insert. Alternating direction may be specified for composition tile.

## ADHESIVES

PRODUCT	ADHESIVE	TROWEL	APPROX. COVERAGE SQ. FT./GALLON
Choices Alternatives Special Effects Selections CX Series	AD42	1/16" x 1/32" x 1/32"	250-300
	*Cut-back Adhesive	Refer to Adhesive manufacturer's recommendations	

## AD42 Clean Thin-Spread Tile Adhesive

AD42 is a clear, thin-spread tile adhesive designed for installing composition tile over suspended wood, concrete on all grade levels, metal, terrazzo, ceramic, marble, and approved resilient floor covering installed over on- and above-grade levels. Do not use AD42 for installing Forum Solids.

nt floor covering or other nonporous surfaces.

### \*Cut-Back Adhesive

A high-quality asphalt cut-back adhesive can be used for installing vinyl composition tile over concrete and metal floors and on renovation jobs where existing floor tile was removed and a residual asphaltic adhesive is remaining. Refer to manufacturer's recommendations for warranty, application and cautionary information.

**CAUTION:** Solvent-based asphalt cut-back adhesive is a flammable mixture. Read and follow cautions on container label.

**⚠ WARNING:** Some previously manufactured asphalt cut-back adhesives may contain asbestos. See Warning Statement on page 5. In preparation for new floor tile, residual cut-back adhesive must be scraped to a thin, smooth film following recommended work practices in accordance with local, state, and federal regulations. See Warning Statement on inside cover.

## Precautions

The use of the correct adhesive and proper application is critical for quality, trouble-free installation. Excessive amounts of adhesive will result in 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.

Some concrete floors are excessively porous and absorptive. Premature set-up of the adhesives is first-hand evidence of excessive absorptivity (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.

## ROOM LAYOUT

**IMPORTANT:** Avoid positioning tile seams directly over the underlayment joints or seams in the old floor covering.

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 (A-B).
- 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 (Figure 1).

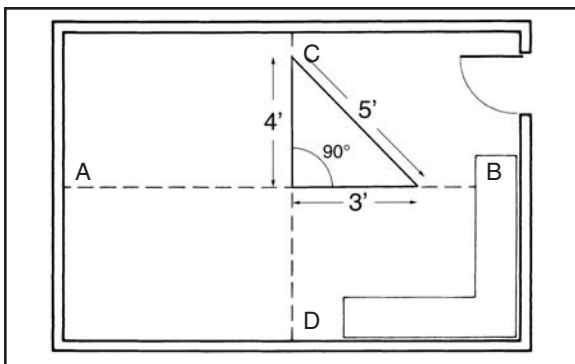


Fig. 1. Square layout

Starting at the center of the room, lay a row of loose tiles along the chalk lines to one end wall and one sidewall. 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 (Figure 2).

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

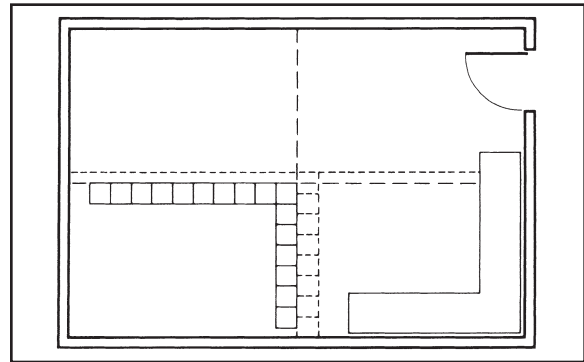


Fig. 2. Adjust the center line(s).

### 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 (Figure 3). If done correctly, the chalk lines will intersect the center point.

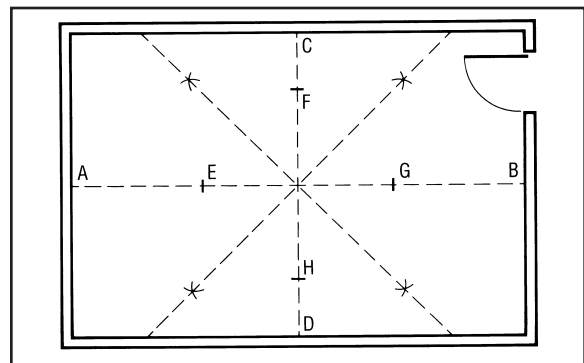
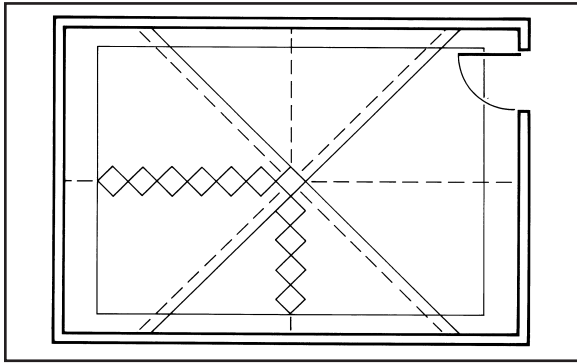


Fig. 3. Diagonal layout.

If the layout includes a border, adjust the size of the border to allow half 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 (Figure 4). It may also be necessary to adjust the size of the border.

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



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

## INSTALLATION PROCEDURES

### COMPOSITION TILE (ALTERNATIVES, CHOICES, CX SERIES, SELECTIONS, AND SPECIAL EFFECTS)

Prepare the subfloor and determine the layout as previously described.

Use AD42 Adhesive for installing the listed products.

Spread the adhesive with a 1/16" x 1/32" x 1/32" semicircular notch trowel. Adhesive can be spread over one-half of the floor provided it can be covered with tile in approximately 6 hours. Periodically check trowel for wear, particularly on concrete floors. Worn trowels should be re-notched or replaced.

Allow the adhesive to dry to a tack before starting to install tile. The adhesive is dry when opaque color has changed to translucent amber 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 45-60 minutes.

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 fitted in place after the field tiles have been installed.

Set the tiles into position. Position each tile tightly against the edges of the previously installed tiles before pressing down firmly. Do not slide tiles into position.

Immediately upon completion, roll the entire floor diagonally to the joints in both directions with a minimum 100-pound, three-section roller.

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

**CAUTION:** Mineral spirits and lighter fluid are extremely flammable. Read and follow cautions on container label.

Reroll the entire floor after one to two hours.

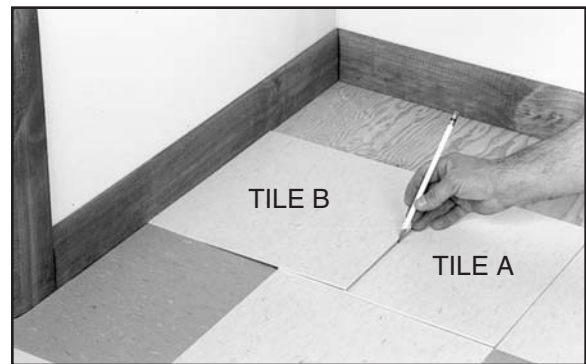
Do not wash or apply polish to the floor for a minimum of 48 hours after installation.

## CUTTING AND FITTING

Cut and fit border tiles after installing field tiles.

### Straight Walls

1. Place tile to be cut, hereafter called Tile A, precisely over the tile in the row closest to the wall.
2. Lay another tile, hereafter called Tile B, tight against the wall and directly over Tile A, (Figure 5).



**Fig. 5.** Fitting to straight walls.

3. Using the edge of Tile B, as a guide, mark Tile A with a pencil.
4. Cut along the pencil line or score along the line with a utility knife and snap off the excess trim material.
5. Place the tile into position with the cut edge along the wall and press firmly.
6. Where arrows are marked on the back of the tile, the tile should be installed with the arrows facing in the same direction, unless specifically instructed to do otherwise.

### Irregular Walls/Obstacles

Use direct scribing or pattern scribing to fit tile to irregular shapes.

### Direct Scribe

1. Place tile to be cut, hereafter called Tile A, along the wall, overlapping the last whole tile.
2. Place a mark along the back edge of Tile A (Figure 6).
3. Set dividers to the distance between the mark and the edge of the tile (Figure 7).

4. Reposition the tile and scribe (Figure 8).
5. Heat the tile from the back before cutting.

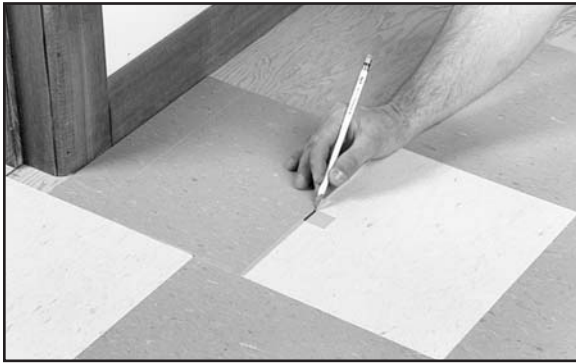


Fig. 6.



Fig. 7.



Fig. 8.

### Pattern Scribing

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

1. Cut a piece of scribing felt the exact size of the tile.
2. Position the felt in the area to be fit and trim approximately 1/4" (6.4 mm) short of the walls.
3. Scribe the felt with dividers and extend reference lines (Figure 9).

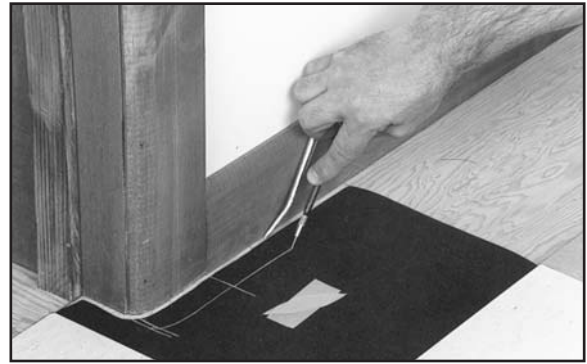


Fig. 9.

4. Remove the felt and reposition it accurately on a piece of tile. Transcribe the marks (Figure 10). Heat the back of the tile before cutting.

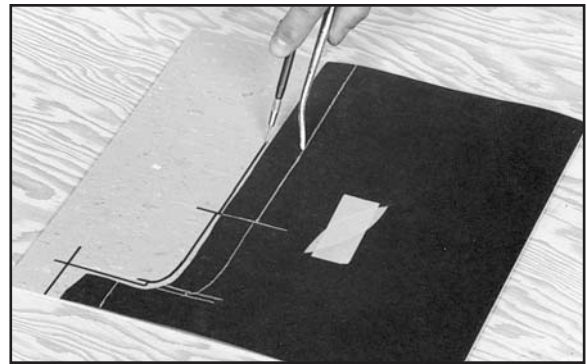


Fig. 10.

### 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 Tile B (Figure 11).



Fig. 11.

Radiator legs should never rest directly on the tile; they must be set on small pieces of metal having

the same thickness as the tile. The metal should be inserted prior to installation in a hole cut or punched in the tile. **NOTE:** Tile cuts easier and is less likely to break when heated.

**⚠ WARNING:** DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEADBLAST, OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUT-BACK" 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. SMOKING BY INDIVIDUALS EXPOSED TO ASBESTOS FIBERS GREATLY INCREASES THE RISK OF SERIOUS BODILY HARM. UNLESS POSITIVELY CERTAIN THAT THE PRODUCT IS A NON-ASBESTOS CONTAINING MATERIAL, YOU MUST PRESUME IT CONTAINS ASBESTOS. REGULATIONS MAY REQUIRE THAT THE MATERIAL BE TESTED TO DETERMINE ASBESTOS CONTENT AND MAY GOVERN THE REMOVAL AND DISPOSAL OF MATERIAL. WHENEVER POSSIBLE, EXISTING FLOORING SHOULD BE LEFT IN PLACE AND THE NEW FLOOR INSTALLED OVER THE TOP. IF YOU MUST REMOVE OLD FLOORING MATERIAL, CONTACT YOUR RETAILER OR CONGOLEUM CORPORATION INSTALLATION DEPARTMENT, P.O. BOX 3127, MERCERVILLE, NJ 08619, FOR A COPY OF RECOMMENDED WORK PRACTICES. THESE PRACTICES SHOULD BE FOLLOWED.

**IMPORTANT NOTICE  
FEDERAL, STATE AND LOCAL GOVERNMENT  
AGENCIES' REGULATIONS**

Various federal, state, and local government agencies have regulations governing the removal of in-place asbestos containing material. If you contemplate 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.

**RECOMMENDED WORK PRACTICES FOR THE  
REMOVAL OF RESILIENT FLOOR COVERINGS.**

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

CONGOLEUM CORPORATION  
Installation Department  
P.O. Box 3127  
Mercerville, NJ 08619-0127  
(609) 584-3888  
or  
RESILIENT FLOOR COVERING INSTITUTE  
401 East Jefferson Street  
Suite 102  
Rockville, MD 20850  
(301) 340-8580

Please note that these Recommended Work Practices are subject to change as new practices are incorporated. It is your responsibility to determine that the Recommended Work Practices you use are those in effect.

**CAUTION: PAINTS CONTAINING LEAD**  
Certain paints may contain lead. Exposure to excessive amounts of lead dust presents a health hazard. Refer to applicable federal, state and local laws and "Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing" (September, 1990) or subsequent editions published by the US Department of Housing and Urban Development regarding:

- appropriate methods for identifying lead-based paint and removing of such paint; and
- any licensing, certification and training requirements for persons performing lead abatement work. (Use only qualified or certified lead abatement contractors to remove lead-based paint).