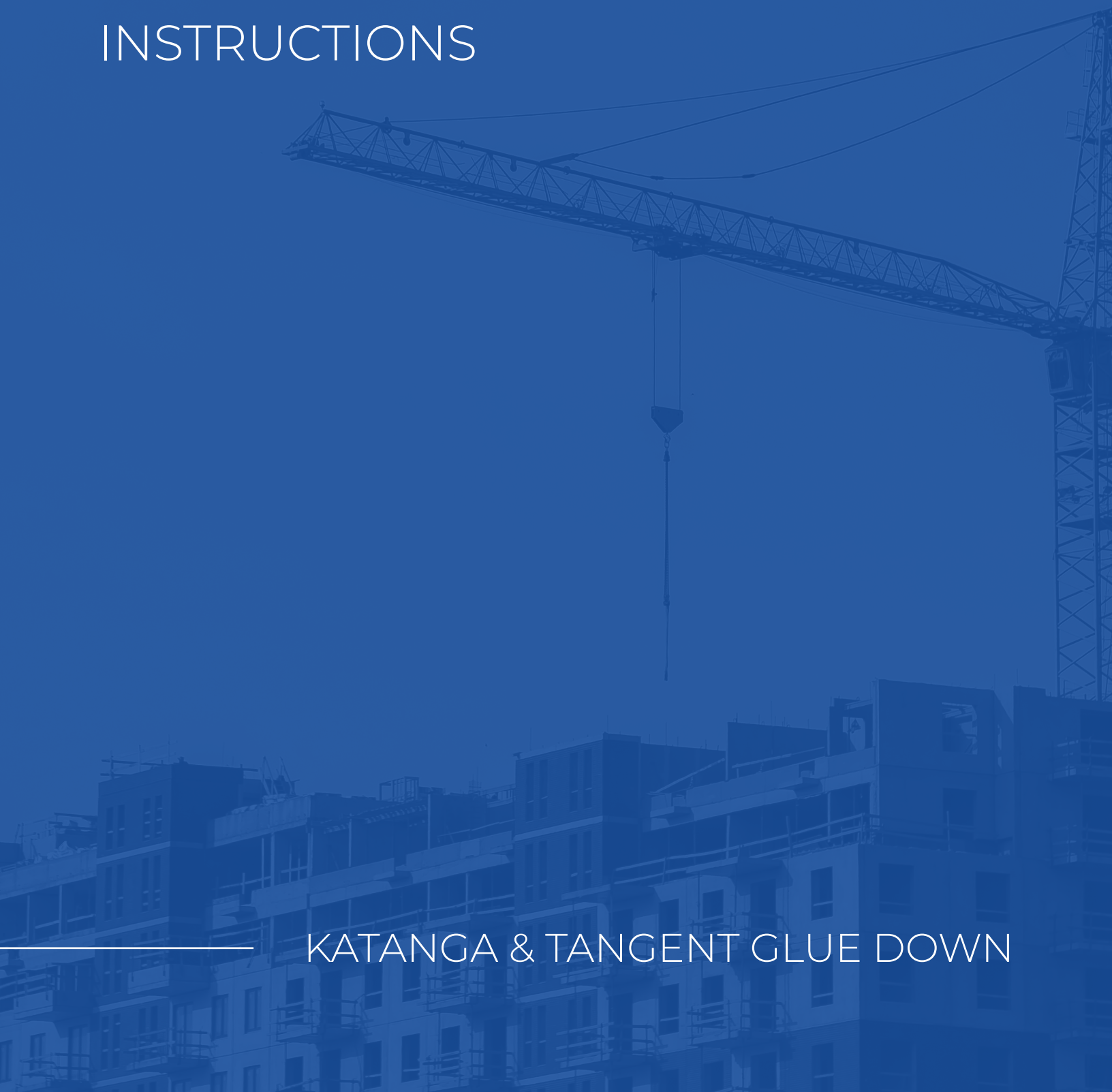
COBALT

INSTALLATION
INSTRUCTIONS



KATANGA & TANGENT GLUE DOWN

GLUE DOWN

INSTALLATION INSTRUCTIONS

Cobalt Surfaces TANGENT AND KATANGA vinyl flooring products are manufactured to meet the performance requirements of the industry standard, ASTM F1700, Standard Specification for Solid Vinyl Floor in Modular Format such as Tile(s) or Plank(s) * and these instructions are also based on industry standards.

PRE-INSTALLATION CHECK LIST:

Ordering

Material is sold in full cartons. It is customary to allow 5% waste for cutting and attic stock, except for diagonal, herringbone or other designs requiring more cutting waste.

Adhesive Selection

See adhesive chart for recommended adhesive and spread rate. Select the proper adhesive and trowel based on the usage of the space and the porosity of the substrate. For certain types of high traffic areas, specific adhesive may be required. Consult with your Cobalt Surfaces representative or technical@cobaltsurafces.com if you have questions.

NOTE: Orders that don't include Cobalt approved adhesive will have limited warranty coverage.

Adhesive	Type	Size	Spread Rate	Moisture Limit	pH Limit	Trowel
Cobalt PS-412-4	Pressure Sensitive	4 gallon	220-260 sf/gal	90% RH	8 - 10 pH	1/16" x 1/32" x 1/32" U Notch
Cobalt TR-617-4	Transitional	4 gallon	220-260 sf/gal	99% RH	8 - 12 pH	1/16" x 1/32" x 1/32" U Notch
Cobalt SRP-516-6	Acrylic Spray	Aerosol can	140-150 sf/gal	95% RH	8 - 10 pH	Spray Adhesive
Cobalt PS-7100	Pressure Sensitive	4 gallon	220 - 260 sf/gal	95-99% RH	8 - 12 pH	1/16" x 1/32" x 1/32" U Notch

Product Limitations

Allow all trades to complete work prior to floor covering installation.

Do not install:

- Over cushioned flooring, hardwood flooring, cork, rubber, asphaltic materials, or other non-approved substrates. See section 2.
- Outdoors.
- In or near commercial kitchens.
- In areas that may be subjected to sharp, pointed objects, such as cleats, spikes or stiletto heels.
- Near extreme heat sources, such as radiators, "kick" heaters, ovens or other high heat equipment.

NOTE: May be susceptible to staining from rubber tires, rubber casters or rubber-backed walk-off mats, as well as harsh disinfectants, cleaning agents, dyes or other harsh chemicals. Ensure all chemicals and materials that may come in contact with flooring surface will not stain, mar or otherwise damage the flooring material prior to use. We would be glad to supply any needed material for testing.

Material Handling

- Please inspect all goods and ensure they are being received in good condition prior to signing in acceptance of the shipment. If you receive a shipment and find that product is either missing or damaged, please alert your driver that you need to file a discrepancy.
- Inspect all material for proper type, color and matching lot numbers or production codes if appropriate.
- Inspect material in daylight for visible defects or damage. No claims for visible defects, shading/color variation, damage or wrong size/color will be accepted after installation.

If the material is not right, do not deliver to the site.

- Remove any plastic and strapping from product after delivery.
- Store material in a temperature-controlled warehouse.
- Do not stack pallets to avoid damage.
- Deliver materials to the job site at least 48 hours in advance, in original packaging with labels intact, remove material from pallets and stack evenly on a smooth, dry surface. Do not stack higher than 18."

Site Conditions

- Allow all trades to complete work prior to floor covering installation.
- Ensure installation area and material storage temperatures are between 65° F and 85° F for at least 48 hours before, during and continuously after installation. Ensure the permanent HVAC system is operational and fully functional to maintain the required temperature. Portable heaters are not recommended as they may not heat the room and subfloor sufficiently and are rarely used 24 hours a day. Kerosene heaters must never be used.
- Protect installation area from extreme temperature changes, such as heat, freezing and direct sunlight for at least 48 hours before, during and continuously after installation.
- Ensure all substrate preparation and moisture testing requirements have been read and understood by all interested parties.

SUBSTRATE PREPARATION

Concrete Subfloors

- On or below grade concrete must have a permanent, effective moisture vapor retarder installed below the slab.
- Please refer to the industry standard, ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring, which is quoted here in italics*
- *New concrete slabs shall properly cured and dried or treated before the installation of resilient flooring. Drying time before slabs are ready for moisture testing will vary, depending on atmospheric conditions and mix design.*
- *Floors containing lightweight aggregate, or excess water, and those which are allowed to dry only from one side, such as concrete over a moisture vapor retarder or concrete on metal deck, may need a much longer drying time and should not be covered with resilient flooring, unless the moisture vapor emission rate or the percentage of an internal relative humidity meets the manufacturer's installation specifications.*

- *The surface of concrete floors shall be dry, clean, and structurally sound. They shall be free of dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive, removers, film, forming curing compounds, silicate penetrating curing compounds, sealing, hardening, or parting compounds, alkaline salts, excessive, carbonation or laitance, mold, mildew, and other foreign materials that might affect the rate of moisture dissipation from the concrete or the adhesion of resilient flooring to the concrete.*
- *Non-chemical methods for removal, such as abrasive, cleaning or bead blasting shall be used. Never use solvents or adhesive removers (including citrus based) to remove adhesive residue or other contaminants.*

WARNING – do not sand, dry, sweep, dry, scrape, drill, saw, bead, blast, or mechanically chip, pulverize, existing resilient flooring, backing, lining, paint, asphalt cut back adhesives, or other adhesives. These products may contain asbestos fibers or crystalline silica. Avoid creating dust. Inhalation of such dust as 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, presume that it contains asbestos. Regulations may require that the material be tested to determine asbestos contact. The Resilient Floor Covering Institute's (RFCI) Recommended Work practices for Removal of Resilient Floor Coverings (+) should be consulted for instructions addressed to the task of removing all resilient floor covering structures.

Cracks and Joints

- Due to the dynamic nature of concrete slabs, do not install over expansion joints, cracks or other voids (such as control cuts, saw joints and moving cracks or voids) wider than 3/64". All expansion joints should have a suitable expansion joint covering system installed to allow expansion joint to freely move.
- *Surface cracks, grooves, depressions, control, joints, or other non-moving joints, and other irregularities shall be filled or smooth with latex patching or underlayment compound that shall be moisture, mildew, and alkali resistant, and for commercial insulation shall provide a minimum of 3000 psi compressive strength.*
- *Joints such as expansion joints, isolation, joints, or other moving joints shall not be filled with patching compound or covered with resilient flooring.*

Porosity

All porous substrates must be tested to confirm porosity. To determine substrate porosity, place three 1/4" wide droplets of clean, potable water onto the surface of the substrate per every 2000 sq. ft., at least one test per room. If the substrate absorbs water within 60 seconds, the substrate is considered porous. All other substrates that do not meet this requirement are considered non-porous.

Wood subfloors and substrates

- Wood substrates must be prepared in accordance with ASTM F1482.* Wood subfloors should be of double layer construction with a minimum thickness of 1". As per ASTM F1482, Wood subfloors over crawl spaces *"shall be suspended at least 18 inches above the ground, with adequate cross ventilation. Use of a vapor barrier on the ground surface, using overlapping widths and lengths to reduce high humidity from ground moisture into the crawlspace below the wood subfloor is recommended…"* Wood joists should be spaced on not more than 16" centers.
- For standard installations, use Underlayment Grade plywood with a minimum thickness of 1/4" and a fully sanded surface. When floors may be subjected to moisture, use an APA approved exterior grade plywood. Lauan is not acceptable.
- Fasten plywood underlayment using approved underlayment staples or ring shank nails as recommended by the underlayment manufacturer Do not use screws, cement or rosin coated nails,

cement or rosin coated staples or solvent-based construction adhesives to adhere the plywood.

- Do not install over:
  - Plywood installed directly over concrete.
  - Plywood installed over a sleeper system on a concrete subfloor.
  - Lauan, particleboard, chipboard or cementitious tile backer boards, preservative- treated plywood, fire-retardant plywood, are not acceptable substrates.
  - Directly over Sturd-I- Floor or OSB panels.

    We do not recommend Oriented Strand Board (OSB) as a substrate for adhered resilient flooring installations because of its porous nature. Individual chips will absorb moisture, often at different rates, leading to swelling that causes the texture of the chip structure and/or the board seams to telegraph through resilient floors. Because of this, the industry (including the Engineered Wood Association) recommends installing ¼" underlayment grade plywood over the OSB prior to installation of adhered floor coverings. This system provides a smooth and durable bonding surface for resilient flooring, and is the type of double layer, minimum 1-inch-thick subfloor system that is recommended in the resilient flooring industry.
- Wood subfloor deflection, movement, or instability will cause the flooring installations to release, buckle or become distorted. As such, do not use plastic or resin filler to patch cracks.

Gypsum and Lightweight Substrates

- Gypsum or lightweight substrates must have a compressive strength of 2000 psi when installed over a wood subfloor or 3000 psi when installed over a concrete subfloor.
- Gypsum or lightweight substrates must be mixed, placed, allowed to dry, and primed according to the product manufacturer's guidelines, in accordance with ASTM F24219* or ASTM F2471*, respectively. Test for moisture using the manufacturers recommended method.
- Gypsum or lightweight substrates are extremely porous and MUST be coated with a sealer or primer prior to the application of any type of floor covering adhesive. Failure to do so can dramatically affect the adhesive bond to the substrate.

Cobalt Surfaces can supply a fully warranted system for use over gypsum substrates, using Prelude primer and Cobalt brand adhesive. Prelude is an acrylic floor preparation solution designed to improve flooring substrates before the application of floor-covering adhesives. Prelude will improve dry, porous substrates for a better bonding surface, help protect the adhesive from alkalinity damage and improve adhesive spread rate. Prelude may be used as a primer for gypsum-based substrates prepared in accordance with ASTM F2419. After applying Prelude to a clean substrate and allowing the recommended drying time, use Cobalt adhesives according to instructions.

Existing Flooring

Industry best practices are to remove existing floor coverings and install the new floor covering on top of the original subfloor, and/or a new underlayment. Cobalt Surfaces cannot be responsible for the performance of our product when installed over an existing floor covering.

Do not install directly over a hardwood or parquet wood floor, solid vinyl (including "luxury" vinyl), cushioned vinyl, "PVC Free" resilient flooring, cork, rubber, slip-retardant "safety" flooring, or any type of "floating" floor.

Installing over existing resilient flooring is generally not recommended, as this can affect the performance

of the new floor covering with regard to the bond of the existing floor covering to the substrate, and the performance characteristics of the new flooring, such as indentation resistance. However, it may be possible over some materials, such as a single, well-bonded layer of Vinyl Composition Tile (VCT) (including quartz tile), non-cushioned sheet vinyl or linoleum.

It may be possible to install over properly prepared existing hard surface flooring substrates, such as porcelain or ceramic tile. Preparation of these substrates must include the application of a cementitious patching or leveling compound to smooth irregularities such as grout lines and provide a uniform and firm bonding surface for the floor covering adhesive. Please consult with the patching/leveling compound manufacturer for the recommend primer (if necessary) and application method for your project.

Radiant heat.

- Cobalt flooring can be installed over 1/2" embedded radiant heat systems providing that the maximum temperature of the surface does not exceed 85°F under any condition of use. Use of an in-floor temperature sensor is recommended to avoid overheating. The heating system must have a minimum of 1/2" separation from the floor covering.

  Warning: Electric heating mats that are not embedded into the subfloor must not be used beneath Cobalt flooring.

- When installing flooring over a substrate that contains a radiant heating system, ensure the radiant heat is turned off 48 hours prior to installation and remains off during the entire installation. 48 hours after installation, the radiant heat may be gradually increased over the course of 24 hours, until normal operating temperature is reached.

Metal Substrates

Metal substrates must be thoroughly sanded/ground and cleaned of any residue, oil, rust and/or oxidation. Substrate must be smooth, flat and sound prior to installation. When installing in areas that may be subject to topical water or moisture and/or high humidity, an anti-corrosive coating must be applied to protect metal substrate. Contact a local paint or coating supplier for coating recommendations. Install flooring material within 12 hours after sanding/grinding to prevent re-oxidation. Any deflection in the metal floor can cause a bond failure between the adhesive and the metal substrate. Install using adhesive that is recommended for metal substrates.

Resinous Substrates

When installing directly over a resinous product, such as a moisture mitigation system or epoxy coating, ensure that coating is dry to the touch and has cured for the prescribed length of time. Substrate must be clean, dry, sound and free of contaminates. When applying adhesive, follow installation procedures and trowel sizes for non- porous substrates.

Rubber Underlayment (Katanga 2mm ONLY)

Cobalt Surfaces, in coordination with ECOsurfaces, has an approved sound solution system to meet multifamily requirements. The system must include Cobalt Katanga 2mm, ECOsurfaces ECOsilence 2mm underlayment, and ECOsurfaces ES-Evolve 85 adhesive to ensure superior sound performance while maintaining all warranties. Follow *ECOsurfaces LVT Plank over 2mm ECOsilence Technical Manual,* available from Cobalt Surfaces or through www.ecosurfaces.com

Adhesive Bond Testing

If there is any question as to whether a substrate is acceptable for fully adhered installation of Cobalt products, perform a bond test as per ASTM F3311, *Standard Practice for Evaluation of Performance and Compatibility for*

*Resilient Flooring System Components Prior to Installation.**

PRE- INSTALLATION

- Prior to installation, inspect all tiles/planks to verify size, color, and design and to be sure there are no visible defects, damage or excessive shading variations. Shading variations are inherent in Cobalt vinyl flooring and serve to enhance the realism. It is recommended to mix material from multiple cartons to blend these variations randomly into the finished floor.
- Confirm material installation pattern and direction per design specifications or work order. Plank joints must be staggered a minimum of 8 inches, generally in a random pattern, avoiding "H" joints or a "stairstep" installation pattern.
- Working from the same lot, blend material from multiple cartons to achieve a uniform visible appearance. Some colors are designed with shade and/or texture variations that enhance the design realism. These variations are considered normal product tolerance and are not manufacturing defects.
- Ensure substrate is clean, dry flat and structurally sound prior to installation. Ensure the room is square using the 3-4-5 squaring rule or similar method to ensure acceptable installation. Dry lay one or two cartons of material to determine ideal room layout.
- Cut borders and other specialty pieces to fit against or around walls, thresholds, transition strips, fixtures and other protrusions or accessories. Ensure material around perimeter is 1/8" from wall or less, depending on depth of wall base or trim.
- Follow directional arrows on back of tiles or planks to ensure they are installed in the same direction, unless installing in a specific and pre- determined design, such as a quarter turn or herringbone design. For larger installations, use a pyramid layout when installing planks to eliminate run-off.

"LOOSE LAY" (PERIMETER ADHERED) INSTALLATION

Katanga 5mm w/Performance pad ONLY, for <u>RESIDENTIAL USE ONLY</u>

<u>For commercial use or high traffic residential areas such as corridors, amenity spaces, or lobbies, fully adhered installation is required.</u>

- Assure that the substrate is perfectly flat; loose-lay installation over substrates that have high spots or dips will cause tile or plank joints to separate or lift.
- Apply adhesive along starting row and along perimeter of initial installation area according to instructions for specific adhesive in use. Ensure the width of the adhesive installation is no less than 14" around the perimeter.
- Observe adhesive open times and working times and expand adhesive installation area as installation continues. Be sure to follow instructions based on substrate porosity (porous or non- porous).
- Install material in the same direction, unless installing in a specific and pre-determined design, such as a herringbone design. For larger installations, use a pyramid layout when installing planks to eliminate run-off.
- Use a straight edge along initial row to ensure that all planks are aligned with each other and ensure all seams are tight. When installing material in heavy use areas and through doorways or when flooring installation changes direction, apply adhesive along doorway or along seam and create an "X" pattern to prevent excessive flooring movement.
- Roll material with a 3 section, 100 lb. roller within 30 minutes of installation, crossing in a perpendicular

direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller. Visually inspect installation to ensure that material has not shifted and that all seams are tight.

FULLY ADHERED INSTALLATION

Apply adhesive according to instructions for specific product in use. Use the recommended trowel notch and observe adhesive open times and working times are based on substrate porosity (porous or non-porous). For example, to determine open time:

- **Pressure sensitive and Spray adhesive** will be clear and dry to the touch when ready, and no adhesive will transfer to a finger when the adhesive is touched.
- **Transitional adhesive** will be partially dry when ready. Only the lowest part of the trowel notch pattern will be clear, and adhesive trowel lines will be visible on a finger when the adhesive is touched.
- **Wet set adhesives** must not be allowed to dry. A "smudge" of adhesive will be visible on a finger that is touched to the adhesive. If that is not the case, do not install. When installing into adhesive using a wet-set method, avoid walking or working on material until adhesive has cured for light foot traffic. Working on material that is installed into wet adhesive could cause adhesive to displace or be squeezed out of joints. When working off material is not possible, use a kneeling board or equivalent to disperse weight evenly and prevent adhesive displacement. Pay close attention to working time to avoid adhesion issues. This will require installing material in smaller sections.

REGARDLESS OF ADHESIVE USED, replace trowels at recommended intervals to maintain proper trowel notch and spread rate. In all cases, roll material with a 3 section, 100 lb. roller within 30 minutes of installation, crossing in a perpendicular direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller.

Visually inspect installation to ensure that material has not shifted, and that adhesive has not been squeezed out of joints or compressed onto surface. Using a clean white cloth, clean excess adhesive or adhesive residue from the surface of the material per adhesive recommendations. Do not apply abrasive or solvent based cleaners directly to flooring material.

AFTER INSTALLATION

Adhesive Cure Time

After the material is set into adhesive and the floor is rolled, allow the adhesive to cure according to the adhesive's requirements. Generally, light foot traffic is not allowed for 24 hours, with heavy traffic and rolling traffic prohibited for 72 hours.

Protection

It is preferred that floor covering installation be completed after all other building trades have done their work. If construction work is to be continued after the floor covering is installed, allow the recommended adhesive curing time before covering. Protect the floor from damage by sweeping thoroughly to remove sand and debris, then cover with brown Kraft paper, protective boards, or a combination thereof. Do not use plastic, pink paper, black tar paper, or any other covering that could stain or damage the floor covering.

When moving appliances or heavy furniture, lay a plywood panel (or similar) over the floor and "walk" the item across it. This protects the floor from scuffing, gouging and tears.

MAINTENANCE

Please refer to COBALT MAINTENANCE GUIDE for detailed instructions. Here is a summary:

- Sweep or vacuum daily using soft bristle attachments.
- Clean up spills and excessive liquids immediately.
- Damp mop as needed using neutral cleaner recommended for vinyl flooring.
- Do not use abrasive cleaners, bleach or wax to maintain the floor.
- Do not drag or slide heavy objects across the floor.

Preventing Damage

- Place walk-off mats at outside entrances to reduce the amount of soil brought into the building. Do not use mats with a latex or rubber backing; these backings can cause permanent discoloration.
- All furniture legs must be equipped soft glides or casters designed for use on resilient flooring such as felt, silicone or poly-based material. Rubber, metal, hard plastic or nylon glides, wheels or casters are not recommended. Casters must have a contact point of at least one inch in width. Floor protectors must have a flat contact point of at least one square inch (1.18" round) and must cover the entire bottom surface of the leg. As a rule of thumb, the heavier the item, the wider the floor protector needed.
- Place protective chair mats designed for use on resilient flooring under rolling desk chairs.

REFERENCES

QUESTIONS? Contact technical@cobaltsurfaces.com

- + Resilient Floor Covering Institute rfci.com/recommended-work-practices/
- * Referenced ASTM Standards available from ASTM International
- (877-909-2786 or www.ASTM.org.)
- ASTM F3261 Standard Specification for Resilient Flooring in Modular Format with Rigid Polymeric Core
- ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
- ASTM F2419, Standard Practice for Installation of Thick Poured Gypsum Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
- F2471, Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring
- F2170, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
- ASTM F1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- ASTM F3441, Standard Guide for Measurement of pH Involving Resilient Flooring Installations
- ASTM F3311 Standard Practice for Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components Prior to Installation