

# Johnsonite®

## STAIR TREADS, NOSINGS, RISERS, AND STRINGERS

### Installation and Maintenance Instructions

#### Introduction

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Johnsonite Stair Treads and Nosings are available in a wide variety of styles and designs to fit almost any installation requirement. Many of the treads and nosings are manufactured with hinged square noses and 2" wide contrasting color striping to meet the stringent requirements of the A.D.A., California Title 24 Accessibility Code, and any other application to enhance staircase visibility and improve safety within a facility.

These highly resilient products are ideal for high-trafficked workplace interiors and public places such as airports, schools, and shopping malls, as well as, other health care, hospitality, retail and office environment applications.

Johnsonite Risers and Stringers provide the finishing touch to a professional project and are available in coordinating colors to match Johnsonite's extensive line of stair treads and nosings.

The highest quality of materials and workmanship are employed in the manufacture of Johnsonite Stair Treads and Nosings and careful inspection is made before shipment. However, a quality installation is the responsibility of the installer. It is the installer's responsibility to verify the accuracy of the order and the materials be checked for damage, defects, and satisfactory color match prior to installation. An authorized Johnsonite distributor or Johnsonite representative shall be notified of any nonconformance before final adhesive application proceeds.

Johnsonite cannot accept any responsibility for the loss or damage that may result from the use of this information, due to processing or working conditions and/or workmanship outside our control. Users are advised to confirm the suitability of this product by their own tests.

Johnsonite Stair Treads and Nosings are for interior installations only and not recommended for environments where the product will be exposed to animal fats, vegetable oils, or petroleum based materials. (i.e.: commercial kitchens)

#### Handling and Storage

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1. Johnsonite Stair Treads, Nosings, Risers, Stringers and adhesives must be site conditioned at room temperature for 24 hours prior to, during, and after the installation. **Temperature must be maintained at 65° and 75°F (18° and 24°C)**
2. In staircases that are exposed to intense or direct sunlight, the product must be protected during the conditioning, installation, and adhesive curing periods, by covering the light source.
3. **Johnsonite Stair Treads and Nosings are not recommended for exterior use. Exposure to excessive UV rays can result in fading and/or color variation.**

#### General Subfloor Preparations

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1. **All staircases** must be clean, smooth, and dry. Dust, scale, and loose particles must be removed. The surface must be free of solvents, paint, grease, oil, wax, alkali, sealing/curing compounds, and any other foreign material, which could affect adhesive bonding.

**Do not install** Johnsonite Stair Treads and Nosings in areas where the product will be exposed to animal fats/greases, vegetable oils, or petroleum based materials such as commercial kitchen environments.

2. **Concrete staircases** must be checked for moisture content. The test shall be in accordance with ASTM F-

1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. One test should be conducted for every 1000 sq. ft. of flooring and the results not exceed 3 lbs. per 1000 sq. ft. in 24 hours. If the test results exceed the limitations, the installation must not proceed until the problem has been corrected.

An adhesion bonding test of the actual materials to be installed should be performed, every 1000 sq. ft. utilizing a 12" x 12" piece of product. The test pieces should remain in place for 72 hours and then evaluated for bond strength to the concrete.

Excessive alkali must be removed by mechanical means such as bead blasting, sanding or grinding.

Fill all depressions, cracks, and other surface irregularities with good quality cementitious underlayment filler or epoxy caulking compound.

**Important:** Epoxy caulking compound must be sanded prior to installation of stair treads and nosings to ensure proper bonding.

3. **Wood staircases** must be firmly nailed and sanded flat. Fill any depressions with a good quality latex patching compound or epoxy caulking compound.

**Johnsonite does not recommend nor warrant installations over existing resilient materials.** All resilient materials and adhesives must be removed prior to installing stair treads and nosings.

**Caution: Some resilient flooring products and adhesives contain "asbestos fibers" and special handling of this material is required.**

4. **Terrazzo and Ceramic Staircases** - The surface must be thoroughly sanded to remove all glaze and waxes. Remove all loose tiles and clean the grout lines. Fill all grout lines and other depressions with a cementitious leveling compound.
5. **Steel staircases** - The surface must be thoroughly cleaned by sandblasting, wire brush or other mechanical means to remove all rust and other contaminants. Paint the surface with an anti-corrosive coating (i.e.: Sherwin Williams "Kromik Metal Primer" or equivalent) to prevent rust from recurring.

## **General Installation**

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1. Johnsonite Stair Treads, Nosings, Risers, and Stringers are available in convenient lengths and sizes, but normally, trimming will be required to obtain proper fit on each stair.
2. If the shape of the step does not conform to the shape of the stair tread or nosing and cannot be altered to conform, then we do not recommend the installation of our products. Do not attempt an installation of the stair treads or nosings unless a tight fit can be obtained, especially at the point where the nose of the product is snugged at the step.
3. **Wide staircases**, which require butting multiple lengths of product, requires additional planning and dry fitting prior to adhesive installation to ensure proper pattern match. Johnsonites molded, raised patterned, rubber stair treads are packaged with right and left hand, full pattern orientation in the same carton. Sort the material, trim, and fit to each stair.

**Note:** Trimming on both sides of the tread may be required to obtain proper pattern match to adjacent steps.

## **Stringer Installation**

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1. Stringers are applied to the vertical surface adjacent to the staircase and installed prior to stair treads, nosings, and risers.
2. Make a template of cardboard or other appropriate material. Measure the height and depth of each step and transfer the measurements to the template. Rough cut the template and then trim to obtain a snug fit to the staircase.
3. Lay the template over the stringer material and transfer the pattern using an awl onto the stringer material. Cut the stringer material and check the fit to the staircase. Trim the stringer material to obtain a snug fit.
4. **Adhesive Application:**

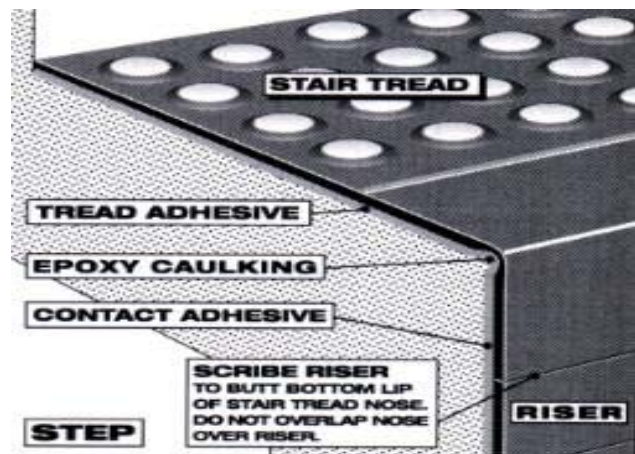
- a. **If the wall surface is porous**, install stringer utilizing Johnsonite #960 Cove Base Adhesive. Follow the directions on the container for proper trowel size and application.
  - b. **If the wall surface is nonporous** such as fiberglass, epoxy painted concrete or steel install stringer utilizing Johnsonite #945 Contact Bond Adhesive. Apply adhesive with a brush or roller to both the wall surface and the back of the stringer material. The stringer is ready to install when the adhesive turns from "white to clear" and no longer transfers to the finger when touched. To expedite adhesive drying, use a hot air gun or hair dryer.
5. Position and install the stringer. Roll with a hand roller to ensure adhesive transfer and a good fit.

## Stair Tread, Nosing and Riser Installation

1. **Johnsonite Stair Treads, Nosings, and Risers must be trimmed to fit and dry laid on each step prior to adhesive installation.**

**It is the installer's responsibility to inspect the dry laid installation and notify the appropriate authority of any imperfections, irregularities, or color variation prior to final adhesive installation.**

**Important:** Stair treads equipped with carborundum strips require special handling. Do not flex, bend, or stand these treads on end. After fitting the stair tread, as described below, trim the carborundum strips back 1/16" on each side to allow for expansion. After installation of the tread, roll the carborundum strips to ensure adhesion.



2. Since each step on a staircase varies slightly in width, depth, and squareness, Johnsonite recommends scribing each tread/nosing and riser to ensure proper fit on the step.
3. Measure the width of the step and place a pencil mark on the step's riser indicating the center of the step. **Note:** If installing a nosing, place the centerline mark approximately 4 to 5 inches back from the step nose. Next, measure the length of the stair tread/stair nosing and mark the center point at the back where the tread meets the riser.
4. Position the stair tread/nosing on the step with the right hand side fitted snugly to the stringer.
5. Utilizing a set of dividers, span the pointers across the two centerline marks. Increase the measurement by approximately a 1/16" to allow for expansion.
6. Move to the right hand side of the step. Place one pointer on the stringer and the other on the tread or nosing. Start at the back of the tread and pull the dividers forward. Keep the pointer firmly in contact with the stringer while exerting adequate downward force to scribe the tread or nosing material. **Note: When installing a one-piece tread and riser assembly, scribe the tread and riser portions at the same time.**
7. Use a hooked (linoleum type) or utility knife to cut the material. **Note: For large stair tread and stair nosing projects, utilize a 10" diameter 84 tooth carbide tip saw blade attached to a table or radial arm saw to cut the products to length.**
8. Reposition the tread/nosing on the left hand side of the step and follow the same procedure to fit the left side of the tread or nosing.
9. To fit the stair tread to the depth of the step, place a 2 by 4 under the nose of the tread and position on step. If the tread is still deeper than the step, use the 4" side of the 2 by 4 or increase the size of the spacer, until the back of the stair tread is away from the riser.
10. Set the dividers 1/16" wider than the width of the spacer (i.e.: 2 by 4), scribe, and cut the back of the stair tread.
11. Position the stair tread/nosing on the step. There should be approximately 1/16" uniform clearance around the

perimeter of the tread.

12. **Fitting the riser:** Following the previous directions for scribing the width of the stair tread/nosing, utilize the same centerline mark on the step, position the riser, scribe both sides, and cut.
13. Set the trimmed stair tread and riser in place. Position the nose of the stair tread over the riser. Scribe a line on the riser, utilizing the edge of the stair tread nose as a guide, and then trim the riser so that the top of the riser will abut to the bottom of the stair tread nose when installed. (See Figure #1 for proper installation)

**Caution – Special One-Piece Tread/Riser Combination Instructions:**

**Johnsonite recommends installing a CFS-00-A Cove Filler Strip at the angle where the riser meets the tread portion of the step. This filler strip must be installed prior to trimming the riser.**

**14. Adhesive Application:**

**Standard Stair Tread and Nosing**

- a. Prior to applying adhesive, wipe with denatured alcohol to remove any contaminants which may interfere with proper adhesive bonding.
- b. **Important:** Apply an uniform coat of Johnsonite #945 Contact Bond adhesive to the nosing areas of the stair tread and step edge and allow to thoroughly dry. Use Johnsonite #945 Contact Bond Adhesive to adhere the nose of the stair tread directly to the step edge. Do not install tread nose over resilient riser material.
- c. **Important:** Step surface porosity must be checked to determine if the substrate is porous or non-porous prior to applying #965 adhesive:

**For Porous Surfaces:** Trowel the adhesive onto the tread and nosing portions of the step surface only using a 1/16" square notch trowel. Keep adhesive back 1/2" in both directions of the step edge to provide a bonding area for the #930 Epoxy Caulking Compound. Allow the #965 adhesive to dry or gas-off for approximately 5 to 10 minutes, and then install the product into the wet adhesive layer. Immediately after installation, roll the stair treads or nosings with a J-type hand roller and roll a second time 45 to 60 minutes after installation.

**For Non-Porous Surfaces:** Trowel the adhesive onto the tread and nosing portions of the step surface only using a 1/16" V-notch trowel. Keep adhesive back 1/2" in both directions of the step edge to provide a bonding area for the #930 Epoxy Caulking Compound. Allow the #965 adhesive to dry to the touch with little or no transfer of adhesive to the finger. Once the adhesive reaches the dry-to-touch state, the stair tread or nosing material must be installed within 45 minutes and immediately rolled with a J-type hand roller.

**Important:** If adhesive is allowed to remain uncovered, after the initial drying period, for periods longer than 45 minutes, a loss of adhesion strength will occur. Care should be taken by the installer not to spread more adhesive than can be worked within the 45 minute time frame.

- d. Gun or knife an adequate amount (approx. 1/4" diameter bead) of Johnsonite #930 Two-Part Epoxy Caulking Compound into the nose of the stair tread/nosing to completely fill the void between the internal angle of the stair tread and external edge of the stair step. **Caution: Insufficient application of the caulking compound can result in adhesion loss of the nosing portion of the stair tread to the step surface.**
- e. Position the stair tread/nosing into its proper position on the step, beginning at the nose and pushing back firmly and down as tightly as possible. When installing stair treads, lift the back of the tread slightly at the riser until the nose is in position then firmly press the tread into place.
- f. After installation is complete, firmly roll with a hand roller. Make certain that the nosing portion of the stair tread/nosing is fitted tightly and adhered to the step nosing.
- g. Remove excess adhesive with a clean cloth dampened with mineral spirits. **Caution: #930 Epoxy Caulking Compound cannot be removed when dried without resulting in damage to the stair tread/nosing material.**
- h. Avoid all traffic for a period of 12 to 24 hours depending on temperature and humidity.

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## Riser Application

- a. **If the surface is porous**, install riser utilizing Johnsonite #960 Cove Base Adhesive. Follow the directions on the container for proper trowel size and application.
- b. **If the surface is nonporous** (i.e.: epoxy painted concrete, steel, etc.) install riser utilizing Johnsonite #945 Contact Bond Adhesive. Apply adhesive with a brush or roller to both the step's riser surface and the back of the riser material. The riser is ready to install when the adhesive turns from "white to clear" and no longer transfers to the finger when touched. To expedite adhesive drying, use a hot air gun or hair dryer.
- c. Position and install the riser. Roll with a hand roller to ensure adhesive transfer and a good fit.

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## One-Piece Tread and Riser Combination (RTR and HTR)

- a. Prior to applying adhesive, lightly sand the entire back of the tread and nosing areas of the product or wipe with denatured alcohol to remove any contaminants which may interfere with proper adhesive bonding.
- b. **Important:** Apply an uniform coat of Johnsonite #945 Contact Bond adhesive to the nosing areas of the stair tread and step edge and allow to thoroughly dry. Use Johnsonite #945 Contact Bond Adhesive to adhere the nose of the stair tread **directly to the step edge. Do not install tread nose over resilient riser material.**
- c. To ensure proper fit and support of the serrated transition portion of the one-piece tread and riser material, where the step's riser meets the step tread plate, Johnsonite recommends installing a CFS-00-A Cove Filler Strip to provide a uniform radius at this transition. The cove filler strip should be trimmed to fit the width of the stair and installed with Johnsonite #945 Contact Bond Adhesive.
- d. **Important:** Step surface porosity must be checked to determine if the substrate is porous or non-porous prior to applying #965 adhesive

**For Porous Surfaces:** Trowel the adhesive onto the tread, nosing, and riser portions of the step surface only using a 1/16" square notch trowel. Keep adhesive back 1/2" in both directions of the step edge to provide a bonding area for the #930 Epoxy Caulking Compound. Allow the #965 adhesive to dry or gas-off for approximately 5 to 10 minutes, and then install the product into the wet adhesive layer. Immediately after installation, roll the stair treads or nosings with a J-type hand roller and re-roll a second time 45 to 60 minutes after installation.

**For Non-Porous Surfaces:** Trowel the adhesive onto the tread, nosing, and riser portions of the step surface only using a 1/16" V-notch trowel. Keep adhesive back 1/2" in both directions of the step edge to provide a bonding area for the #930 Epoxy Caulking Compound. Allow the #965 adhesive to dry to the touch with little or no transfer of adhesive to the finger. Once the adhesive reaches the dry-to-touch state, the stair tread or nosing material must be installed within 45 minutes and immediately rolled with a J-type hand roller.

**Important:** If adhesive is allowed to remain uncovered, after the initial drying period, for periods longer than 45 minutes, a loss of adhesion strength will occur. Care should be taken by the installer not to spread more adhesive than can be worked within the 45 minute time frame.

- e. Gun or knife an adequate amount (approx. 1/4" diameter bead) of Johnsonite #930 Two-Part Epoxy Caulking Compound into the nose of the stair tread/nosing to completely fill the void between the internal angle of the stair tread and external edge of the stair step. **Caution: Insufficient application of the caulking compound can result in adhesion loss of the nosing portion of the stair tread to the step surface.**
- f. Fold the riser portion of the one-piece unit so that the show surface of the riser is laying on the show surface of the stair tread. Next, position the stair tread into its proper position on the stair, beginning at the nose and

pushing back firmly and down as tightly as possible. When installing, lift the back of the tread slightly at the riser until the nose is in position then firmly press the tread portion into place.

- g. Next, lift the riser portion of the unit and install from the bottom up. Apply adequate pressure at the transition to ensure uniform contact at the base of the riser and then proceed with the riser installation.
- h. After installation is complete, firmly roll with a hand roller. Make certain that the nosing portion of the stair tread is fitted tightly against the step nosing.
- i. Remove excess adhesive with a clean cloth dampened with mineral spirits.

**Caution:** #930 Epoxy Caulking Compound cannot be removed when dried without resulting in damage to the stair tread/nosing material.

- j. Avoid all traffic for a period of 12 to 24 hours depending on temperature and humidity.

For further questions that have not been addressed in this document, contact Johnsonite for assistance or Johnsonite Customer Service at 1-800-899-8916.

# Johnsonite®

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