SECTION 05 55 16

METAL STAIR NOSINGS

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\*\* NOTE TO SPECIFIER \*\* Safe-T-Nose; Luminous Egress Path Marking System.  
This section is based on the products of Safe-T-Nose, which is located at:1640 Salem Industrial Dr. N.E., P. O. Box 9397Salem, OR 97305Toll Free Tel: 855-723-6673Tel: 503-362-3554Fax: 503-362-5884Email: [request info (sales@safetnose.com )](https://arcat.com/rfi?action=email&company=Safe-T-Nose&message=RE%253A%2520Spec%2520Question%2520(05550saf)%253A%2520&coid=50627&spec=05550saf&rep=&fax=503-362-5884)  
Web: <http://www.safetnose.com>   
 [ [Click Here](https://arcat.com/company/safe-t-nose-50627) ] for additional information.  
Safe-T-Nose is North America's leader in luminous egress path marking technology.   
Our mission is to provide the most complete, economical, and longest lasting luminous egress path marking system available. Not only are our solutions designed to save lives and prevent injuries, they are also designed with contractors in mind, making egress path markings fit your schedule and budget.  
Leave No Doubt - This Way Out - Exit Safely  
Building codes will help protect lives for new building construction. Our complete luminous egress path marking system for new construction, and existing buildings, exceed the requirements of the International Building Code and International Fire Code.  
Photo-Glo - utilizes the same industrial grade solid polymer used in golf balls, imbedding photoluminescent pigment, the glow-in-the-dark material. This creates a durable material that is approximately 50% brighter than the code requires. Photo-Glo comes with and industry leading 25-year warranty.  
Safe-T-Nose provides you ALL the products you need.

1. GENERAL
   1. SECTION INCLUDES
      1. Luminous egress path marking systems including photoluminescent strips, signs and nosings.
   2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
    2. Section 05 51 33 - Metal Ladders.
    3. Section 11 14 19 - Portable Posts and Railings
    4. 10443 - Exit Path Photoluminescent Signage and Markings
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American National Standards Institute (ANSI):
       1. ANSI A137.1 - Flooring Slip Resistance.
    2. ASTM International (ASTM):
       1. ASTM E2072 - Standard Specification for Photoluminescent (Phosphorescent) Safety Markings.
       2. ASTM E2073 - Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings.
    3. International Building Code (IBC).
    4. International Fire Code (IFC).
    5. NFPA 101 - Life Safety Code.
    6. Underwriters Laboratories, Inc. (UL):
       1. UL 410 - Standard for Slip Resistance of Floor Surface Materials.
       2. UL 1994 - Standard for Luminous Egress Path Marking Systems.
    7. Underwriters Laboratories, Inc Canada (ULc):
       1. ULc S572 - Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems.
    8. United States Department of Justice (USDOJ) - ADA Standards for Accessible Design (SAD).
  1. DESIGN REQUIREMENTS
     1. Provide specified products for stairs in compliance with International Building Code Section 1024, International Fire Code Section 1104, NFPA 101 Life Safety Code.

\*\* NOTE TO SPECIFIER \*\* Delete products not required.

* + - 1. Surface Mount Nosings: Model STNR. 2 inches (51 mm) aluminum nosing with 1 inch (25 mm) photoluminescent strip for existing stairs.
      2. Pour-in-Place Nosings: Model STNP. 2 inches (51 mm) clip on nosing assembly with 1 inch (25 mm) photoluminescent strip for new pan-filled stairs.
      3. Pour-in-Place & Cast-in-Place Nosings: Model STNC3. 3 inches (76 mm) assembly with 1 inch (25 mm) photoluminescent strip for new concrete insertion.
      4. Cast-in-Place Nosings: Model STNC. 2 inches (51 mm) assembly with 1 inch (25 mm) photoluminescent strip for new concrete insertion.
      5. Handrail Strips: Model STNH. 1 inch (25 mm) pre-curved photoluminescent strip for round railing.
      6. Perimeter Marking: Model STNF. 1 inch (25 mm) photoluminescent strip for egress markings.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Product description, materials, finishes, and performance characteristics.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Show product compliance with reference standards.
        5. Installation methods.
     3. Shop Drawings: Provide CAD or PDF drawings of nosing details.
        1. Indicate nosing locations and attachments.

\*\* NOTE TO SPECIFIER \*\* Delete samples if not required.

* + 1. Verification Samples: For each finish product specified, two samples representing actual product, color, and patterns.

\*\* NOTE TO SPECIFIER \*\* Delete product samples not required.

* + - 1. Surface Mount Nosing (STNR and STNRS) 8 inches (203 mm) long with/ without construction cover.
      2. Pour-in-Place Nosing (STNP and STNC3) 8 inches (203 mm) long complete assembly.
      3. Cast-in-Place Nosing (STNC and STNC3) 8 inches (203 mm) long complete assembly.
      4. Handrail Strip (STNH) 8 inches (203 mm) long, peel and stick adhesive included.
      5. Perimeter Marking (STNF) 8 inches (203 mm) long, peel and stick adhesive included.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
     2. Installer Qualifications: Minimum 2 year experience installing similar products.
     3. Slip Resistance: Provide units which comply with ADA, OSHA and local building codes and insurance requirements.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Remodel mock-up area as required to produce acceptable work.
  1. PRE-INSTALLATION MEETINGS
     1. Convene minimum two weeks prior to starting work of this section.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     2. Protect from damage. Store in cool, dry location until installed.
     3. Handling: Handle materials to avoid damage.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  5. WARRANTY
     1. Products shall provide a one-year warranty to cover defects in materials and workmanship, limited to repair or replacement.
        1. Provide manufacturer's 25 year warranty against loss of photoluminescence for following periods.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Safe-T-Nose, which is located at:1640 Salem Industrial Dr. N.E., P. O. Box 9397Salem, OR 97305Toll Free Tel: 855-723-6673Tel: 503-362-3554Fax: 503-362-5884Email: [request info (sales@safetnose.com )](https://arcat.com/rfi?action=email&company=Safe-T-Nose&message=RE%253A%2520Spec%2520Question%2520(05550saf)%253A%2520&coid=50627&spec=05550saf&rep=&fax=503-362-5884);Web: <http://www.safetnose.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. PHOTOLUMINESCENT COMPONENTS
     1. Photoluminescent Material: Photoluminescent "Photo-Glo" an industrial grade solid polymer with embedded photoluminescent pigment.
        1. Luminance Test: The samples tested meet the requirements of ASTM E2072 and UL 1994.
           1. From test sample activation: 10.76 lx (1.000 fc) for 60.0 minutes:

For 10 minutes after lights go out: Minimum 30 mcd per square meter.

For 60 minutes after lights go out: Minimum 7 mcd per square meter.

For 90 minutes after light go out: Minimum 5 mcd per square meter.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Stair Nosings - Photoluminescent:
       1. Photoluminescent Material (Photo-Glo): 1 inch (25 mm) wide adsorbing and storing energy from ambient light, not requiring external power supply.
       2. Aluminum Alloy 6063-T5 for durable nosing base material.
       3. STNP and STNC isolators made of Georgia Gulf 7181 for weatherability, impact strength, flame and chemical resistance.
       4. Patented Construction Covers: No protective taping or tape removal required.

\*\* NOTE TO SPECIFIER \*\* For 1-1/2 to 2 inches (38 to 51 mm) round railing made of steel, wood, stainless. Perfect for high-rise buildings, schools, stadiums, theaters, homes and businesses. Delete if not required.

* + 1. Railing Strip - Photoluminescent:
       1. Photoluminescent Material (Photo-Glo): 1 inch (25 mm) wide x 10 inches (254 mm) long contoured dome for round railing made of durable and easy to clean "golf ball" material cuts easily with scissors - no end caps required peel and stick - no additional adhesives required.

\*\* NOTE TO SPECIFIER \*\* For use as luminous egress path markings on walls and floors. Adheres to concrete, drywall, painted surfaces, vinyl, steel or aluminum. Perfect for high-rise buildings, schools, stadiums, theaters, homes and businesses. Delete if not required.

* + 1. Perimeter Marking - Photoluminescent:
       1. Photoluminescent Material (Photo-Glo): 1 inch (25 mm) wide x 100 feet (30480 mm) long roll, beveled edge to lay flat made of durable and easy to clean golf ball type material cuts easily with scissors - no waste peel and stick - no additional adhesive required.
    2. Compliance:
       1. Luminous Egress Path Marking Systems:
          1. UL 1994 - Luminous Egress Path Marking Systems.
          2. ULc-S572 - Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems.
       2. Slip Resistance: ANSI A137.1 Dynamic Coefficient of Friction Test.
          1. Average Dynamic Coefficient of Friction (DCOF), cleaned with Renovator No. 120, and tested with BOT-3000E digital tribometer using SBR rubber slider and 0.05 percent SLS water solution: Overall average: Dry: 0.50; Wet: 0.42.
    3. Aluminum: Alloy 6063-T5 for nosing base material.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. PHOTOLUMINESCENT STAIR NOSINGS

\*\* NOTE TO SPECIFIER \*\* Nosings for existing stairs. Apply to Concrete, Metal, Wood and many other materials. Delete if not required.

* + 1. Surface Mount Nosings: Model STNR for surface mounted applications as manufactured by Safe-T-Nose.
       1. Listed and Tested: To UL 1994.
       2. UL 410 Requirements for Slip Resistance: Pass.
       3. Meet requirements for 90 minute photoluminescent emergency illumination.
       4. Description: Two piece construction. 2 inch (51 mm) wide anodized aluminum nosing. 1 inch (25 mm) wide replaceable Photo-Glo photoluminescent strip similar to golf ball cover materials; washable and easily sanitized.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete if not required.

* + - 1. Temporary construction cover.
      2. Length: Stair width less 1 inch (25 mm) maximum.
      3. Mounting Type: As required by substrate conditions.

\*\* NOTE TO SPECIFIER \*\* Delete aluminum nosing color options not required.

* + - 1. Aluminum Nosing Color: Clear anodized.
      2. Aluminum Nosing Color: Yellow powder coat.
      3. Aluminum Nosing Color: Black powder coat.
      4. Aluminum Nosing Color: Custom color powder coat.
      5. Adhesive: As recommended by the manufacturer.

\*\* NOTE TO SPECIFIER \*\* The stair nosing that is cast-in newly poured concrete. Ideal for precast stairs, precast treads and precast... Ideal for any application that allows the nosing to be glued on or mechanically fastened. Install on existing stairs in High Rise Buildings, Stadiums, Bleachers, Industrial Plants, Homes, Businesses, and Schools. Interior or Exterior. Applies to concrete, aluminum, wood, or any other clean, dry, flat surface. Delete if not required.

* + 1. Pour in Place Nosings: Model STNP for concrete filled steel pan stairs as manufactured by Safe-T-Nose.
       1. Model: STNP for concrete filled steel pan stairs.
       2. Listed and Tested: To UL 1994.
       3. UL 410 Requirements for Slip Resistance: Pass.
       4. Meet requirements for 90 minute photoluminescent emergency illumination.
       5. Description: Four piece construction; 2 inch (51 mm) isolator, 1-1/2 (38 mm) inch wide replaceable anodized aluminum nosing, 1 inch (25 mm) wide replaceable Photo-Glo photoluminescent strip similar to golf ball cover materials, washable and easily sanitized, and temporary construction cover.
       6. Length: Stair width less 1 inch (25 mm) maximum.
       7. Mounting type: Embedded nosing for flush mounting.

\*\* NOTE TO SPECIFIER \*\* Delete aluminum nosing color options not required.

* + - 1. Aluminum Nosing Color: Clear anodized.
      2. Aluminum Nosing Color: Yellow powder coat
      3. Aluminum Nosing Color: Black powder coat.
      4. Aluminum Nosing color: Custom color powder coat.

\*\* NOTE TO SPECIFIER \*\* Delete PVC isolator color options not required.

* + - 1. PVC Isolator Color: Black.
      2. PVC Isolator Color: Gray.
      3. PVC Isolator Color: Yellow.
      4. Adhesive: Not required.
    1. Pour in Place Nosings: Model STNC3 for concrete filled steel pan, cast-in-place concrete, and precast concrete stairs as manufactured by Safe-T-Nose.
       1. Mounting type: Embedded nosing for flush mounting.

\*\* NOTE TO SPECIFIER \*\* Delete aluminum nosing color options not required.

* + - 1. Aluminum Nosing Color: Clear anodized.
      2. Aluminum Nosing Color: Yellow powder coat.
      3. Aluminum Nosing Color: Black powder coat.
      4. Aluminum Nosing color: Custom color powder coat.
      5. Adhesive: Not required.
    1. Cast in Place Nosings: Model STNC for cast-in-place and precast concrete stairs as manufactured by Safe-T-Nose.
       1. Listed and Tested: To UL 1994
       2. UL 410 Requirements for Slip Resistance: Pass.
       3. Meet requirements for 90 minute photoluminescent emergency illumination.
       4. Description: Embedded flush mounted four piece construction. 2 inch (51 mm) isolator, 1-1/2 inch (38 mm) wide anodized aluminum nosing. 1 inch (25 mm) wide replaceable Photo-Glo photoluminescent strip similar to golf ball cover materials, washable and easily sanitized.
       5. Temporary construction cover.
       6. Length: Stair width less 1 inch (25 mm) maximum.
       7. Mounting type: Embedded nosing for flush mounting.

\*\* NOTE TO SPECIFIER \*\* Delete aluminum nosing color options not required.

* + - 1. Aluminum Nosing Color: Clear anodized.
      2. Aluminum Nosing Color: Yellow powder coat.
      3. Aluminum Nosing Color: Black powder coat.
      4. Aluminum Nosing color: Custom color powder coat.

\*\* NOTE TO SPECIFIER \*\* Delete PVC isolator color options not required.

* + - 1. PVC Isolator Color: Black.
      2. PVC Isolator Color: Gray.
      3. PVC Isolator Color: Yellow.
      4. Adhesive: Not required.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. PHOTOLUMINESCENT STRIPS

\*\* NOTE TO SPECIFIER \*\* Easy peel and stick - contoured dome photoluminescent strips for handrail. Delete if not required.

* + 1. Photoluminescent Handrail Strips (STNH) as manufactured by Safe-T-Nose. Photo-Glo 1 inch (25 mm) wide x 10 feet (3.048 mm) long contoured dome for round railing.
    2. Material:
       1. Material: Photo-Glo, an industrial grade solid polymer with embedded photoluminescent pigment, durable and easy to clean "golf ball" material.
       2. Material: Pre-curved contoured dome with smooth beveled edges.
       3. Installation: Cuts easily with scissors - no end caps required.
       4. Application: Peel and stick - no additional adhesives required.

\*\* NOTE TO SPECIFIER \*\* Easy peel and stick - high impact, abrasion resistant photoluminescent strips for perimeter demarcation. Delete if not required.

* + 1. Perimeter Marking (STNF) as manufactured by Safe-T-Nose. 1 inch (25 mm) wide x 100 feet (30.5 meters) long beveled edge to lay flat.
       1. Material: Photo-Glo , an industrial grade solid polymer with embedded photoluminescent pigment, durable and easy to clean "golf ball" material.
       2. Installation: Cuts easily with scissors.
       3. Application: Peel and stick - no additional adhesives required.

1. EXECUTION
   1. EXAMINATION
      1. Before installation, examine surfaces for appropriate application. Do not begin installation until substrates have been properly prepared. Commencement of work will imply acceptance of surfaces.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces to remove dirt, dust, grease, oil, loose material or other matter that may affect bonding of photoluminescent products.
      2. Test substrates for compatibility before using other adhesives or mechanical fasteners.
      3. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions and approved submittals.
      2. Install products to be plumb, square and in alignment where required.
      3. Follow supplied instructions.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. PERIMETER MARKING INSTALLATION (STNF)
     1. Thoroughly clean the surface area where the strip will be installed with a dry cloth and nonresidue cleaning compound to remove and loose particles and dirt. Surface must be dry and dust free.
     2. Cut to length with scissors.
     3. Peel the backing from the strip without touching the adhesive.
     4. Place the strip and starting from one end to the other, firmly press the strip onto the installation surface. Be sure that the strip has full contact with the surface.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. HANDRAIL STRIP INSTALLATION (STNH)
     1. Thoroughly clean the surface area where the strip will be installed with a dry cloth and nonresidue cleaning compound to remove and loose particles and dirt. Surface must be dry and dust free.
     2. Cut to length with scissors.
     3. Peel the backing from the Handrail Strip without touching the adhesive.
     4. Place the strip and starting from one end to the other, firmly press the strip onto the handrail.
     5. Be sure that the strip has full contact with the railing.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. NOSING INSTALLATION

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. STNP and STNC3 Installation:
       1. Verify the front lip of the riser surface is clean, dry, flat, and smooth.
       2. Verify the front lip of the riser is no greater than 3/4 inch (19 mm) in length.
       3. Clip in place the nosing isolator onto the front lip of the riser.
          1. Verify the nosing assembly is level and secure.
          2. Verify the nosing construction cover is secure.
       4. Fill pan with concrete.
          1. Concrete to be flush with top of construction cover.
          2. Trowel joint at back of construction cover.
       5. Remove the construction cover after concrete is fully dry and all painting and cleanup is complete.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. STNR Installation:
       1. Verify the surface is clean, dry, flat and smooth.
          1. On concrete, use a leveling compound if necessary to provide a level/smooth surface.
          2. Use dry cloth and non-residue cleaning compound to remove dirt and grime.
       2. Use construction grade (water resistant) adhesive.
          1. Recommended Adhesive: Bostik 1100FS or 70-03A.
       3. If Adhesive is used: Apply continuous bead of adhesive, centered on underside of nosing.
       4. Place and press nosing centered on front edge of tread.
          1. Allow adhesive rated cure time before stair use.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. STNC Installation:
       1. Verify the wet concrete surface is smooth and level.
       2. Push the nosing, centered, front edge of riser, into the wet concrete with the plastic isolator embedded in the concrete.
       3. Top of construction cover shall be level with the surface of the concrete.
       4. Trowel joint at back of construction cover.
       5. Remove the construction cover after concrete is dry fully and all painting and cleanup is complete.
    2. Do not allow heavy objects to come in contact with installed products.
    3. Keep construction covers on as long as practical to protect nosings during construction.
  1. INSTALLATION INSPECTION:
     1. Check regularly for loose nosing's or damaged components. Replace damaged components, repair delaminated Photo-Glo components as required. Tighten loose fasteners as needed.
  2. PHOTO-GLO CHARGE INSTRUCTION:
     1. Minimum of 1 foot candle (11 Lux) of fluorescent, incandescent or light emitting diode (LED) for 60 Minutes is required to charge Photo-Glo.
     2. Control of lighting restricted to authorized personnel. Reliable external illumination is required at all times during building occupancy.
     3. Do not use Photo-Glo where the ambient illumination level is less than 1 foot candle (11 Lux).
  3. CLEANING
     1. Cleaning: Clean Work of this Section prior to Substantial Completion.
        1. Establish a regular inspection schedule for the photoluminescent components and clean them as needed to prevent dirt, etc. from inhibiting the performance of the components. Safe-T-Nose, Inc. recommends inspection at least annually or after any particularly heavy use. Perform inspections in accordance with applicable local and national code requirements.
        2. Photoluminescent components attached to floor assemblies may be cleaned by mopping, using high-pressure water (NO STEAM CLEANING) or wiping with a clean damp cloth. Use mild detergents to clean the photoluminescent components, if necessary. Mild dish washing detergents or laundry detergents are recommended. Do not use highly alkaline detergents, those having a ph greater than 8, or acidic cleaners, those having a ph less than 5. Do not use abrasive cleaners. Photoluminescent components on walls or other assemblies or components may be cleaned using clean water and a clean sponge or a clean cotton cloth. Rinse after applying detergent solution. Wipe with a clean cotton cloth to dry.
        3. Regular Maintenance:
           1. Inspect exit path markings, obstacle markings and photoluminescent stair nosing for damaged components and to ensure that photoluminescent components remain properly attached to their substrate and that no loosening of anchors or delamination of photoluminescent components has occurred.
           2. Replace damaged components. Repair delaminated photoluminescent components. Contact the factory for repair recommendations. Delaminated photoluminescent components in stair nosings can result in trip hazard.
  4. PROTECTION
     1. Protect installed products until completion of project.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION