PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Anti-slip Safety Stair Treads and Nosing’s for new construction and renovation, inside and outside stair applications including extruded aluminum and cast systems.

1.2 REFERENCES

A. State of California Title 24, Striping code for the visually impaired
B. American Disability Act (ADA) barrier-free code design
C. Occupational Safety and Health Association (OSHA)
D. International Building Code (IBC)
E. Underwriters Laboratories (UL) 1994 Luminous Egress Path Markings
F. ASTM B 221 Standard Specification for Aluminum and Aluminum Alloy extruded bars, rods, wire, shapes and tubes.

1.3 COORDINATION

A. Coordinate with other trades such as concrete and masonry.

1.4 ACTION SUBMITTALS

A. Shop Drawings: Indicate configuration and dimensions, show components, adjacent construction, required clearances and tolerance and other affected work.
B. Product Data: Manufacturer’s technical data for each type of floor door, including setting drawings and finish requirements

1.5 INFORMATIONAL SUBMITTALS

A. Provide manufacturer's standard warranty.

B. Sustainable Design Submittals:

1. Building Product Disclosure Requirements: To encourage the use of building products that are working to minimize their environmental and health impacts, provide the following information when available:

   a. Material Ingredients Documentation demonstrating the chemical inventory of the product
1.6 CLOSEOUT SUBMITTALS

A. Manufacturer's Installation Instructions and Operation & Maintenance: Indicate installation, operation and maintenance requirements and rough-in dimensions.

PART 1 - PRODUCTS

2.1 MANUFACTURER

A. Nystrom
9300 73rd Ave N
Minneapolis, MN 55428
PH: 800-547-2635
www.Nystrom.com

2.2 ABRASIVE METAL [NOSINGS] [TREADS] [AND] [THRESHOLDS]
Retain product and nosing types required and revise to suit Project. Delete all if configurations are indicated on Drawings.

A. Single Part Unit: Aluminum with abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder.

1. Ribbed bar abrasive. Aluminum alternating with abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder
   a. Basis of-Design Product: Nystrom, STSB
   b. Nosing Types:
      1) Short Nose Tread: [1-7/8 inches (48 mm)] [3 inches (76 mm)] [4 inches (102 mm)] wide, with 1/2 inch (13 mm) lip for poured concrete applications.
         a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
      2) Short Tipped Nose: [1-7/8 inches (48 mm)] [3 inches (76 mm)] [4 inches (102 mm)] wide, with 1/4 inch (6 mm) lip for poured concrete and steel pan applications.
         a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
      3) Angled Long Nose Tread: [1-7/8 inches (48 mm)] [3 inches (76 mm)] wide, with 1-1/8 inch (31 mm) lip, 83 degree angle for sloped risers.
         a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
      4) Inset, Square Front and Back: [1-3/8 inches (35 mm)] [3 inches (76 mm)].
         a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
   c. Finish: 6063-T5 aluminum, mill finish.
   d. Abrasive Colors: [Black] [Safety yellow] [see manufacturer for available color selections].

2. Full abrasive filler. Aluminum filled with abrasive consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder no less than flush with the aluminum extrusion.
   a. Basis-of-Design Product: Nystrom; STSF
   b. Nosing Types:
      1) Short Nose Tread: [2 inches (51 mm)] [3 inches (76 mm)] [4 inches (102 mm)] wide, with 1/2 inch (13 mm) lip for poured concrete applications.
         a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
2) Short Tipped Nose: [2 inches (51 mm)] [3 inches (76 mm)] [4 inches (102 mm)] wide, with 1/4 inch (6 mm) lip for poured concrete and steel pan applications.
   a) Attachment Method: Cast-In, continuous extruded anchor.

3) Long Nose Tread: [2-1/8 inches (54 mm)] [3-1/8 inches (79 mm)] [4 inches (102 mm)] wide, with 1-1/8 inch (31 mm) lip with 90 degree angle.
   a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].

4) Inset, Square Front and Back: [2-1/4 inches (57.2 mm)]
   a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].

   c. Abrasive Colors: [Black] [Safety yellow] [see manufacturer for available color selections].
   d. Finish: 6063-T5 aluminum, mill finish.

Specify taped top to prevent concrete from penetrating tread during installation. Painted undersides create a barrier between metal and concrete to avoid adverse reaction.

   e. Options:
      1) Taped Top.
      2) Painted Undersides.

3. Renovation: Aluminum channel with 1 inch (25 mm) tapered back, abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder.
   a. Basis-of-Design Product: Nystrom STRB
   b. Nosing Types:
      1) Long Nose Tread: [5 inches (127 mm)] [9 inches (229 mm)] [11 inches (280 mm)] wide, with 1-1/8 inch (31 mm) lip with 90 degree angle.
         a) Attachment Method: Drilled Hole, Mechanically Fastened.
      2) Angled Nose Tread: [5 inches (127 mm)] [9 inches (229 mm)] [11 inches (280 mm)] wide, with 1-1/8 inch (31 mm) lip with 83 degree angle.
         a) Attachment Method: Drilled Hole, Mechanically Fastened.
      3) Rounded (Bull) Nose Tread: 4 inches (102 mm) wide, with 1-3/16 inch (30.2 mm) lip.
         a) Attachment Method: Drilled Hole, Mechanically Fastened.
   c. Abrasive Colors: [Black] [Safety yellow] [see manufacturer for available color selections].
   d. Finish: 6063-T5 aluminum, mill finish.

Specify taped top to prevent concrete from penetrating tread during installation. Painted undersides create a barrier between metal and concrete to avoid adverse reaction.

   e. Options:
      1) Taped Top.
      2) Painted Undersides.

B. Two Part Extruded Units: One part, Sub-channel and plywood insert; second part, Aluminum, with abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder.

   1. Basis-of-Design Product: provide Nystrom [Ribbed Bar Abrasive, STTB] [Full Abrasive, STTF] with abrasive filler strips no less than flush with the aluminum extrusion.
      a. Nosing Type:
         a) Short Tipped Nose: 3-3/8 inches (86 mm) wide, with 1/2 inch (13 mm) lip for poured concrete and steel pan applications.
         b) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
      b. Abrasive Colors: [Black] [Safety yellow] [see manufacturer for available color selections]
      c. Finish: 6063-T5 aluminum, mill finish.
Specify taped top to prevent concrete from penetrating tread during installation. Painted undersides create a barrier between metal and concrete to avoid adverse reaction.

d. Options:
   1) Taped Top.
   2) Painted Undersides.

2.3 PHOTOLUMINESCENT [ABRASIVE] [TRANSLUCENT RESIN] METAL [NOSINGS] [TREADS] [AND] [THRESHOLDS]
Retain product and nosing types required and revise to suit Project. Delete all if configurations are indicated on Drawings.

A. Extruded Units: Aluminum with Photoluminescent [53 mil Resin Strip] [21 mil abrasive grit] and abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder

   1. Basis-of-Design Product: provide Nystrom STSM
      a. Two-Part Short Tipped Ribbed Bar Abrasive Nosing 3-3/8 inch (86 mm) with 1 inch (25 mm) v-in, continuous extruded anchor attachment method. Nystrom Model: STTM-P3.375E
      b. Ribbed Abrasive Short Tipped Nose: 3 inches (76 mm) wide, 1 inch (25 mm) Photoluminescent [53 mil Resin Strip] [21 mil abrasive grit]. Nystrom Model: STSM-P3E
         a) Attachment method: [Cast-in, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].

Specify taped top to prevent concrete from penetrating tread during installation. Painted undersides create a barrier between metal and concrete to avoid adverse reaction.

   a. Options:
      1) Taped Top.
      2) Painted Undersides

B. Extruded Units: Aluminum with abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder.

   1. Basis-of-Design Product: Subject to compliance with requirements, provide Nystrom; STSB, STTB
Retain types required and revise to suit Project. Delete all if configurations are indicated on Drawings

   a. Two-Part Short Tipped Nose Ribbed Bar Abrasive Nosing 3-3/8 inch (86 mm) with 1 inch (25 mm) 21 mil abrasive photoluminescent grit. Cast-in, continuous extruded anchor attachment method. Nystrom Model: STTB-P3.375E-V2FC1
   b. Ribbed Abrasive Short Tipped Nose: 3 inches (76 mm) wide, 1 inch (25 mm) 23 mil abrasive Photoluminescent grit. Cast-in, continuous extruded anchor attachment method. Nystrom Model: STSB-P3E-V2FC1

C. Extruded Units for Renovation: Aluminum channel with 1 inch (25 mm) tapered back, Photoluminescent [53 mil Resin Strip] [21 mil abrasive grit].

   1. Basis-of-Design Product: Subject to compliance with requirements, provide Nystrom; STRM-R2A

D. Photoluminescent Tapered Edge Translucent Resin Extrusion for Perimeter landing, exit path, door hardware, & door frame, Self-Adhesive 1 inch by 100 feet (25mm by 30.4 Meters). Nystrom Model: EM-DS1-100.

2.4 RECYCLED RUBBER AND EXTRUDED ALUMINUM [NOSINGS] [TREADS] [AND] [THRESHOLDS]
A. Extruded Units: Aluminum, with EcoTread slip resistant, replaceable, recycled rubber and EPDM backing.
a. Basis of-Design Product: Nystrom, STSB  
b. Nosing Types:  
   1) Short Nose Tread: 3 inches (76 mm) wide, with 1/2 inch (13 mm) lip for poured concrete applications.  
      a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
   2) Short Tipped Nose: [1-7/8 inches (48 mm)] [3 inches (76 mm)] [4 inches (102 mm)] wide, with 1/4 inch (6 mm) lip for poured concrete and steel pan applications.  
      a) Attachment Method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].
   c. Finish: 6063-T5 aluminum, mill finish.
   d. EcoTread Colors: [Black] [Safety Yellow] [Steel Gray] [Blue][Gray] [Red] [Yellow] [Purple] [Green Tea] [Blue/Gray] [Red/Gray]

B. Extruded Units: Aluminum, with EcoTread slip resistant, replaceable, recycled rubber combined with Photoluminescent insert.

1. Ribbed Abrasive Short Tipped Nose: 3 inches (76 mm) wide EcoTread, 1 inch (25 mm) Photoluminescent [53 mil Resin Strip] [21 mil abrasive grit]. Nystrom Model: STSM-P3  
   a. Attachment method: [Cast-In, continuous extruded anchor] [Drilled Hole, Mechanically Fastened].

Specify taped top OR CONSTRUCTION COVER to prevent concrete from penetrating tread during installation. Painted undersides create a barrier between metal and concrete to avoid adverse reaction.

b. Options:  
   1) Taped Top.  
   2) Painted Undersides  
   3) Construction Cover  

c. Finish: 6063-T5 aluminum, mill finish.

d. EcoTread Colors: [Black] [Safety Yellow] [Steel Gray] [Blue][Gray] [Red] [Yellow] [Purple] [Green Tea] [Blue/Gray] [Red/Gray]

2.5 CAST-METAL UNITS: CAST ALUMINUM, WITH AN INTEGRAL-ABRASIVE, AS-CAST FINISH CONSISTING OF ALUMINUM OXIDE, SILICON CARBIDE, OR A COMBINATION OF BOTH.

1. Basis-of-Design Product: provide Nystrom; STCA

2. Provide cross-hatched units with silicon carbide abrasive 20 grit, a minimum of 2-1/ ounces/sq. ft. (687 grams/sq. m), to a minimum of 1/32 inch (0.8 mm) thick.

Retain types required and revise to suit Project. Delete all three if configurations are indicated on Drawings.

3. Nosing Type:  
   a. Short Nose: Cross-hatched units, [2 inches (51 mm)] [3 inches (76 mm)] [4 inches (102 mm)] wide with 1/4-inch (6-mm) lip.  
      1) Attachment Method: [Cast-In, wing anchor and nut] [Cast-In bolt].
   b. Short Tipped Nose: Cross-hatched units, [2 inches (51 mm)] [3 inches (76 mm)] [4 inches (102 mm)].  
      1) Attachment Method: [Cast-In, wing anchor and nut] [Cast-In, bolt].
   c. Long Nose: Cross-hatched units, [3 inches (76 mm)] [4 inches (102 mm)].  
      1) Attachment Method: [Cast-In, wing anchor and nut] [Cast-In, bolt].

Specify taped top to prevent concrete from penetrating tread during installation. Painted undersides create a barrier between metal and concrete to avoid adverse reaction.
4. Options:
   a. Taped Top.
   b. Painted Undersides.

PART 3 - EXECUTION

3.1 EXAMINATION
   A. Verify that preparation and affected dimensions are acceptable.
   B. Verify tolerances and correct improper conditions.

3.2 PREPARATION
   A. Advise installers of details relating to floor hatch installation, including rough opening dimensions, locations of supports, and anchoring methods.

3.3 INSTALLATION
   A. Follow manufacturer's instructions for installing floor doors and hatches.
   B. Install frames plumb and level in opening, in proper alignment with floor surface for flush installation. Secure rigidly in place.
   C. Position units to provide convenient access to concealed Work requiring access.

3.4 ADJUSTING
   A. Operational Units: Test-operate units with operable components.
   B. Clean and lubricate joints and hardware.
   C. Adjust for proper operation.

3.5 CLEANING
   A. Clean adjacent surfaces and remove unused product and debris from site.
   B. Adjust doors for smooth operation.

END OF SECTION