SLIP RESISTANT METAL FLOORING PRODUCTS

SlipNOT®

WHAT IS SLIPNOT?

***Slip*NOT® is an all metal slip resistant surface.** The *Slip*NOT® process consists of applying molten metal to metal substrates by plasma spray deposition, resulting in a file hard random stacked hatch matrix covering 100% of substrate surfaces. *Slip*NOT®'s unparalleled surface hardness is combined with a maximum bond strength producing the most durable, longest lasting slip resistant surface available.

*Slip*NOT® metal products exceed all recommendations for coefficient of friction and slip resistant surfaces as specified by ANSI, ASTM, NFPA, ADA, and OSHA.

$70 BILLION SPENT

ANNUALLY IN COMPENSATION & MEDICAL COSTS ASSOCIATED WITH EMPLOYEE SLIP AND FALL ACCIDENTS ACCORDING TO THE NATIONAL SAFETY COUNCIL.

source: www.nfsi.org

BENEFITS

- *Reduces liability* - safer and more productive work areas
- *Exceeds* - all regulatory agency recommendations for slip resistance
- *Long lasting* - surface with a hardness of over 55 on the Rockwell "C" scale
- *Durable* - with a surface bond strength of over 4,000 psi
- *Economical* - durability and longevity result in significant life-cycle cost savings
- *Versatile* - can be fabricated to meet project needs
- *Slip resistance* - *Slip*NOT® is a high traction surface, with a coefficient of friction of 0.85 or higher. Coefficient of friction values depend on test method, sensor, and environmental conditions.

Benefits of added workplace safety:

Source: OSHA

1. Companies that implement effective safety and health programs can expect reductions of 20% or greater in their injury and illness rates and a return of $4 to $6 for every $1 invested.
2. Liberty Mutual survey shows 61% of executives say $3 or more is saved for each $1 invested in workplace safety.
3. The American Society of Safety Engineers calls investment in improving workplace safety "a sound business strategy" with a "positive impact on the financial bottom line".

SURFACES & GRADES

*Slip*NOT® is applied directly to a metal substrate in steel, stainless steel, or aluminum alloys. The *Slip*NOT® surface application does not change the chemical or structural properties of the metal substrates, other than creating a durable, long lasting slip resistant surface.

*Slip*NOT® is available in three grades; Grade 1 (Fine), Grade 2 (Medium) and Grade 3 (Coarse - Steel surface only). The different grades available refer to the depth or coarseness of the *Slip*NOT® surface.

> *Diamond or checker plate surfaces offer inadequate slip resistance, particularly when worn or wet...to the point of being dangerously unsafe.*
>
> Article featured in Professional Safety: Official Publications of The American Society of Safety Engineers.

STEEL

*Slip*NOT®, grit-free, steel Grip Plate® / Grip Grate® (Grade 1, Grade 2, Grade 3), as manufactured by the W.S. Molnar Company (1-800-SlipNOT) per drawings. Steel Grip Plate® / Grip Grate® shall incorporate an anti-slip primarily martensitic steel surface covering 100% of the substrate consisting of a random hatch matrix with a surface hardness of 55 or higher on the Rockwell "C" scale and a surface to substrate bond strength of at least 4,000 psi. The non-slip surface shall have a minimum coefficient of friction of 0.8 and be listed as slip resistant by Underwriters Laboratories.

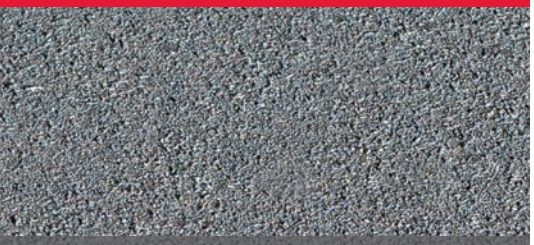
STAINLESS STEEL

*Slip*NOT®, grit-free, stainless steel Grip Plate® / Grip Grate® (Grade 1, Grade 2), as manufactured by the W.S. Molnar Company (1-800-SlipNOT) in alloy and specifications per drawing. Stainless steel Grip Plate® / Grip Grate® shall incorporate an anti-slip stainless steel surface covering 100% of substrate consisting of a random hatch matrix with a surface hardness of 55 or higher on the Rockwell "C" scale and a surface to substrate bond strength of at least 4,000 psi. The non-slip surface shall have a minimum coefficient of friction of 0.8 and be listed as slip resistant by Underwriters Laboratories.

ALUMINUM

*Slip*NOT®, grit-free, aluminum Grip Plate® / Grip Grate® (Grade 1, Grade 2), as manufactured by the W.S. Molnar Company (1-800-SlipNOT) in alloy and specifications per drawing. Aluminum Grip Plate® / Grip Grate® shall incorporate an anti-slip aluminum surface covering 100% of substrate consisting of a random hatch matrix and a bond strength of at least 2,000 psi. The non-slip surface shall have a minimum coefficient of friction of 0.8 and be listed as slip resistant by Underwriters Laboratories.

GRADE 1 - FINE



- Average peak to valley depth of 0.010" - 0.012"
- Used in light duty applications
- Available for all *Slip*NOT® surfaces
- For specialty use - not recommended in most applications

GRADE 2 - MEDIUM

- Average peak to valley depth of 0.020"-0.025"
- Applicable to nearly every situation
- Available for all *Slip*NOT® surfaces
- Used in majority of applications

GRADE 3 - COARSE

- Average peak to valley depth of 0.032"-0.038"
- Used in most demanding environments
- Only offered in steel

FINISHES

MILL FINISH
*Slip*NOT® is produced in a standard mill finish. There are no additives or paints applied to the product besides the slip resistant coating. Mill finish will be the raw material color.

PAINTED
*Slip*NOT® products can be painted, however, care must be taken in order not to compromise the slip resistant properties of the surface. Paint is available in black, safety yellow or customized to fit job specifications.

GALVANIZED
*Slip*NOT® steel products can be offered with a hot-dipped galvanized finish to prevent corrosion. Galvanizing is performed in accordance with ASTM A123 or other appropriate specifications.

CUSTOMIZED
*Slip*NOT® can customize products by adding logos, identifications, or masking off certain areas to specifications. *Slip*NOT® products can easily be customized to job details and specifications.

GALVANIZING GUIDELINES

NOT RECOMMENDED

» Heated Sulfuric Acid Pickling Solution (if used, do not immerse for longer than 2 to 3 minutes).

» Storage out of doors (do not expose to weather)

» Providing galvanizer with scaly or rusty material - all surface rust and scale should be removed prior to the galvanizing process.

» Standard acid pickling times - exceeding recommended pickling guidelines will cause damage to the *Slip*NOT® surface and possible contamination to process tanks.

RECOMMENDED

» Ambient Temperature Hydrochloric Acid Pickling Solution.

» In ambient HCl solutions, pickling times should be as short as possible.

» Maintain sufficient spacing between material to be galvanized to prevent localized hot spots from forming.

» Keep steel *Slip*NOT® products from exposure to elements prior to galvanizing.

» Steel products must be rust-free and scale-free before the galvanizing process - blast any non-*Slip*NOT® treated surfaces prior to galvanizing (i.e. support angles, stringers, rails, etc.).

» Store material to be galvanized in dry, low humidity conditions. Keep material from exposure to moisture which may cause surface rusting to form.

» Galvanize material with *Slip*NOT® surface facing down wherever possible.

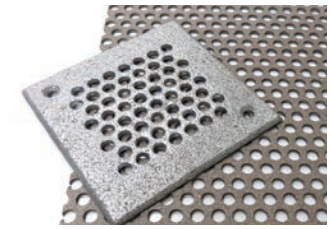
The guidelines shown below must be observed to insure that the galvanizing process does not damage the *Slip*NOT® surface during processing. *Slip*NOT® is not responsible for damage caused by third party operations such as galvanizing.

Note: Damage to the *Slip*NOT® surface is caused from over exposure to pickling acids during the galvanizing process. Care must be taken when processing *Slip*NOT® materials.

If the SlipNOT® surface is galvanized by a third party the above mentioned guidelines must be observed. The W.S. Molnar Company is not liable for damage to the SlipNOT® surface by third parties. If galvanized incorrectly, the SlipNOT® surface can be compromised. If you have questions or require SlipNOT® steel samples to test galvanize, please call (800) 754-7668 or (313) 923-0400. SlipNOT® is not responsible for costs associated with replacement or repair of material fabricated, including but not limited to drilling or welding after galvanizing. Also, pieces damaged in material handling must be field repaired. Failure to adequately repair and protect compromised surfaces will result in pre-mature failure of the SlipNOT® and galvanized surfaces. SlipNOT® is not responsible for surface damage caused by either deliberate or incidental means.

FABRICATING INSTRUCTIONS

*Slip*NOT® Metal Safety Flooring products can be treated just like their smooth plate counterparts. Material can be sheared, flame / torch cut, laser cut, water-jetted, plasma cut, or welded without harming the *Slip*NOT® surface. *Slip*NOT® can also be drilled and countersunk. The *Slip*NOT® process hardens the surface to over 55 on the Rockwell "C" scale, and requires appropriate tooling for fabrication.



DRILLING

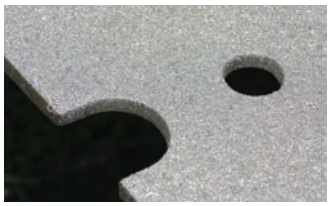
*Slip*NOT® material can be drilled and countersunk/counterbored. Generally, pre-drilling material prior to the *Slip*NOT® application is recommended. Holes, countersinks, and counter bores are protected from the *Slip*NOT® process and surface so screws / bolts will sit flush. Due to the surface hardness, if fabrication is done after *Slip*NOT® application, additional time and tooling costs should be figured into estimating and labor costs.

SHEARING

While *Slip*NOT® treated materials may be sheared, it is recommended that *Slip*NOT® material be flame, plasma, laser, or water-jet cut to save wear on tooling. Plates can also be sheared from the non-slip side to help minimize dulling of the shear blades, however, the roughened, hardened *Slip*NOT® surface can scratch shear tables. Shearing is best performed prior to the *Slip*NOT® surface application.

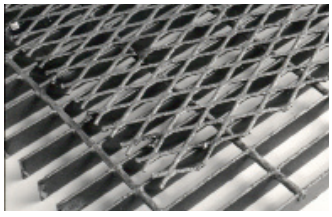
FLAME/PLASMA

The unique *Slip*NOT® surface is bonded to substrates at over 4,000 psi and cutting with flame / plasma is no different than with smooth plates. This is the preferred method for fabricating *Slip*NOT® material. If done properly, the *Slip*NOT® surface will not be harmed by burning procedures.



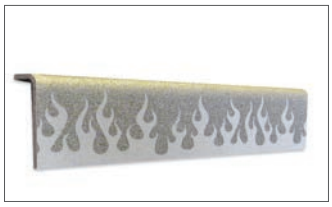
LASER CUT

The random stacked hatch matrix surface of the *Slip*NOT® will add approximately 0.020" - 0.030" to any given substrate. These materials will not harm the optics of laser cutters and can be treated exactly the same as regular plate and grating material. The laser will not harm the *Slip*NOT® surface in any way and the *Slip*NOT® surface will not damage any laser equipment.



WELDING

*Slip*NOT® is an all-metal grit-free surface; welding is performed exactly as required for a smooth plate counterpart. No special requirements are needed. Heat distortions and discolorations from any welding may be transmitted through the *Slip*NOT® surface and should be taken into account if aesthetics are critical to your project.



SURFACE MASKING/DETAILING

*Slip*NOT® is a molten metal plasma stream deposition and areas can be masked / protected from surface coating. In cases of stair treads, vertical risers and nosings are masked and only the horizontal tread surface itself receives the *Slip*NOT® application. Logos, words, or patterns can also be created within the *Slip*NOT® surface application. There care additional costs associated with these procedures. For projects requiring welds to be ground smooth, small (1/2"+) borders can be masked to allow plates to be further metal worked more easily.

GREEN PRODUCTS

*Slip*NOT® Metal Safety Flooring is dedicated to contributing to a cleaner environment. By recycling scrap, utilizing recycled materials and limiting waste and energy consumption, *Slip*NOT® aims to assist the architects and engineers in efforts to design environmentally conscious concepts.

*Slip*NOT® manufactures all metal products that are made of recycled metal and recycled for new use. *Slip*NOT® products are also high quality and provide long lasting durability. This results in less need to replace often and a reduction in the environmental impact of replacement. By specifying *Slip*NOT® products your project may be eligible for LEED credits.

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

Since the type and sourcing of the *Slip*NOT® substrate products varies greatly, the recycled content varies as well. However, all *Slip*NOT® products have a minimum of 40% recycled content and up to 83% recycled content.

BENEFITS

- High percentage of recycled material
- Waste is recycled
- Long lasting product eliminates impact to environment by replacing often
- Tax rebates and incentives
- Reduces harmful gas emissions
- Demonstrates social and environmental responsibility

Credit 4.1 Recycled Content (Specify 10%): Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.	1	Use materials recycled content such that the sum of the pre-consumer and post-consumer recycled content constitutes at least 10% of the total value of the materials in the project.
Credit 4.2 Recycled Content (Specify 20%): Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.	(4.1) + 1	Use materials recycled content such that the sum of the pre-consumer and post-consumer recycled content constitutes at least 20% of the total value of the materials in the project.

SEND US YOUR OWN MATERIAL

Customers have the option of sending their own metal material to *Slip*NOT® to have the patented anti-slip surface applied. Materials that are commonly sent are drain covers, stair treads, plates, grating, and manhole covers.

- Customer supplied material is recommended not to exceed 6' wide x 12' long x 8" high. Grating and plank may be accommodated in stock lengths of 20', 24', or 26' if required.
- Material should be free from oil and grease before it is shipped to our facility.
- Supplying shop drawings or product lists prior to shipment will allow for more accurate cost estimates and faster turnarounds.
- Turnaround time is typically two weeks after receiving material (3-4 weeks for galvanized material), not including transit.
- Steel material must be supplied in mill finish, not hot-dipped galvanized or painted.
- Aluminum material should not be pre-anodized prior to submission for *Slip*NOT® application.
- For stainless steel, decorative finishes (polishing, brushed, etc.) should be performed to non- *Slip*NOT® treated areas after *Slip*NOT® application. Material may be marked, scarred, or otherwise impacted by processing activities which may harm decorative finishes.

UPGRADE UNSAFE DESIGNS

Before and after at the USS Battleship Missouri Memorial

RETROFIT OVER EXISTING MATERIAL

Safety products may easily be retrofitted over existing unsafe material such as ladder rungs. Products can be welded, bolted, or adhered over any type of flooring such as wood, concrete, or metal. Products can usually be custom fabricated to retrofit unsafe conditions and meet regulatory compliances and codes.

REPLACING PRODUCTS OR NEW CONSTRUCTION

Incorporating safety products into the design stage meets regulatory requirements at reduced costs. In some cases, retrofitting unsafe conditions can require complete replacement of products at significant expense.

STANDARDS & CERTIFICATIONS

OSHA states that the coefficient of friction of surfaces varies considerably due to the presence of contaminants, water, floor finishes, and other factors ***not under the control of the designer or builder and not subject to design and construction guidelines*** *and that compliance would be difficult to measure on the building site.*

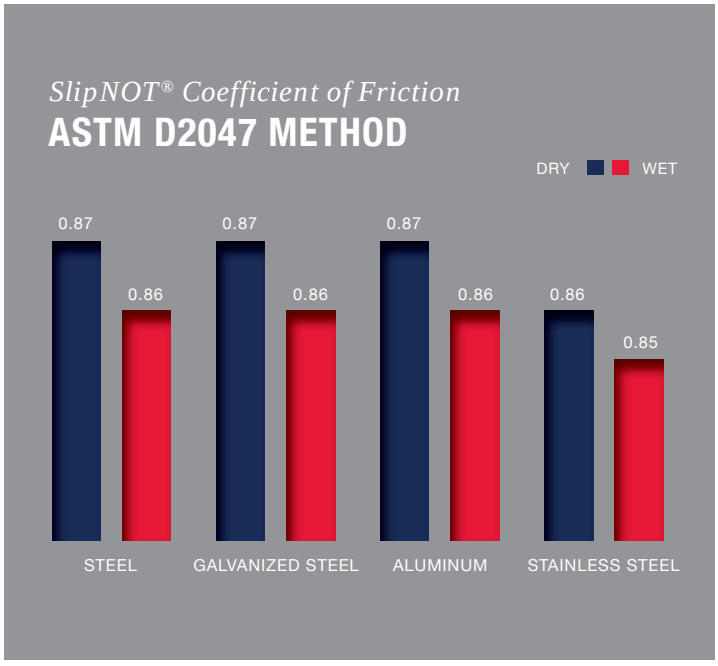
While it may not be possible to compare one product directly with another, or to guarantee a constant measure, ***builders and designers are encouraged to specify materials with appropriate values.***

source: www.trace.wisc.edu

*Slip*NOT® Metal Safety Flooring is the preeminent choice for slip resistant products. *Slip*NOT® is an ISO 9001:2008 registered company, Woman Owned Company: WBENC Certification # 2005108416 and a California Public Utilities Commission Certified VON: 5JN00043 Company. SlipNOT® products are also registered by NSF International Nonfood Compounds Registration Program and the Canadian Food Inspection Agency (CFIA). *Slip*NOT® products far exceed ALL standards and recommended guidelines for slip resistance. *Slip*NOT® products' coefficient of friction values and slip resistance are certified by independent laboratory testing.

Coefficient of friction (COF) is a dimensionless number that indicates relative surface friction. There are two (2) types of COF that are useful in determining floor safety:

1. **STATIC COF:** (SCOF) The ratio of horizontal force needed to start an object sliding to the normal force pressing against it.
2. **DYNAMIC COF:** (DOCF) The ratio of horizontal force needed to keep an object sliding at constant velocity to the normal force pressing against it.



COF values will vary depending upon the test method and sensor material utilized.

ANAB is the North American accreditation body under which NSF-ISR provides ISO 9001:2008 registration.

All SlipNOT® products meet and exceed all coefficient of friction recommendations/standards as set by the following agencies:

AMERICAN'S WITH DISABILITIES ACT (ADA):

(ADA) Title lll Regulation: A4.5.1)

Minimum requirements for coefficient of friction for compliant surfaces:

- 0.6 for flat surfaces (dry COF)
- 0.8 for inclined surfaces (dry COF)

*Slip*NOT® exceeds minimum ADA requirements even when wet or oily.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA):

OSHA no longer provides definitive recommendations for minimum coefficient of friction. Prior to 2006, OSHA's minimum COF recommendation was 0.5 (dry).

- *Slip*NOT® products have COF values nearly double the 0.5 recommended value.

OSHA requires slip resistance for ladders: OSHA standard # 1926.1053 (a)(6)(i) and 1910.26 (a)(1)(v).

- *Slip*NOT® ladder rungs and rung covers exceed all recommendations specified by OSHA Standard # 1926.1053 (a) (6) (i) and 1910.26 (a)(1)(v).

OSHA Standard 1910.24F: "Stair treads – All treads shall be reasonably slip resistant and the nosings shall be of non-slip finish."

- *Slip*NOT® Metal Safety Flooring products exceed OSHA Standard 1910.24F for slip resistance on stair treads.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):

The NFPA requires minimum COF values of 0.68 (wet surfaces) for compliant surfaces.

- *Slip*NOT® tests at 1.0 in accordance with ASTM F1679 test method as directed by the NFPA.

NATIONAL FLOOR SAFETY INSTITUTE (NFSI):

NFSI defines high traction as those walking surfaces whose wet SCOF > 0.6 under the NFSI 101-A standards.

- *Slip*NOT® has a coefficient of friction that is greater than or equal to 0.85 and qualifies as a high traction surface.

AMERICAN NATIONAL STANDARD INSTITUTE (ANSI):

ANSI defines three (3) wet static COF levels. *Slip*NOT® is defined as a high traction surface, due to a COF of 0.85 or higher.

- High traction (> 0.6) (wet COF)
- Moderate traction (0.4 - 0.6) (wet COF)
- Low traction (< 0.4) (wet COF)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

ASTM had previously specified the following methods for evaluating COF values:

- ASTM F1679
- ASTM F489
- ASTM F609
- ASTM F1677
- ASTM D2047
- ASTM E303
- ASTM F1678
- ASTM D5859
- ASTM C1028

*Slip*NOT® qualifies as an ASTM slip resistant surface.

(Note: ASTM is currently reviewing test methods for determining COF values.)

UNDERWRITERS LABORATORIES (UL 410):

UL defines slip resistant surfaces as those with a dry SCOF > 0.50 (when tested with leather sensor).

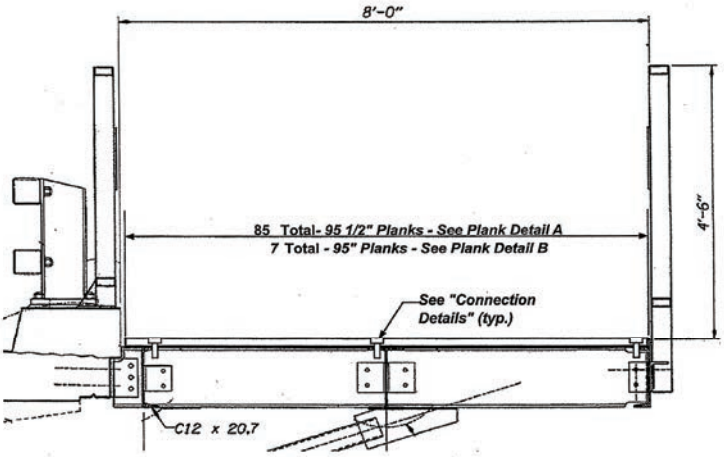
- *Slip*NOT® exceeds the 0.50 definition of a slip resistant surface.

*Slip*NOT® is continually being specified and utilized by companies and agencies throughout North America due to its high surface friction and long term durability. Please contact a sales representative at 1-800-754-7668 (800-SlipNOT) for further information.

SlipNOT® test results and references available, please contact us for more information.

HOW TO SPECIFY SLIPNOT

ANTI-SLIP SURFACE SPECIFICATION



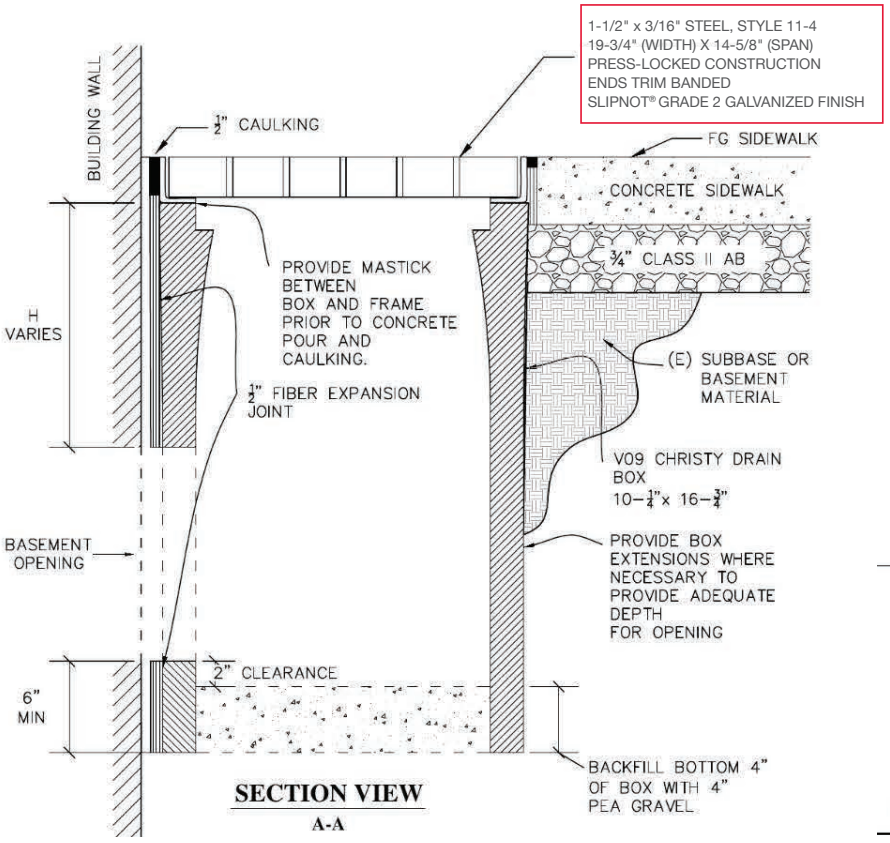
TYPICAL SECTION

PLANK MATERIAL SPECIFICATIONS:

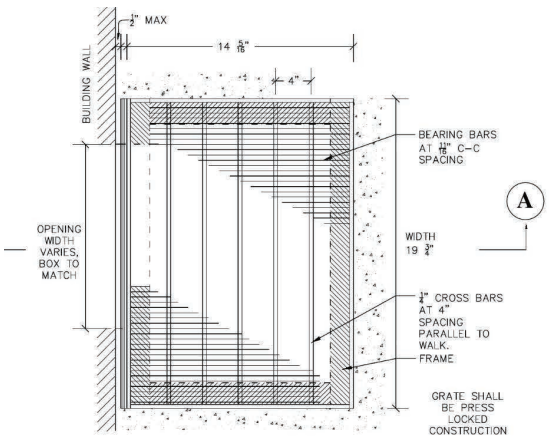
1) Planks shall be aluminum.
2) Top plank surface shall incorporate an anti-slip aluminum surface covering 100% of substrate consisting of a random hatch matrix and a bond strength of at least 2,000 psi. The non-slip surface shall have a minimum coefficient of friction of 0.9 achieved under wet test conditions per ASTM C1028 and be listed as slip resistant by Underwriters Laboratories.
3) Plank Depth shall be 1 1/2".
4) Planks shall be pre-punched with ADA-compliant slotted holes. Holes shall be a minimum 3/16" wide in all directions. Hole orientation shall be 45 degrees to plank major axis.
5) Plank weight shall not exceed 5 PSF
6) Maximum plank deflection shall not exceed 0.25" under 100 PSF uniform load for 4'-0" clear span
7) Maximum open area shall not exceed 8%.

SUBMITTALS, DELIVERY, STORAGE, AND HANDLING

1) Submit manufacturer's product data and ASTM C1028 test results with solicitation.
2) Deliver materials to Albina Yard (N Fargo St & N Mississippi Ave, Portland, OR)
3) Store materials in a clean, dry area.
4) Protect all materials during handling to prevent damage. Damaged matierals to be replaced by selected vendor at no additional cost to the City of Portland.
5) Selected vendor to submit for approval plank and fastener shop drawings prior to fabrication.



SECTION VIEW
A-A



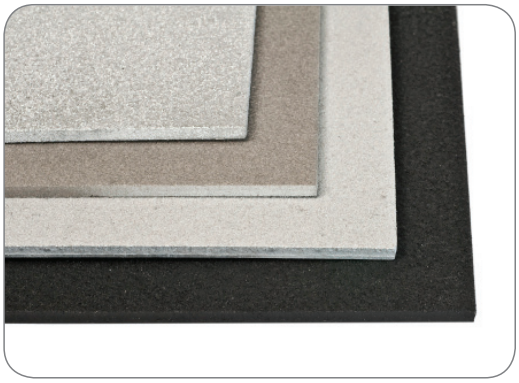
PLAN VIEW
VENT BOX
2

SLIPNOT PRODUCTS

The potential for safety is endless with *Slip*NOT® metal flooring products. Non-slip products can be fabricated to fit into a plethora of applications including expansion joint covers, forklifts, amusement park rides, grand stands, platforms, among many others. *Slip*NOT® products, however, are not appropriate in residential situations.

GRIP PLATE®

*Slip*NOT® slip resistant plates are designed for applications requiring complete surface coverage, transforming the most demanding environments into safe and productive work zones. *Slip*NOT® plates provide a permanently safe alternative to slippery diamond plate.



PRODUCT INFORMATION

Thicknesses: 1/8" to 2"+

Stock sizes:

4'x8'	5'x8'	6'x8'
4'x10'	5'x10'	6'x10'
4'x12'	5'x12'	6'x12'

Plates can be custom fabricated to meet job specifications available up to 72" wide and 144" long (larger sizes available)

Available *Slip*NOT® alloys: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Plates are available in: Grade 1 (Fine), Grade 2 (Medium), and Grade 3 (Coarse - Steel surface only)

Typical alloys (other alloys available)

Steel	A-36	A-572 Gr50
Stainless Steel	304	316
Aluminum	5052	6061

*Slip*NOT® products are registered by NSF International for use in food processing facilities

Installation method:

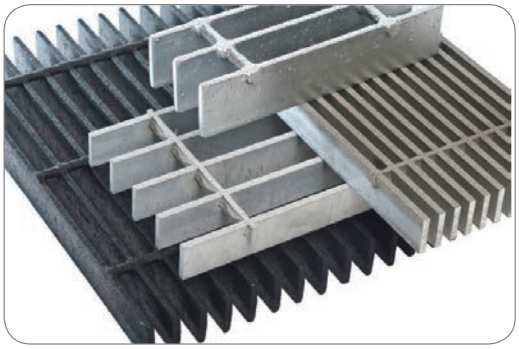
- Countersunk holes for fastening to supports
- Weld to existing metal structures or framing
- Plates can be provided with plug-weld holes on internal grid pattern for additional weld points

Advantages

- Solid surface provides maximum traction area
- Easily installed on project sites
- Can retrofit over existing structures with minimum effort
- Flexibility of design and many fabrication options
- Continually meets COF minimum requirements throughout life of product

GRIP GRATE®

*Slip*NOT® slip resistant grating provides maximum traction even in wet and oily environments. *Slip*NOT® is applied to smooth bar grating, not serrated bar grating.



PRODUCT INFORMATION

***Slip*NOT® surfaces:** Steel, Stainless Steel, and Aluminum

Grating is available in: Grade 1 (Fine), Grade 2 (Medium), and Grade 3 (Coarse – steel surface only)

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Stock sizes (maximum 36" panel width)

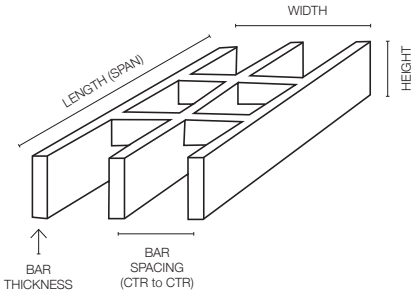
2'x20'	2'x24'
3'x20'	3'x24'

Bearing bar height: 3/4" to 2-1/2" tall (in 1/4" increments)

Bearing bar thickness: 3/16" (typical), and 1/4" is available upon request or supplier availability

Spacing options (Ctr – Ctr spacing between bars – open area listed for 3/16" thickness)

19-4	19/16" spacing (1" open)	Standard Industrial
15-4	15/16" spacing (3/4" open)	Standard Industrial
11-4	11/16" spacing (1/2" open)	ADA
7-4	7/16" spacing (1/4" open)	ADA



- All profiles listed are available with 2" cross bars upon request
- Heavy duty spacing available upon request (consult with a grating manufacturer)
- Available trim or load banded for rigidity

Style availability by alloy:

- Steel: Light duty welded (typical), heavy duty welded, pressed or swaged locked
- Stainless Steel: Swaged locked (typical), light duty welded (limited availability)
- Aluminum: Swaged locked (typical), dove tailed, swaged locked I-Bar or flush top

Installation method:

- Saddle Clip, Anchor Block, or Countersunk Land (available from grating manufacturer)
- Welded or free set into frame (consider that the grating may bow from heat of *Slip*NOT® process and adequate fastening is advised)
- Other options available

For more technical data, please contact a bar grating manufacturer.

Note: We do not offer 1/8" bearing bars or serrated grating due to insufficient adhesion and wear life of the SlipNOT® surface.

Advantages

- Allows for drainage, light, and airflow
- Able to span extended openings without additional support
- Adaptable to heavy duty or light duty applications
- Ease of installation
- Customer supplied material offers quick turnaround time

ALUMINUM PLANK

*Slip*NOT® aluminum plank provides a strong, lightweight flooring alternative to bar grating and fiberglass. Punched plank with a *Slip*NOT® coating allows light and liquids to pass through, similar to bar grating, but provides the additional surface coverage and slip resistance needed to prevent slip and fall accidents from occurring. The flush top of plank provides maximum foot contact with excellent strength-to-weight ratios.

PRODUCT INFORMATION

Thicknesses: 3/4" to 2-1/2" (1/4" increments)

Widths: 6" - 36" per plank width table

Lengths: up to 26'

Plank styles: Solid, Rectangular Punched, or ADA Diagonal Punched

Open area for ADA patterns: ALP-8 (8%), ALP-15 (15%), ALP-22 (22%)

***Slip*NOT® surfaces:** Aluminum, Stainless Steel on Aluminum, and Steel on Aluminum

***Slip*NOT® finishes:** Mill or Painted

Aluminum plank is available in: Grade 1 (Fine), Grade 2 (Medium), or Grade 3 (Coarse – steel surface only)

Installation method: Welded or bolted to framing

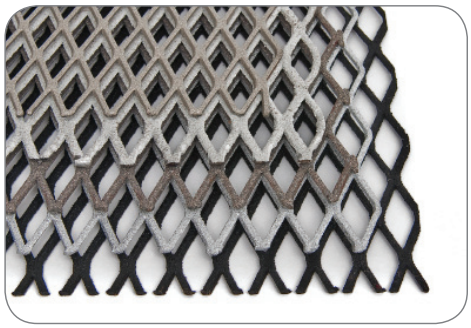
For more technical data please contact a plank manufacturer.

Advantages

- Extruded aluminum plank is more durable than standard aluminum bar grating
- The reinforced ribbed supports are able to withstand vigorous environments and handling while retaining its shape
- Can be fabricated in the field or workshop with standard techniques

EXPANDED METAL GRID GRIP®

*Slip*NOT® flattened expanded metal is an ideal solution for renovating existing slippery areas. Expanded metal easily retrofits over numerous materials, allowing air, light, and liquids to flow through while providing maximum slip resistance.



PRODUCT INFORMATION

Stock sizes: 4'x8', 4'x10', additional sizes available by special order

Expanded metal can be custom fabricated to meet job specifications

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Expanded metal is available in: Grade 1 (Fine), Grade 2 (Medium), and Grade 3 (Coarse - steel surface only)

Styles (additional sizes available by special order)

3/4 #9 (10 gauge)	Steel & Stainless Steel (304)
3/4 .125 (8 gauge)	Aluminum

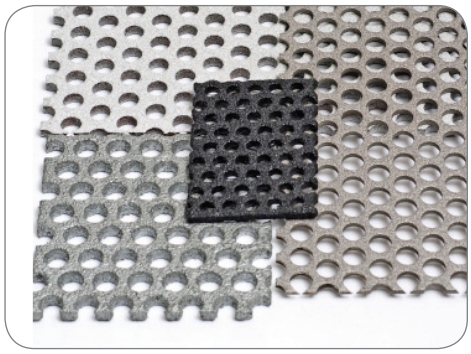
Installation method: Welded or fastened to existing structures or to framing supports

Advantages

- Lightweight
- Easily adaptable to site conditions
- Allows for drainage, light, and airflow
- Can retrofit over existing structures with minimum effort

PERFORATED METAL FLEX GRIP®

*Slip*NOT® perforated plate continually provides drainage and slip resistance for applications that are completely submerged in oils, water, grease, fats, or any other slick additive. Perforated plate also allows for light and airflow.



PRODUCT INFORMATION

Thicknesses: 1/8", 3/16", ¼"

Stock sizes:

4'x8'	5'x8'
4'x10'	5'x10'
4'x12'	5'x12'

**Custom sizes can be fabricated to meet job specifications*

Patterns (a wide variety of hole patterns and options available)

- 1/4" diameter on 3/8" diameter centers (galvanized steel not available)
- 3/8" diameter on 9/16" staggered centers
- 1/2" diameter on 11/16" staggered centers
- 9/16" diameter on 3/4" staggered centers
- Customer specified

Standard minimum margins or customer specific

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Available in: Grade 1 (Fine), Grade 2 (Medium), or Grade 3 (Coarse - steel surface only)

Installation method: Welded or fastened to existing structures or to framing supports

Note: Perforation removes about 2/3 of the strength of the plates. Additional supports may be required.

Advantages

- Allows for drainage, light, and air passage
- Retrofits over existing structures with minimum effort
- Flexes when walked on to prevent worker fatigue

DRAIN COVERS

While we do not make drain covers, *Slip*NOT® applied to the surface of a metal drain cover / cap will transform any drain into a safe, productive environment. Many food and beverage processing plants utilize *Slip*NOT® on their drain covers to keep workers safe in wet, greasy, and slippery work environments.

PRODUCT INFORMATION

Drain covers can be constructed from *Slip*NOT® plate, perforated plate, expanded metal, or grating. *Slip*NOT® can also coat customer supplied drain covers or new assemblies from manufacturers such as Stainless Drains or Zurn.

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Available in: Grade 1 (Fine), Grade 2 (Medium), or Grade 3 (Coarse - steel surface only)

Installation method: Based on drain manufacturer

Advantages

- Permanently safe replacement for bare metal or plastic temporary covers
- Stainless steel drain covers are NSF registered for food processing

LADDER RUNGS

*Slip*NOT® ladder rungs provide essential safety for new ladder construction. The following OSHA standards apply to portable and fixed ladders:

1926.1053(a)(6)(i)
The rungs and steps of fixed metal ladders manufactured after March 15, 1991, shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.

1926.1053(a)(6)(ii)
The rungs and steps of portable metal ladders shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.

PRODUCT INFORMATION

Thicknesses: 3/4" and 1", custom sizes available upon request

Ladder rung styles: Round or square

Ladder rung stock lengths:

Steel	10'
Stainless Steel	12' (11'-13')
Aluminum	12'

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

Stainless steel alloy options: 304, 316, or specialty corrosion resistant alloys upon request

***Slip*NOT® finishes:** Mill or Painted

Available in: Grade 2 (Medium)

Installation method: Welded

LADDER RUNG COVERS

*Slip*NOT® ladder rung covers are ideal for refurbishing old, slippery ladders. Ladder treads are constructed to retrofit over existing ladder rungs, creating a safe climbing surface that exceeds all ADA and OSHA recommendations for slip resistant products.

PRODUCT INFORMATION

Thickness: 1/8"

Widths: 1" to fit over 3/4" diameter rungs and 1-1/4" to fit over 1" diameter rungs

Ladder rung stock lengths:

Steel	10'
Stainless Steel	10' (1-1/2" x 3/4" x 1/8" only)
Aluminum	12'

Custom sizes can be fabricated to meet job specifications

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Available in: Grade 2 (Medium)

Installation method: Welded (there is no need to grind the ends for assembly)

Ladder Rung Advantages

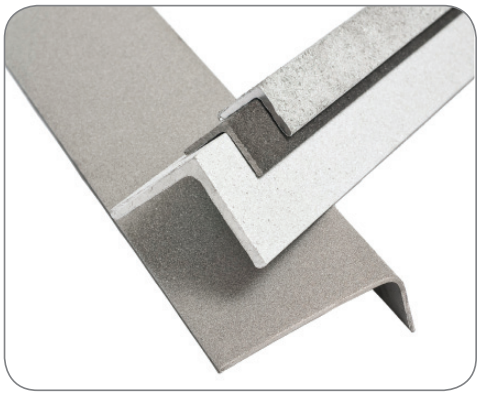
- Long-term safety in all weather conditions
- Can be fabricated to meet specific ladder designs
- High friction surface even under oily conditions

Ladder Rung Cover Advantages

- Restores and upgrades worn ladders
- More surface area for employees
- Cost effective solution
- Ease of installation

STAIR NOSINGS

*Slip*NOT® stair nosings provide safety to the edge of steps that become worn easily due to heavy foot traffic. Stair nosings or angles easily retrofit over existing treads or can be built into new stairways.



PRODUCT INFORMATION

Thicknesses: 1/8", 3/16", 1/4", or thicker

Widths: 1-1/4" minimum

Nosing depth: 1-1/4" minimum

Nosing lengths: up to 10' (6' or less recommended)

Custom sizes can be fabricated to meet job specifications

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

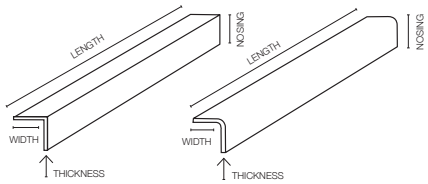
***Slip*NOT® finishes**: Mill, Painted, or Galvanized Steel

Available in: Grade 1 (Fine), Grade 2 (Medium), or Grade 3 (Coarse - steel surface only)

Installation method: Welded, bolted (countersunk holes), or embedded using J-hooks or Nelson studs.

Advantages

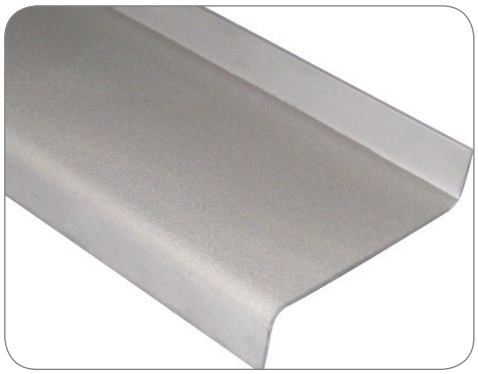
- Instantly reduces the potential for slip and fall accidents
- Easily installed over existing treads with little downtime
- Extends life span of the stair treads



ANGLE NOSING

PLATE STAIR TREADS

*Slip*NOT® plate stair treads are for areas where full surface coverage is required to ensure a safe walking and working surface. Plate stair treads can be used in new construction or can be retrofitted over existing slippery stairs.



PRODUCT INFORMATION

Thicknesses: 1/8", 3/16", ¼"

Widths: 10 -12 inches (typical), or as specified

Lengths: up to 10'

Nosing depth: 1-1/4" – 2" (typical), or as specified

Riser: up to 7", or as specified

Bend degree: 82, 90, or to degree angle specified

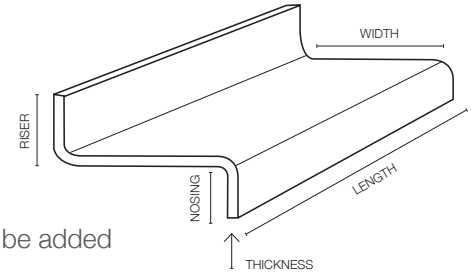
Styles: L shaped, C shaped, or Z shaped

***Slip*NOT® finishes:** Mill, Painted, or Hot-Dipped Galvanized (3/16" minimum thickness)

Plate stair treads are available in: Grade 1 (Fine), Grade 2 (Medium), and Grade 3 (Coarse - Steel surface only)

Typical alloys (other alloys available)

Steel	A-36	CQ
Stainless Steel	304	316
Aluminum	5052	3003



Installation method: Countersunk holes for fastening to supports, weld to existing metal structures or framing, and standard end plates or carrier angles may be added

Advantages

- Solid surface provides maximum surface area for greatest traction
- Easily installed in new construction or retrofitted over existing treads

GRATING STAIR TREADS

*Slip*NOT® slip resistant grating provides maximum traction even in wet and oily environments. *Slip*NOT® is applied to smooth bar grating, not serrated bar grating.

PRODUCT INFORMATION

***Slip*NOT® surfaces:** Steel, Stainless Steel, and Aluminum

Grating is available in: Grade 1 (Fine), Grade 2 (Medium), and Grade 3 (Coarse – steel surface only)

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Bearing bar height: 3/4" to 2-1/2" tall (in 1/4" increments)

Bearing bar thickness: 3/16" (typical), and 1/4" is available upon request or supplier availability

Spacing options (Ctr – Ctr spacing between bars – open area listed for 3/16" thickness)

19-4	19/16" spacing (1" open)	Standard Industrial
15-4	15/16" spacing (3/4" open)	Standard Industrial
11-4	11/16" spacing (1/2" open)	ADA
7-4	7/16" spacing (1/4" open)	ADA

- All profiles listed are available with 2" cross bars upon request

Grating stair tread maximum recommended clear spans and standard widths are below.

Bearing Bar Size	Bar Spacing Options			
	19-4	15-4	11-4	7-4
1" x 3/16"	28"	30"	32"	36"
1-1/4" x 3/16"	34"	37"	40"	47"
1-1/2" x 3/16"	42"	46"	50"	59"
1-3/4" x 3/16"	51"	56"	61"	66"
2" x 3/16"	61"	66"	66"	68"

# of bearing bars	Width (includes nosing)
5	6-3/16"
6	7-3/8"
7	8-9/16"
8	9-3/4"
9	10-15/16"
10	12-1/8"

Style availability by alloy:

- Steel: Light duty welded (typical), heavy duty welded, pressed, or swaged locked
- Stainless Steel: Swaged locked (typical), light duty welded (limited availability)
- Aluminum: Swaged locked (typical), dove tailed, swaged locked I-Bar, or flush top

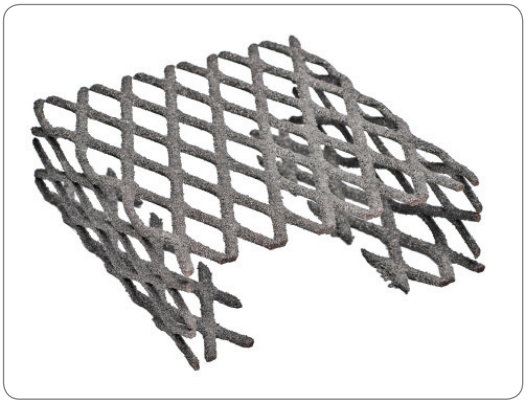
Attachment options - *grating treads available with:*

- Standard end plates
- Carrier angles
- Trim banded

For more technical data, please contact a bar grating manufacturer.

EXPANDED METAL STAIR TREADS

*Slip*NOT® flattened expanded metal stair treads are a cost effective solution for renovating existing slippery stair treads. Generally used to retrofit bar grating treads, expanded metal treads allow air, light, and liquids to flow through while providing maximum traction.



PRODUCT INFORMATION

Thickness: 1/8”

Width: 10-12 inches (typical), or as specified

Lengths: up to 10’

Nosing depth: 1-1/4” – 2” (typical), or as specified

Bend degree: 82, 90, or to degree angle specified

Styles: L shaped or C shaped

***Slip*NOT® finishes:** Mill, Painted, or Hot-Dipped Galvanized

Expanded metal stair treads are available in: Grade 1 (Fine), Grade 2 (Medium) and Grade 3 (Coarse - steel surface only)

Styles (additional styles available by special order)

3/4 #9 (1/8")	Steel & Stainless Steel (304)
3/4 .125 (1/8")	Aluminum

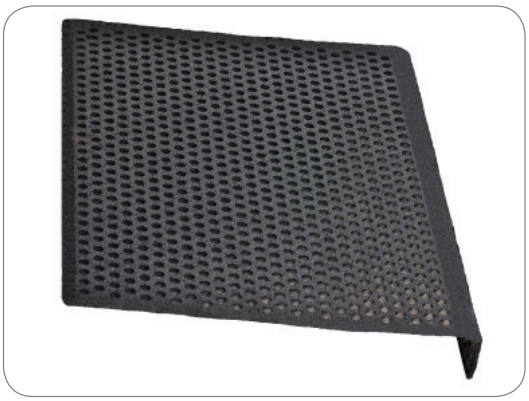
Installation method: Welded or fastened to existing structures or to framing supports

Advantages of Expanded Metal and Perforated Stair Treads

- Easily adaptable to site conditions
- Allows for drainage, light, and air passage
- Can retrofit over existing structures with minimum effort
- Flexes when walked on to prevent worker fatigue

PERFORATED METAL STAIR TREADS

*Slip*NOT® perforated metal stair treads combine the flow through benefits of grating with the solid surface of plate. The flexible surface helps eliminate worker fatigue in environments such as automotive plants and steel mills.



Note: Perforation removes about 2/3 of the strength of the plates. Additional supports may be required.

PRODUCT INFORMATION

Thickness: 1/8”, 3/16”, 1/4”

Width: 10-12 inches (typical), or as specified

Lengths: up to 10’

Nosing depth: 1-1/4” – 2” (typical), or as specified

Riser: up to 7”, or as specified

Bend degree: 82, 90, or to degree angle specified

Styles: L shaped, C shaped, or Z shaped

Perforated stair treads are available in: Grade 1 (Fine), Grade 2 (Medium) and Grade 3 (Coarse - steel surface only)

Patterns (a wide variety of hole patterns and options available)

- 1/4” diameter on 3/8” diameter centers (galvanized steel not available)
- 3/8” diameter on 9/16” staggered centers
- 1/2” diameter on 11/16” staggered centers
- 9/16” diameter on ¾” staggered centers

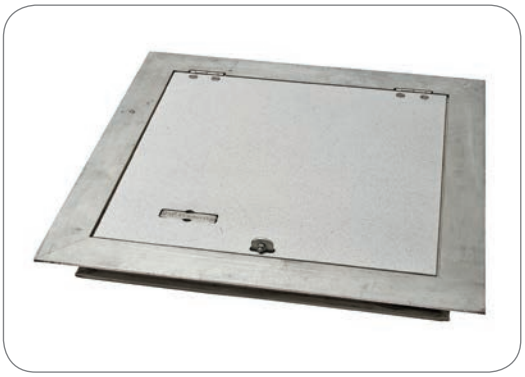
Standard minimum margins or customer specific

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Hot-Dipped Galvanized

Installation method: Welded or fastened to existing structures or to framing supports. Treads can be provided with pre-welded mounting plates/angles

VAULT COVERS



Utility companies, DOT's, and municipalities across the country specify *Slip*NOT® access hatches and manhole covers as a way to keep pedestrians and workers safe. Non-slip vault covers and sidewalk doors create a high traction walking surface that helps eliminate slip and fall accidents and expensive liability lawsuits. Slip resistant access hatches are custom fabricated to meet job specifications.

We do not provide the vault cover assembly, we only provide the cover plate.

PRODUCT INFORMATION

Thickness: 1/4" and up

Lengths and widths are customer specific

Available *Slip*NOT® surfaces: Galvanized Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill or Painted

Available in: Grade 2 (Medium) or Grade 3 (Coarse – steel surface only)

Installation method: Based upon municipality requirements

Approved and used by utilities such as Pacific Gas & Electric, AT&T, Verizon, City of Palo Alto, City of Denver, City of Portland, Sacramento Municipal Utility District, among others.

For more technical data regarding vault covers, please contact Oldcastle Precast or Bilco.

Advantages

- Long-term safety to pedestrians in all weather conditions
- High traction surface that is protected against rust to ensure durability and longevity
- Designed to provide structural integrity for vehicle or pedestrian traffic

MANHOLE COVERS

Traditionally, sewer access covers, or manholes, are heavy iron castings designed to provide structural integrity for vehicle or pedestrian traffic crossing over it, but not slip resistance. Adding *Slip*NOT®'s slip resistant coating to these covers ensures continued safety for pedestrians, cyclists, motorcyclists, and other vehicular traffic. *Slip*NOT® non-slip manhole covers provide a long-term, highly durable surface.

We only coat customer supplied manhole covers.

PRODUCT INFORMATION

Thickness: 1/8"

Customized shapes and sizes can be fabricated to meet job specifications

Available *Slip*NOT® surfaces: Cast Iron and Steel, among others available to designer specifications

Available in: Grade 2 (Medium) or Grade 3 (Coarse – steel surface only)

***Slip*NOT® finishes:** Mill or Painted

Installation method: Manhole cover manufacturers can provide municipal identification for unique product solution.

Approved and used by utilities such as Pacific Gas & Electric, AT&T, Verizon, City of Palo Alto, City of Denver, City of Portland, Sacramento Municipal Utility District, among others.

For more technical data regarding manhole covers, please contact East Jordan Iron Works or Neenah Foundry.

Advantages

- Long-term safety to pedestrians in all weather conditions
- Designed to provide structural integrity for vehicle or pedestrian traffic

ROAD PLATES

*Slip*NOT® road plates are ideal for high traffic areas that can become slippery with water, oil, gasoline and other substances. *Slip*NOT® traffic plates can be used to cover open trenches, sinkholes, and areas of road construction. They can quickly restore a jobsite back to pre-project conditions by bridging open excavations and trenches dug for drainage, cables, gas mains or water mains. *Slip*NOT® non-skid steel road plates can be used as a permanent structure or may be moved along as work progresses.

PRODUCT INFORMATION

Thicknesses: 1", 1-1/4", 1-1/2" typically

Stock sizes:

4'x8'	5'x8'	6'x8'
4'x10'	5'x10'	6'x10'
4'x12'	5'x12'	6'x12'

**Custom sizes can be fabricated to meet job specifications*

Available *Slip*NOT® surface: Steel

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Available in: Grade 2 (Medium) or Grade 3 (Coarse)

Installation method: Based on municipal requirement. We can provide lift holes per specification.

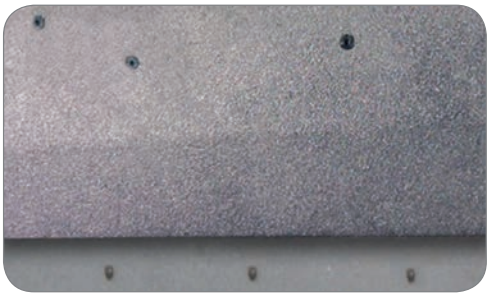
Advantages

- Does not wear smooth or flake off after years of high traffic use
- May be used for temporary or permanent expansions

EXPANSION JOINT COVERS

*Slip*NOT® expansion joint cover plates provide a durable high traction walking surface for pedestrian and vehicular traffic. Expansion joint covers are utilized for bridge sidewalks, parking decks, transportation platforms, walkways and other areas to meet public safety and regulatory compliance.

*Slip*NOT® expansion joint covers are used and approved by agencies such as the Florida Department of Transportation (FDOT), Texas Department of Transportation (TxDOT), and other states.



PRODUCT INFORMATION

Thickness: 3/16", 1⁄4", 5/16", 3/8", 1/2" or as specified

Lengths: Typically up to 12' - longer lengths available

Widths: 15" (FDOT), 16" (TXDOT) or per specification

Expansion joint cover plates can be custom fabricated to meet job specifications

***Slip*NOT® surfaces:** Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Alloys: A-572 Gr50, 6061, 304, 316 or per specification

Expansion joints are available in: Grade 2 (Medium) and Grade 3 (Coarse – steel surface only)

Available with edges beveled, center crown, and corner chamfers per FDOT, TXDOT or other agency standard

Installation method: countersunk on one side to allow for thermal expansion (typical)

Advantages

- Flexibility of design options
- Longer wear life than other slip resistant options
- Quick turnaround time
- Surface will not chip or flake from normal wear

FLOOR SCALES

*Slip*NOT® provides a safe surface replacement for diamond plate on weighing systems such as Rice Lake Weighing System's RoughDeck® SS and Auto Lift HE. *Slip*NOT® can coat customer supplied industrial scales or provide new weighing systems.

PRODUCT INFORMATION

Thickness: 1/8"

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Available in: Grade 1 (Fine), Grade 2 (Medium), or Grade 3 (Coarse – steel surface only)

Floor scale cover plates can be custom fabricated to meet job specifications

Installation method: Based on floor scale manufacturer

For a quote on a new floor scale assembly with a *Slip*NOT® slip resistant top plate please contact Rice Lake Weighing Systems and specify a *Slip*NOT® surface.

Advantages

- Easily retrofitted onto existing floor scale assemblies, creating a high traction surface

HANDRAILS

*Slip*NOT® handrails provide additional traction for employees and pedestrians, and are effective in wet environments like manufacturing plants and offshore drilling platforms. Stainless steel handrails are ideal for food plants where sanitation is a top priority and a chemical/corrosion surface is vital.

Slip resistant handrails are recommended with safety gloves due to the abrasive surface.

PRODUCT INFORMATION

Thickness: Customer specific

Length: 10' – 20'

Shapes: 1-1/2" round or square tubes

Custom sizes can be fabricated to meet job specifications

Available *Slip*NOT® surfaces: Steel, Stainless Steel, and Aluminum

***Slip*NOT® finishes:** Mill, Painted, or Galvanized Steel

Available in: Grade 1 (Fine) or Grade 2 (Medium)

Coated on one, two, three, or all sides of the rail

Sold in stock lengths only

Installation method: Welded or as provided by handrail manufacturer

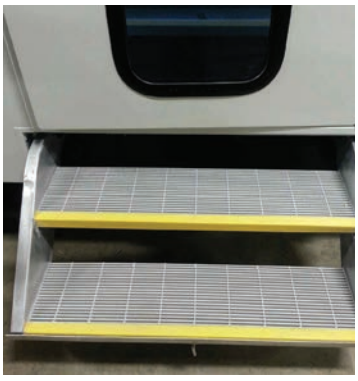
Advantages

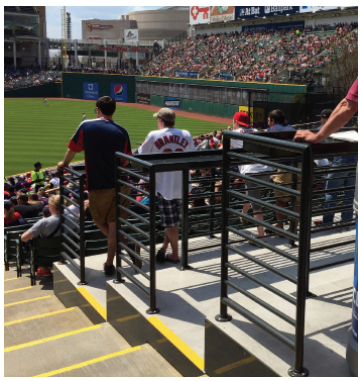
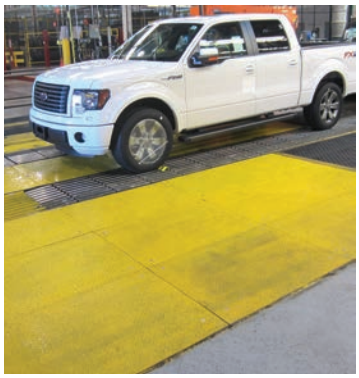
- Stainless steel handrails are NSF registered for use in food processing facilities
- Replaces or improves traditional railings with high traction surface

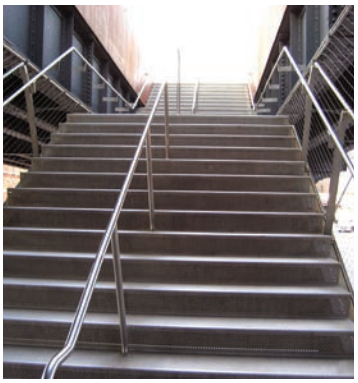
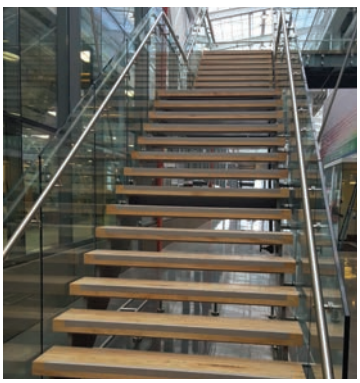
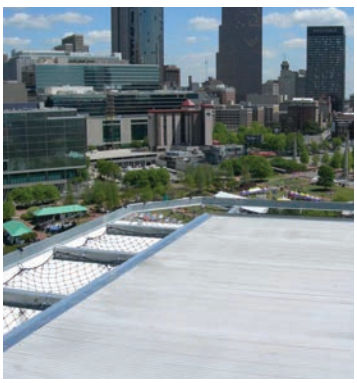
APPLICATIONS

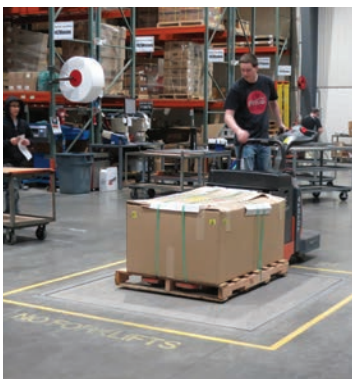
FLOORING
PLATFORMS
PEDESTRIAN WALKWAYS
DRAIN COVERS
STAIRWAYS
ACCESS LADDERS

BRIDGES
TRENCH COVERS
MEZZANINES
VAULT COVERS
CONVEYORS
EXPANSION JOINT COVERS



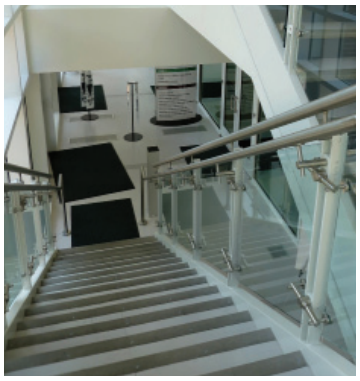



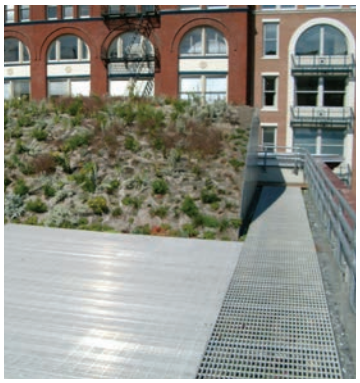






INDUSTRIES SERVED

AEROSPACE
COMMERCIAL
EDUCATION
FOOD & BEVERAGE
GOVERNMENT
INFRASTRUCTURE
MANUFACTURING
METALS & MINING
OIL & GAS
PULP & PAPER
RECREATION
TRANSPORTATION
UTILITIES
WATER & WASTEWATER





*Slip*NOT®

SlipNOT® Metal Safety Flooring
Division of the W.S. Molnar Company

2545 Beaufait Street | Detroit, MI 48207
Phone: (313) 923-0400 | Fax: (313) 923-4555
www.slipnot.com | info@slipnot.com | 800-*Slip*NOT

*Slip*NOT® Metal Safety Flooring products may be covered by one or more of the following patents; 5,711,119, 6,839,951 and 6,863,932.
Women Owned WBENC Certification # 2005108416 | California Public Utilities Commission WBE Certified Company VON: 5JN00043