

ANSI/NFSI B101.6-2012

AMERICAN NATIONAL STANDARD

**B101.6 STANDARD GUIDE FOR COMMERCIAL ENTRANCE
MATTING IN REDUCING SLIPS, TRIPS AND FALLS.**

Secretariat



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Foreword

(This foreword is not part of the ANSI/NFSI B101.6-2012 Standard.)

This standard was developed by a subcommittee of the National Floor Safety Institute (NFSI) B101 Main Standards Committee, national in scope, functioning under the procedures of the American National Standards Institute with the NFSI as the ANSI Accredited Standards Developer. The NFSI was founded in 1997 with the mission: “To aid in the prevention of slips, trips and falls through education, research and standards development.” The development of ANSI/NFSI B101.6 Standard is a direct result of the mission of the NFSI answering a need for consumer education to ameliorate the effects of falls.

As a standards developing organization, NFSI sought and was accredited by the Executive Council of ANSI on June 6, 2006 to develop standards addressing the prevention of slips, trips and falls. The American National Standards Institute/NFSI B101.6-2012 *STANDARD GUIDE FOR COMMERCIAL ENTRANCE MATTING IN REDUCING SLIPS, TRIPS AND FALLS* answers the perceived need for this standard to stem the growing number of slips and falls related to insufficient knowledge in the use of mats and runners in commercial establishments.

This standard was processed and approved for submittal by the NFSI B101 Committee on Safety Requirements for Slip, Trip and Fall Prevention. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the NFSI B101 Standards Committee had the following members:

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American Slip Meter
Centers for Disease Control (CDC)
Consolidated Floor Safety
GT Grandstands, Inc.
Heavyweight Solutions
ISSA-The Worldwide Cleaning Industry Association
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Procter & Gamble
Professional Safety Consultants
Regan Scientific Instruments, Inc.

Safety System America
SGS-U.S. Testing Company, Inc.
State Farm Insurance Company
Stone Peak Ceramics
Traction Auditing, L.L.C.

Subcommittee NFSI B101.6, which developed this standard, had the following members:

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Ludlow Composites Corp
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B101.6 Standard Guide for Commercial Entrance Matting in Reducing Slips, Trips and Falls.

STANDARD REQUIREMENTS		EXPLANATORY INFORMATION <i>(Not part of B101.6)</i>
Section 1. Scope/Application/Purpose/ Exceptions		
1.1 Scope: This standard provides the criteria for the selection, installation, inspection, care and maintenance of entrance mats and runners in commercial facilities in reducing slips, trips and falls.		
1.2 Application: The requirements of this standard pertain to the safe usage and applications, design, construction, and quality criteria of floor mats and runners.		
1.3 Purpose: This standard is directed to eliminating slip, trip and fall hazards including but not limited to soil, moisture, contaminant removal, edge treatments and the improper use of floor mats and runners.		
1.4 Exceptions: This standard is not intended to apply to matting designed for home use, heated mats, office mats, anti-fatigue and safety mats or other work station mats.		
Section 2. Reference to Standards and Other Documents		
ANSI/ASSE A1264.2-2006 Standard for the Provision of Slip Resistance on Walking/Working Surfaces ANSI/NFSI B101.1-2009 Test Method for Measuring Wet SCOF of Common Hard-Surface Floor Materials		

ANSI Z535.2:2007 Environmental and facility safety signs		
ANSI Z535.5:2007 Safety tags and barricade tapes (for temporary hazards)		
ASTM F1637-10 Standard Practice for Safe Walking Surfaces		
ICC/ANSI A 117.1-2003 Accessible and Usable Buildings and Facilities		
NFSI 101-C Test Method for Measuring Dry TCOF of Floor Mat Backing Materials		
Section 3. Definitions		
3.1 Absorption , n – the ability of a mat to entrap and retain moisture.		
3.2 Backing , n – material that is underneath the fabric of the mat.		E 3.2 It may consist of any number of materials including molded rubber, vinyl and latex foam.
3.2.1 High-Traction Backing - The physical property of a mat backing surface that is designed to mitigate slipping or migration during normal human ambulation by providing a reasonably sufficient level of available contact friction. See NFSI 101-C Test Method for Measuring Dry TCOF of Floor Mat Backing Materials.		
3.3 Buckling , adj – the existence of a bend, wrinkle, warp, kink or non-flat surface on a mat.		E 3.3 The buckling of a mat is sometimes due to scuffing or cart traffic or similar circumstances that would push on the edge of the mat. It is a temporary condition.
3.4 Carpet , n – a fabric produced by tufting or needle-punching yarns or fibers.		E 3.4 Carpet is used as the top surface of many mats.
3.5 Cleated mats , n – mats with projections or cleats on their undersurface for the purpose of improving grip and reducing mat migration.		

3.6 Curling , adj – a phenomena associated with mats where the border of a mat does not lay flat but projects upward.		
3.7 Dust , n – fine particles of earth, dirt or other materials.		
3.8 Edge , n – the boundary of a mat, which is often different than the main body of the mat.		E 3.8 It is also referred to as the border of the mat.
3.9 Elevated Pattern , n – a high/low design on a mat that is above the base of the mat.		E 3.9 Examples of this style include molded mats and needle punch mats that have rib patterns.
3.10 End User , n – the commercial business or institutional purchaser of a mat where the mat will be installed.		
3.11 Entrance , n – a place of entry to a building, room or area.		
3.12 Fall , n – undesirable descent of a person from a standing posture or during ambulation, to a lower level, usually impacting the ground or floor.		
3.13 Fabric , n – a material made from fibers and used for the top surface of many mats.		E 3.13 Fabric is often referred to as carpet on mats.
3.14 Fiber , n – multiple filaments of either natural cotton or synthetic (polypropylene, nylon, polyester) forming yarns used in the manufacture of carpets.		
3.15 Flat , adj or adv - lying spread out with a level surface; lying without buckling or curling.		
3.16 Footwear , n – wearing apparel for the feet (such as shoes, boots, slippers or overshoes), excluding hosiery and socks.		
3.17 Foot Grille , n - See 3.40.4 Recessed Well Mat.		E 3.17 Foot grille is a term used by architects.

3.18 Key Words, n - Certain words used within this standard carry specific meaning regarding responsibilities:		
3.18.1 Shall, v – expresses a directive of what is mandatory to comply with this standard.		
3.18.2 Should, v – expresses a recommendation of what is expected but not mandatory to comply with the standard.		
3.18.3 May, v – used to express an activity that would enhance performance under this standard but is not mandatory.		
3.19 Lobby, n – indoor part of an entrance area.		
3.20 Mat, n – a piece of material placed on the floor and used to remove dirt, dust and moisture.		
3.21 Migration, v – the movement of mats over the surface upon which they have been placed.		E 3.21 Migration may be caused by foot traffic or cart traffic and can vary in degree depending on amount of traffic and/or the construction of the mat. The floor surface will also affect mat migration.
3.22 Moisture, n - a liquid substance, usually water from rain or snow, that can be tracked into a building, resulting in a slip or fall hazard.		
3.23 Needle Punch, n - carpet fabric made from short fibers of various types and held together by either acrylic binding or heating the underside.		
3.24 Molded, adj - mats produced under heat and pressure.		E 3.24 Some molded mats have patterns pressed into the surface of the mat while other molded mats have no pattern. Molded mats can be produced with rubber, PVC or Urethane.

3.25 Overlap , v – a situation in which two or more mats are placed for use near each other and the migration of one or both of the mats causes one of the mats to be positioned over the top of the other.		
3.26 Regular Cleaning , n – cleaning of a mat on a predetermined schedule.		
3.27 Retention , n – a designed function of a mat to hold moisture and soil until it can be removed or it evaporates.		
3.28 Rippling , n – the <i>permanent</i> bend, wrinkle, warp, kink or non-flat surface that causes part of the mat to not lay flat.		E 3.28 The difference between rippling and buckling is that rippling is a permanent condition in the mat itself that causes the mat to not lay flat.
3.29 Rubber , n – a natural or synthetic thermo-set elastomeric material used in the production of mats and mat backings.		
3.30 Runner , n – a long, narrow mat, generally 10 feet or longer.		
3.31 Slip , v – to slide suddenly or involuntarily on a walkway surface.		E3.31 Slips usually result in a backwards fall as the person’s feet slip out from under him.
3.32 Safety Benefit , n – refers to the use of a mat to hinder or prevent slips, trips or falls.		
3.33 Shoe Contacts , n – the number of times footwear makes contact with a mat as a person walks across the mat.		
3.34 Soil , n – refers to dust, grit and contaminants.		E 3.34 Soil also refers to the materials that accumulate in and on a mat as it performs its function of removing these elements from the bottom surface of footwear. Soil creates a significant hazard for slips, trips and falls.
3.34.1 Dust , n - is the name for solid particles with diameters less than 500 micrometers.		
3.34.2 Grit , n - is the name for hard,		

solid granules of material with diameters greater than 500 micrometers.		
3.34.3 Foreign Contaminants, n - See Grit 3.35.2		E 3.34.3 The terms grit and foreign contaminants are used interchangeably.
3.34.4 Contaminants, n – refers to various materials such as oils, solvents, sand, flour and water.		
3.35 Tire Tiles, n – a type of flooring, primarily for slip resistance, produced by cutting the side wall of a tire into strips that in turn are adhered together. The strips are placed side by side to produce a tile, usually 12” x 12” which is glued in place.		
3.36 Trip, v - to cause to stumble due to an obstruction.		E 3.36 Obstruction can be a mat that is not laying flat on the floor or a non-mat hazard such as a doorstop that is above the walking surface. Trips usually result in the person falling forward.
3.37 Tufted, v – a process for making carpet top fabric in which yarn is inserted through a primary base to produce greige.		E 3.37 Tufted carpet is often the top surface of wiper mats. In this application, the yarn is secured by applying rubber, vinyl or latex to the underside of the fabric.
3.38 Types of Mats:		
3.38.1 Wiper Mats, n – mats designed to remove moisture, contaminants, dust and finer soil from footwear.		E 3.38.1 Wiper mats usually have a carpet top produced with finer denier yarns or fibers with rubber or PVC backings.
3.38.2 Wiper-Scraper Mats, n – mats designed to remove and retain finer soil, dust and absorb some moisture and contaminants from footwear.		E 3.38.2 Wiper-Scraper mats generally are constructed with fabrics that consist of a combination of finer and heavier denier fibers with a backing of rubber, latex or PVC. They often have an elevated pattern, which augments the dirt falling to the lower level. This feature reduces dirt being tracked into a building.
3.38.3 Scraper Mats, n – mats designed for, and whose primary function is, to remove and retain heavier and larger soil		E 3.38.3 Scraper mats usually have a coarse or rough surface and lower areas where soil can fall away from contact with shoes.

through contact with footwear.		Scraper mats can be produced as all rubber or PVC products or can be produced using heavy denier fibers in the fabric with vinyl backings.
3.38.4 Recessed Well Mat , n – also referred to as a foot grille, recessed well mats are installed in a well that is below the surrounding floor level. They can also be installed on the surface with permanent frames and ramps. The mat construction can be either as a scraper mat or a wiper-scraper mat.		E 3.38.4 Foot grilles or recessed well mats are generally constructed with an open or slotted format where particles drop through the surface and are retained in the recessed well. The top surface can function as a scraper and wiper or scraper only.
3.38.5 Mat Tiles , n - Tiles constructed of heavy denier fibers that are either tufted or needle punched or from recycled tires. Sometimes these products have a hi-low construction.		E 3.38.5 Carpet tiles may be constructed with either wiper-scraper or wiper functionality. They are typically installed with pressure adhesives.
3.38.6 Heavy-Duty Needle Punch Matting , n – thick matting manufactured in a needle punch process from large fibers, usually with a latex backing. This matting is finished with applied edging.		E 3.38.6 This style of matting is often used in the following types of installations: permanently installed before or after the entrance doors of office buildings, hotels, hospitals, shopping malls etc. or as long runners in office buildings from the entrance to the elevators or escalators.
3.39 Vestibule , n – a lobby, entrance hall or passage between the outer door and the interior of a building and is the enclosed area between two sets of doors.		
Section 4. Function/Application		
Entrance mats for commercial facilities shall provide the following functions:		
4.1 Safety – Matting of effective and sufficient quality shall be installed to remove contaminants, moisture and grit from footwear.		E 4.1 Mats perform an important safety benefit in areas where there is a hazard from contaminants, grit and moisture. Wet floors and grit on floors, particularly hard floors, pose a significant threat to pedestrians of slipping and falling. Mats remove moisture and grit from floors to reduce slip hazards.

		Mat functionality generally improves with more shoe contact. Hence longer matting is often the solution to maximizing the removal of contaminants.
4.2 Protection - Placement of matting for interior surfaces, particularly in rolls along the principal traffic pattern, should protect the floor surface against unnecessary wear.		E 4.2 Over time, depending on both the amount of traffic and the concentration of traffic, flooring will show signs of wear. Matting is particularly valuable to facilities where there is a large flooring area that would have to be replaced if a particular pedestrian pathway becomes worn.
4.3 Improve Air Quality and Reduce Pollutants within a Building - Effective and sufficient matting should greatly reduce the introduction of airborne dust and dirt within a facility.		E 4.3 Dust and dirt that are tracked into a building may become airborne and circulate throughout the building via the HVAC system. The result is poor air quality and pollutants within the building.
Section 5. Selection & Installation		
The selection of matting shall be determined by placement along with its intended purpose. Entrance systems may consist of mat placement in four distinct areas: 1) Outdoors, 2) Vestibules, 3) Indoors and 4) Other areas. The selection of the location, type and amount of matting shall result in the removal of grit, moisture and dust.		
5.1 Outdoors - When matting is located outside a building, it shall be either a recessed mat, a scraper or a wiper-scraper mat. Outdoor mats may either be loose laid or permanently installed with a recessed well mat/foot grille.		E 5.1 Matting placed outside a building or in the vestibule is exposed to maximum grit and dirt. For this reason, it is important that it incorporate scraper capabilities including the capacity for particles to fall below the surface of the mat. Scraper mats, wiper-scraper mats or mats placed in recessed wells are designed to remove the excess grit and dirt. Scraper mats by necessity sometimes are installed in locations without overhead

		protection.
<p>5.2 Vestibules -Matting selection for vestibules is based on the use of outdoor matting. When a scraper is used outdoors, the matting in the vestibule shall be a wiper-scraper or wiper only mat. When a scraper mat is not used outdoors, the vestibule matting shall be either scraper only or wiper- scraper.</p>		<p>E 5.2 This is an excellent location for matting as individuals often pivot when opening the inside door. This pivoting action is very effective in removing grit and dirt.</p> <p>In a vestibule space it is best to use only one type of mat and avoid transitions in the space. The selection of scraper only or wiper-scraper matting will also be dependent upon the matting after the vestibule.</p>
<p>5.3 Indoors - When a scraper is used outdoors, the matting indoors shall be a wiper-scraper or a wiper mat. When no scraper mat is used outdoors, the indoor matting shall both scrape and wipe. This can be accomplished with either a scraper mat followed with a wiper mat or by a wiper-scraper mat. When separate mats are used, scraper mats shall be the first mat at the entrance. Wiper mats shall be the second mat at the entrance.</p>		<p>E 5.3 The selection of matting for use immediately inside an entryway depends on whether a scraper mat was used outdoors or in the vestibule. The scraping is achieved by a scraper mat that removes coarse soil and solid contaminants and allows them to fall to a lower level of the mat to avoid being tracked into a building. They are either laid flat or placed in recessed wells.</p> <p>There are many varieties of scraper mats. They may be 100% molded rubber, molded rubber with fabric, metal, extruded polymers or a tufted product using a coarse yarn system on a vinyl backing. The most important quality of scraper mats is their ability to scrape grit and solid contaminants from the bottom of footwear, allowing the grit and solid contaminants to fall to the bottom of the mat so that it is not tracked further into the building.</p> <p>Wiper mats do not function as scraper mats as the grit (coarse dirt) and solid contaminants will remain on the top of the mat and then be tracked into the building. There are many varieties of wiper mats. They may be carpet bonded to a vinyl backing; carpet bonded to a rubber backing and metal fabrications containing strips of carpet.</p> <p>When wiper-scraper mats are selected, they</p>

		<p>should be longer in length than the combination of separate scraper and wiper mats in order to function effectively.</p> <p>There are many varieties of wiper-scraper mats. They may be molded rubber with fabric; metal fabrications containing both scraping and wiping elements such as some recessed well mats/foot grille mats; a combination of a tufted carpet utilizing both coarse yarn for scraping and soft yarn for wiping with a vinyl backing or vinyl mats with a top surface of a needle punched fabric. Some mat tiles or tire tiles also have wiper-scraper properties.</p>
5.4 Other Areas:		
<p>5.4.1 General Placement - Management should identify areas within their facility where there exists a potential hazard for slips, trips, or falls and validate the level of potential hazard through the use of B101 standardized wet COF measurements. When careful review of measurement results indicates a hazard potential, specifically due to the involuntary presence of grit, moisture, or dust, management shall place mats in those areas.</p>		<p>E 5.4.1 Hazardous areas in a facility may include water fountains, washrooms, and vending machines.</p>
<p>5.4.2 Mall Entrances - When store entries are from an enclosed shopping area, wiper mats should be used to remove dust and moisture. Wiper mats shall also be used at the entrance to the store from the store's warehouse.</p>		
<p>5.4.3 Transitional Matting - Matting shall be used in any fixed or transitional area where contaminants may be introduced. The proper mat to use shall be the wiper mat or a</p>		<p>E 5.4.3 There are many examples of transitional areas, for example: from kitchen to dining room; from restrooms to office or dining rooms; from warehouse to office.</p>

<p>wiper-scraper mat. The proper mat to use should be based on the conditions in the transitional areas. Mats shall not be installed over a door saddle.</p>		
<p>Section 6. Criteria for Determining Adequacy of Matting</p>		
<p>6.1 Selection of Matting - The facility management shall both select the proper matting and have sufficient matting in place.</p>		<p>E 6.1 The determining factor as to the adequacy or sufficiency of matting is when it achieves the goal of removing grit/foreign materials, dust and moisture so that it does not contaminate the floor surface following the matting installation. The amount of foreign materials or contaminants removal will affect the decision on mat selection.</p>
<p>6.2 Adequacy of Matting - The governing factor in determining the adequacy of matting shall be the amount of soil removal. The flooring immediately following the matting shall be examined to confirm that the soil and moisture has been removed. If it hasn't, either more matting or the proper selection of matting needs to be employed.</p>		<p>E 6.2 Various types and qualities of mats will differ in their efficacy in removing soil. Adequate matting for one location may be different than another depending on the amount of contaminants.</p> <p>Matting requires multiple contacts with footwear to achieve its purpose of removing grit, dust and moisture.</p> <p>The amount of matting to remove the soil is not static or fixed. During inclement weather, additional matting should be utilized to supplement the dry weather matting.</p> <p>The use of larger mats whenever possible decreases the likelihood of mat migration due to the greater mass of the larger mats.</p>
<p>Section 7. Care and Maintenance of Matting</p>		
<p>Regular cleaning of mats according to the manufacturers' recommendations shall be followed to preserve the mat effectiveness in removing grit and</p>		

moisture from footwear.		
7.1 Maintenance – Facility cleaning practices shall be carried out to remove contaminants, moisture and dirt on and under mats.		E 7.1 The primary source of contaminants (hazards) in a building is foot traffic. Regular maintenance greatly reduces the principal sources of dirt within premises. It also reduces overall maintenance costs.
7.2 Scraper and Wiper-Scraper Mats - Mats shall be cleaned when the soil remains on the top of the mat. This condition reduces the function of the mat by tracking dirt into the facility.		E 7.2 The method of cleaning these mats varies but includes vacuuming, removing the mat and shaking out the dirt, professional laundering or power washing. Cleaning or removal of dirt from recessed wells involves removing the mat to allow the well to be cleaned.
7.3 Wiper Mats - Wiper mats shall be cleaned regularly to remove the soil they have collected.		E 7.3 The method of cleaning these mats varies but includes vacuuming and professionally laundering them by a service company. Refer to manufacturer’s instructions.
7.4 Wiper Mats – Wiper mats shall be removed and replaced when they become saturated resulting in moisture being tracked into the premises.		E 7.4 During periods of inclement weather, there needs to be additional mats available to replace the wiper mat when it no longer removes moisture from footwear.
7.5 Recessed Well Mats/Foot Grilles - Recessed Well Mats/Foot Grilles shall be cleaned at regular intervals depending on the amount of pedestrian traffic.		E 7.5 Recessed well mats/foot grilles are lifted and swept or vacuumed underneath.
7.6 Permanent Removal of Mats - Mats shall be permanently removed from service when they no longer effectively perform their intended function or are torn or damaged. (See Section 6.)		E 7.6 The criteria for permanent removal will vary by the type of mat.
7.7 Disposal of Matting - When mats are removed from service, they should be disposed of properly.		E 7.7 Many manufacturers have programs designed to recycle their mats.

Section 8. Reduction of Hazards Related to Matting		
Facility Management shall take precautions to avoid mats becoming a hazard in and of themselves through regular inspection, particularly during inclement weather.		
8.1 Improper Use of Matting - Mats shall not be used in any manner other than their intended purpose.		E 8.1 For example, mats should not be used to prop open doors.
8.2 Rippled, Curled or Torn Edges - When mats ripple, curl or have torn edges the mats shall be removed from service and replaced with mats that lay flat.		E 8.2 Sometimes rippled edges can't be made to lay flat with tape due to permanent damage. In this circumstance, the mat shall be replaced.
8.3 Buckling - If a mat buckles, either the condition that caused the mat to buckle shall be corrected or the mat shall be secured or removed from service and replaced.		E 8.3 To increase the dimensional stability and reduce the tendency of matting to buckle, the user should consider purchasing heavier mats such as mats with thicker backing.
8.4 Delamination or Holes in Matting - When mats have holes in the top surface or the carpet shows delamination from the base of the mat, they shall be removed from service and replaced.		
8.5 Wet Conditions - When the surface of the mat becomes wet, the mat shall be removed and replaced with a dry mat. When the area under the mat becomes wet, the mat shall be removed and the area under the mat shall be dried prior to mat replacement.		E 8.5 These conditions can be observed in two ways: wet footprints on the floor following the mat or observing the mat is sitting in water or slipping in wet conditions. Longer mats and mats with denser carpet on top will take longer to become water saturated and fail to perform the drying function.
8.6 Floor Condition - Mats shall be installed on a clean, dry floor.		E 8.6 If there is dirt on the floor upon which a mat is placed, the mat will have a

		propensity to slip or migrate. To avoid this hazard, only place mats on clean floors. If the floor is wet, the floor should be dried before installing the mats. If the floor beneath the mat becomes soiled or wet, the mat should be removed and the floor cleaned and/or dried prior to mat replacement.
8.7 Mat Movement over Door Sill - When mat placement and movement results in the mat migrating over a doorway sill, the mat shall be secured in place or another mat shall be installed that resists movement.		E 8.7 To secure mats, tape along the edges or two-way tape is often employed. Cleated mats also reduce mat slippage. Slip resistant underlayment of the type used to secure rugs may also be used in some applications.
8.8 Mat Movement Across Floor - When mats migrate a considerable distance, they shall be secured in place or another mat shall be selected that reduces or eliminates migration. Areas where mat migration may take place shall be monitored and the hazard corrected.		E 8.8 In areas where there is cart traffic, the mats selected need to be tested with fully laden carts to confirm that the mats will not migrate or buckle. Thereafter, the location needs to be monitored, as cart traffic is often the cause of mat migration and/or buckling. (For actions to take see 8.3.)
8.9 Overlapping Mats - Mats shall be placed as to not overlap each other.		E 8.9 Overlapped mats create a hazard exposure as the edge will be elevated creating a specific trip hazard. To avoid this risk, the mats need to be secured in place.
8.10 Mats not Lying Flat - Where mats do not lie flat, the mat shall be secured to the floor so that it lies flat or removed from service.		E 8.10 Mats may buckle or not lay flat while in service or traffic may catch and curl a border or end. All of these constitute trip hazards. There are a number of possible solutions: the edges can be secured (e.g. taped) to the floor, or the mat can be removed from service.
8.11 Heavy-Duty Needle Punch hazards - Edging shall be applied to the leading and trailing edge of these products, consistent with the traffic flow. Loose edging shall be immediately fixed or traffic shall be directed around the hazard until the		E 8.11 Often this product has the edging sewn onto the needle punch to avoid loose edging.

<p>edging is fixed. If traffic is directed around the hazard, signs should be posted in accordance with the following standards: ANSI Z535.2:2007 Environmental and facility safety signs and ANSI Z535.5:2007 Safety tags and barricade tapes (for temporary hazards).</p>		
<p>8.12 Mat Tile Hazards - If carpet tiles do not lay flat or the edge becomes loose or cupped, they shall be repaired or replaced. Until that action is taken, traffic shall be directed around the hazard.</p>		
<p>8.13 Recessed Well or Foot Grille Hazards – The well shall be cleaned regularly to avoid the accumulated dirt from pushing up on the surface of the mat. Bent grill components shall be removed and replaced when they no longer lay flat or flush. If the grill exhibits structural breakdown, it shall be removed and replaced. Until that action is taken, traffic shall be directed around the hazard. If traffic is directed around the hazard, signs should be posted in accordance with the following standards: ANSI Z535.2:2007 Environmental and facility safety signs and ANSI Z535.5:2007 Safety tags and barricade tapes (for temporary hazards).</p>		
<p>8.14 Mat Thickness - If the gauge or thickness of a mat exceeds ¼”, then the bevel shall not be greater than 1:2.</p>		<p>E 8.14 Mats that are thicker than ¼” can cause trip hazards. Therefore they need to comply with guidelines contained in the references cited in Section 2.</p>