

MEETING LOG
Directorate for Engineering Sciences

PRODUCT: Flooring (Slips, Trips, and Falls)

SUBJECT: Tile Council of North America (TCNA) Meeting with CPSC

LOCATION: 5 Research Place, Rockville, MD & WebEx

DATE: Tuesday, August 9th, 2022, 3-4:30pm ET

ENTRY DATE: Monday August 22nd, 2022

LOG ENTRY SOURCE: Susan M. Bowley, Ph.D. Mechanical and Biomedical Engineer, ESMC

COMMISSION ATTENDEES (4): Susan M. Bowley, Ph.D. Mechanical and Biomedical Engineer, ESMC; Caroleene Paul, DD ESMC; Mark Kumagai, AED ES; Jacqueline Campbell, EXHR VS Coordinator

NON-COMMISSION ATTENDEES (6): Eric Astrachan, Executive Director TCNA; Grant Davidson, Standards Development Engineer TCNA; Bill Griesse, LEED AP Director Standards Development and Sustainability Initiatives TCNA; Katelyn Simpson, Laboratory Director TCNA; Tom Vanderbloemen, Vanderbloemen Law Firm on behalf of TCNA; David Spooner, Barnes & Thornburg LLP on behalf of TCNA

MEETING SUMMARY:

This meeting (requested by TCNA) involved discussion of a new ANSI Standard, ANSI A326.3-2021, to improve flooring safety. Mr. Astrachan presented the attached materials. The discussion focused on requiring manufacturers of hard surface flooring materials (including coatings applied) to assign product use classifications as in **Table 1** of *ANSI A326.3-2021, American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials* (released February 2022). The five (5) product use classifications include: 1) "Interior, Dry", 2) "Interior, Wet", 3) "Interior, Wet Plus", 4) "Exterior, Wet", and 5) "Oils/Greases".

The four (4) areas of discussion with TCNA and CPSC included: 1) CPSC input concerning use of product use classifications (noted above), 2) CPSC feedback concerning potential collaboration between CPSC and industry regarding slip/fall product use classification awareness initiatives, 3) CPSC input on data needed to support a petition, and 4) CPSC recommendations on addressing potential data gaps identified in the staff briefing package from 2019.

CPSC shared slip/fall incident data (8/12/2010-12/31/2015) with TCNA after the meeting, per TCNA request. TCNA indicated that they were considering petitioning the CPSC.



Website: www.tcnatile.com . Literature: literature@tcnatile.com

August 5, 2022

Dr. Susan Bowley
Directorate for Engineering Sciences
U.S. Consumer Product Safety Commission
4330 East-West Highway
Bethesda, MD 20814

Dear Dr. Bowley and CPSC Staff,

In advance of our 3:00 pm EDT meeting on August 9, 2022, we are providing the attached background information and have identified four areas of discussion for a potential petition to CPSC to initiate rulemaking to improve flooring safety. Specifically, we are considering a petition to require, at a minimum, manufacturers of hard surface flooring materials (including manufacturers of coatings applied to hard surface flooring materials) to assign product use classification(s) per, or similar to, those found in Table 1 in ANSI A326.3-2021, *American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials*. A copy of this standard is available from the TCNA website for free download or from this [hyperlink](#).

In addition to those areas of discussion we identified, we also very much welcome any discussion topics CPSC staff want to raise, and everyone's input on the critically important issue of flooring safety.

We are looking forward to meeting with you and other CPSC staff next week.

Sincerely,

Grant Davidson
Standards Development Engineer
GDavidson@tcnatile.com

Sincerely,

Eric Astrachan
Executive Director
EAstrachan@tcnatile.com

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TCNA and CPSC Technical Staff Meeting

Meeting Scope

We would like to discuss a potential petition to CPSC to initiate rulemaking to require, at a minimum, manufacturers of hard surface flooring materials (including manufacturers of coatings applied to hard surface flooring materials) to assign product use classification(s) per, or similar to, those found in Table 1 in ANSI A326.3-2021, *American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Flooring Materials*. For the purposes of the potential petition, “hard surface flooring materials” are defined as the following:

Hard surface flooring materials: Flooring materials, including coatings applied to flooring materials, either identified as “hard surface” by their manufacturer or which have a Shore D hardness greater than or equal to ____ Shore D hardness units.¹ For coatings, the Shore D measurement is made after the coating cures on the flooring.

TCNA’s Interest in Petitioning CPSC

In TCNA’s previous comments responding to petitions CP 16-1 and CP 18-2, we made clear our support for efforts directed towards consumer safety - certainly including those that would reduce the likelihood of slip and fall incidents. Our experience in this field and in developing standards is summarized below:

- Through our staff, we are the Secretary or Chairperson of the ANSI, ASTM, and ISO committees responsible for ceramic tile industry standards, and through these committees we have a broad awareness of industry stakeholder interests and concerns. We additionally serve or participate in numerous national and international discussions relating to floor safety and slip resistance, and we operate a ceramic tile product testing and research facility at our center in the Clemson University Advanced Materials Research Park.
- TCNA and its members are dedicated to the safe use and specification of ceramic tile, especially regarding slip/fall issues relating to flooring. Members and the staff of TCNA have decades of experience on these issues, and the industry has developed coefficient of friction standards and criteria for the protection of consumers through the ANSI Accredited Standards Committee A108. This committee has been in operation since the 1950s, originally as part of ASA and USASI, which predated ANSI, and criteria for tile products have been provided in the standard A137.1 throughout this time frame. Moreover, TCNA and many members and industry supporters have advocated for consumer safety through building code improvements before the ICC.

¹ The Shore D hardness value will be provided after more research is completed.

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Ceramic Tile Industry Efforts Related to Slip Resistance

In 2021, the ANSI A108 Committee approved updates to incorporate a five category “product use” classification system (shown in the following table) into ANSI A326.3 - the updates were published February 2022. A copy of A326.3 is available for free at TCNAtile.com.

In July 2022, updates to U.S. tile product standards were published to require reporting product use classification(s) per A326.3. The updated standards are ANSI A137.1, A137.2, and A137.3, American National Standards for the specification of ceramic tile, glass tile, and gauged porcelain tiles, respectively.

Classification	Reference Category	Criteria
Interior, Dry	ID	≥ 0.42 dry DCOF
Interior, Wet	IW	≥ 0.42 wet DCOF or Manufacturer-Declared
Interior, Wet Plus	IW+	Manufacturer-Declared
Exterior, Wet	EW	Manufacturer-Declared
Oils/Greases	O/G	Manufacturer-Declared

Per ANSI A326.3, for criteria marked “manufacturer-declared,” the manufacturer shall declare the product use classification based on manufacturing parameters, internal quality control criteria, their experience with similar surfaces, and other criteria in A326.3-2021 (see Section 3.4 of the standard for more information).

Additionally, the manufacturer shall define internal product selection criteria (for example, but not in limitation, DCOF limit values established using the test method in A326.3 or other test methods, internal reference standards and practices, and/or the presence of abrasive grain and/or surface structure) for each product where the manufacturer-declared product use classification is not based on DCOF criteria developed per A326.3.

Benefits and Limitations of “Product Use Classification”

We have summarized benefits and limitations of product use classification below:

Benefits:

- Product use classifications provide immediate clarity from manufacturers on where their products can be installed.
 - The information is useful for specifiers, builders, and consumers alike, serving to eliminate confusion on where flooring products can be used.

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- Acknowledging differences between tribometers and valid questions from CPSC staff regarding correlation between DCOF and slip/fall events, manufacturers can utilize a variety of slip resistance-related characteristics for their internal selection criteria.
 - “Manufacturer-declared” criteria doesn’t exclude the use of any standard or method from being used as part of a manufacturer’s internal product selection criteria.
 - Methods other than A326.3 that could be used (and have already been internally used by many domestic and international manufacturers to further assess the slip resistance capabilities of their products) include use of the variable angle ramp (a.k.a. “German Ramp”) and pendulum tester (a.k.a. “British Pendulum”).

Limitations:

- The use of product use classifications does not prevent slip/fall events caused by an unexpected change in traction, but rather avoids non-recommended product installations (e.g., using products intended for dry-only applications in wet areas).
- There is no control over which method(s) or standard(s) a manufacturer might use for its manufacturer declaration (although, the manufacturer is required to define their product use criteria for each product).
- There is no mechanism for independently measuring the slip/resistance of flooring (ANSI A326.3 addresses this issue through informative notes providing measured DCOF limit values (for example, 0.55 DCOF for tiles rated for exterior applications).

Area of Discussion 1: *TCNA asks for staff’s thoughts on the ANSI A326.3 product use classification approach, including its benefits and limitations. Additionally, does staff see value in including measurement criteria using a specific tribometer or tribometers in combination with product use classification?*

Example of a Successful, Countrywide Implementation of a Five-Scale System:

In Germany, BG rule BGR 181 was instituted in 1993. It provides extensive detail with R values (derived from Annex B of German Standard DIN EN 16165, formerly DIN 51130) for many different work environments. Today, similar requirements are contained in ASR A1.5/1,2.

Acceptance Angle	Assessment Group (R Group)	Examples of work premises and areas (as described in ASR-A1-5)
> 35°	R13	Sausage kitchens, vegetable processing, delicacies, mayonnaise manufacture, etc.
> 27° to 35°	R12	Confectionary manufacture, manufacture of fats or oils, restaurant/hotel kitchens, etc.

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> 19° to 27°	R11	Wet mills, machining areas, vehicle repair and maintenance areas, etc.
> 10° to 19°	R10	Changing rooms and washrooms, coffee and tea kitchens, sanitary areas, etc.
> 6° to 10°	R9	Foyers (indoor), customer and eating areas, classrooms in schools and day cares, etc.
< 6°	-	Areas without slippery substances

With the implementation of BGR 181, the slip, trip, and fall accident rate in Germany fell by 47% from 1990 to 2005, as shown in the following chart.

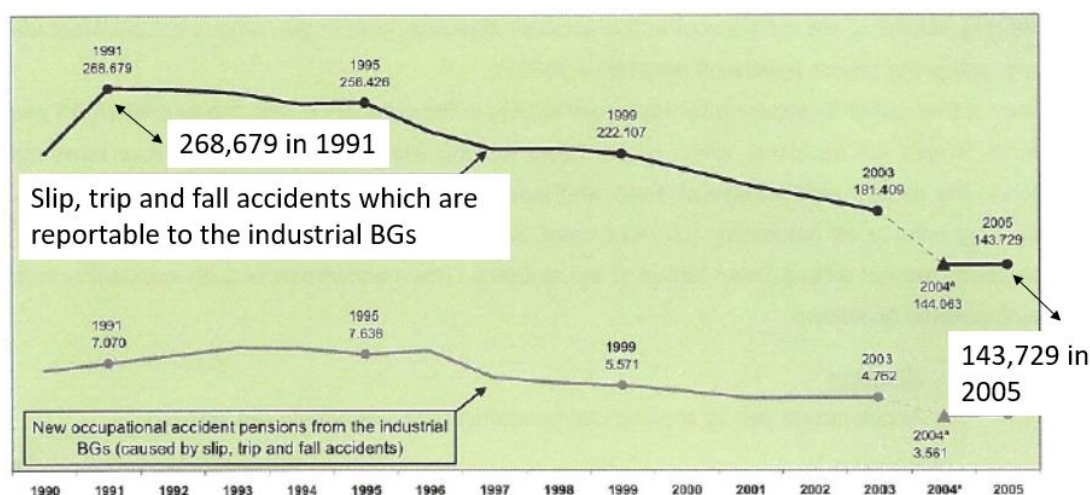


Figure 1: Occupational accidents and new occupational accident pensions resulting from STF accidents [Data: HOFFMANN, B./2007]

A further significant drop was also observed beginning in 2003, lining up with the launch of the “**On The Right Foot**” education campaign. The effort aimed to reach all employees in the industrial sector to raise awareness regarding slipping, tripping, and falling. It lasted for two years and aimed to reduce the accident rate by 15%; the accident rate fell by 26%.

Example Showing Disconnect Between Product Use and Advertised Use in Today’s Market

Research by Sanders and Davidson published in 2019,² titled “*Wet Slip Resistance of Plastic Based Material Flooring (PBM Flooring)*”, showed that 82% of the “PBM” flooring products tested had measured wet DCOF values less than 0.42 and per ANSI A326.3 should not be considered for wet use.

² <https://doi.org/10.34068/report.01>

Additionally, several products exhibited directionality with a significant change in DCOF occurring depending on the direction of measurement. In total, 91% of the products tested were recommended for a dry use-only cautionary statement.

The products tested were advertised or claimed as waterproof or water resistant or depicted being used in areas where flooring gets wet - **that disconnect between safe product use and advertised use would be clarified using an A326.3 type classification.**

Today, plastic based flooring is marketed widely for wet applications. Choosing 3 manufacturers at random,³ we attached at the end of this document examples of how their products are being advertised for wet applications. However, as the examples show, only dry COF values are provided to the consumer, leaving a disconnect between advertised use and manufacturer-provided slip information. As noted above, that disconnect could be clarified by requiring manufacturers to assign product use classifications using an ANSI A326.3 type classification.

Impacts of Product Use Classification on Informed Decision Making

If product use information is required and published on the internet, it would be readily available to consumers - either through retailers they purchase from or through their own browsing. Additionally, the information is easy to understand - the manufacturer communicates where their product(s) can be used based on slip resistance characteristics, rather than providing a technical measurement (e.g., SCOF or DCOF). This would assist consumers in comparatively evaluating flooring products.

Referring to the German example, hazard awareness and education has been shown to significantly reduce slip, trip, and fall incidents. The same thing can be done in the United States, by requiring product use classification of hard surface flooring products - coupled with consumer education efforts.

Manufacturers know best where their products can and should be used - not providing that information can result in products being installed in unsuitable applications, which negatively impacts consumers and end users of flooring. Conversely, clearly delineating where products are not suitable should reduce slip/fall events that occur from product misuse, such as using a slippery product in a wet area.

Confirming this, since the 0.42 wet DCOF requirement in 2012 was implemented for ceramic tile intended to be walked on when wet, manufacturers report significantly fewer slip/fall-related claims. We understand this has also been the experience reported by CNA Insurance.⁴

Area of Discussion 2: Does staff have any feedback on a potential collaboration between CPSC and industry regarding slip/fall and product use classification awareness initiatives?

³ Three companies were chosen at random from the RFCI website

⁴ In the petition we will seek to quantify this with data from CNA

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Background Data and Information

Summarized below are data we identified that are potentially relevant to this discussion:

- In 2020, per CDC's WISQARS database, 42,114 of 200,955 (21.0%) injury-related deaths were caused by unintentional falls.
- Falls were the leading cause of unintentional injury death for ages 65 and over and 3rd leading cause for ages 35-64.
- 6,841,044 of 20,902,133 (32.7%) nonfatal injuries were caused by unintentional falls.
- In 2020, per BLS Table R4, 127,680 of 211,640 (60.3%) nonfatal occupational fall injuries leading to days away from work in private industry were caused by same-level falls.

Facts about older adult falls (per CDC):

- About 36 million falls are reported among older adults each year.
- Falls among adults aged 65 and older caused 36,000+ deaths in 2020.
- Each year, about 3 million older adults are treated in emergency departments for fall injuries.
- One out of every five falls causes an injury, such as a broken bone or a head injury.
- Older adult falls cost \$50 billion in medical costs annually, with $\frac{3}{4}$ paid by Medicare and Medicaid.

Area of Discussion 3: *In addition to the above data and facts, TCNA is seeking staff input on data needed to support a petition.*

Manufacturing Costs

The proposal to require manufacturers to report the intended areas of use for their products based on the product's slip resistance should incur minimal to no cost. Specifically, reporting via the web effectively incurs no cost. Assessing the suitability of where a product can be used responsibly is presumably information a manufacturer would already have.

Why TCNA's Petition Should Be Considered

TCNA's petition should be considered for a multitude of reasons:

- Requiring product use classification system per, or similar to, ANSI A326.3 would facilitate better specifications and the availability of easy-to-understand information.

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- Product use information is easier to understand than any single measurement (e.g., SCOF or DCOF). Additionally, manufacturers can take a variety of slip resistance-related characteristics into account when classifying their products.
- While A326.3 is already in place for domestically produced ceramic tile, CPSC regulation would make such beneficial information available for all flooring categories and imported products.
- The ICC International Building Code requirements for areas of egress only require that floors be “slip resistant.” No further clarity is provided and the term “slip-resistant” is ambiguous.
 - CPSC is in a unique position - requiring manufacturers of hard surface flooring materials to assign product use classification(s) would establish classifications that can be used within building codes, allowing products appropriate for the intended application to be specified.

Area of Discussion 4: *TCNA seeks staff recommendations on key information to include in a successful petition. For those areas of the staff briefing package from 2019 that our proposal does not address, what would you like us to consider and how might we modify our proposal?*

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Product Example #1:

The webpage for this product line states that the flooring is “100% waterproof” and can be used in “any area of your home.” Each instance relating to a waterproof claim has been indicated in red in the attached.

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Triversa Prime



Triversa™ Prime: High-Performance Waterproof Flooring

Triversa Prime is constructed with a phthalate-free stone polymer composite (SPC) solid core that provides, strength, durability and superior indentation resistance. Being completely waterproof and able to withstand wide temperature changes, it is the perfect solution for any area of your home.

The wide selection of outstanding wood, stone and tile designs feature large scale formats, enhanced edge treatments, mixed widths and lengths, and much more.

Collection Highlights

- 100% waterproof
- Sound dampening
- Patented SmartLock™ Clic System
- Easy to clean and maintain
- Pet-friendly
- Exact match trim
- Lifetime residential warranty
- 10-year commercial warranty
- Certified for clean indoor air quality

Product Example #1, continued:

The only slip resistance test result provided in the specification sheet for this product line comes from ASTM C1028 testing; wet or dry testing is not specified, however, based on the value provided, it appears to be a dry-only measurement. The ASTM C1028 results have been highlighted in red. Of note, the C1028 test method was withdrawn by ASTM in 2014.

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NALFA 3.5 Large Ball Impact Resistance:	Class 4, Heavy Commercial
NALFA 3.6 Small Ball Impact Resistance:	Class 4, Heavy Commercial
NALFA 3.8 Dimensional Tolerance:	Class 4, Heavy Commercial
NALFA 3.9 Caster Chair:	Class 4, Heavy Commercial
NALFA 3.10 Surface Bonding:	1.27 N/mm ² – Exceeds Class 3 Commercial Requirement
ASTM C1028 Static Coefficient of Friction:	0.68 (slip resistance) Passes ADA/OSHA standard
ASTM F970 Static Load Limit:	0.003 inch – Passes at 250 psi
ASTM F2753 Rolling Load Over Resilient FC:	0.004 inch
ASTM F1514 Color Resistance to Heat:	Meets <8.0 Delta E Requirement
ASTM F1515 Color Resistance to Light:	Meets <8.0 Delta E Requirement
Ortho-Phthalate Free:	Yes
Formaldehyde Free:	Yes
Warranty Coverage:	Lifetime Residential Limited Warranty 10 Years Commercial Limited Warranty
Subfloor Application:	On, above or below grade level
Installation Method:	SmartLock Clic System Glueless Installation or Fully Adhered
Fully Adhered Installation:	Congoleum AD62 Adhesive (wet set)
Adhesive Coverage Fully Adhered:	125 to 150 sq. ft. (11.6 – 13.9 m ²) per gallon
Recommended Trowel Size:	1/16" wide, 1/16" deep, 1/16" apart Square Notch Trowel

If the Triversa Prime glueless installation area has a width and/or length greater than 50 lineal feet, an expansion joint will be required. Cover the expansion joint with a Congoleum Transition molding.

Triversa should be fully adhered on jobs that exceed a width and/or length greater than 50 lineal feet and where no transition molding is wanted, or when heavy static or rolling loads are present or where high performance requirements must be met.

Approved Matching Moldings:	Multi Trim – Transition adjusts to varying levels. Can be used as T-molding or Surface Reducer
	Stair Nosing –finishes the end of a step
	Flush Mount Stair Nosing – finishes the end of a step
	Threshold- Use between Triversa and another surface such as carpet or vinyl tile and against sliding doors
	Quarter Round Transition

Suggested Usage:

Private Residential	Yes
Light Commercial	Yes
Public Commercial	Yes

Triversa Prime is certified under FloorScore, an independent 3rd party Indoor Air Quality certification program for low emitting flooring. Triversa is CHPS 01350 compliant and recognized as contributing to LEED V4 EQ Credit. Triversa can contribute points under the National Green Building Standard (NAHB) ICC 700-2008 901.6 (Hard Surface Flooring).

Please view actual product samples when making a selection as our printed colors may vary from actual product.

For additional installation, maintenance, or technical information, visit our website at www.congoleum.com or contact Technical Services directly at 609-584-3805 or the Congoleum customer services directory at 1-800-274-3266.

3500 Quakerbridge Road • Post Office Box 3127 • Mercerville, New Jersey 08619 • (609) 584-3000 • www.congoleum.com

Product Example #2:

The brochure for this product line notes that the flooring is “waterproof” and states “it can be used in any room – including all-season rooms with extreme temperature changes and rooms that are most prone to moisture and spills, like kitchens and baths.” These instances have been highlighted in red.

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ProGen™

Designed for Life



ULTIMATE
DURABILITY



ATTACHED PAD



PET FRIENDLY



EASY TO INSTALL



CLEANS EASILY



BEVELED EDGE

Waterproof
No Temperature Limits

 **Tarkett**



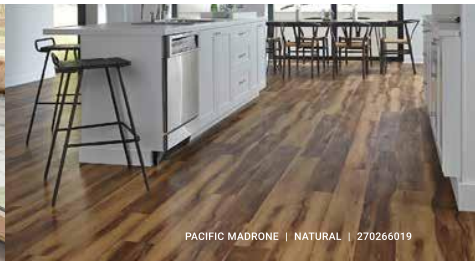
The beauty of better engineering.

ProGen™ is a radical leap forward in flooring technology – a rigid core construction engineered from the inside, out – designed to outperform the rigors of daily wear. It holds up beautifully to the demands of busy, active households – from kids and pets to water and dirt. ProGen also handles sunlight and extreme temperature changes, resisting buckling, denting and warping.

With beautiful, authentic-looking designs, an easy, no-mess installation, and guaranteed long-term wear, ProGen promises a better experience every step of the way.



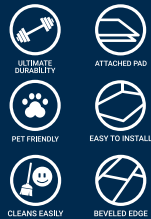
OUTLAND PATH | BRINDLE | 270282009



PACIFIC MADRONE | NATURAL | 270266019



PAVESTONE | LUXOR | 270288003



Waterproof
No Temperature Limits

Thermal Stability

Use in any room in the home. ProGen is designed to handle wide temperature fluctuations from windows and sunlight.

Easy Installation

Its easy Uniclic® system is faster than traditional installation systems, saving you time and money.

Durable

Resists the stresses of modern life from children to high heels to heavy furniture.

Waterproof

Safe to use in kitchens and bathrooms for a modern look throughout the home.

Rigid Core

Overcomes subfloor imperfections, unlike traditional luxury vinyl tile.

Quiet

IIC rating of 68 means superior sound absorption to drastically improve overall comfort.

From Tarkett, a Global Leader in Flooring for Over 100 Years

ProGen's next-generation technology is designed to stand up to the demands of modern life—and whatever is thrown, dropped, spilled or scraped on it. Because ProGen is durable, waterproof,

dimensionally stable, and easy to install, it can be used in any room—including all-season rooms with extreme temperature changes and rooms that are most prone to moisture and spills, like kitchens and baths.



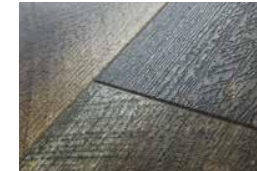
New, Trend-Setting Designs

Make your design visions a reality through a variety of on-trend designs.



STOKES RANGE | RELIC | 270265018

Realistic Embossing



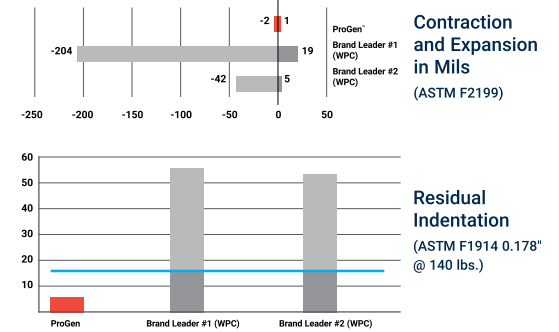
Modern Painted Bevels



Installation

Floating Floor	Quick and Simple Angle-Angle Click
Above/At/ Below Grade	✓
No Acclimation	✓
3-Seasons Room	✓
No Temperature Limitations	✓
Acoustic Rating	Total IIC of 68 (6" Concrete Slab + Suspended Ceiling)

Dimensional Stability and Durability



Product Example #2, continued:

The only slip resistance test data provided in the specification sheet for this product line are ASTM D2047 data. D2047 is a laboratory-only, SCOF test method developed for use on dry surfaces, and, per the standard, it is “not intended for use on ‘wet’ surfaces.” Where D2047 is referenced has been highlighted in red.

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ProGen™ Rigid Core Luxury Vinyl Flooring Product Specification

1. PROPRIETARY PRODUCT/MANUFACTURER

1.1 **Proprietary Product:** Waterproof, floating luxury vinyl flooring. Suitable for Residential, Light Commercial, and 3-Season type environments.

1.2 **Manufacturer:**
Tarkett North America Phone: (800) 899-8916
30000 Aurora Rd. (440) 543-8916
Solon, Ohio 44139
Web: www.tarketthome.com

1.3 Proprietary Product Description:

1.3.1 **Construction:** Rigid core, floating luxury vinyl made with a plastic core and attached acoustical backing.

1.3.2 Characteristics:

- **Locking Mechanism:** Angle-Angle
- **Edge Treatment:** Micro Beveled or Painted Bevel
- **Nominal Thickness:** 0.197" (5 mm)
- **Wear Layer:** .020" (.51 mm)
- **Core Thickness:** 0.157" (4 mm)
- **Acoustical Backing:** 0.039" (1 mm) IXPE

1.3.3 Plank Size & Packaging

	5"x48" (127x 1220mm)	7"x48" (181x 1220mm)	7"x60" (181x 1520mm)	9"x24" (228x 610mm)	12"x24" (305x 610mm)
Planks / Carton	16	12	10	14	14
SQFT / Carton	26.68 (2.48m ²)	28.52 (2.65m ²)	29.61 (2.75m ²)	20.96 (1.95m ²)	28.03 (2.60m ²)
Weight / Carton	42 (19.05 kg)	44 (19.96 kg)	45 (20.41kg)	33.5 (15.20 kg)	45 (20.41kg)
Cartons / Pallet	56	50	40	64	54



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Technical Services Department
30000 Aurora Road
Solon, Ohio 44139
888-639-8275

Resilient.TechnicalSupport@tarkett.com
www.tarketthome.com

**ORTHO-PHTHALATE
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Except recycled materials

2. PRODUCT DETAILS AND TECHNICAL DATA

2.1 **Rigid Polymeric Core Specifications:** ASTM F3261 Class 1, Type A or B, Grade 1, Backing Class B

2.2 **Dimensional Stability:** ASTM F2199: Passes

2.3 **Light Stability:** ASTM F5154ΔE ≤ 8

2.4 **Heat Stability:** ASTM F1514ΔE ≤ 8

2.5 **Residual Indentation:** ASTM F1914: Passes

2.6 **Stain Resistance:** ASTM F925: Passes

2.7 **Slip Resistance:** ASTM D2047: SCOF ≥ 0.5

2.8 **Impact Sound:** ASTM E2179: ΔIIC ≥ 21 dB

2.9 **FloorScore® Certification:** SCS-EC10.3-2014 v4.0

2.10 **Assure Certified™:** SCS-AC-07772

3. INSTALLATION

See ProGen installation instructions found at www.tarketthome.com for complete details.

4. AVAILABILITY AND COST

Available through authorized Tarkett Retailers.

5. MAINTENANCE

See Residential Maintenance instructions found at www.tarketthome.com for complete details.

6. TECHNICAL SERVICES

Visit us on the web at www.tarketthome.com

Contact Technical Support at (888) 639 8275, or E-mail Resilient.TechnicalSupport@tarkett.com

7. WARRANTY

- LIFETIME YEAR LIMITED RESIDENTIAL WARRANTY
- 15 YEAR LIMITED LIGHT COMMERCIAL WARRANTY
- 10 YEAR 3 SEASONS ROOM LIMITED WARRANTY



Product Example #3:

The webpage for this brand states that its floors are “waterproof” and “perfect for bathrooms, kitchens and other busy rooms in the home.” These instances are highlighted.

TILE COUNCIL OF NORTH AMERICA, INC.

100 Clemson Research Boulevard . Anderson, South Carolina 29625 . Phone: 864-646-8453 . Fax: 864-646-2821



Testing Services: testing@tcnatile.com . **Literature Orders:** literature@tcnatile.com

Flooring

[Back to Why Choose Karndean?](#)[Lifetime Warranty](#)[Family Friendly Flooring](#)[Your Healthy & Hygienic Home](#)[Karndean vs Other Flooring Types](#)

Whether your home is filled with kids, pets, messes or all of the above, Karndean Designflooring luxury vinyl is the perfect flooring solution - **waterproof**, **pet friendly**, **kid friendly** and **covered by a lifetime residential warranty**.

Waterproof



Our waterproof floors stand up to spills of all sizes. Unlike laminate and engineered hardwoods, our floors are impervious to water and will not swell, crack or warp when wet. Perfect for bathrooms, kitchens and other busy rooms in the home.

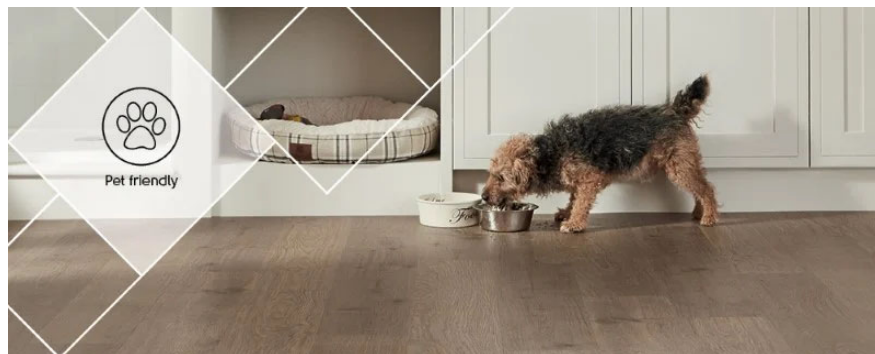
Easy to Clean

Busy lifestyles and extra-curricular activities don't allow much time for cleaning. Thankfully, our tried and tested K-Guard+® finish provides hygienic, durable surface protection that is easy to clean with a quick sweep and mop with a pH-neutral cleaner.

Stain Resistant

Karndean nonporous planks and tiles are resistant to staining, unlike hardwood and ceramic. Everyday liquids such as water, coffee and wine can be easily cleaned with a pH-neutral cleaner to keep your floors looking their best.

Pet Friendly



From muddy paw prints to household accidents and anything in-between, waterproof Karndean flooring is designed with pets in mind.

[Skip To Content](#)

Product Example #3, continued:

Only ASTM D2047 test data are provided assessing the slip resistance in the specification sheets for this product line. D2047 is a laboratory-only, SCOF test method developed for use on dry surfaces, and, per the standard, it is “not intended for use on ‘wet’ surfaces.” Technical data sheets from three different products in this product line are shown on the following pages and the references to D2047 are highlighted.

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Testing Services: testing@tcnatile.com . **Literature Orders:** literature@tcnatile.com

	Standard	Result
Thickness	ASTM F386	6.5 mm
Size	ASTM F2421	48.03" x 7.05"
Locking system ¹		2G™ angling installation system
Wear layer	ASTM F410	20 mil (0.50 mm)
Surface treatment		K-Guard+® PU coating
Warranty ²	Commercial Residential	15 Years Lifetime
Beveled Edge		Micro
Standards	ASTM F3261	Pass: Resilient flooring with Rigid Polymeric Core
Reaction to fire	ASTM E648-06	Class 1
Flammability	FF 1-70: Federal Approval	Pass
Slip resistance ³	ASTM D2047	Pass (Dry > 0.8)
Staining resistance	ASTM F925	Pass (No change)
Light fastness	ASTM F1515	Pass
Electrostatic propensity	AATCC 134-1996	-1.4 kV
Abrasion resistance	ASTM D4060	Pass (20,000 Cycles)
Dimensional stability	ASTM F2199	Pass (width -0.003"/lin.ft) Pass (length -0.003"/lin.ft)
Acoustic impact noise reduction	ASTM E2179-09 ASTM E492-09	ΔIIC = 21 dB IIC = 69 dB (6" Concrete Slab w/Drop Ceiling) IIC = 71 dB (6" Concrete Slab w/Drop Ceiling + QuietChoice)
Static Load	ASTM F970	Pass (650 psi at 0.005")
Indentation - residual	ASTM F1914	Pass
Thickness swell	NALFA 3.2	Pass (Class 4)
Chair resistance	NALFA 3.9	Pass (Class 4)
Surface bond	NALFA 3.10	Pass (Class 4)
Thermal resistance	ISO 8302	0.052 m²K/W Suitable for underfloor heating. Max 81°F
Adhesive		None required; please install according to our installation instructions.
Environmental	FloorScore® SCS-EC10.3-2014 v4.0 Environmental Product Declaration NSF / ANSI 332 ASSURE CERTIFIED™ ISO 14001 / ISO 9001	Indoor air quality certified; Compliant low emitting VOC emissions. Product-specific Type III EPD (products with external third-party verification) Sustainability Assessment for Resilient Floor Coverings; Silver certified product Conformance with Rigid Core Flooring Standard SCS-0011 V1-0 Manufactured to quality and environment management systems standards
Recycling		Suitable
Phthalate free		Yes

¹ 2G™ is a patented technology invented by Välinge Innovation AB. The 2G™ word mark and logo are registered trademarks owned by Välinge Innovation AB and any use of such marks is under license.

² Subject to terms.

³ Slip resistance is measured on freestanding ex-factory product. Slip resistance can be affected by many factors including but not limited to: product installation and underlayment, surface contamination, use, wear and how the product is maintained. Textural variation along the surface of the product can affect nominal values.

For more information:

Call: 888-266-4343

Email: info@karndean.com

Visit: www.karndean.com

	Standard	Result
Thickness	ASTM F386	6.5 mm
Size	ASTM F2421	See separate table
Locking system ¹		5G® Fold Down installation system ²
Wear layer	ASTM F410	20 mil (0.50 mm)
Surface treatment		K-Guard+® PU coating
Warranty ³	Commercial Residential	15 Years Lifetime
Beveled Edge		Micro
Standards	ASTM F3261	Pass: Resilient flooring with Rigid Polymeric Core
Reaction to fire	ASTM E648-06	Class 1
Flammability	ASTM D2859	Pass
Slip resistance ⁴	ASTM D2047	Pass (Dry > 0.8)
Staining resistance	ASTM F1925	Pass (No Change)
Heat fastness	ASTM F1514	Pass
Light fastness	ASTM F1515	Pass
Electrostatic propensity	AATCC 134-1996	1.6 kV
Abrasion resistance	ASTM D4060	Pass (36,000 Cycles)
Dimensional stability	ASTM F2199	Pass (-0.003"/lin.ft)
Acoustic impact noise reduction	ASTM E2179-09 ASTM E492-09	ΔIIC = 22 dB IIC = 68 dB (6" Concrete Slab w/Drop Ceiling) IIC = 72 dB (6" Concrete Slab w/Drop Ceiling + QuietChoice)
Static Load	ASTM F970	Pass (800 psi at 0.005")
Indentation - residual	ASTM F1914	Pass (2.3%)
Thickness swell	NALFA 3.2	Pass (Class 4)
Thermal resistance	ISO 8302	0.052 m²K/W Suitable for underfloor heating. Max 81°F
Adhesive		None required; please install according to our installation instructions.
Environmental	FloorScore® SCS-EC10.3-2014 v4.0 Environmental Product Declaration NSF / ANSI 332 ASSURE CERTIFIED™ ISO 14001 / ISO 9001	Indoor air quality certified; Compliant low emitting VOC emissions. Product-specific Type III EPD (products with external third-party verification) Sustainability Assessment for Resilient Floor Coverings; Silver certified product Conformance with Rigid Core Flooring Standard SCS-0011 V1-0 Manufactured to quality and environment management systems standards
Recycling		Suitable
Phthalate free	ASTM F3414-20	Yes

¹ 5G® is a patented technology invented by Välinge Innovation AB. The 5G® word mark and logo are registered trademarks owned by Välinge Innovation AB and any use of such marks is under license.

² 5G® along short edge; 2G™ long edge except SM-RKP8105, SM-RKP8116, SM-RKP8208, SM-RKP8209, SM-RKP8211, SM-RKT3012-G and SM-RKT3013-G which are modified 2G™ on short edge and standard 2G™ on long edge.

³ Subject to terms. Please see our website.

⁴ Slip resistance is measured on freestanding ex-factory product. Slip resistance can be affected by many factors, including but not limited to; product installation and underlayment, surface contamination, use, wear and how the product is maintained. Textural variation along the surface of the product can affect nominal values.

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Email: info@karndean.com

Visit: www.karndean.com

	Standard	Result
Thickness		4.5 mm
Size		59.06" x 9.84"
Wear layer		20 mil (0.50 mm)
Surface treatment		K-Guard+® PU coating
Warranty ¹	Commercial Residential	15 Years Lifetime
Beveled Edge		No
Classification	ASTM F1700	Class III Type B
Reaction to fire	ASTM E648-06	Class 1
Smoke density	ASTM E662-06	Pass (< 450)
Flammability test	FF 1-70: Federal Approval	Pass
Slip resistance ²	ASTM D2047	Dry 0.92
Staining resistance	ASTM F925	Pass
Light fastness	ASTM F1515	Pass $\Delta E = 1.7$
Abrasion resistance	ASTM D3884	113,000 Cycles
Dimensional stability	ASTM F2199	Pass 0.0045"/lin.ft
Acoustic impact noise reduction	ASTM E2179-09 ASTM E492-09	$\Delta IIC = 16$ dB IIC = 56 dB (6" Concrete Slab w/Drop Ceiling) IIC = 71 dB (6" Concrete Slab w/Drop Ceiling + QuietChoice)
Static load	ASTM F970	1,000 psi
Flexibility	ASTM F137	Pass
Electrostatic propensity	AATCC 134-1996	Pass
Indentation - residual	ASTM F1914	< 0.003"
Adhesive		Please refer to our installation instructions.
Environmental	FloorScore® SCS-EC10.3-2014 v4.0 Environmental Product Declaration NSF / ANSI 332 ISO 14001 / ISO 9001	Indoor air quality certified; Compliant low emitting VOC emissions. Product-specific Type III EPD (products with external third-party verification) Sustainability Assessment for Resilient Floor Coverings; Silver certified product Manufactured to quality and environment management systems standards
Recycling		Suitable
Phthalate free		Yes

¹ Subject to terms. Please see our website.

² Slip resistance is measured on freestanding ex-factory product. Slip resistance can be affected by many factors, including but not limited to; product installation and underlayment, surface contamination, use, wear and how the product is maintained. Textural variation along the surface of the product can affect nominal values.

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May 21

