NSF International

Joint Committee Correspondence

MEMORANDUM

TO: Joint Committee on Sustainable Carpet

FROM: Matthew Realff, Chairperson

DATE: **November 3 2014**

SUBJECT: Proposed revision to NSF/ANSI 140 – *Sustainability Assessment for Carpet* (140i25r3)

Draft 3 of NSF/ANSI 140 issue 25 is being forwarded to the Joint Committee for balloting. Please review the changes proposed to this standard and **submit your ballot by November 17, 2014** via the NSF Online Workspace.

Purpose

The purpose of this ballot is to approve a change to 3.4, section 9, and adding Annex D for Flocked Floor Coverings, called the Blade Test.

Revision 3 (r3) addresses the comments received from the revision 2 (r2) ballot that had concern with the test methodology changing and the year of the standard. **This two-week adjudication ballot** also addresses four unresolved negative comments that were received on revision 2.

Voting options

This ballot allows voters the opportunity to respond, change or reaffirm their vote based on the content of the comments and the ballot document contained in this ballot package.

1. **Affirmative:** you are voting to accept the ballot document as it stands after your consideration of the unresolved negative comments and changes proposed in the revision 2 ballot document.
2. **Negative:** You are voting to reject the ballot document as it stands after your consideration of the unresolved negative comments or the updated language in the ballot. Voters who change an affirmative to a negative shall cite the unresolved negative comment that caused their decision or the new language related to their new negative vote.
3. **Abstain:** You do not feel that you have sufficient information to make an informed decision on this issue.

Please note that if you do not return a vote in this adjudication ballot, your original vote will remain in effect.

At the close of this adjudication ballot, all results will be tallied to determine if the requirements for consensus have been satisfied.

Background

Flocked carpet does not have tufts. Therefore, we request that the requirement for tuft bind be replaced with the Blade Test for Flocked Carpet. It has been shown that the Blade Test is a reproducible test that may be used to predict the permanence of the flocked fibers into the adhesive layer of the carpet. The permanence of the face yarns is the requisite sought in the tuft bind test. The Blade Test also seeks to quantify the permanence of the face fibers in a flocked material. It is our belief that the acceptance of the Blade Test meets the intent of the Performance Durability section as it pertains to fiber/yarn permanence in the face construction.

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Issues

Negative votes were received from four of the JC members. Their objection was based on the ISO TC committee working on this EN 1307 methodology. These negative votes are addressed by referencing the current version (even when it changes) in this revision 3 ballot.

Public health

This change will promote a positive impact on public health by adding the test method for flocked carpet products.

If you have any questions about the technical content of the ballot, you may contact me in care of:

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Sustainability Assessment for Carpet

2.1 Normative references

BS EN 1307~~:2008~~. *Textile floor coverings - Classification*[1]

International Organization for Standardization (ISO) 139: Textiles – Standard atmospheres for conditioning and testing[2]

International Organization for Standardization (ISO) 1957: Machine made textile floorcoverings – Sampling and cutting of specimens for physical tests[2]

3.4 carpet: Heavy functional and ornamental floor coverings consisting of pile yarns or fibers and a backing system. May be tufted, flocked, or woven.

9.3 Performance durability (prerequisite)

Durability testing provides an indication of the potential longevity of a carpet product when the product is properly selected for the intended use environment (e.g., high or low use/foot traffic areas). Demonstration of durability is achieved through assessment under the accelerated laboratory carpet performance tests and minimum performance requirements referenced in this section.

A manufacturer shall receive one point for demonstrating that the product meets the applicable performance durability testing requirements listed in Table 9.2 and Table 9.2A.

Table 9.2 – Carpet performance Testing

Characteristic	Commercial Performance Standard		Residential Performance Standard		Validity of Test Data
	Value	Method	Value	Method	
Texture Appearance Retention Rating (TARR)	Moderate Traffic: min 2.5 TARR Heavy Traffic: min 3.0 TARR Severe Traffic: min 3.5 TARR	ASTM D5252-Hexapod drum at 12000 cycles CRI TM 101-TARR			Within the previous 24 months
Tuft Bind (not flocked carpet)	8.0 lbs for loop pile yarns 3.0 lbs for cut pile	ASTM D1335	6.2 lbs for loop pile yarns	ASTM D1335	Within the previous 12 months

[1] British Standards institute (BSI), 389 Chiswick High Road, London, W4 4AL, UK <www.bsigroup.com>

[2] International Organization for Standardization, ISO Central Secretariat, 1, ch. De la Voie-Cruese, CP 56, CH-1211 Geneva 20, Switzerland <www.iso.org>.

	yarns		3.0 lbs for cut pile yarns		
Blade Test (for flocked carpets)	Less than 50% backing clearly visible after test	Blade Test (BS EN 1307 ~~Annex D~~)	Less than 50% backing clearly visible after test	Blade Test (BS EN 1307 ~~Annex D~~)	Within the previous 12 months
Delamination Strength	Minimum average value of 2.5 lbs/in	ASTM D3936	Minimum average value of 2.5 lbs/in	ASTM D3936	Within the previous 12 months
Flammability (Pill Test)	Must meet federal requirements	DOC FF 1-70	Must meet Federal requirements	DOC FF 1-70	Within the previous 24 months
Flammability (Radiant Panel)	Must meet local building/fire code regulations Class 1- minimum 0.45 watts/cm^2 Class 2- minimum 0.22 watts/cm^2	ASTM E648	n/a		Within the previous 24 months
Flammability (Smoke Density)	Must meet local building/fire code regulations Maximum specific optical density not exceeding 450 (flaming exposure)	ASTM E662	n/a		Within the previous 24 months
Electrostatic Propensity	Equal to or less than 3.5kv	AATCC-134, step test			Within the previous 36 months
Colorfastness to Light	Minimum grade 4 at 40 AFU	AATCC 16E	Minimum grade 4 at 40 AFU	AATCC 16E	Within the previous 12 months

Table 9.2A – Performance testing for wool rich carpet

Characteristic	Commercial performance standard		Residential performance standard		Validity of Test Data
	Value	**Method**	**Value**	**Method**	
Overall Appearance Change (OAC) Light use Moderate use Heavy use Severe use	 ≥ 3 ≥ 3 ≥ 3-4 ≥ 3-4	ASTM D55252 – Hexapod drum test (1500 & 8000 cycles) CRI TM 101 - ARR grading assessment Value calculated combining OAC at both test durations	 ≥ 2-3 ≥ 3 ≥ 3-4	ASTM D55252 – Hexapod drum test (1500 & 8000 cycles) CRI TM 101 - ARR grading assessment Value calculated combining OAC at both test durations	Within the previous 24 months
Tuft bind					Within the previous 12 months
Tufted carpets: loop pile cut pile	 ≥ 4.4 lbs ≥ 2.2 lbs	ASTM D1335	 ≥ 4.4 lbs ≥ 2.2 lbs	ASTM D1335	
Woven carpets (cut or loop)	≥ 0.77 lbs		≥ 0.77 lbs		
Delamination strength	Minimum average value of 2.5 lbs/in	ASTM D3936	Minimum average value of 2.5 lbs/in	ASTM D3936	Within the previous 12 months
Soiling resistance	Δ E ≤ 3	ASTM D6540 Drum Soiling Test using AATCC standard soil	Δ E ≤ 3	ASTM D6540 Drum Soiling Test using AATCC standard soil	Within the previous 24 months
Flammability (Pill test)	Must meet federal requirements	DOC FF 1-70	Must meet federal requirements	DOC FF 1-70	Within the previous 24 months
Flammability (Radiant panel test)	Must meet local building/fire code regulations Class 1-minimum 0.45 watts/cm_2	ASTM E648	Not applicable		Within the previous 24 months

NOTE - Overall Appearance Change = 1/3 (2 x (short term texture change) + long term texture change)

⋮

~~Annex D~~

~~(normative)~~

~~Blade test for Flocked floor coverings~~[1]

~~D.1 Test description~~

~~This annex covers blade testing for flocked floor coverings. This annex should be used for flocked floor coverings.~~

~~D.2 Scope~~

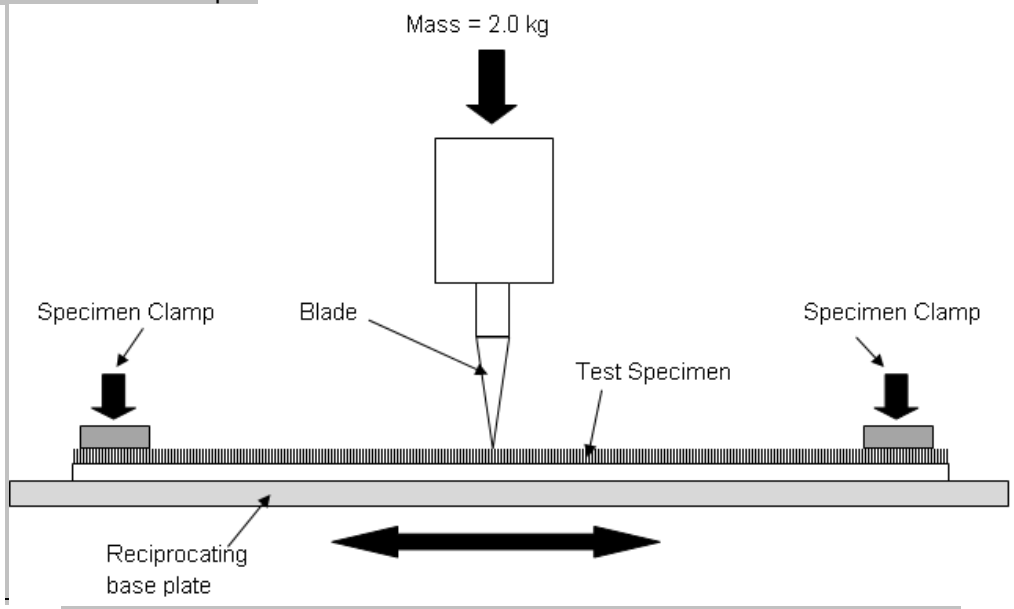
~~This test describes a laboratory test method to measure the abrasion resistance of flocked floor coverings. This test references both ISO 139~~[2] ~~and ISO 1957~~[2]~~.~~

~~D.3 Principle~~

~~A specimen of the flocked floor covering to be tested shall be is placed on the test apparatus pile face up. A blade is shall then be lowered onto the pile surface which rubs against the pile surface for a determined number of cycles, after which a visual assessment is shall be made.~~

~~D.3.1 Apparatus~~

~~The flock abrasion testing machine (see figure D1), having a reciprocating base plate onto which the flocked flooring sample can shall be clamped. The blade and weight assembly shall be is capable of being lowered onto the sample.~~



~~Figure D1 – Flock abrasion testing machine (schematic representation)~~

~~D.3.2 Blade~~

~~The following items shall be set prior to beginning blade test:~~

~~Material~~	~~Tool Steel~~
~~Width~~	~~20 mm (0.78 in)~~

~~Thickness~~	~~5 mm (0.20 in)~~
~~Tip radius~~	~~0.3 mm (0.1 in)~~
~~Angle~~	~~15°~~
~~Weight~~	~~2 ± 0.05 kg (4.4 ± 1.1 lbs) (weight assembly and blade)~~

~~The apparatus operates at 60 cycles*/minute over a distance of 100 mm (3.93 in). A cycle is shall be defined as one forward and backward movement of the blade.~~

~~D.3.3 Conditioning~~

~~The sample shall be conditioned the sample at standard atmosphere (20 °C [68 °F], 65% relative humidity) for a minimum of 24 hours.~~

~~D.3.4 Preparation of Test Specimens~~

~~A specimen of size 40 x 300 mm (1.6 in x 11.8 in) shall be is cut from the flocked floor covering (pile direction is not important).~~

~~D.4 Procedure~~

~~1) Place the test specimen, pile uppermost, under the clamps and thread through under the raised blade.~~

~~2) Lower and tighten the clamps at each end while making sure that the test specimen is held taut (during the test the sample should remain flat without significant lifting in front of the blade).~~

~~3) Carefully lower the blade onto the specimen and ensure that the weight is in place on the spindle above the blade.~~

~~4) Set the counter to the required number of cycles and switch on the apparatus. After the pre-set number of cycles has been completed, the apparatus will stops automatically.~~

~~5) Remove the specimen from the apparatus and brush it lightly to remove any loose fibers.~~

~~D.5 Assessment of Results~~

~~The sample shall be assessed the specimen for wear. The pass criterion shall be is that the pile shall not be removed such that 50% backing becomes clearly visible.~~

~~D.6 Test Report~~

~~The test report shall include the following information:~~

~~1) all the information necessary for complete identification of the sample;~~
~~2) the conditioning and testing atmosphere;~~
~~3) reference to this Standard;~~
~~4) whether or not the sample has passed or failed the test;~~
~~5) any operations or conditions not specified in this standard, which might have affected the results; and~~
~~6) date of report.~~