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**GENERAL SERVICES ADMINISTRATION  
FEDERAL SUPPLY SERVICE  
MID-ATLANTIC REGION  
NATIONAL FURNITURE CENTER**

**TECHNICAL REQUIREMENTS BOOKLET**

**FOR**

**CARPET, CARPET TILES AND CARPET CUSHION**

**FSC GROUP 72, PART I, SECTION A**

## **TECHNICAL INSTRUCTIONS, INSPECTION, AND REQUIREMENTS**

**Definitions.** For the purposes of this solicitation, the meaning of all carpet terms used will be as defined in the Carpet and Rug Institute's "Carpet Specifier's Handbook" except fusion bonded. Fusion bonded tile construction shall be defined as "embedding fiber or yarn between two parallel sheets of adhesive coated backings. The sheets are slit, forming two pieces of cut pile carpet which are simultaneously combined with a reinforcing layer yielding a unitary structure. This method does not include sewing, stitching, or the use of needles in any part of the process, before or after fiber or yarn implantation."

**Test Procedures** Unless otherwise specified, the latest revision of referenced test methods, e.g., ASTM, AATCC, etc., in effect on date of the solicitation issue shall be the required test procedure.

**Carpet Fire Safety Standards.** Note that the Pill Test (CPSC FFI-70) is mandatory for all carpets. Contractors have the option of further testing their carpets for a radiant panel and/or a smoke density rating. Federal Government customers will be advised of flammability ratings for each carpet through the contractor brochures. (See page 12 for explanation of GSA fire safety codes.)

**Carpet Fibers.** All synthetic fiber shall be minimum 15 denier per filament, with minimum 2-ply yarns. Except for wool, loop pile shall be 100% continuous filament; cut and loop shall be 100% continuous filament for the loop portion and may be continuous or staple filament for the cut pile portion; cut pile carpet shall be staple or 100% continuous filament. For all loop and cut and loop items, when ply is co-mingled, turns per inch (twist) does not apply. Heat setting of yarn plies is required when twist is specified. Twist is not required in cut pile carpet when using a singles yarn with crimp permanently heatset by the fiber producer at the fiber stage or for other specialty yarns. Such yarn produces a carpet with a velvet appearance. In regard to wool fiber, characteristics such as denier per filament, co-mingled, and crimp heatsetting do not apply. However, wool and wool/nylon blend fiber must bear the Wool Mark, Wool Blend Mark (Wool Bureau), Fernmark (Wools of New Zealand), etc.

**Fiber Verification.** In order to advertise to Government customers in contract brochures and marketing efforts that they use a particular fiber brand name in a particular style of carpet, offerors must submit written certification that a particular fiber is being provided for a specific carpet style. If a carpet manufacturer uses its own yarn/fiber brand name, the manufacturer must certify that this is the yarn/fiber name used commercially in that particular carpet style.

**Pre-dyed Yarns.** Pre-dyed yarns are dyed before tufting, weaving or bonding take place and include (but are not limited to) skein, stock, solution, and space dyeing. Yarns dyed by the beck process (normally used for dyeing carpet) are not considered pre-dyed yarns.

## INSPECTION AND QUALITY ASSURANCE PROVISIONS

**Responsibility for inspection.** Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection/test requirements as specified herein. Except as otherwise specified in the contract, all testing must be performed by a laboratory accredited by the Commerce Department's National Voluntary Laboratory Accreditation Program (NVLAP). The Government reserves the right to select samples and perform any of the inspection/tests set forth herein where such inspection/tests are deemed necessary to assure that supplies and services conform to prescribed requirements.

**Classification of tests.** The inspection and testing of carpet items shall be classified as (1) preaward, and (2) post award testing. Inspection and testing of cushion and adhesives shall be classified as (1) preaward and (2) post award testing.

**Carpet preaward and post award testing and certification (general).** Preaward and post award testing shall consist of all applicable tests listed in this Purchase Description (PD). Post award testing is required every 5 years from date of award. Certification that the product construction/components have not changed and that the product continues to meet test requirements is required 30 months after award. A sample Carpet Testing Checksheet has been provided for reference at the end of this PD.

Each separate construction of each item must be tested. Only one color/pattern for each construction is required to be tested. However, if there is any other difference between items other than color and/or pattern, separate test results are required. **A summary sheet from the laboratory listing required tests and results must be submitted—not individual test reports.** The offeror must have individual test reports available when the Government requests them. **If any construction/component changes are made to an awarded item, the contractor must notify the Contracting Officer. Re-testing will, in most cases, be required prior to approval. The characteristics to be retested will depend upon the changes and components affected.** Examples of construction/component changes would be changes in fiber or backing or chemical formulations which affect smoke and flame characteristics.

For carpet styles which are marketed with an attached cushion, testing is required for the product as a unit (carpet and cushion); in addition, separate testing is required for the cushion characteristics. When a carpet style is offered as optional with attached cushion, testing for the basic carpet (without cushion) is required, along with separate testing for the cushion characteristics.

When a tile product and matching 6-foot roll carpet are offered, testing of the tile product will suffice if the matching broadloom is identical in construction, i.e., same backing and face yarn systems. Offeror must certify that the constructions are, in fact, identical.

**Cushion/adhesive preaward and post award testing (general).** Preaward and post award testing for cushion and adhesive shall consist of all applicable tests listed in this PD.

**Preaward carpet and cushion/adhesive test submission.** Preaward test report **summaries** must be submitted with the offer. Test report **summaries** must be dated no earlier than 180 calendar days prior to submission. Individual tests listed in the summary must have been performed no earlier than 180 days prior to submission. Test results will be reviewed to determine if they are complete, accurate, and show passing results for all required tests. Offerors will be notified of the results of this review, and will be given 15 calendar days to make any necessary corrections. Failure to submit complete, accurate, passing test results within the time given will result in rejection of the offer for the applicable item(s).

**Post award carpet and cushion/adhesive test and certification submission.** The first post award submission for **new offers** will consist of certification to the GSA Contracting Officer that construction/components of products on contract have not changed and that products continue to meet all

technical requirements. This certification is required halfway through the 5-year contract period (at 30 months).

Submission of test report **summary** is due to the Contracting Officer 30 months after that. For example, the testing cycle for **new offers** will be: preaward testing, due at time of offer; post award certification due 30 months later; post award test report **summary** (not certification) due 30 months after that, and so on.

**Current contractors** will adjust their testing cycles to conform to this new schedule; since current contractors have been in a yearly testing cycle, their next submission to the Contracting Officer will be the certification described above. The certification will be due 30 months after the date items were placed on contract.

**Certification** shall be a letter signed and dated by an authorized representative of the manufacturer on official company letterhead, listing applicable style name and number, certifying that the construction/components of the item remain the same and that cited products meet all applicable technical requirements of the contract.

Due dates for the next set of tests will not be changed due to contractor's failure to submit complete, passing results on time. It is the contractor's responsibility to ensure that testing time frames are met (including allowing sufficient time for GSA personnel to witness sampling and testing, when applicable). Contractors may be precluded from shipping the applicable item(s) at any time during the contract when complete, accurate, passing test results are not received on time. Contractors will be given one opportunity to correct any deficiencies in their test results or to submit test results that were not submitted on time. Failure to submit complete, accurate, passing test results in the allotted time may result in termination for default of the applicable item(s).

**Sampling.** For purposes of testing, a sample of each item (in sufficient quantity to do the testing), made from a current production run, will be tested/inspected to all requirements specified under the Test Requirements Section of this PD, as applicable.

**TEST REQUIREMENTS FOR CARPET AND ADHESIVES**  
**(AS APPLICABLE)**

The contractor is required to submit preaward test results with the offer and post award tests and certifications as stated above. At the Government's option, after contract award, samples for testing may be selected by a GSA designated official.

**Marking of samples for lab testing.** In order to standardize information on NVLAP test reports, please provide the following basic information with the carpet sample to be tested so that the lab can include it: Style name/number, color, roll number, yarn lot number, fiber and brand/name, backing system (unitary, PVC hardback, actionback, etc.) GSA contract number.

<u>Characteristic</u>	<u>Requirement</u>	<u>Test Method</u>
Density (min.)	4,000 unless otherwise specified	Pile Density = $\frac{36 \times \text{Pile Wt.}}{\text{Pile thickness/tuft height}}$ (as applicable) ASTM D 418 <u>1/</u>
Gauge (pitch)	As specified, only required for SIN 31-304f	ASTM D 418
Finished pile weight <u>2/</u>		ASTM D 5848
Yarn ply (min.) <u>3/</u>	2 unless otherwise specified	ASTM D 1423
Denier per filament (min.)	15 unless otherwise specified <u>4/</u>	ASTM D 861
Twist (TPI) cut pile)(min.)	4 unless otherwise specified <u>5/</u> (singles and ply)	ASTM D 1423
Colorfastness to light, (min.)	4 at 40 unless otherwise specified	AATCC 16E
Tuft bind for loop, <u>6/</u> cut & loop, & tip shear only, oz (min. avg.) specified	160 (broadloom)/128 (tile & 6' rolls w/tile back), unless otherwise	ASTM D 1335
For wool & wool/nylon blend carpets	Must bear WOOL MARK, WOOL BLEND MARK, FERMARK, etc.	Wool Bureau/Wools of New Zealand, etc., Certification
Flammability (Pill test)	7 passes from 8 specimens	DOC FF 1-70
Flammability (Radiant Panel)	See page 12 (contractor's option)	ASTM E 648
Flammability (Smoke density)	See page 12 (contractor's option)	ASTM E 662
Certification of no nondurable treatment	Ltr of certification from manufacturer	Page 12, para. 1 of this document
Flashpoint (adhesives)	Minimum 140°F (Test report may be from any recognized independent laboratory)	ASTM D 3278
Dimensional stability, inch (carpet tile only)	± 0.027 (machine direction) ± 0.027 (cross direction)	AACHEN
Electrostatic propensity, max. for gen. use carpet (Step test only)	3.5 KV (commercial) <u>7/</u> 5.0 KV (residential) (except residential wool carpets, SIN 31-304e)	AATCC 134
Electrostatic propensity, max. for computer grade carpet (SIN 31-304b)	2.0 KV <u>7/</u>	AATCC 134
Electrical resistance for computer grade carpet (SIN 31-304b)	Min. 25,000 ohms Max. 10 <sup>9</sup> ohms <u>8/</u>	NFPA 99
TVOC emissions	List 8-character compliance number (contractor's option)	CRI Green Label Program

Antimicrobial and fungicide tests (SIN 31-304a) <u>9/</u>	See page 11	AATCC 174
Stain resistance (stain resistant carpet only, SIN 31-304d) <u>10/</u>	Must rate no less than 8.0 on AATCC Red 40 Stain Scale (10.0 is best)	AATCC 175
Delamination strength (fabric secondary backing), lbs per inch width, tufted only, (min. avg. value)	4 (SIN 31-304f only)	ASTM D 3936

1/ For measurement of pile height/pile thickness characteristic, if shearing under ASTM D 418 would result in a significant stubble ultimately affecting test results, measurement by steel rule to the nearest 1/32 inch is acceptable.

2/ As indicated in submitted commercial brochure specifications and to be confirmed in preaward and subsequent testing. A tolerance of -5%, any + tolerance acceptable except where a minimum is required or where a specific ounce is specified. When a minimum is required, the weight shall not fall below the stated minimum (zero minus tolerance). When meeting the minimum is not in question (e.g., stated minimum is 28 oz./sy and carpet offered for the category is 36 oz./sy), the -5%, any + tolerance applies. When a specific pile weight is specified (i.e., SIN 31-302), the acceptable tolerance is plus or minus 5%. Finished pile weight: test may be performed (on soft goods) prior to final backing application, provided no additional "finishing" is necessary (i.e., cut pile carpet has been sheared, and the only remaining process is final backing application).

3/ Where ply is co-mingled or air-entangled, a certification from the fiber supplier as to number of ply is required in lieu of the ply test. In lieu of ASTM D 1423, the offeror may submit a letter from the fiber producer certifying the number of ply.

4/ In lieu of ASTM D 861, the offeror may submit a letter from the fiber producer certifying the denier per filament of the offered fiber(s).

5/ For unusual or specialty yarn systems having no less than 4-ply cabled yarn, twist requirement will be evaluated on a case-by-case basis.

6/ Tuft bind for cut and loop styles: When a carpet style is manufactured with both cut and loop pile, and the loop placement is clearly for aesthetics and design, waiver of the tuft bind requirement will be considered on a case-by-case basis.

7/ All shall have a static control construction which gives adequate durability and performance. All these carpets except those made with natural fiber shall be cleaned for 3 cycles (once with detergent, followed by two clear water rinses) before testing for electrostatic propensity (AATCC 134). Cleaning shall be in accordance with AATCC 171.

8/ Electrical resistance measured according to general methodology of NFPA 99 for conductive floors, modified to measure in required range - 70°, 20% Rel. Hum. and to use 100 volts in lieu of 500 volts. Appropriate instrumentation as recommended by IBM for performance of their version of the NFPA Method. Electrical resistance requirements relate to an installed carpet. NOTE: For carpet tiles, in addition to the surface-to-ground test, surface-to-surface testing is required.

9/ Report both antimicrobial and fungicide test results before washing and after washing (see page 10, para. 3).

10/ Modified by exposing sample to 100 revolutions of the Taber Abrader (1,000 gram weight per H-18 wheel) and then stain testing in the abraded area. Note: Size and shape of sample may be adjusted as necessary to accommodate the Taber Abrader test. Color of carpet tested shall not be red, red tone, or a very dark color (dark blue, black, brown, etc.) that would mask the red staining material used in the test. When stain resistant carpet is offered in both broadloom and tile constructions, only one construction need be tested to AATCC 175. The Government (IOA and/or Contracting Officer) reserves the right to select the carpet to be tested.

**TEST REQUIREMENTS FOR CARPET CUSHION**

**A. ATTACHED carpet cushion.** When carpet is manufactured with an attached cushion, cushion must meet the following minimum requirements (SIN 31-603).

Characteristic	Requirement			Test Method
	Chem. Frothed	Mech. Frothed Urethane	EVA & PVC	
Density, min. (lb/ft <sup>3</sup> )	11	14	15	ASTM D 3574
Compression force deflection min., (PSI)	5	5	--	ASTM D 3574
Compression deflection min., (PSI)	--	--	12	ASTM D 1667
Compression Set, max. % (50%)	15	15	--	ASTM D 3574
Ash content max. %	50	50	50	ASTM D 297

**B. UNATTACHED carpet cushion** (must be manufactured with a scrim or latex coating at least on one side, as applicable, to facilitate ease of installation). All cushion shall pass the pill test (CPSC FF-1-70).

**RUBBER SIN (31-305)**

	Rippled (waffled) Cellular	Cellular Sponge Flat/Semi-flat	High density	
	Compression Resistance, min. (25%)	0.500	2.5	
Compression set, max.% (50%)	12.5	8.75	12.5	ASTM D 3676
Ash content, max.	60	60	60	ASTM D 297

**URETHANE (SIN 31-305)**

	Prime	Densified Prime	Bonded	High Density	
Density, min. lb/ft <sup>3</sup>	2.7	3.5	8.0	15.0	ASTM D 3574
Compression force deflection, min. (65%)	1.0	1.8	7.0	45.0	ASTM D 3574
Compression set, max. % (50%)	15.0	10.0	15.0	15.0	ASTM D 3574
Ash content, max. %	50.0	50.0	n/a	50.0	ASTM D 297

**NATURAL FIBER (Rubberized Hair & Jute, Jute & Fiber (SIN 31-305))**

<b>Characteristic</b>	<b>Requirement</b>	<b>Test Method</b>
Weight (oz./sq. yd., min.) <u>2/</u>	40	ASTM D 3676
Compression set, max. % at 25% deflection	15	ASTM D 1667 <u>1/</u>
Breaking strength, lbs., min.	30	ASTM D 2646

**SYNTHETIC NEEDLED FIBER (SIN 31-305)**

Weight (oz./sq. yd., min.) <u>2/</u>	28	ASTM D 3676
Density (lb./ft <sup>3</sup> , min.)	7.0	ASTM D 3676
Min. synthetic fiber by wt. (%)	95 <u>3/</u>	ASTM D 629
Breaking strength, lbs., min.	30	ASTM D 2646

1/ Compression set values to be calculated based on percentage of original thickness.

2/ As indicated in submitted commercial brochure specifications and to be confirmed in preaward and subsequent testing. (For products with weights exceeding the specified minimum (40 oz.).

3/ Excludes backing and coating materials used to enhance product performance.

C. **ATTACHED hardback backing (broadloom) (SIN 31-603).** Shall be a suitably compounded polymer or copolymer of vinyl chloride resin plasticized with primary plasticizers only. The compound shall be 0.070 (+0.015, -0.010) inch thick, and weigh 50.5 ounces minimum per square yard. As an alternate, the backing may be composed of a fusion coated layer and a cellular vinyl layer, both suitably compounded. Where the alternate secondary backing is used (1) the cellular vinyl layer component shall be 0.070 (+0.015, -0.010) inch thick and weigh 26.5 oz./sq. yd. minimum and (2) the fusion coated layer shall be homogeneous vinyl and weigh a minimum of 24 oz./sq. yd.

**VISUAL OVERALL AND DIMENSIONAL EXAMINATIONS**

**Visual Examination for Carpet.** The defects listed below shall be counted regardless of their proximity to one another, except where two or more defects represent a single local condition of the carpet, rug, or tiles in which case only the serious defects shall be counted. Continuous defects shall be counted as one defect for each square yard or fraction thereof in which they occur. The sample unit for this examination shall be one square yard for broadloom and cut rugs and one carpet square for tiles. The sample size shall be based on ANSI/ASQC Z1.4, with an AQL of 2.5 major and 6.5 total defects (major and minor combined) per hundred units (square yards/carpet tile). When examination is made of full carpet rolls, not more than one-fifth of the total sample square yardage shall be examined on any one roll. When the lot consists of less than 5 rolls, an approximate equal number of square yards shall be examined on each roll to yield the sample yardage. When examination is made on cut rugs/tiles, the number of rugs/tiles selected shall be sufficient to yield the sample yardage. Visual examination shall be made at a distance of approximately 6 feet.



**CLASSIFICATION OF VISUAL DEFECTS**

<b>Examine</b>	<b>Defects</b>	<b>Classification</b>	
		<b>Major</b>	<b>Minor</b>
Finish and Appearance	Not evenly constructed, affecting appearance.		X
	Marks across carpet	X	
	Discolored areas affecting appearance (variations in color due to crushing of pile shall not be considered a defect).		X
	Any noticeable unevenness on top surface appearance		X
	Any objectionable color other than specified, visible on top surface pile.		X
	Any obvious streak lengthwise (not part of pattern)	X	
	Pilling or fuzzing of pile yarn		X
	Spots or stains or embedded foreign matter		X
Material and Workmanship	Tufts missing in pile or not firmly secured	X	
	Seams: (when specified) not properly sewed or taped (N/A to carpet tile).	X	
	Binding: (when required) edges not securely bound (N/A to tiles).	X	
	Poor color match		X
	Back coating skips		X
	Backing reinforcement (when specified) imperfectly applied, poor adherence.	X	
	Cut, hole or tear	X	
	Carpet tile does not lay flat	X	

**Overall Examination for Carpet.** Each defect listed below shall be counted not more than once in each unit examined. The sample unit for this shall be one roll, rug, or tile. The number of rolls, rugs, or tiles examined for visual examination above shall be the sample size for this examination. The lot shall be unacceptable if one or more of the following defects are found.

**Defects:**

Overall uncleanness.  
Rancid or otherwise objectionable odor.  
Type not as specified.  
Edges of rugs not finished as required.  
Color not matching as required.

**Dimensional Examination for Carpet.** Each defect listed below shall be counted not more than once in each unit examined. The sample unit for this shall be one roll, rug, or tile. The number of rolls, rugs, or tiles examined for visual examination above shall be the sample size for this examination. The lot shall be unacceptable if one or more of the following defects are found.

Defects:

Cut rugs - width or length (more than) 1 percent less than specified.

Rolls - width (more than) 1 percent less than specified. A variation in quantity of plus 5% of the quantity ordered with a maximum limitation of 25 square yards (see contract for Variation in Quantity Clause). Total yardage in sample - total gross length of all pieces in sample less than the total gross lengths marked on piece tickets.

Tiles - width or length more than plus or minus 1/32" from that specified.

**Inspection of Preparation for Delivery.** An inspection shall be made to determine that the packaging, packing and marking comply with the requirements as specified in the contract or order. Defects shall be scored in accordance with the listing below. Sampling shall be in accordance with ANSI/ASQC Z1.4. Defects of closure listed shall be examined on shipping units in the end item inspection lot. The inspection level shall be S-2 with an AQL of 4.0 defects per hundred units.

<u>Examine</u>	<u>Defect</u>
Marking	Omitted; incorrect; illegible; improper size, location sequence, or method of application.
Material	Any component missing or damaged.
Workmanship	Inadequate application of components such as incomplete closure of container flaps, loose strapping, inadequate stapling, or distortion of container.
Contents	Net weight exceeds the requirements of the applicable box specification.

**Visual Examination for Carpet Cushion.** The defects listed below shall be counted regardless of their proximity to one another, except where two or more defects represent a single local condition of the cushion, in which case only the more serious defect shall be counted. In full length rolls continuous defects shall be counted as one defect for each yard or fraction thereof in which they occur. The sample unit for this examination shall be 1 roll. The acceptable quality level shall be 6.5 defects per hundred units. The inspection level shall be level S-4. The lot size shall be expressed in units of 1 linear yard when full length rolls are specified and one piece when special cut sizes are specified. When examination is made of full length rolls, not more than one third of the total sample yardage shall be examined in any one roll. When the lot consists of less than 5 rolls, an approximate equal number of yards shall be examined on each roll to yield the sample yardage.

Defects:

Woven or non-woven backing not securely adhered to cushion.

Woven or non-woven backing not uniform.

Cut, hole or tear of any size in cushion or backing.

Thin or weak place in cushion or backing.

Length of pieces or width not as specified.

Dirty or stained.

Objectionable odor (normal urethane or rubber smell acceptable).

**Packaging, Packing and Marking of Carpet, Carpet Tiles and Carpet Cushion and Carpet Adhesive, if Offered.** The packaging, packing and marking shall be as stated in the contract or order.

### **TEST REQUIREMENTS FOR ANTIMICROBIAL CARPET**

Only carpet and carpet tile offered under Special Item Number (SIN) 31-304a requires antimicrobial effectiveness. However, if the contractor wants to claim antimicrobial effectiveness for carpets and tiles offered for other SIN's, those items must also pass the required tests in AATCC Test Method 174, Antimicrobial Activity Assessment of Carpet, as indicated below. Test results provided by the offeror must be from a laboratory accredited under the Commerce Department's National Voluntary Laboratory Accreditation Program (NVLAP) and must indicate compliance with requirements of the cited tests.

#### **EPA Registration Number Requirement for Biocide**

In addition to passing Antimicrobial and Fungicide Tests (AATCC 174), claims of antimicrobial effectiveness must be accompanied by a certification dated and signed by the biocide supplier, including his EPA Registration Number for the biocide, stating that the treatment is being provided to the offeror for use in the submitted carpet style. Where more than one biocide is used in the manufacture of the carpet, certification is required for all treatments.

#### **Washing Requirement (AATCC Test Method 171 or 138)**

Carpet specimens must pass the antimicrobial and the fungicide tests, as applicable, before and after being washed 8 times in accordance with AATCC Test Method 171 (3 times with detergent, followed by at least 5 clear water rinses, flooding under tap water to ensure removal of cleaning agents. As an alternative, the 8 washes may be performed in accordance with AATCC Test Method 138.

Carpet need not be dried between washes; use a hydro-extractor to remove excess water from specimens between washes; dry carpet specimens at 160 degrees + 2 degrees F. Report antimicrobial and fungicide test results before and after washing.

#### **Antibacterial Activity Test (AATCC 174, Part I (qualitative) OR Part II (quantitative))**

The contractor must test for antimicrobial inhibition in accordance with either AATCC Test Method 174, Part I, Qualitative Assessment of Antibacterial Activity on Carpets: Single Streak Method, OR Part II, Quantitative Assessment of Antibacterial Activity on Carpets (contractor's option). Testing of an untreated control sample is not required.

1. If the Part I Qualitative test is used, the zone of inhibition must be a minimum of 2 mm for Gram positive bacteria and a minimum of 1 mm for Gram negative bacteria. In addition, any growth in the contact area is unacceptable. One specimen (fiber up or fiber down) (para. 11.5) must pass the test.
2. If the Part II Quantitative test is used, a minimum of 90 percent reduction against each organism is required. NOTE: Para. 19.3 Use adequate inoculum to contact the carpet face fiber and the carpet backing.)

#### **Antifungal Activity Test AATCC 174, Part III)**

The contractor must pass Part III, Antifungal Activity Assessment of Carpet Materials: Mildew and Rot Resistance of Carpet Materials. Any growth on the specimen is unacceptable. One specimen (fiber up or fiber down) (para. 24.5) must pass the test. Testing of an untreated control sample is not required.

## **FLAME RESISTANCE AND SMOKE DEVELOPMENT REQUIREMENTS**

For all carpet covered by this solicitation, no nondurable treatment shall be applied in the processing of the carpet that improves its flammability or smoke development characteristics and enables it to meet the test criterion for flame resistance or smoke density. A nondurable treatment is one which can be removed by normal maintenance procedures to the extent that the carpet no longer meets the test criterion. A certification from the contractor that this requirement has been met must be provided at the time of bid and with each test cycle. Failure to provide the certification prior to award will result in rejection of the offer for the applicable item(s). Failure to provide this certification during the contract period may result in termination for default of the applicable item(s).

The Government has the option to verify the requirements specified in the preceding paragraph. For verification, the carpeting shall be washed before testing to determine that the requirements have been met. The method for washing carpet shall be AATCC 124.

**a. Consumer Product Safety Commission (CPSC) Standard FF 1-70 (Pill Test) (MANDATORY FOR ALL CARPETS)**. Carpeting, tiles and carpet cushion covered by this solicitation shall meet the flame resistance requirements and tests conducted in accordance with CPSC Standard FF-1-70.

**b. ASTM E-648 Critical Radiant Flux of Floorcovering Systems - TESTING AT CONTRACTOR'S OPTION.** Carpet tested in accordance with ASTM E 648 shall have a critical radiant flux level averaging not less than 0.22 or 0.45 watts/cm<sup>2</sup> when tested in accordance with ASTM E-648. The contractor has the option of qualifying his carpet for either 0.22 or 0.45 watts/cm<sup>2</sup>.

When the Critical Radiant Flux testing specified above is performed: (1) carpet with an attached cushion shall be tested as an integral unit, that is, tested together with the attached cushion, and mounted as specified in the Mounting Procedures referenced in the test method, (2) carpet without an attached cushion shall be tested (a) over separate cushion designated in the test method and/or (b) mounted directly to the inorganic mill board as specified in the Mounting Procedures.

The test conditions (i.e., with an attached pad, without any pad, or over the rubber-coated jute and animal hair pad) shall be clearly and specifically described in any contract documents or advertising literature on the tested carpets. This is mandatory since fire safety requirements often detail a specific level of protection required; therefore the material used and method of installation must comply. A cautionary notice should be included that the critical radiant flux levels reported are only applicable when installation corresponds with the testing conditions, e.g., radiant flux levels obtained in a direct gluedown test are not valid for an installation over pad.

**c. ASTM E-662 Specific Optical Density of Smoke Generated by Solid Materials TESTING AT CONTRACTORS OPTION.** When tested in accordance with ASTM E-662, carpeting shall have a maximum specific optical density not exceeding 450 (flaming exposure).

### **CARPET FIRE SAFETY STANDARDS**

Fire safety standards for carpeting vary from agency to agency. For example, Class B and C listed below meet the requirements for GSA Public Buildings Service (PBS) controlled building space (except Smoke Density is not required for flooring) while Class A has been included for agencies which may have more stringent requirements.

Class A carpet must pass the following:

- (1) Consumer Product Safety Commission Standard CPSC FF-1-70 (Pill Test).
- (2) ASTM E 648 (Radiant Panel Test) with a Critical Radiant Flux (CRF) of 0.45 watts/cm<sup>2</sup> or greater
- (3) ASTM E 662 (Smoke Density Test) with a maximum specific optical density not exceeding 450 (flaming exposure)

Class B carpet must meet the same requirements as above, except CRF of 0.22 watts/cm<sup>2</sup> or greater.

Class C carpet must pass the Pill Test (CPSC FFI-70).

### USE AREAS

**Unsprinklered corridors and offices** - for PBS controlled space, Class B is required. Individual agencies should confirm their fire safety regulations.

**Sprinklered corridors and offices** - for PBS controlled space, Class C is required. Individual agencies should confirm their fire safety regulations.

**Health care, child care and other areas** - individual agency regulations may vary. For PBS controlled space, Class B is required for those activities providing less than 24-hour care. However, Class A carpet is being provided for those ordering activities who have requirements over and above those specified by PBS.

Radiant Panel and Smoke Density tests are at the contractor's option; the Pill Test is mandatory. As part of the preaward testing requirements, test results are to be submitted with the offer. While Radiant Panel and Smoke Density Tests are optional, any items for which these test results are not submitted must be noted as Class C in contract brochures. Once a carpet item has been rated for a particular fire safety code (A, B, C), that rating or higher should be maintained throughout the contract period. If a rating is upgraded or downgraded, the contractor must send notification (post card, etc.) to all addressees to which brochures were provided. It is the contractor's responsibility to ensure all customers are aware of fire rating changes.

When Class B carpet is required, Class A may be substituted; when Class C carpet is required, Class A or Class B carpet may be substituted.

### **Furniture Lifting for Carpet Replacement (SIN 31-604)**

Using appropriate "lifting" equipment and trained technicians, allows installation of new carpet tile, with modular and systems furniture in place and with minimal disruption to the occupied work area. All applicable carpet installation requirements in the SIN category for installation apply except with regard to prices being "based on installation in an open, empty office, dormitory, quarters space...."

All furniture systems shall be lifted by equipment which has been structurally engineered for that particular system. An open dialog with appropriate furniture manufacturers prior to installation, to work out any possible problem areas, is strongly encouraged. No crowbars or modified car jacks are to be used. No phones or electronic equipment shall be unplugged. After each installation session, work area must be returned to normal working order with all furniture in original location. Since work is being performed in an occupied work area, "low VOC" or "no VOC" adhesives are to be used. The GSA carpet contractor will be required to provide, upon request from Government customers, an onsite demonstration of the equipment and lifting method to be used, and any additional information on which to base procurement decisions.

### **Carpet Appearance Retention Program (CARP) (SIN 31-604)**

Only offerors who are awarded a contract for at least one of the product SIN categories are eligible for award under this SIN. Agency orders for maintenance, cleaning and repair shall be placed ***only in conjunction with an order for Schedule contract carpet***, and ***only with the contractor who provides that carpet***. Customer orders for a maintenance program within one year of carpet purchase from schedule contract may be accepted. The GSA carpet contractor is responsible for all information, supplies and services offered under this SIN whether provided inhouse or through their subcontractor.

The carpet contractor is responsible for advising the customer as to the appropriate/acceptable carpet style, color, and pattern for the intended use area, recommended method(s) and schedule for cleaning heavy, medium, and light traffic areas, areas appropriate for walk-off mats 1/, and maintaining carpet to the customer's expected

level of appearance retention and performance, thus assisting in prolonging the useful life of the carpet and optimizing the customer's flooring investment.

Carpet cleaning shall be in accordance with the ***Institute of Inspection, Cleaning & Restoration Certification (IICRC) Carpet Cleaning Standard S001 (Standard Reference Guide for Professional Materials (latest issue)*** for all aspects not specifically covered by manufacturer's recommendations. Copies may be obtained from the IICRC at 2715 East Mill Plain Blvd., Vancouver, WA 98661, telephone: (360) 693-5675 or [www.iicrc.org](http://www.iicrc.org). Federal customers will be encouraged to obtain a copy of this document as well as the ***carpet manufacturer's recommended carpet maintenance procedures*** so that they can be informed participants in their own carpet maintenance program. ***Contractors shall provide an 800 telephone number or equivalent for customer service on maintenance matters.*** Please take into consideration that many of our overseas customers have advised us they do not have access to 800 numbers.

**Cleaning and Maintenance** include but are not limited to a programmed maintenance (monthly, bimonthly, quarterly, annual cleanings, depending on use areas. If necessary, restoration cleaning is available). Also included are ***recommended scheduling*** for vacuuming, power pile lift, cleaning, and spot cleaning, as needed. Customer's daily maintenance staff or service will perform routine upkeep (janitorial service) of vacuuming, spot and stain cleaning and pile lifting using the manufacturer's approved products and equipment and in accordance with training provided by the carpet manufacturer's maintenance provider.

**Post-cleaning treatments** (deodorants, disinfectants, soil/stain protectors, etc.) may be provided when requested by the customer and must be applied only when in accordance with carpet manufacturer's instructions.

**Carpet drying time** - under no circumstances shall carpet drying time exceed 24 hours with proper ventilation and drying fans. Water temperature should never exceed 120 degrees F.

**Safety** - All cleaning and specialty agents and equipment used before, during, and after cleaning must be used in accordance with appropriate safety regulations.

**Indoor Air Quality** - It is the Government's intent to provide a program which not only preserves carpet appearance, but also improves indoor air quality by reducing contaminants present in indoor furnishings.

The GSA carpet contractor must, if requested by the ordering agency:

1. Provide evidence that their maintenance provider has been active in the commercial market for a minimum of 2 years.
2. List any minimum service amount per job, as applicable.
3. List any warranty limitations and exclusions, i.e., any cleaning method which voids product warranty.
4. List any warranty extension benefits to the customer for electing to use this program, i.e., extension of carpet warranty.

In addition, as a measure of technical competency of maintenance provider, carpet contractor must:

5. Provide evidence of a company requirement for ***initial*** and ***ongoing*** formal training programs of management and employees in a variety of cleaning disciplines through certifying national or regional organizations such as IICRC, or through comparable franchise or independent training and testing organizations.
6. Submit a minimum of three recent (within the last 2 years) references, with telephone numbers, of customers using your maintenance services. We encourage inclusion of letters attesting to level of service and competency.

7. List any community (e.g., Chamber of Commerce), charitable or similar organizations with which your provider is involved.

**NOTE:** Supplier will be required to list any memberships in professional associations as well as certification credentials in Government contract brochures and pricelists to facilitate customer information and decisionmaking.

**Furniture moving** to access carpet underneath should be considered part of the normal cleaning job. Special attention to **spots and stains and special treatment with “pre-conditioning” agents in heavily soiled entry and traffic areas** also should be included in the cost of normal cleaning. Moving of heavy items such as computers and loaded cabinets or extremely fragile furnishings, and extreme soiling situations which would require prolonged effort, are outside the scope of this contract and may be negotiated by the customer on an open market basis.

**Cleaning methods/post-cleaning treatments are as follows:**

- Steam cleaning (hot water extraction)
- Shampooing (rotary brush)
- Dry compound (i.e., Host, Capture)
- Dry foam cleaning
- Absorbent pad or bonnet 2/
- Post-cleaning treatments (deodorants, soil/stain protectors, etc.)

**Note:** Kits containing interim use maintenance products which allow for quick stain removal between regularly scheduled maintenance may be offered under the SIN category for accessories. **Provide 800 telephone number or equivalent for customer service regarding maintenance matters.**

1/ In recommending walk-off mats as an option to reduce carpet soiling, contractors are to refer Federal customers to GSA supply sources. A listing of addresses and phone numbers of companies who provide mats and matting, is available from the GSA contracting office at (703) 305-5213 or from GSA Schedules E Library at [www.fss.gsa.gov](http://www.fss.gsa.gov).

2/ If specifying the bonnet method, please justify types of carpet and circumstances under which you will use this method, since some carpet manufacturers indicate this cleaning method voids carpet warranties.

**GSA CARPET TESTING CHECKSHEET**

OFFEROR: \_\_\_\_\_

SIN: \_\_\_\_\_

STYLE NAME (& FIBER BRAND): \_\_\_\_\_

TEST	OK	N/A	FAIL	OLD	WRONG TEST METHOD	NOT SUBMITTED	OTHER
DENSITY							
GAUGE/PITCH ( ) (SIN 31-304f only)							
PILE WT. ( )							
YARN PLY							
DENIER PER FILAMENT							
TWIST PER IN. Single/Ply							
COLORFASTNESS							
TUFT BIND							
WOOL MARK							
PILL TEST							
RADIANT PANEL							
SMOKE DENSITY							
FLAMMABILITY RATING	A B C						
CERTIFICATION (No nondurable treatment) Pg.12, para. 1							
DIMENSIONAL STABILITY (Tile only)							
ELECTROSTATIC PROPENSITY GENERAL USE (KV)							
ELECTROSTATIC PROPENSITY (SIN 31-304b ONLY) COMPUTER GRADE							
ELECTRICAL RESISTANCE (SIN 31-304b ONLY) COMPUTER GRADE							
ANTIMICROBIAL (SIN 31-304a ONLY)							
FUNGICIDE (SIN 31-304a ONLY)							
BIOCIDE CERTIFICATION (31-304a ONLY)							
STAIN RESISTANCE (SIN 31-304d ONLY)							
DELAMINATION STRENGTH (SIN 31-304f only)							
BRANDED FIBER LETTER							
TRADEMARK REGISTRATION #							
CRI GREEN LABEL # (if applicable)							