[METRIC]
A-A-59135
28 OCTOBER 1997
SUPERSEDING
PPP-C-1752D(3)
1 FEBRUARY 1993

COMMERCIAL ITEM DESCRIPTION

PACKAGING MATERIAL, SHEET

The General Services Administration has authorized the use of this commercial item description as a replacement for Class 1 of PPP-C-1752D by all federal agencies

1. SCOPE

1.1 This commercial item description covers sheet materials used for dunnage and packaging applications, including static dissipative and fire retardant grades.

1.2 The performance of packaging material is dependent on its application and factors such as drop height, product weight, thickness and derived dynamic performance while its application depends on environmental factors such as temperature, humidity, transportation and storage. Therefore, a variety of classes and grades reflecting material characteristics are available.

1.3 This Commercial Item Description (CID) does not purport to address the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. CLASSIFICATION.

2.1 Sheet Material shall be of the following types, classes, and grades as specified.

Class 1 - General purpose polyethylene sheet material.
Class 2 - General purpose polypropylene sheet material.
Class 3 - General purpose starch based sheet material.
Class 4 - General purpose paper or cellulose sheet material.
Class 5 - Special purpose sheet material as specified by the Procuring Activity.

Grade A - Standard.
Grade B - Static dissipative.
Grade C - Fire retardant (See 5.5)
Grade D - Static dissipative and Fire retardant (See 5.5).

Beneficial comments, recommendations, deletions, clarifications, etc. and any other data which may improve this document should be addressed to: AFMC LSO/LOP, 5215 Thurlow St, Wright-Patterson AFB OH 45433-5540.

FSC 8135

Source: http://www.assistdocs.com -- Downloaded: 2012-11-12T23:02Z
Check the source to verify that this is the current version before use.

Acceptable combinations are:

Class 1, Grades A, B, C, D
Class 2, Grades A, B, C, D
Class 3, Grades A, B, C, D
Class 4, Grade A
Class 5, Grades A, B, C, D

3. SALIENT CHARACTERISTICS

3.1 Terminology - General definitions for packaging and distribution environments are found in Terminology ASTM D 996.

3.2 Material performance - All classes of material supplied under this specification shall be suitable to protect items from hazards encountered during handling and shipping at temperatures between -54°C (-65°F) and 70°C (158°F).

3.3 Form - All classes of material shall be furnished in the forms specified, see 7.2.1.10 for suggested dimensions and all material must comply with 3.7. Thickness shall be tested in accordance with 5.4.2.

3.3.1 Polyethylene - The polyethylene supplied under this specification shall be resilient, unicellular (closed cell) foam material. Class 1 material only.

3.3.2 Polypropylene - The polypropylene supplied under this specification shall be low density, resilient, unicellular (closed cell) foam material. Class 2 material only.

3.3.3 Starch based - The starch based material supplied under this specification shall be commercial grade, bio-degradable foam material, intended for indoor storage for less than 1 calendar year. Class 3 material only.

3.3.4 Paper or cellulose - The material supplied under this specification shall be commercial grade, paper or natural cellulose material, expanded by a consistent manufacturing process to provide item protection as dunnage. Class 4 material only.

3.4 Static Dissipative Material (Grade B and D only)- Static dissipative material shall conform to all requirements for the specified type while continuing to meet the requirements of 3.2.

3.4.1 Electrostatic Decay Time - The average decay time, when tested as specified in 5.4.4.1, shall be less than 2.0 seconds

3.4.2 Resistivity

3.4.2.1 Surface Conductive Material (Grade B and D only) - Surface resistivity, when tested as specified in 5.4.4.2, shall not be less than 1.0×10^5 and not more than 1.0×10^{14} ohms per square.

3.5 Fire Retardant Material (Grade C and D only) - Fire retardant material shall conform to all the requirements specified by the Procuring Activity for the specified type and class. (See 7.2.1.7)

3.6 Compression Set (Class 1 and 2 only) - The compression set, when tested as specified in 5.6, shall be 15 percent maximum.

3.7 Density - The nominal density of the material when tested as specified in 5.4.3 shall be tested and reported. Unless otherwise specified the density will not be used to reject material.

Source: http://www.assistdocs.com -- Downloaded: 2012-11-12T23:02Z
Check the source to verify that this is the current version before use.

3.8 Color - For visible identification purposes only, unless otherwise specified.

3.8.1 *Grade A* - The color shall be white.
3.8.2 *Grade B* - The color shall be pink.
3.8.3 *Grade C* - The color shall be light brown.
3.8.4 *Grade D* - The color shall be blue-grey

3.9 Dimensional Tolerances -Unless otherwise specified, the following tolerances apply (5.4.1):

CLASS	LENGTH (%)	WIDTH (%)	THICKNESS
GENERAL PURPOSE SHEET			
1,2,3,4	+8, -0	+8, -1	+15 %, -5 %
SPECIAL PURPOSE SHEETS			
5	+8, -0	+8, -1	± 1 mm.

4. REGULATORY REQUIREMENTS - NONE

5. QUALITY ASSURANCE PROVISIONS.

5.1 Contractor Certification - The contractor shall certify and maintain all records in accordance with the contract conditions and applicable Federal Acquisition Requirements (FAR) clauses.

5.1.1 First Article Waiver - First article inspection may be waived, by the Air Force Packaging Technology and Engineering Facility (AFPTEF) or the procuring activity, when the procuring activity or contract administrator has data or other evidence to indicate that prior successful first article inspection has been conducted. Only when the first article has been waived by the AFPTEF or procuring activity, may the contractor self-certify that the material will conform to the requirements of this CID.

5.1.2. First Article Inspection - First article inspection shall consist of all tests in this section and shall be performed by the contractor prior to production. First article inspection shall be performed on sample units produced using materials, equipment, and procedures which will be used in fulfilling the contract. First article approval is valid only on the contract on which it is granted, unless extended by the Government to other contracts. In case of dispute, the procuring activity shall require testing on contractor supplied material performed by either AFPTEF or an independent lab.

5.2 Market Acceptability - The following market acceptability criteria are necessary to document the quality of the product to be provided under this CID.

5.2.1 Manufacturer Purchase - The materials manufacturer shall furnish documents that the material being offered is a commercial product meeting the requirements of this CID. Such proof could be completed delivery orders filled for customers within the previous 12 months.

5.2.2 Distributor Purchase - Distributor purchased products must meet the requirements stated above. Only one manufacturers' product shall be used to fulfill a single purchase order.

5.3 Test Conditions and Specimens

5.3.1 Test Conditions - All measurements and tests, other than Static Dissipative Properties (which require 12% relative humidity (RH) conditioning), shall be conducted on specimens conditioned at 23° ± 2°C and 50 ± 5 percent RH for at least 16 hours or until the difference between 2 successive weighings conducted at 1 hour intervals is less than 1 percent of the average weight.

5.3.2 Test Specimens - Test specimens shall be taken from the end item whenever possible. If test specimens cannot be prepared from the end item, they shall be prepared from the same lot of material used to make the end item.

Source: http://www.assistdocs.com -- Downloaded: 2012-11-12T23:02Z
Check the source to verify that this is the current version before use.

5.4 Tests - The contractor shall comply with all contractual test compliance and reporting requirements.

5.4.1 Dimensions - The dimensions shall be measured and reported in accordance with ASTM D 3575.

5.4.2 Thickness - (See 3.9) Thickness shall be measured using a dial micrometer on a stand. Specimen size shall be 125 mm by 125 mm. Three specimens shall be cut from the sample. Two shall be cut 100 mm from each edge and one from the center of the sample. Each specimen shall be placed on a flat surface and centered beneath a 150 mm by 150 mm plate, weighing 2.25 Kg, so as to exert a force of 144 Kg/M^2 on the specimen. The measurement shall be taken at the geometric center of the plate within 30 seconds after plate application.

5.4.3 Density - (See 3.7) The density of the material shall be determined in accordance with ASTM D 3575, Suffix W, Method A. Report results numerically to the nearest 0.5 Kg/M^3 .

5.4.4 Static Dissipative Properties - (Grades B and D only)

5.4.4.1 Electrostatic Decay Time - The electrostatic decay time shall be determined in accordance with EIA Standard 541, Appendix F. Report results numerically to the nearest 0.1 second.

5.4.4.2 Resistivity - The surface resistivity shall be determined in accordance with EIA Standard 541, Section 4.3. Report Results numerically to 3 significant figures.

5.5 Fire Retardancy - Shall be as specified by the Procuring Activity. See 7.2.1.7.

5.6 Compression Set - (See 3.6) Specimens 125 mm by 125 mm by 6 mm thick shall be used. Materials less than 6 mm thick shall be plied to measure 6 mm as closely as possible. Rounded corners or precompressed edges are to be avoided. The 6 mm specimen shall be placed on a flat surface and the original thickness (T_o) determined as in 5.4.2. A 150 mm by 150 mm plate shall be centered on the specimen to give a constant and uniform load of 144 Kg/M^2 for 96 hours. The total load on the specimen shall be 2.25 Kg. Initial reading (T_o) to be taken after a 60 minute conditioning period. After 96 hours the total load shall be removed and the specimen shall be allowed to recover for 8 hours. The final thickness (T_f) shall be determined as in 5.4.2. Compression set shall be determined as follows:

$$\text{Percent Compression Set} = ((T_o - T_f) / T_o) \times 100$$

6. PACKAGING. Preservation, packaging, and marking shall be as specified in the contract or order.

7. NOTES

7.1 Metric conversions to English units should be made using international conversion standards. For quick reference use 2.54 cm = 1 in, 16 Kg/M^3 = 1 lb/ft^3 (PCF), 0.07 Kg/cm^2 = 1 lb/in^2 (PSI).

7.2 Part Identification Number (PIN) - The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor.

This example describes a part numbering system for CID A-A-59135

Example of reference part number:
AA59135 - 1 A

Class 1 - General purpose sheet material.
Class 2 - General purpose polypropylene sheet material.
Class 3 - General purpose starch based sheet material.
Class 4 - General purpose paper or cellulose sheet material.
Class 5 - Special purpose sheet material as specified by the Procuring Activity.

Source: http://www.assistdocs.com -- Downloaded: 2012-11-12T23:02Z
Check the source to verify that this is the current version before use.

Note: **Bold Text** refers to the reference part number.

Grade A - Standard.
Grade B - Static dissipative.
Grade C - Fire retardant (See 5.5).
Grade D - Static dissipative and Fire retardant (See 5.5).

7.2.1 Additional Ordering Data - In addition to the part number the purchaser may include the following information in procurement documents:

7.2.1.1 Dimensional tolerances for special purpose sheets.
7.2.1.2 Special Color (see 3.8)
7.2.1.3 Flexibility (Procuring activity must define test)
7.2.1.4 Thermal Stability (Ref. ASTM D3575, Suffix S, dimensional change not greater than 2% typical value)
7.2.1.5 Flammable Blowing Agent Content (Procuring activity must define test to determine Lower Explosive Limit (LEL), typical value is 50%). (Ref. NIPHLE 97T-002)
7.2.1.6 Contact Corrosivity (Ref. Fed-Std-101, Method 3005, Cleaning per ASTM D3330)
7.2.1.7 Fire Retardant (Procuring activity must define test)
7.2.1.8 Water Absorption (Ref. ASTM D3575, Suffix L, 0.1 pound per square foot typical value)
7.2.1.9 Constant Compression Creep (Ref. ASTM D3575, Suffix BB, Static Load typical value 3.6 Kg)
7.2.1.10 Roll size; i.e.:

LENGTH, Meters	300 M	200 M	150 M	100 M	75 M
WIDTH, Meters	1.8 M	1.8 M	1.8 M	1.8 M	1.8 M
THICKNESS, mm	1.5 mm	2.25 mm	3 mm	4.5 mm	6 mm

7.2.1.11 Tear Perforated Roll - When required, the tear perforations shall be at intervals of 0.5 M (18 in.), unless otherwise specified.

7.3 Intended Use - The material covered by this specification is intended primarily for use in packaging applications satisfying MIL-STD-2073 and ASTM D3951 to protect items from environmental hazards such as shock, vibration, concentrated forces and abrasion during handling and shipping. Grade B materials also protect items from the buildup or retention of electrostatic potential. Grade C materials have been treated to retard their burning rate. Grade D materials have been treated to satisfy both Grade B and C requirements.

7.4 Keywords.
polyethylene, polypropylene, starch, cellulose, sheet, fire retardant, static dissipative, foam, dunnage.

7.5 REFERENCED DOCUMENTS

7.5.1 ASTM Standards. ASTM Standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

D 996 Terminology of Packaging and Distribution Environments
D 3575 Test Methods for Flexible Cellular Materials Made from Olefin Polymers
D 3951 Standard Practice for Commercial Packaging
D 257 DC Resistance or Conductance of Insulating Materials

7.5.2 NIPHLE Documents:

NIPHLE 97T-002 Methodology for Measuring Residual Hydrocarbon Blowing Agent in Extruded Polyethylene Foam

NIPHLE Documents are available from NIPHLE 6902 Lyle Street, Lanham MD 20706-3454

Source: http://www.assistdocs.com -- Downloaded: 2012-11-12T23:02Z
Check the source to verify that this is the current version before use.

7.5.3 Department of Defense. Defense Department documents are available through the Defense Printing Service, 700 Robbins Ave, Building 4D, Philadelphia PA 19111-5094.

MIL-STD 2073	Standard Practice for Military Packaging
FED STD-101	Federal Test Method Standard

CIVILIAN COORDINATING AGENCY - FSS

MILITARY INTERESTS:

Custodians
Army - SM
Air Force -69
Navy - AS
DLA- CC

Preparing Activity - 69

Project (8135- 0703)

Review Activities
Army - GL, AR, AT, MI
Air Force - 70, 71, 80, 84, 99
Navy - SA, SH, YD1, OS

Source: http://www.assistdocs.com -- Downloaded: 2012-11-12T23:02Z
Check the source to verify that this is the current version before use.