[INCH-POUND]
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SUPERSEDING
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COMMERCIAL ITEM DESCRIPTION

TAPE, TWO SIDE PRESSURE SENSITIVE ADHESIVE, FLEXIBLE FOAM BASE (FOR USE WITH EXPLOSIVES)

The General Services Administration has authorized the use of this commercial item description, for all federal agencies.

1. SCOPE. This CID covers the general requirements for a double coated flexible foam pressure sensitive adhesive tape in roll form wound on a core with a release liner.

2. SALIENT CHARACTERISTICS.

2.1 Materials. The tape shall consist of a high density open or closed cell foam plastic carrier, coated on the top and bottom surfaces with a smooth, uniform, homogeneous layer of pressure-sensitive adhesive.

2.1.1 Form. The tape shall be in roll form, wound on a core of sufficient strength to prevent roll distortion from shipping, handling and use conditions.

2.1.2 Liner. The tape shall have a release liner to facilitate dispensing and applying the tape.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, US Army TACOM-ARDEC, Attn.: AMSTA-AR-QAW-E, Bldg 12, Picatinny Arsenal, NJ 07806-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 1375

2.2 Performance characteristics. The tape shall conform to the requirements of Table I.

TABLE I. Tape requirements.

Attribute	Requirement	Verification
Adhesive bond tensile strength (2.2.1)	25 psi min	ASTM D897
Peel adhesion	Para 2.2.2	
Tape to steel	45 oz/in min	ASTM D3330
Tape to liner	4 oz/in max	ASTM D3330
Holding power	Para 2.2.3	
Static Tension load	72 hours min	Para 4.2
Static Shear load	120 hours min	Para 4.3
On polyester sheet	120 hours min	Para 4.3
Cold bend (2.2.4)	No cracking	Para 4.4
Bleeding (2.2.5)	None visible	Para 4.5
Reactivity (2.2.6)	5 ml max	MIL-STD-286

2.2.1 Adhesive bond tensile strength. The ability of the tape to resist a continuously increasing tension load applied perpendicular to the adhesive surfaces of the tape shall be as stated before and after tape aging in accordance with ASTM D3611. The adhesive bond shall have a tensile strength of not less than 25 psi (170 kPa) when tested in accordance with ASTM D897.

2.2.2 Peel adhesion. The tape adherence to a standard steel surface and to the release liner shall be as stated before and after tape aging in accordance with ASTM D3611.

2.2.2.1 Tape adhesion. The tape adherence to a standard steel surface shall not be less than 45 oz per inch of width (49.25 Newtons per 100 mm of width) when tested in accordance with ASTM D3330, method B.

2.2.2.2 Liner adhesion. The tape adherence to the release liner shall not exceed 4 oz per inch of width (4.38 Newtons per 100 mm of width) when tested in accordance with ASTM D3330, method C.

2.2.3 Holding power. The ability of the tape to sustain a constant tension or shear load shall be as stated before and after tape aging in accordance with ASTM D3611.

2.2.3.1 Static tension load. The tape shall withstand a static normal tension load of 5.5 pounds (2.5 kg) applied perpendicular to the surfaces of the tape for at least 72 hours when tested in accordance with section 4.2.

2.2.3.2 Static shear load. The tape shall withstand a static shear load of 2.2 pounds (1.0 kg) applied parallel to the surfaces of the tape for at least 120 hours when tested in accordance with section 4.3.

2.2.3.3 Holding power on polyester. The tape shall meet the requirements of 2.2.3.2 when tested on heat shrinkable polyester sheet of L-P-377, Type VI (see 6.3).

2.2.4 Cold bend. The tape shall not crack when flexed 180 degrees around a 3/32 in (2.4 mm) mandrel at a temperature no higher than 10°F (-12°C) when tested in accordance with section 4.4.

2.2.5 Bleeding of tape. The tape shall not bleed when tested in accordance with section 4.5.

2.2.6 Reactivity. Reactivity with explosives shall be tested when required by the contract(see 6.2 and 6.4). The reactivity shall not exceed 5 ml when tested in accordance with MIL-STD-286, method 408.1.1.

2.3 Physical properties.

2.3.1 Dimensions.

2.3.1.1 Thickness. The tape thickness shall be 0.021 to 0.045 in (0.64 to 1.02 mm) when tested in accordance with ASTM D3652.

2.3.1.2 Length. The tape length shall be 72 to 175 yards (66 to 160 meters) or as specified in the contract or order (see 6.2) The tape shall be in a single continuous length and the average length shall not be less than the stated amount. A 72 yard length shall not contain more than 6 splices and a 175 yard length shall not contain more than 10 splices. The splices shall not disjoin during manual or machine application of the tape.

2.3.1.3 Width. The tape width shall be 1, 2, 3 or 4 inches (25, 51, 76, or 102 millimeters) or other commercially available widths as specified in the contract or order(see 6.2). The tolerance shall be ± 1/32 in (± 1.0 mm).

2.3.1.4 Core Diameter. The tape shall be wound on a standard 3 in (76 mm) inside diameter core to fit common tape dispensing equipment.

2.3.2 Workmanship. The adhesive film shall be smooth and uniform on both sides of the foam, without lumps or foreign material and one adhesive surface shall be covered with a protective liner. The edges of the tape and liner shall coincide and be straight, true and unbroken. The tape shall not have wrinkles, creases, holes or similar defects.

3. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. QUALITY ASSURANCE PROVISIONS.

4.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

4.2 Static tension load holding power.

4.2.1 Test apparatus. The apparatus shall consist of the following:

a. T-blocks. Aluminum "T" sections with a 1 x 1 in (25.4 x 25.4 mm) square top and a 5/16 in (7 mm) hole centered in the stem of the T.
b. Tape specimen. A section of foam tape 1 x 1 in (25.4 x 25.4 mm).
c. Weight. 5.5 pound (2.5 kg).

4.2.2 Procedure for static tension load holding power. Degrease and clean the T-blocks. Place the tape test specimen on a flat horizontal surface, liner side down. Align the one-inch square face of the T-block with the exposed adhesive surface of the tape and press together. Cut the tape around the T-block to make the tape the same size as the T-block face. A tape test specimen, 1 in x 1 in square will remain. Remove the liner and press the other T-block against the exposed adhesive with the two faces of the T-blocks in alignment. Suspend the bonded T-blocks by the hole in one T-block. Carefully attach the 5.5 pound (2.5 kg) weight to the other T-block and allow it to hang undisturbed. The T-blocks shall not disjoin by tape failure for 72 hours to be acceptable.

4.3 Static shear load holding power.

4.3.1 Test apparatus. The apparatus shall consist of the following:

a. Test panel. A stainless steel panel as specified in ASTM D3330.
b. Hanger. A thin stainless steel plate with the following dimensions: 2 in length x 1/2 in width (50.8 x 12.7 mm) with a 5/16 in (7 mm) diameter hole located 3/8 in (8 mm) from the end centered in the width.
c. Tape specimen. A section of foam tape 1/2 x 1 in (12.7 x 25.4 mm).
d. Weight. 2.2 pound (1 kg).

4.3.2 Procedure for static shear load holding power. Degrease and clean the hanger and test panel. The exposed adhesive surface of the foam tape is applied to the end of the hanger opposite the hole to cover one inch of the length from the end. The edges and end of tape are trimmed to conform to the size of the hanger. A tape test specimen, 1/2 inch wide x 1 inch in length will remain. The liner is removed and the specimen with the hanger is bonded to the steel test panel. Ensure that the long axis of the hanger is parallel to the sides of the test panel, and that the tape edge nearest the hole in the hanger is at least 1/4 inch from the end of the test panel. The prepared specimen is placed in a horizontal plane and a weight of 1 kg applied to the test area to press the bonded surfaces together for 15 minutes. Remove the weight and mount the test panel, tape specimen and hanger in a vertical position. Carefully attach the 1 kg weight to the hanger and allow it to hang freely. The hanger shall not disjoin by tape failure for 120 hours to be acceptable.

4.4 Cold temperature bend test.

4.4.1 Test apparatus. The apparatus consists of the following:

a. A cold chamber at a temperature of 10 ± 2°F (-12 ± 1°C).
b. Tape test specimen 1 ± 1/16 in wide by 7 in long by 1/32 in thick (25.4 x 178 x 0.8 mm).
c. A mandrel 3/32 ± 2/32 (0.094 ± 0.062) inches in diameter (2.4 ± 1.6 mm).

4.4.2 Procedure for cold temperature bend test. The tape test specimen and mandrel shall be conditioned in the cold chamber at a temperature of 10 ± 2°F (-12 ± 1°C) for two (2) hours. The specimen shall then be grasped at the ends and rapidly bent around the mandrel and examined for signs of cracking.

4.5 Bleeding of tape. Bleeding is defined as the transfer by exudation of color or substance (such as pigment, adhesive, etc.) from the material under test to adjoining material.

4.5.1 Test apparatus. The apparatus consists of the following:

a. An oven maintained at a temperature of 150 ± 2°F (66 ± 1°C).
b. Base plate. A smooth, flat, metal plate approximately 3 in (76.2 mm) square and 1/4 in (7 mm) thick.
c. Metal separator sheets, 3 in (76.2 mm) square, of smooth, thin, flat aluminum.
d. Pressure block. A block of metal, 3 in (76.2 mm) square, weighing 4.5 ± 0.05 pounds (2.25 ± 0.023 kg), with a smooth, flat bottom surface. The size of the pressure block may vary, provided the applied pressure is approximately 1.5 psi (10.5 kPa).
e. Paper sheets, 3 in (76.2 mm) square, of smooth, white paper.
f. Tape specimens. Five (5) tape specimens, 1 in wide by 3 in long (25.4 by 76.2 mm) are used for this test.

4.5.2 Procedure for bleed test. Condition the tape specimens, the 4.5 pound pressure block, base plate, aluminum sheets and white papers in the oven at 150 ± 2°F (66 ± 1°C) for at least 1 hour before assembly. After temperature conditioning, place each tape specimen between two paper sheets to form a sandwich and use single aluminum sheets as a separator between each sandwich. Stack the resultant sandwiches with the aluminum separators squarely on an aluminum sheet and cap this stack with one aluminum sheet. Do not place more than five specimens in a stack. Place this stack on the base plate and cover with the pressure block. Condition this assembly at 150 ± 2°F (66 ± 1°C) for a minimum of five (5) hours. Remove the assembly, separate the sandwiches, and examine the white paper for evidence of staining. Disregard stains arising from the cut edges of the tape specimen.

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

6.1 Source of documents.

6.1.1 The Code of Federal Regulations (CFR) is available by mail order from the Superintendent of Documents, ATTN: New Order, PO Box 371954, Pittsburgh, PA 15250-7954.

6.1.2 Military standards and Federal specifications are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA, 19111-5094.

6.1.3 ASTM standards and test methods are available from The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

6.2 Ordering data. Procurement documents should specify the following:

a. Title, number, and date of this CID.
b. Issue of Department of Defense Index of Standards and Specifications (DODISS) to be cited in the solicitation, and if required, the specific issue of individual documents referenced.
c. Reactivity with explosives requirements, if needed (see 2.2.6 and 6.4).
d. Length and width of tape (see 2.3.1).
e. Packaging and marking requirements (see 5).

6.3 Polyester material. The heat shrinkable polyester sheet is polyethylene terephthalate. Dupont type HS MYLAR film is a suitable material.

6.4 Reactivity with explosives. When required in the contract or order, the vendor must apply to a Government approved laboratory for a determination of reactivity. Information concerning the reactivity of many materials and explosives is available from the US Army ARDEC, Organic Materials Group, Warheads Energetics & Combat Support Armaments Center (WECAC), Picatinny Arsenal, NJ 07806-5000.

6.5 Subject term (Key word) listing.

Adhesive tape
Demolition charges
Double coated foam tape

MILITARY INTERESTS:

Custodian
Army-AR

CIVIL AGENCY COORDINATING ACTIVITY:
GSA-FSS

Preparing Activity:
Army-AR

Project 1375-0077

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	**1. DOCUMENT NUMBER** A-A-59341	**2. DOCUMENT DATE (YYMMDD)** 980929

3. DOCUMENT TITLE TAPE, TWO SIDE PRESSURE SENSITIVE ADHESIVE, FLEXIBLE FOAM BASE (FOR USE WITH EXPLOSIVES)

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON *(if applicable)*	**7. DATE SUBMITTED** (YYMMDD)

8. PREPARING ACTIVITY

a. NAME COMMANDER MR. GARY VANDER SANDE US ARMY TACOM-ARDEC	b. TELEPHONE *Include Area Code)* (1) Commercial 973 724-2163 (2) AUTOVON 880-2163
c. ADDRESS *(Include Zip Code)* ATTN: AMSTA-AR-QAW-E BLDG. 12 PICATINNY ARSENAL, NJ 07806-5000	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** DEFENSE QUALITY AND STANDARDIZATION OFFICE 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22401-3466 Telephone (703) 756-2340 AUTOVON 289-2340