1 SCOPE

a. This specification establishes the material requirements for aluminum foil attached to an adhesive film, aluminum foil attached to an adhesive preimpregnated fabric of glass and an aluminum splice strip attached to an adhesive film.

b. This specification requires qualified products.

1.1 CONTENTS

1.1 CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

2 CLASSIFICATION

This specification consists of the following types, forms, and grades.

2.1 TYPE

Table I is an explanation of Type designations only – See the QPL for all the qualified types available. New Type designations are correlated with obsolete Type designations in Table II.

TABLE I TYPE DESIGNATIONS FL 1

TYPE	GLASS FABRIC STYLE IN ACCOR–DANCE WITH BMS9–3	NOMINAL CURE TEMPERATURE OF THE RESIN OR ADHESIVE SYSTEM (F)	NOMINAL AI FOIL THICKNESS (MILS) **FL 2**	AI FOIL ALLOY **FL 3**	NOMINAL ADHESIVE WEIGHT (LB/FT^2) **FL 4**
0/250/2/1100/025	0 **FL 5**	250	2	1100	0.025
0/350/2/1100/025	0 **FL 5**	350	2	1100	0.025
120/250/2/1100/025	120	250	2	1100	0.025
120/350/2/1100/025	120	350	2	1100	0.025
0/250/2/1100/002	0 **FL 5**	250	2	1100	0.002
0/350/2/1100/002	0 **FL 5**	350	2	1100	0.002
0/250/2/1235/002	0 **FL 5**	250	2	1235	0.002
0/350/2/1235/002	0 **FL 5**	350	2	1235	0.002
0/250/4/1145/002	0 **FL 5**	250	4	1145	0.002
0/350/4/1145/002	0 **FL 5**	350	4	1145	0.002
0/250/4/1235/002	0 **FL 5**	250	4	1235	0.002
0/350/4/1235/002	0 **FL 5**	350	4	1235	0.002
0/250/8/1145/002	0 **FL 5**	250	8	1145	0.002
0/350/8/1145/002	0 **FL 5**	350	8	1145	0.002
0/70PS/2/1145/012	Obsolete				
0/70PS/2/1235/012	Obsolete				
0/70PS/2/1145/012	Obsolete				

FL 1 In the QPL, a Type designation with Splice indicates a 2.5 inch wide foil for use in the electrical splice. Otherwise, the product will be full width sheet.

FL 2 Variation from nominal ±10 percent unless otherwise stated.

FL 3 Temper 0 soft unless otherwise stated.

FL 4 Variation from nominal as stated in QPL.

FL 5 Glass fabric style 0 refers to no glass fabric.

2.1 TYPE (Continued)

TABLE II OBSOLETE DESIGNATIONS FL 1

NEW DESIGNATION **FL 2**	OBSOLETE DESIGNATION	GLASS FABRIC	CURE TEMP (F)	ADHESIVE WEIGHT
TYPE–0/250/2/1100/025	TYPE 0, Class 250, Grade 1	NONE	250	0.025 lb/ft^2
TYPE–0/250/2/1100/002	TYPE 0, Class 250, Grade 2	NONE	250	0.002 lb/ft^2
TYPE–120/250/2/1100/025	TYPE 120, Class 250, Grade 1	BMS9–3, Style 120	250	0.025 lb/ft^2
TYPE–0/350/2/1100/025	TYPE 0, Class 350, Grade 1	NONE	350	0.025 lb/ft^2
TYPE–120/350/2/1100/025	TYPE 120, Class 350, Grade 1	BMS9–3, Style 120	350	0.025 lb/ft^2
TYPE–0/350/2/1100/002 or TYPE–0/350/2/1235/002	TYPE 0, Class 350, Grade 2	NONE	350	0.002 lb/ft^2

FL 1 This table contains only obsolete designations and their new designations. See the QPL for a complete list of all qualified materials available.

FL 2 The 2/1100 designation in the Type is for two mils of 1100 aluminum alloy, and the 2/1235 designation in the Type is for two mils of 1235 aluminum alloy.

2.2 FORM

a. Form I

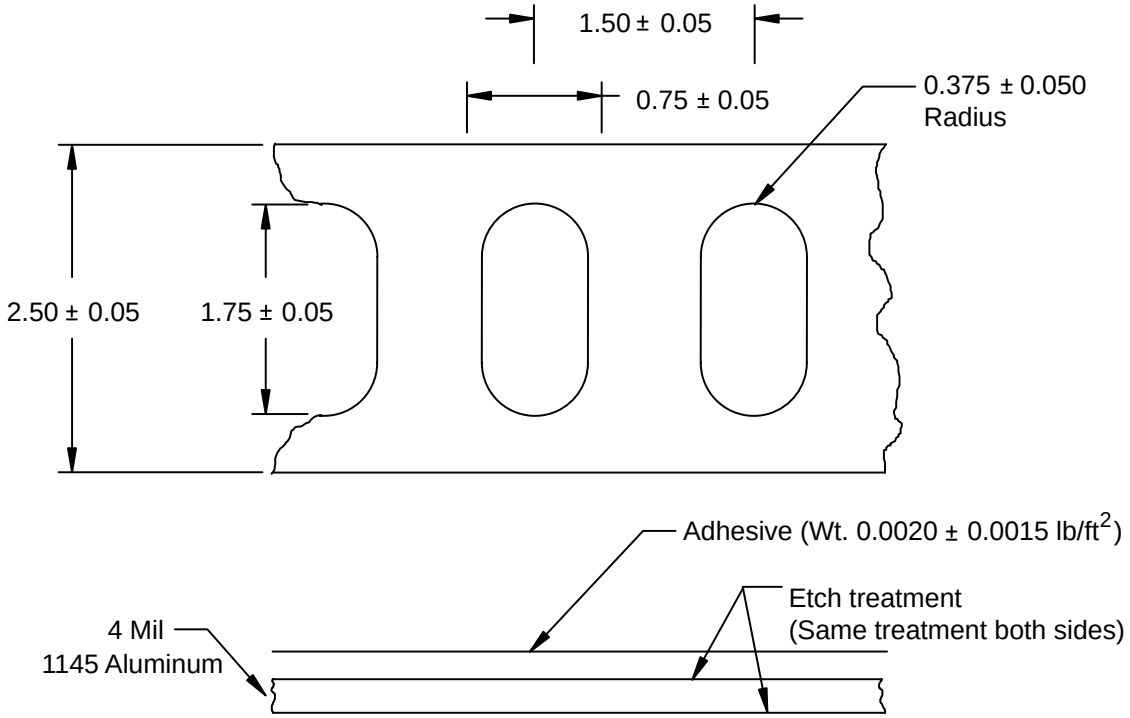
(1) Material is an aluminum foil with a fabric prepreg or adhesive film on one side and polyethylene release film on the other side unless otherwise specified on the purchase order.

(2) Unless otherwise specified on the purchase order or in QPL, the roll width shall be 36 ± 1 inches. Maximum roll weight shall be 70 pounds.

b. Form II

Material is an aluminum foil splice strip, with cutouts, etch treated on both sides. The splice strip has adhesive film on one side and polyethylene release film on the other side unless otherwise specified on the purchase order. Material configuration is shown in Figure 1.

2.2 FORM (Continued)



All dimensions in inches

FIGURE 1 FORM II MATERIAL CONFIGURATION

c. Form III

Material is an aluminum foil with pressure sensitive adhesive applied to one surface. Material width is to be specified on the purchase order or in the QPL. Release film is required on the adhesive side. Form III pressure sensitive adhesive shall be identified in the QPL by the adhesive manufacturer's name and the product designation.

2.3 GRADE

a. Grade A

b. Grade B

3 REFERENCES

The issue of the following references in effect on the date of invitation for bid forms a part of this specification to the extent herein indicated.

BSS7061	–	Requirements for Time and Temperature Recorders used with Time and Temperature Sensitive (TATS) Materials
BSS7286	–	Statistical Process Control of Designated Engineering Characteristics
OSHA 1910.1200	–	Hazard Communication Standard
QQ–A–1876	–	Aluminum Foil (1000 Series)
AMS–QQ–A–250/1	–	Aluminum Sheet and Plate (1000 Series)

4 DEFINITIONS

The following definitions apply to terms that are uncommon or have special meaning as used in this specification:

Batch – A continuous impregnation run of the same fabric type through the same resin mix or an adhesive film of a single mix.

Bleeder – A material such as glass fabric or Osnaburg cloth that will draw off resin around the periphery or over a part and serve as a vacuum contact with the part.

Cocuring – A process where two or more prepreg details are molded (cured) simultaneously. Usually relates to processing of sandwich structure where the prepreg skin is molded (cured) and bonded to the core in one process.

Date of Manufacture – The date on which the prepreg is initially impregnated.

Handling Life – The period of time for out–time the material may be kept so it retains the properties within limits of this specification.

Out–time – The maximum (cumulative) time that a prepreg may be kept at ambient conditions and still retain properties within the limits of this specification.

Precuring – A process which relates to the fabrication of any details which is later incorporated into a layup. Usually relates to processing of sandwich structure where the prepreg skin is molded (cured) in a process separate from the core detail. The precured skin is subsequently bonded to the core in a secondary bonding step.

Storage Life – The period of time that the material may be kept so that it retains the properties within the limits of this specification.

5 MATERIAL REQUIREMENTS

5.1 COMPOSITION

a. Glass fabric shall meet the requirements of BMS9–3.

b. The Form I aluminum foil shall be in accordance with QQ–A–1876 or AMS–QQ–A–250/1 and shall be etch treated on the surface to which adhesive is applied.

c. When special surface treatment is desired on either one or both sides of the aluminum foil, it shall be specified on the purchase order.

d. The Form II aluminum foil shall be in accordance with QQ–A–1876 and shall be etch treated on both surfaces.

e. The Form III aluminum foil shall be in accordance with QQ–A–1876 or AMS–QQ–A–250/1.

5.2 UNIFORMITY

a. The material shall be clean and free from foreign material and shall not have characteristics that are detrimental to fabrication, appearance or performance.

b. Material containing defects is allowed if each defect is flagged and an additional yard of material is added to the roll for every defect occurring in that roll.

5.3 STORAGE LIFE AND HANDLING LIFE

The material shall meet the requirements of this specification when stored and handled as follows:

a. Storage Life for Grade A – 270 days from date of manufacture, stored at 10 F or below in a sealed moisture proof container.

   Storage Life for Grade B – 5 years from the date of manufacture, stored at 95 F or below in a sealed moisture proof container.

b. Supplier Out–time – 72 hours maximum at room temperature.

c. Handling Life for Grade A – 10 days at 95 F maximum.

   Handling Life for Grade B – 5 years at 95 F maximum.

d. Reject material if time and temperature exposures are exceeded during shipment or storage prior to acceptance by Boeing.

e. Unless specified on the purchase contract, there shall be a minimum of 180 days of storage life remaining from the date of receipt at the purchaser's facility.

5.4 PHYSICAL REQUIREMENTS

Materials supplied in accordance with this specification shall meet the requirements of Table III.

TABLE III PHYSICAL PROPERTY REQUIREMENTS FL 1

PROPERTY	TEST SECTIONS	TYPE	REQUIREMENT
Aluminum and Adhesive Weight (Grams) **FL 1**	8.2.1	0/350/2/1100/02 0/250/2/1100/025	2.3020 to 3.3212
		120/350/2/1100/025 120/250/2/1100/025	3.0416 to 4.4586
		0/350/2/1100/002 0/250/2/1100/002	1.240 to 1.580
		0/350/2/1235/002 0/250/2/1235/002	1.240 to 1.580
		0/350/4/1145/002 0/250/4/1145/002	2.52 to 3.09
		0/350/4/1145/002 SPLICE	1.6463 to 2.1030
		0/350/4/1235/002 0/250/4/1235/002	2.52 to 3.09
		0/350/8/1145/002 0/250/8/1145/002	5.04 to 6.16
		0/70PS/2/1145/012	1.690 to 2.280
		0/70PS/4/1235/012	2.97 to 3.79
		0/70PS/8/1145/012	5.49 to 6.86
Adhesive Wt (lbs/ft^2) **FL 1**	8.2.2	All	Nominal ± QPL Variation
Volatile Content (oz/ft^2) **FL 1**	8.2.3	All	0.015 Maximum
Aluminum Foil Thickness (Mils) **FL 1**	8.2.4	All	Nominal ± 10 Percent

FL 1 Tests required for supplier and purchaser quality control testing. Key characteristic in accordance with BSS7286.

5.5 FOIL ADHESION DURABILITY REQUIREMENTS

a. Laminates fabricated in accordance with Section 8.3 the foil bonded to the laminate shall meet the requirements listed in Table IV.

b. All requirements listed in Table IV the average of three specimens.

TABLE IV FOIL ADHESION DURABILITY REQUIREMENTS FL 2

PROPERTY	REQUIREMENT	TEST SECTION
Peel Distance in inches **FL 1**	2.0 Maximum	8.4

FL 1 Tests required for supplier and purchaser quality control testing.

FL 2 It is not necessary to test precured panels.

6 QUALIFICATION

a. Direct all requests for qualification to a Supply Management and Procurement (SM&P) organization of The Boeing Company. SM&P coordinates all communication between materials suppliers and the appropriate Boeing departments.

b. Qualification will require submittal of test data indicating compliance with the material requirements of this specification for the classification of material to be qualified.

c. The qualification sample consists of one representative production sample roll (at least 10 linear yards), of the particular Type under which the vendor elects to qualify. Each Type shall be qualified individually.

d. The qualification samples submitted for approval shall be accompanied by a certified test report in duplicate which shows that the sample supplier meets the requirements of this specification. The vendor qualification report shall contain:

(1) Supplier product designation.

(2) Aluminum alloy and treatment.

(3) Type in accordance with this specification, and latest revision letter of the specification.

(4) Test results, including individual test values.

e. In addition to meeting the physical and mechanical requirements of this specification, the product shall be evaluated by The Boeing Company for workability under production conditions. The test shop shall evaluate the material as received and after aging 240 hours at 95 F maximum, and report results in duplicate to the applicable Materials Technology department.

f. The material supplier shall have facilities capable of testing in accordance with this specification, or the supplier shall identify a testing facility. Boeing Engineering and Quality Assurance shall verify the adequacy of all test facilities and test procedures.

g. A manufacturer shall not supply material until the qualification sample has been approved and listed in the QPL to this specification.

6 QUALIFICATION (Continued)

h. No changes in approved product formulation, raw materials, basic methods of manufacture, or plant site for a material qualified to this specification shall be made without notification and prior approval in writing from The Boeing Company. It may be necessary to requalify material manufactured with the proposed change, and a revised product designation may be required.

i. Prior to submitting a material for qualification to this specification, the material supplier shall provide a Material Safety Data Sheet and, if requested, a chemical formulation for the candidate material. Agreements for non–disclosure and control of proprietary information shall be considered and executed as appropriate. The information provided shall be submitted to the appropriate Boeing Safety, Health, and Environmental Affairs organizations to perform a health hazard evaluation. These organizations determine whether the information is adequate, or whether additional information is necessary, to identify and document appropriate precautions for the material's use.

j. All 250 F curing, 0.025 lb/ft^2 material will be qualified with both BMS8–79 and BMS8–219, both on precured and cocured laminates. All 250 F curing, 0.002 lb/ft^2 material will be qualified with both BMS8–79 and BMS8–219 on cocured laminates only.

k. Qualified products shall be listed in the QPL.

l. All 350 F curing, 0.025 lb/ ft^2 material will be qualified with BMS8–139 both on precured and cocured laminates. All 350 F curing, 0.002 lb/ft^2 material will be qualified with BMS8–139 on cocured laminates only.

m. Production material shall be capable of meeting all qualification requirements.

7 QUALITY CONTROL

7.1 SUPPLIER QUALITY CONTROL

a. Supplier Quality Assurance shall provide a system of in–process records that assures the meeting of specification requirements. These records shall be made available to authorized representatives of The Boeing Company.

b. Test material to verify compliance with the requirements of Table III and Table IV.

c. Suppliers shall furnish actual test data showing conformance with the above requirements for each batch of material and shall identify such data with the specification revision letter in effect, and the test facility that generated the data. Should the material fail to comply with the above requirements, one retest of the failure property is allowed. The second failure to comply shall be cause for material rejection.

d. The supplier shall maintain, for a minimum period of 5 years, all records pertaining to raw material receiving inspection and certification, in–process records and product testing.

7.1 SUPPLIER QUALITY CONTROL (Continued)

e. Suppliers shall provide Boeing Supply Management and Procurement (SM&P) summary reports of Statistical Process Control (SPC) data including control charts, nominal values, standard deviation, number of batches, and Cpk for each Key Characteristic (KC) and Key Process Parameter (KPP). SPC data must be submitted biannually. If the control limits change from a previous report, suppliers shall report old and new control limits.

f. In lieu of performing the tests listed in Section 7.1, a supplier may request reduced testing. Reduced inspection is allowed in accordance with a documented plan approved by the Boeing Materials and Process, and Quality Assurance organizations. Requests for approval should include a summary of data demonstrating consistent conformance, copies of documented provisions for process controls, a copy of the plan for reduced testing (including revision control and Supplier Quality Control approval), as well as any other relevant information (for example, studies identifying key process parameters).

g. If reduced testing is in place so that the reporting of test results is affected, the supplier shall submit a certified test report which states the authorization for reduced testing (Section 7.1.f or 'PCD provision. . . '). The report shall be easily understood and certify that the material meets the requirements of the BMS.

7.1.1 STATISTICAL PROCESS CONTROL (SPC)

a. The supplier shall establish and maintain procedures and requirements for an SPC system based on key characteristics (KC) and key process parameters (KPP) in accordance with the requirements of this specification and BSS7286.

b. Key characteristics are specified in Table III.

c. The process for selecting and documenting KPPs is described in Section 7.1.1.1.

7.1.1.1 Key Process Parameters

a. The selection of KPPs shall be primarily the responsibility of the supplier and shall be documented in the PCD.

b. Key process parameters shall include those process parameters which have the greatest influence on the KCs and performance of the prepreg material.

c. The supplier shall establish the nominal target value and tolerance limits for each KPP. The inspection and SPC method for monitoring each KPP shall be documented in the PCD.

7.1.1.2 Analysis and Review

a. The supplier shall conduct SPC analysis of the KCs and KPPs in accordance with BSS7286.

b. The procedures used to establish and calculate control limits shall be documented in the PCD. A minimum of the most recent and consecutive 20 batches of each Type, Class, and Grade or Style shall be used to establish control limits.

7.1.1.2 Analysis and Review (Continued)

c. If statistical analysis determines that a KC or KPP is out of control, the supplier shall:

(1) Investigate the cause(s).

(2) Eliminate special causes of variation and establish control.

d. If a KC is not capable, the supplier shall take corrective action to establish capability in accordance with BSS7286.

7.2 PURCHASER QUALITY CONTROL

a. Purchaser Quality Assurance shall review all supplier test data submitted with shipment and perform any additional inspection or testing necessary to assure that the production material meets all requirements specified herein.

b. Perform quality control tests on each lot of material in accordance with Table V unless Purchaser testing requirements have been removed for that product in accordance with Section 7.2c. Test each lot of material in accordance with Table V at the frequency listed in Table VI.

TABLE V PURCHASER QUALITY CONTROL TESTS

TEST	TABLE	SECTION
Al and Adhesive Weight	III	8.2.1
Adhesive Wt	III	8.2.2
Volatiles Content	III	8.2.3
Aluminum Foil	III	8.2.4
Foil Adhesive Durability	IV	8.4

TABLE VI PURCHASER TEST FREQUENCY

NO. OF ROLLS IN LOT	NO. OF ROLLS TO TEST
1 to 5	1
6 to 15	2
16 or more	3 rolls plus 1 additional roll for each 10 rolls in excess of 21 rolls

c. When a Supplier has demonstrated consistent conformance to required testing in accordance with Section 7.1, Purchaser testing may be removed as a requirement for material procured from that Supplier. Appropriate Boeing Quality Assurance documentation such as D1–4426 shall indicate which products do not require Purchaser testing.

d. When consistent conformance to specification acceptance (receiving) requirements has been demonstrated, Quality Assurance may implement reduced testing in accordance with a suitable sampling plan. Authorization of a reduced testing plan shall be on a Boeing Company division basis, and shall be documented with Boeing documentation.

7.2 PURCHASER QUALITY CONTROL (Continued)

e. For Grade A material verify that each lot of prepreg meets the storage condition requirements in Section 5.3 and Section 10.3 of this specification during shipping.

(1) The purchaser shall document the procedure used to verify temperature exposure.

(2) If the time and temperature exposure exceeds the maximum mechanical life conditions in Section 5.3 reject the material.

(3) Deduct exposures that exceed the storage temperature and are less than the maximum mechanical life exposure conditions from the mechanical life in Section 5.3 for the material in that lot. Temperature excursions during shipment of up to +10 F above the maximum storage temperature are allowed without mechanical life deduction as long as the total time of the excursion does not exceed 60 minutes.

(4) If the storage conditions cannot be verified material in the shipment shall be tested in accordance with Section 7.2b. The amount of time where storage conditions cannot be verified shall be subtracted from the handling and mechanical life.

f. Keep all test data and records on file for a minimum of 7 years and readily available for review.

8 MATERIAL TEST METHODS

8.1 SAMPLING FOR PHYSICAL PROPERTY REQUIREMENTS

a. Before taking a sample, warm the material as necessary above the ambient dewpoint to assure that no condensation will occur on the sample or the unused material when the protective bag is removed.

b. Remove sufficient material from each roll to perform all required tests, then repackage the roll and sample(s) in moisture proof bags before returning the unused material to storage. Minimize out–time from refrigerated storage and record out–time.

8.2 TEST PROCEDURES

The test procedures described below or Boeing–approved alternate test methods will be used.

8.2.1 ALUMINUM AND ADHESIVE WEIGHT

a. Cut three specimens equally spaced across the width of the material and at least 1 inch from the edge. For Form I, use 4 inch by 4 inch (nominal) specimens. For Form II, use 2.5 inch by 6.0 inch (nominal) specimens cut so that four complete cutouts remain. For Form III, use 2 inch by 8 inch (nominal) specimens. Remove the polyethylene backing, if applicable. Weigh to the nearest 0.001g.

b. Acceptable weight ranges are in accordance with Table III.

8.2.2 ADHESIVE WEIGHT

Using the specimens in Section 8.2.1a. weighed to the nearest milligram; record (X), grams. Soak and scrape the adhesive with toluene, xylene, or a 50/50 mixture of the hydrocarbon with MEK to remove all adhesive from the foil. Weigh the foil again; record (Y), grams.

$$\textit{Calculate adhesive weight}\ (lbs/sq\ ft) = (X - Y)\ (144)/\{(LW)\ (453.6)]$$

$$= (X - Y)\ (0.31746/LW)$$

L and W = length and width in inches, to the nearest tenth of an inch.

8.2.3 VOLATILE CONTENT

a. Cut a minimum of two specimens (dimension nominal). For Form I, use 4 inch by 4 inch specimens, for Form II, use 2.5 inch by 6 inch specimens. For Form III, use 2 inch by 8 inch specimens. Remove polyethylene backing, if applicable, and weigh each specimen to the nearest 0.001g. Preweigh the hook used to hold each specimen in the oven and weigh a separate sheet of aluminum foil for each specimen.

b. Suspend each specimen in an air circulating oven regulated at nominal cure temperature ± 10 F (145 F for Form III materials) and place the weighed aluminum foil below each specimen to catch any resin runoff.

c. Close the oven door and start a stop watch. The oven door shall not be open more than 10 seconds to suspend the specimens. After 8 minutes ± 5 seconds, remove the specimens and allow to cool. Leave Form III specimens in oven for 60 ± 5 minutes. Reweigh specimen, hook and aluminum foil.

$$\textit{Volatile Content}\ (oz/ft^2) = ((A - B)\ (144/LW))/28.35$$

A = weight of specimen prior to test minus weight of attached aluminum foil, grams.

B = weight of specimen minus weight of attached aluminum foil after test plus any increase in weights of the hook and the aluminum foil due to resin pickup, grams.

L = length of specimen in inches, to the nearest tenth of an inch.

W = width of specimen in inches, to the nearest tenth of an inch.

8.2.4 ALUMINUM FOIL THICKNESS

a. Using the three foil samples of Section 8.2.2 and a micrometer, make two measurements per sample of the foil thickness to the nearest 0.0001 inch.

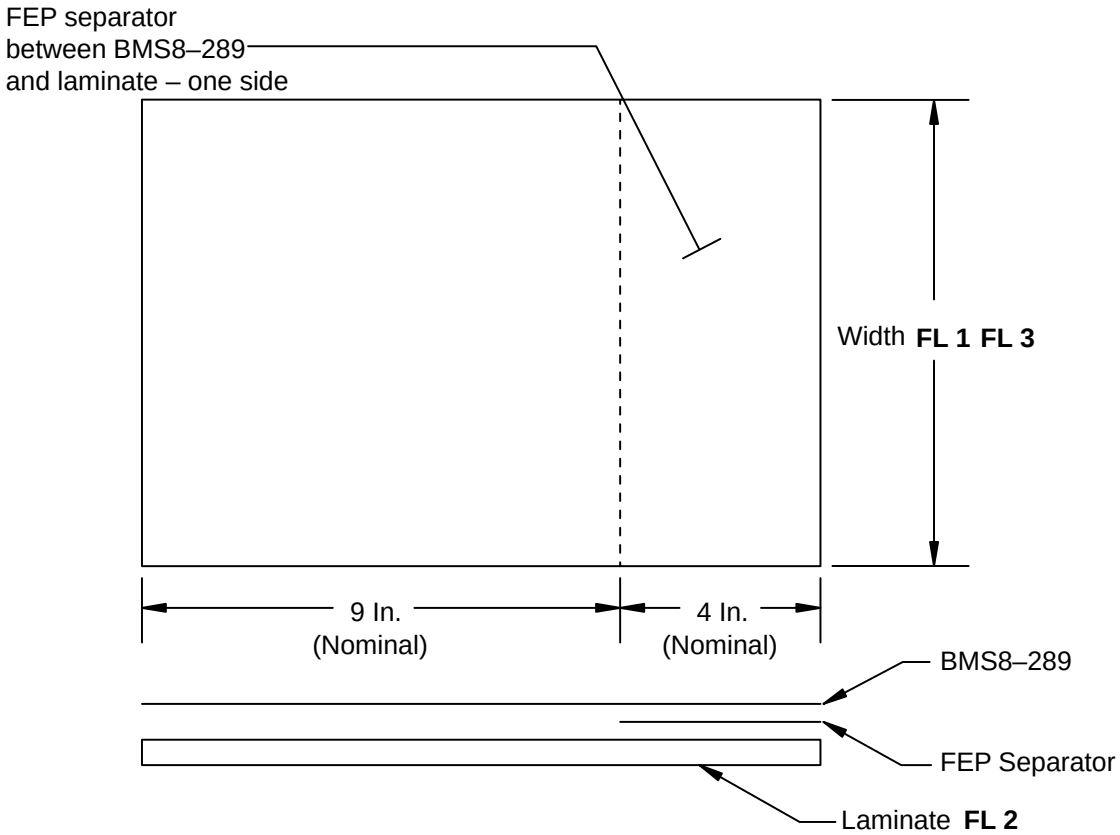
b. Calculate the average thickness of six measurements.

8.3 TEST PANEL FABRICATION

8.3.1 FORM I AND FORM II PANELS

a. Fabricate foil test panels required by Sections 6j. and 6l. as described below.

(1) Cocured Panel – Prepare and layup the required number of plies of applicable prepreg material to make a cured laminate 0.050 to 0.100 inch thick, then prepare and layup the BMS8–289 as shown in Figure 2.



FL 1 Test panel for Form I material, width should be 8 inches minimum, length 12 inches minimum; and thickness, 0.050 inch to 0.100 inch.

FL 2 Laminate as applicable. For example, BMS8–79, BMS8–139, BMS8–218, or BMS8–219, or the aluminum plate.

FL 3 Test panel for Form II material, width should be 13 inches minimum, length 12 inches minimum and thickness 0.050 inch to 0.100 inch. Position three splice strips to a nominal 1.5 inches from each edge and to a nominal 1 inch gap between specimens. Position the Form II material so the adhesive is in contact with the laminate.

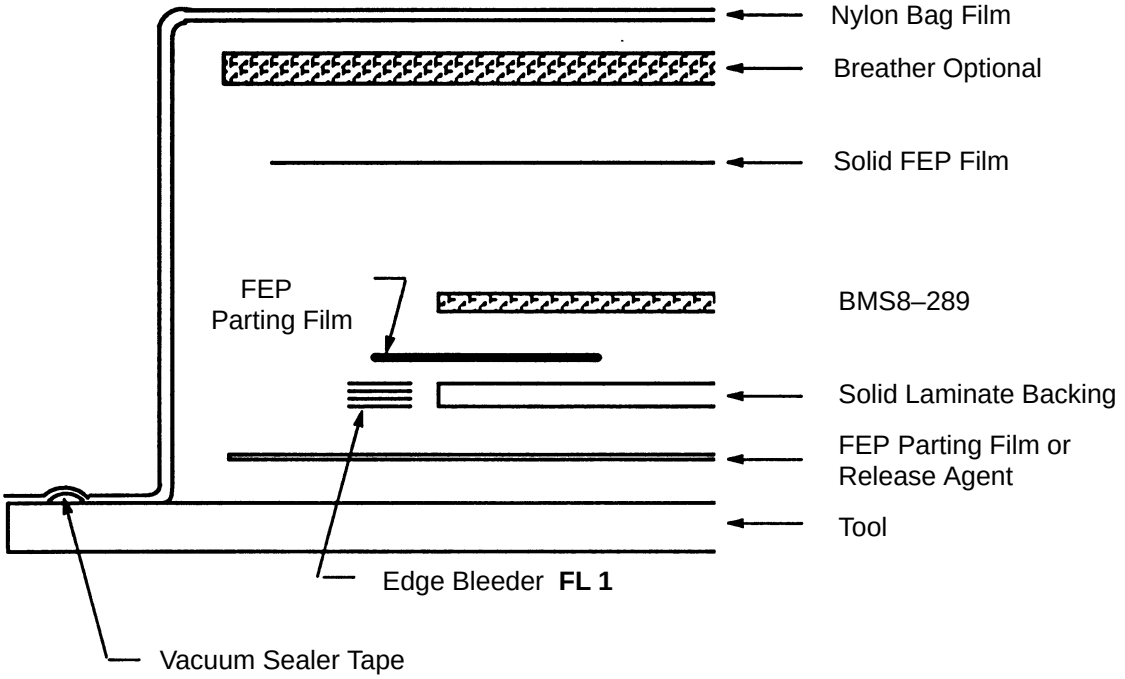
FIGURE 2 PANEL LAYUP

(2) Precured Panel – Prepare and lay up the BMS8–289 on a precured 0.050 inch to 0.100 inch solid backing sheet of laminate. The precured laminate may be fabricated with a peel ply which will be removed just prior to bonding, with the adhesive next to the surface where the peel ply was removed. When precured laminate is fabricated without peel ply, the bonding surface will be sanded and cleaned with an MEK dampened cloth prior to bonding.

8.3.1 FORM I AND FORM II PANELS (Continued)

b. Insert a ply of FEP between BMS8–289 and backing plate for a distance of 4 inches.

c. Vacuum bag each test panel in accordance with Figure 3 Draw full vacuum and test each assembly for leaks; when vacuum line is disconnected, vacuum shall not drop more than 5 inches of mercury in 5 minutes.

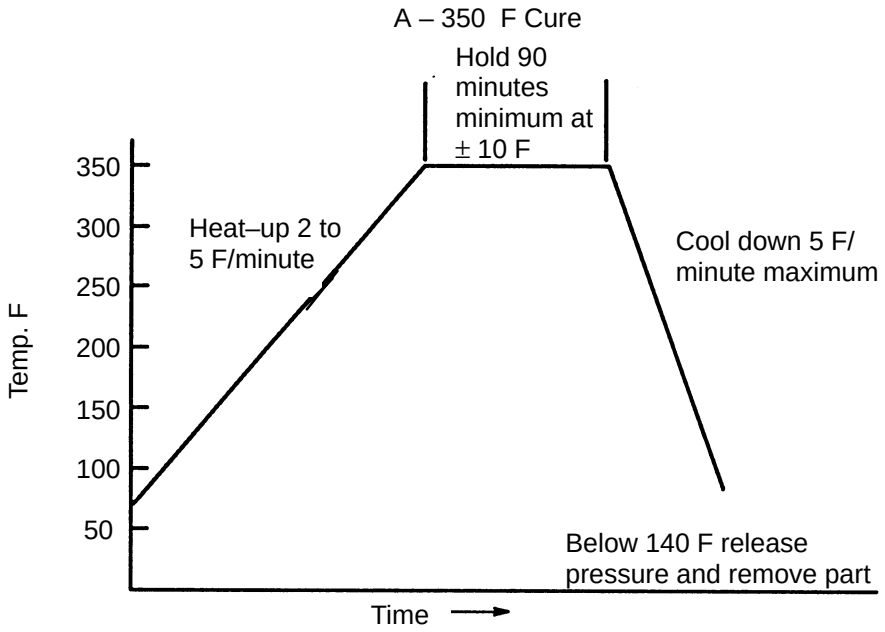


FL 1 Use a 1 inch minimum width edge bleeder with connection to vacuum source.

FIGURE 3 VACUUM BAG ASSEMBLY

8.3.1 TEST PANEL FABRICATION (Continued)

d. Apply temperature, pressure and vacuum in accordance with the Figure 4 cycle as applicable.

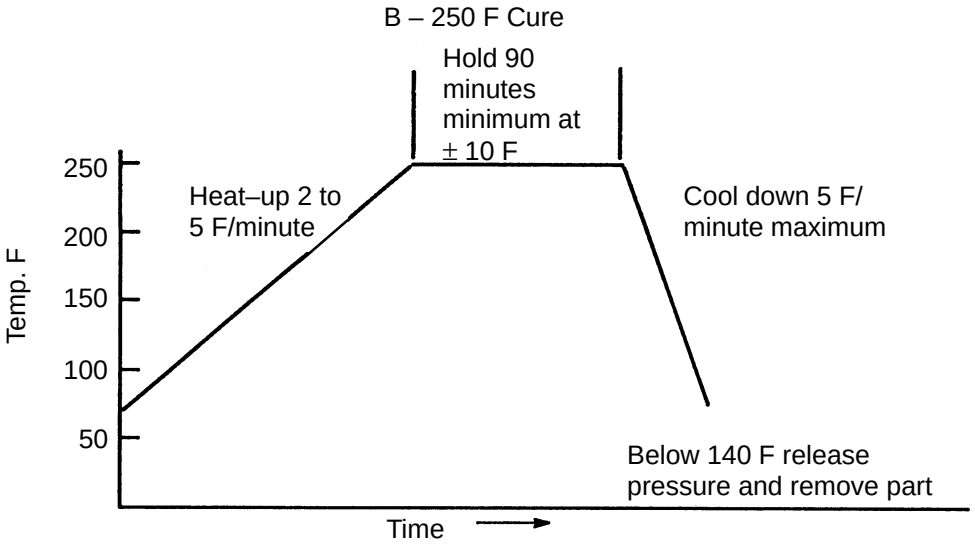


Apply 22 inches Hg vacuum minimum to vacuum bag.

Apply 45 ± 5 psig pressure to autoclave

Vent Vacuum Bag to atmosphere when pressure reaches 20 psig

Maintain pressure under vacuum bag of + 5/– 0 psig



Apply 22 inches Hg vacuum minimum to vacuum bag.

Apply 45 ± 5 psig pressure to autoclave

Vent Vacuum Bag to atmosphere when pressure reaches 20 psig

Maintain pressure under vacuum bag of 0 + 5/– 0 psig

FIGURE 4 CURE CYCLE

8.4 FOIL ADHESION DURABILITY TESTS

a. Sample Preparation

(1) Form I

From the Figure 2 panel, cut a sample with 8 inch minimum width. Starting approximately 1.5 inch from an edge, slice the foil at 1.0 inch ± 0.1 inch width intervals parallel to the 13 inch dimension. Peel back three alternating strips as shown in Figure 5, 1.5 inch ± 0.5 inch beyond the FEP drop off. Attach a 1 pound (nominal) weight to each strip. Mark the location at which peel begins, in accordance with Figure 5.

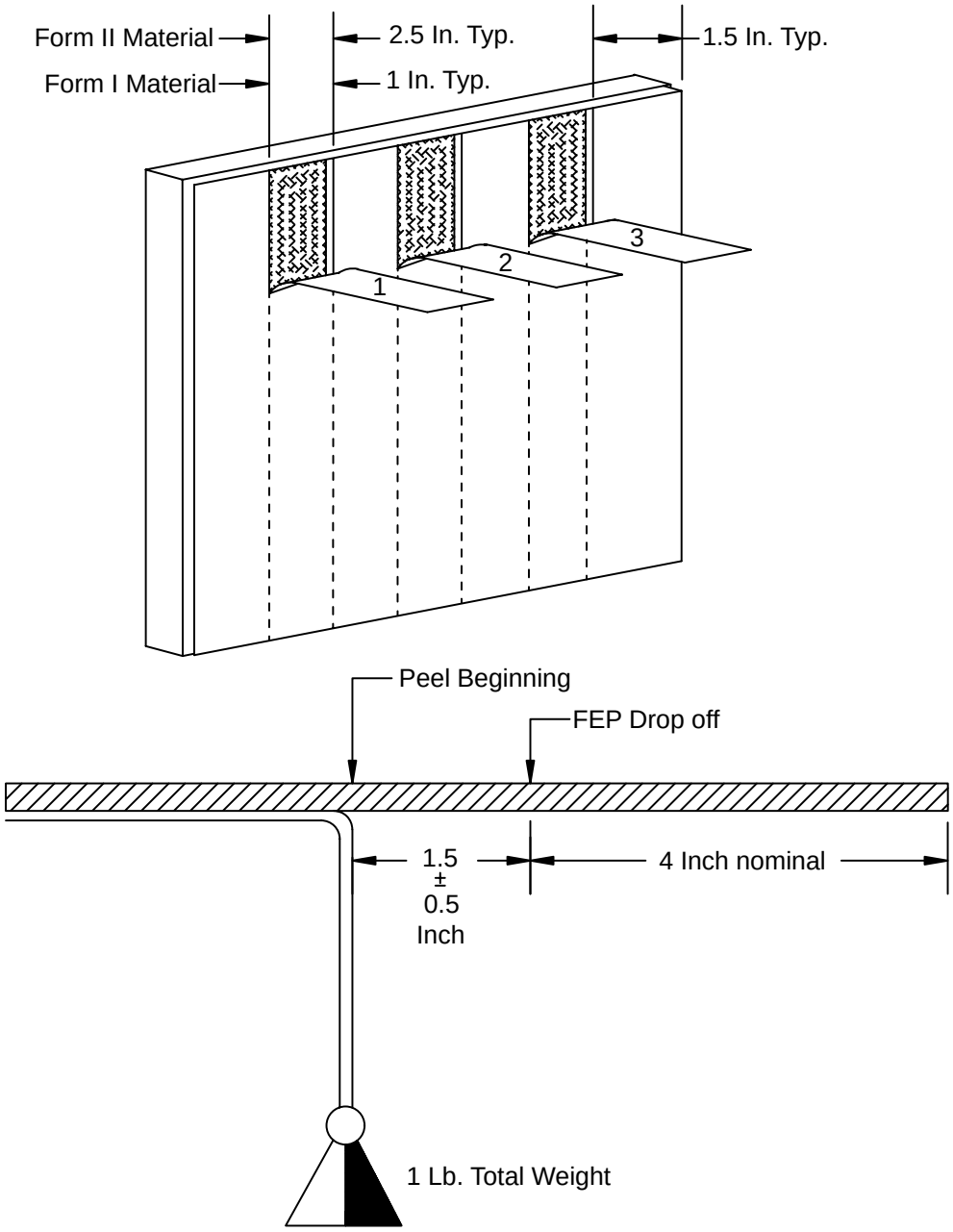


FIGURE 5 ADHESIVE DURABILITY TEST

8.4 FOIL ADHESION DURABILITY TESTS (Continued)

(2) Form II

From the Figure 2 panel, cut a sample with a 13 inch minimum width. Peel back the three alternating 2.5 inch wide Form II strips as shown in Figure 5, 1.5 inch ± 0.5 inch beyond the FEP drop off. Attach a 1 pound (nominal) weight to each strip. Mark the location at which peel begins.

b. Expose the panel(s) in a 120 F ± 5 F condensing humidity chamber for 4 to 5 hours. Support the panel(s) at a 90 ± 3 degree angle in a manner which allows the weight to hang freely.

c. Measure the distance the foil peels. Record the average of three determinations.

9 MATERIAL IDENTIFICATION

Legibly and durably mark each roll in the core with the following information:

a. BMS8–289 (including the latest revision letter), Type, Form, and Grade

b. Manufacturer name and product designation.

c. Batch and roll number

d. Date of manufacture

e. Quantity

10 PACKAGING AND MARKING

10.1 PACKAGING

a. Package in a manner to assure safe delivery of the material and to retain the properties required by this specification. Each Form I roll shall be stored in a horizontal position.

b. Grade A material, unless otherwise specified on the purchase order, shall have a backing layer of a diamond embossed polyethylene parting film on the side of the material opposite the aluminum foil. The polyethylene parting film will extend at least 0.5 inch beyond each edge. The color of the polyethylene will be blue.

c. Seal each roll in a moisture proof bag of 6–mil minimum thickness.

10.2 MARKING

a. Each container of prepreg shall be permanently and legibly marked to give the information in Section 9.

b. Each packaged roll which has more than a 10 inch width shall have the following information in red letters at least 2 inches high on the outside of the package:

“Do not stand on end”

c. Each container shall have the date of shipment and the purchase order number printed on each package.

d. All labeling shall conform to OSHA 1910.1200.

10.3 SHIPPING

a. Grade A Material

(1) Ship material at 10 F or below.

(2) Included sufficient temperature recorders with each lot shipped to assure that all temperature excursions above 10 F are recorded.

(3) The use and placement of temperature recorders shall be in accordance with BSS7061.

b. Grade B Material

(1) Ship material at 95 F or below.