Nichols

DEPARTMENT OF COMMERCE

Notice of Standard

and

Standard for the Flammability

of Children's Sleepwear

(DOC FF 3-71)

[As Published in the Federal Register,
of July 29, 1971, and November 12, 1971
(F.R. DOC. 71-10925 and F.R. DOC. 71-16366)]

DEPARTMENT OF COMMERCE

Office of the Secretary

CHILDREN'S SLEEPWEAR
Notice of Standard

On November 17, 1970, there was published in the FEDERAL REGISTER (35 FR 17670) a notice of finding that a flammability standard is needed for sleepwear normally worn by young children (5 years and under) to protect the public against unreasonable risk of the occurrence of fire leading to death, injury, or significant property damage. This notice preliminarily found that the proposed standard published in the same FEDERAL REGISTER was:

a. needed for young children's sleepwear to protect the public against unreasonable risk of the occurrence of fire leading to death, personal injury, or significant property damage.

b. reasonable, technologically practicable, and appropriate, and is stated in objective terms; and

c. limited to young children's sleepwear, and fabrics or related materials which are intended to be used or which may reasonably be expected to be used in children's sleepwear, and which have been determined to present such unreasonable risk.

The comments received pursuant to the above referenced publication, statements presented at the public hearings, and the reports of the National Advisory Committee for the Flammable Fabrics Act on the proposed children's sleepwear standard were reviewed and considered. Having made appropriate changes in the proposed standard for the flammability of young children's sleepwear based on those reviews and considerations and on further research, it is hereby found that the flammability standard as set out in full at the end hereof:

(a) Is needed for children's sleepwear to protect the public against unreasonable risk of fire leading to death, personal injury, or significant property damage;

(b) Is reasonable, technologically practicable and appropriate and is stated in objective terms; and

(c) Is limited to young children's sleepwear, and fabrics or related materials which are intended or promoted for use in children's sleepwear and which currently present the unreasonable risks specified in (a) above.

Intent and Scope of Standard. It is the intent of the standard set out in full at the end hereof to provide a high and effective level of protection to children approximately 5 years of age and younger against unreasonable risk of death or injury suffered as a result of ignition and continued burning of sleepwear garments, as defined in the standard, and/or as a result of the continued burning of molten or other material falling or dripping from the burning garments. In consonance with the Act and Senate Report No. 407, 90th Congress, 1st Session, this standard is expressly "tailored to meet the particular need or hazard shown to exist." It is therefore, limited to garments and fabrics intended or promoted for use in children's sleepwear without imposing the same requirement on all other wearing apparel. The regulation of fabrics intended for use in products other than children's sleepwear is not covered under this standard. Items in inventory or with the trade on the effective date of the standard are exempt. All concerned parties shall be required to maintain records that these items offered for sale after the effective date of this standard are eligible for the exemption.

The standard accomplishes the above objectives by limiting the individual and average char lengths of specimens subjected to 3 second impingement of a moderate sized flame, and by limiting the time after removal of the flame within which material fallen from the specimens may continue burning.

Effective Date. The standard shall become effective for items manufactured 12 months from the date of promulgation. Normally under the Flammable Fabrics Act a standard becomes effective within 12 months following promulgation unless it is found for good cause shown that an earlier or later effective date is in the public interest. Some industry sources have stated that it is not technologically practicable to comply with the standard in less than 31-36 months. The Department's independent investigation shows, however, that it will be technologically practicable for the majority of companies to comply with the standard

within 24 months from the date of promulgation and that some may be able to comply within 12 months. Accordingly, in order to conform with the requirements of the Act that the standard be technologically practicable, the standard is made effective 12 months after promulgation with a proviso temporarily requiring a permanent and conspicuous cautioning label for non-complying goods manufactured during the 12 months after the effective date of the standard. All goods manufactured 24 months after promulgation are required to comply.

Effect on Other Standards. As of 12 months after the effective date of the standard, the present flammability standards under the Flammable Fabrics Act (Commercial Standard 191-53, Flammability of Clothing Textiles as modified by Act of Congress approved August 23, 1954, and Commercial Standard 192-53, General Purpose Vinyl Plastic Film) are superseded insofar as they apply to items of children's sleepwear included in DOC FF 3-71. Nothing in this action affects the application of CS 191-53 and CS 192-53 to products, fabrics, or related materials not included in DOC FF 3-71.

Issued: July 27, 1971

Maurice H. Stans
Secretary of Commerce

CHILDREN'S SLEEPWEAR

Standard for the Flammability of Children's Sleepwear

(DOC FF 3-71)

.1 Definitions

In addition to the definitions given in section 2 of the Flammable Fabrics Act, as amended (sec. 1, 81 stat. 568; 15 U.S.C. 1191), and section 7.2 of the Procedures (33 F.R. 14642, Oct. 1, 1968), the following definitions apply for the purposes of this Standard:

(a) "Children's Sleepwear" means any product of wearing apparel up to and including size 6X, such as nightgowns, pajamas, or similar or related items, such as robes, intended to be worn primarily for sleeping or activities related to sleeping. Diapers and underwear are excluded from this definition.

(b) "Size 6X" means the size defined as 6X in Department of Commerce Voluntary Product Standard, previously identified as Commercial Standard, CS 151-50 "Body Measurements for the Sizing of Apparel for Infants, Babies, Toddlers, and Children."1/

(c) "Item" means any product of children's sleepwear, or any fabric or related material intended or promoted for use in children's sleepwear.

(d) "Trim" means decorative materials, such as ribbons, laces, embroidery, or ornaments. This definition does not include (1) individual pieces less than two inches in their longest dimension, provided that such pieces do not constitute or cover in aggregate a

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1/ Copies available from the National Technical Information Service, 5285 Port Royal Street, Springfield, Virginia 22151.

total of more than 20 square inches of the item, or (2) functional materials (findings), such as zippers, buttons or elastic bands, used in the construction of garments.

(e) "Acceptance Criterion" means the maximum char length and residual flame time which an item may exhibit in order to comply with this standard.

(f) "Char Length" means the distance from the original lower edge of the specimen exposed to the flame in accordance with the procedure specified in ".4 Test Procedure" to the end of the tear or void in the charred, burned or damaged area, the tear being made in accordance with the procedure specified in .4(d)(2).

(g) "Residual Flame Time" is defined as the time from removal of the burner from the specimen to the final extinction of molten material or other fragments flaming on the base of the cabinet.

(h) "Afterglow" means the continuation of glowing of parts of a specimen after flaming has ceased.

.2 Scope and Application

(a) This Standard provides a test method to determine the flammability of items of children's sleepwear.

(b) All items of children's sleepwear must meet the acceptance criterion, except during the period set out in .5(b).

.3 General Requirements

(a) Summary of Test Method

Five conditioned specimens, 8.9 x 25.4 cm (3.5 x 10 in.), are suspended one at a time vertically in holders in a prescribed cabinet and subjected to a standard flame along their bottom edge for a specified time under controlled conditions. The char length and residual flame time are measured.

(b) Acceptance Criterion

An item meets the acceptance criterion if: (1) the average char length of five specimens does not exceed 17.8 cm (7.0 in.), (2) no individual specimen has a char length of 25.4 cm (10 in.) and (3) no individual specimen has a residual flame time greater than 10 seconds, when the testing is done in accordance with ".4 Test Procedure".

.4 Test Procedure

(a) Apparatus

(1) Test Chamber

The test chamber shall be a steel cabinet with inside dimensions of 32.9 cm (12-15/16 in.) wide, 32.9 cm (12-15/16 in.) deep, and 76.2 cm (30 in.) high. It shall have a frame which permits the suspension of the specimen holder over the center of the base of the cabinet at such a height that the bottom of the specimen holder is 1.7 cm (3/4 in.) above the highest point of the barrel of the gas burner specified in .4(a)(3) and perpendicular to the front of the cabinet. The highest point of the barrel of the gas burner shall be 17.5 cm (6.9 in.) above the floor of the cabinet. The front of the cabinet shall be a close fitting door with a glass insert to permit observation of the entire test. The cabinet floor shall be covered with a piece of asbestos paper, whose length and width are approximately 2.5 cm (1 in.) less than the cabinet floor dimensions and whose thickness is a nominal 0.3 cm (1/8 in.). A piece of asbestos paper at least 15.2 x 15.2 cm (6 x 6 in.) and of nominal thickness of 0.15 cm (1/16 in.) or less shall be used to catch the drips of other fragments and this latter paper shall be changed after each specimen which drips has been tested. The cabinet to be used in this test method is illustrated in Figure 1 and detailed in Engineering Drawings, Numbers 1 to 7.

(2) Specimen Holder

The specimen holder is designed to permit suspension of the specimen in a fixed vertical position and to prevent curling of the specimen when the flame is applied. It shall consist of two U-shaped 0.20 cm (14 ga USS) thick steel plates, 42.2 cm (16-5/8 in.) long, and 8.9 cm (3.5 in.) wide, with aligning pins. The openings in the plates shall be 35.6 cm (14 in.) long and 5.1 cm (2 in.) wide. The specimen shall be fixed between the plates, which shall be held together with side clamps. The holder to be used in this test method is illustrated in Figure 2 and detailed in Engineering Drawing Number 7.

(3) Burner

The burner shall be substantially the same as that illustrated in Figure 1 and detailed in Engineering Drawing Number 6. It shall have a tube of 1.1 cm (0.43 in.) inside diameter. The input line to the burner shall be equipped with a needle valve. It shall have a variable orifice to adjust the height of the flame. The barrel of the burner shall be at an angle of 25 degrees from the vertical. The burner shall be equipped with an adjustable stop collar so that it may be positioned quickly under the test specimen. The burner shall be connected to the gas source by rubber or other flexible tubing.

(4) Gas Supply System

There shall be a pressure regulator to furnish gas to the burner under a pressure of 129 ± 13 mm Hg (2-1/2 ± 1/4 lbs. per sq. in.) at the burner inlet.

(5) Gas

The gas shall be at least 97% pure methane.

(6) Hooks & Weights

Metal hooks and weights shall be used to produce a series of loads for char length determinations. Suitable metal hooks consist of No. 19 gauge steel wire, or equivalent, made from 7.6 cm (3 in.) lengths of the wire, bent 1.3 cm (0.5 in.) from

one end to a 45 degree angle hook. The longer end of the wire is fastened around the neck of the weight to be used and the other in the lower end of each burned specimen to one side of the burned area. The requisite loads are given in Table 1.

TABLE 1

ORIGINAL FABRIC WEIGHT[2/]

		LOADS	
g/sq. m	(oz/sq. yd.)	g	(lb)
Less than 101	(Less than 3.0)	54.4	(0.12)
101-207	(3.0 - 6.0)	113.4	(0.25)
207-338	(6.0 - 10.0)	226.8	(0.50)
Greater than 338	(Greater than 10.0)	340.2	(0.75)

(7) Stopwatch

A stopwatch or similar timing device shall be used to measure time to 0.1 second.

(8) Scale

A linear scale graduated in mm or 0.1 in. divisions shall be used to measure char length.

(9) Circulating Air Oven

A forced circulation drying oven capable of maintaining the specimens at 105 ± 2.8 °C

2/ Weight of the original fabric, containing no seams or trim, is calculated from the weight of a specimen which has been conditioned for at least eight hours at 21 ± 1.1 °C (70 ± 2 °F) and 65 ± 2% relative humidity. Shorter conditioning times may be used if the change in weight of a specimen in successive weighings made at intervals of not less than two hours does not exceed 0.2% of the weight of the specimen.

(221 ± 5 °F), shall be used to dry the specimen while mounted in the specimen holders.[3/]

(10) Desiccator

An air-tight and moisture-tight desiccating chamber shall be used for cooling mounted specimens after drying. Anhydrous silica gel shall be used as the desiccant in the desiccating chamber.

(11) Hood

A hood or other suitable enclosure shall be used to provide a draft-free environment surrounding the test chamber. This enclosure shall have a fan or other suitable means for exhausting smoke and/or toxic gases produced by testing.

(12) Sewing Machine

A machine capable of carrying out the operations in .4(b)(2) shall be used whenever sewing is required.

(b) Specimens and Sampling

(1) Fabric

Select a sample of the item representative of the lot and large enough to permit cutting five specimens. Pretesting shall be performed to determine whether different results are obtained for specimens cut with their long dimensions in the machine or cross-machine directions; if different results are obtained, the official test specimens shall be cut such that they are tested in the direction that gives the greater flammability.

Cut five specimens 8.9 x 25.4 cm (3.5 x 10 in.) from the fabric sample selected. If the sample is wrinkled, it may be ironed. If possible,

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3/ Option 1 of ASTM D2654-67T, "Method of Test for Amount of Moisture in Textile Materials", describes a satisfactory oven. (1970 Book of ASTM Standards, Part 24, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

specimens shall be cut so that each contains different machine direction yarns and different cross-machine direction yarns.

(2) Garments

Select a sample garment representative of the lot and large enough to permit cutting five specimens. More than one item of that lot may be used if necessary to obtain the five specimens. Cut five specimens 8.9 x 25.4 cm (3.5 x 10 in.). If the garment is wrinkled, it may be ironed. Seamed and trimmed areas shall be tested, with the exception of the small areas indicated in section .1(d). Specimens shall be cut such that the seam or trim is down the center of the long dimension of the specimen. For items in which the trim or seam length is less than 25.4 cm (10 in.), specimens shall be cut with the seam beginning at the lower edge of each specimen.

For items with attached trim whose configuration does not allow placement in the specimen holder as described above, specimens shall be prepared by sewing or attaching the trim to the center of the vertical axis of an appropriate sample of untrimmed fabric chosen from another portion of the item, beginning the sewing or attachment at the lower edge of each specimen. The sewing or attachment shall be made in the manner in which trim was attached in the item. This trim shall be removed from the item with due care to avoid damage to the trim; all remnants of thread, other fastening material and base fabric shall be removed from the trim. Sewing or otherwise attaching the trim shall be done with thread or fastening material of the same (or as close to the same as possible) composition and size as used for this purpose in the original item and using the same (or as close to the same as possible) stitching and seam type. The trim shall be sewed the entire length (if possible) of representative samples of the item.

Alternatively, the set of five specimens may be prepared from the base fabric and other component materials used in a garment rather than by cutting the finished garment. The base fabric specimen shall be cut or prepared with the long dimension

in the more flammable direction. The seams to be used in the garment shall be sewn, attaching two pieces of fabric, so that each seam lies along the long center line of a resulting test specimen. The same type and composition of sewing thread as will be used in the garment shall be used in preparing the test specimens. The trim to be used in the garment shall be sewn or attached to the center of the vertical axis of a fabric specimen beginning the sewing or attachment at the lower edge of the specimen. Sewing or otherwise attaching the trim shall be done the entire length of the fabric specimen with thread or fastening material of the same composition and size as will be used in the garment and using the same stitching and seam type. In both instances (trim and seam), the method of preparing the seam or attaching the trim to each test specimen shall be the same as that to be used in the finished garment.

(c) Mounting and Conditioning of Specimens

The specimens shall be placed in specimen holders so that the bottom edge of each specimen is even with the bottom of the specimen holder. Mount the specimen in as close to a flat configuration as possible. The sides of the specimen holder shall cover 1.9 cm (3/4 in.) of the specimen width along each long edge of the specimen, and thus shall expose 5.1 cm (2 in.) of the specimen width. The sides of the specimen holder shall be clamped with a sufficient number of clamps or shall be taped to prevent the specimen from being displaced during handling and testing. The specimens may be taped in the holders if the clamps fail to hold them.

Place the mounted specimens in the drying oven in a manner that will permit free circulation of air at 105 °C (221 °F) around them for 30 minutes.[4/]

4/ If the specimens are moist when received, permit them to air-dry at laboratory conditions prior to placement in the oven. A satisfactory pre-conditioning procedure may be found in ASTM D 1776-67, "Conditioning Textiles and Textile Products for Testing". ("1970 Book of ASTM Standards", Part 24, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103).

Remove the mounted specimens from the oven and place them in the desiccator for 30 minutes to cool. No more than five specimens shall be placed in a desiccator at one time. Specimens shall remain in the desiccator no more than 60 minutes.

(d) Testing

(1) Burner Adjustment

With the hood fan turned off, use the needle valve to adjust the flame height of the burner to 3.8 cm (1-1/2 in.) above the highest point of the barrel of the burner. A suitable height indicator is shown in Engineering Drawing 6 and Figure 1.

(2) Specimen Burning and Evaluation

One at a time, the mounted specimens shall be removed from the desiccator and suspended in the cabinet for testing. The cabinet door shall be closed and the burner flame impinged on the bottom edge of the specimen for 3.0 ± 0.2 seconds.[5/] Flame impingement is accomplished by moving the burner under the specimen for this length of time, and then removing it.

If flaming drips or fragments are evident, measure the residual flame time to the nearest 0.1 second. If an individual specimen produces fragments or drips which are flaming beyond the specified 10 second residual flame time, that item fails to meet the acceptance criterion and testing of that item may be stopped.

When afterglow has ceased, remove the specimen from the cabinet and holder, and place it on a clean flat surface. Fold the specimen lengthwise along a line through the highest peak of the charred or melted area; crease the specimen firmly by hand. Unfold the specimen and insert the hook with the correct weight as shown in Table 1 in the specimen on one side of the charred area 6.4 mm (1/4 in.) from the lower edge.

5/ If more than 15 seconds elapse between removal of a specimen from the desiccator and the initial flame impingement, that specimen shall be reconditioned prior to testing.

Tear the specimen by grasping the other lower corner of the fabric and gently raising the specimen and weight clear of the supporting surface.[6/] Measure the char length as the distance from the end of the tear to the edge of the specimen exposed to the flame. If the char length of any individual specimen of an item equals 25.4 cm (10 in.) that item fails to meet the acceptance criterion and testing may be stopped. After testing each specimen, vent the hood and cabinet to remove the smoke and/or toxic gases.

(3) Report

Report the value of char length, in centimeters (inches), and the residual flame time, in seconds, for each specimen, as well as the average char length for the set of five specimens.

(4) Laundering

The procedures described under .4(b), .4(c), and .4(d) shall be carried out on finished items (as produced or after one washing and drying) and after they have been washed and dried 50 times[7/] according to Test Method AATCC 124-1969.[8/] Items which do not withstand 50 launderings shall be tested at the end of their useful service life.

6/ A figure showing how this is done is given in AATCC 34-1969, Technical Manual of the American Association of Textile Chemists and Colorists, Vol. 46, 1970, published by AATCC, Post Office Box 12215, Research Triangle Park, North Carolina 27809.

7/ If changes in an item occur during laundering which appear to affect the flammability of that item sufficiently to make it fail the acceptance criterion, that item may be tested after fewer than 50 launderings. If the item fails, further launderings are not necessary.

8/ Technical Manual of the American Association of Textile Chemists and Colorists, Vol. 46, 1970, published by AATCC, Post Office Box 12215, Research Triangle Park, North Carolina 27709.

Washing procedure 6.2(III), with a water temperature of 60° ± 2.8 °C (140° ± 5 °F), and drying procedure 6.3.2(B), shall be used. Maximum load shall be 3.64 Kg (8 pounds) and may consist of any combination of test samples and dummy pieces. Alternatively, a different number of times under another washing and drying procedure may be specified and used, if that procedure has previously been found to be equivalent by the Federal Trade Commission.

Such laundering is not required of items which are not intended to be laundered, as determined by the Federal Trade Commission.

Items which are not susceptible to being laundered and are labeled "dry-clean only" shall be dry-cleaned by a procedure which has previously been found to be acceptable by the Federal Trade Commission.

For the purpose of the issuance of a guarantee under Section 8 of the Act, finished sleepwear garments to be tested according to .4(b)(2) need not be laundered or dry-cleaned provided all fabrics used in making the garments (except trim) have been guaranteed by the fabric producer to meet the acceptance criterion after such laundering or dry-cleaning.

.5 Labeling Requirements

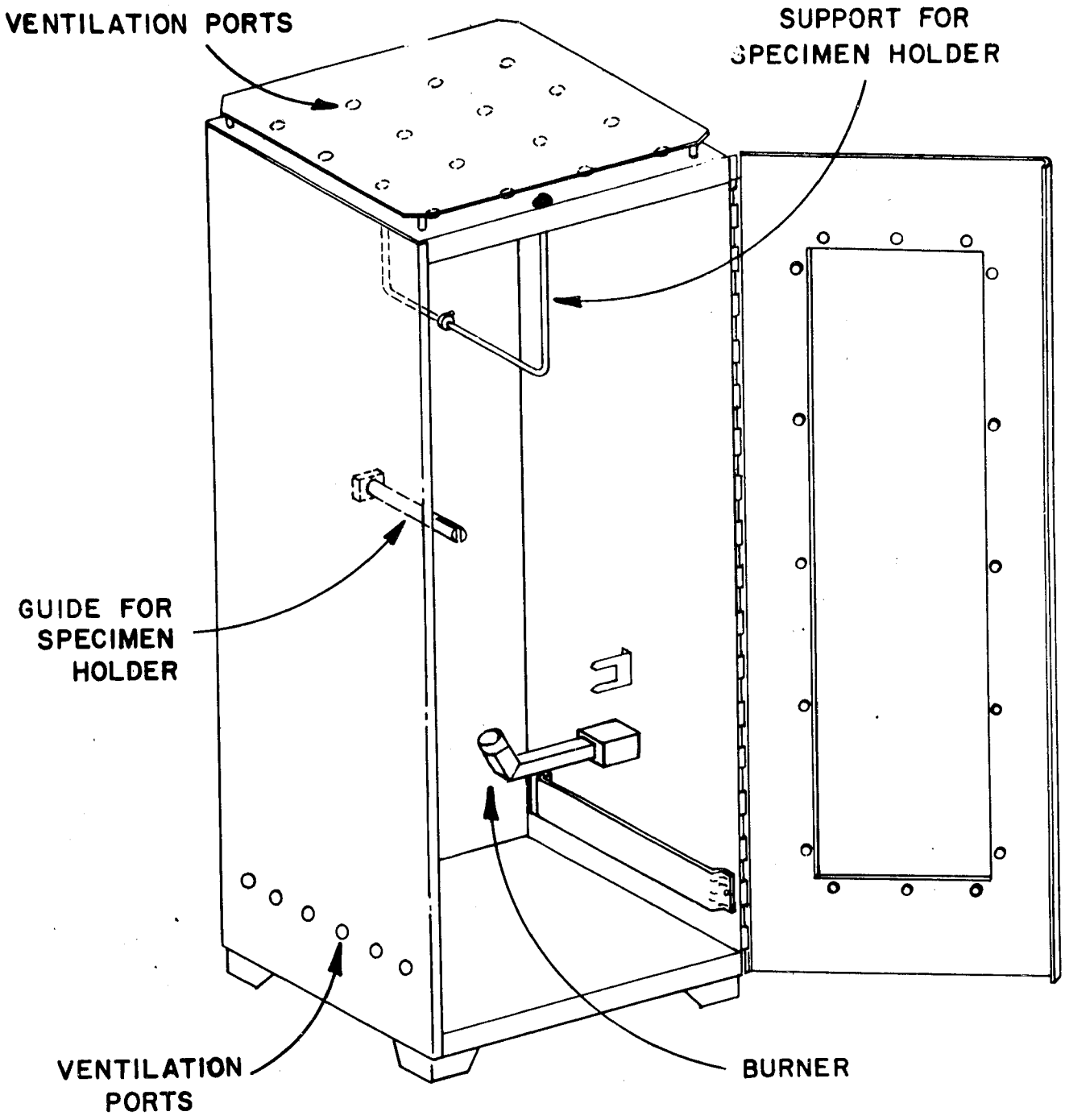
(a) Care Labels

All items of children's sleepwear shall be labeled with precautionary instructions to protect the items from agents or treatments which are known to cause deterioration of their flame resistance. If the item has been initially tested under .4(d)(4) after one washing and drying, it shall be labeled with instructions to wash before wearing. Such labels shall be permanent and otherwise in accordance with rules and regulations established by the Federal Trade Commission.

(b) Temporary Requirement for Non-complying Items

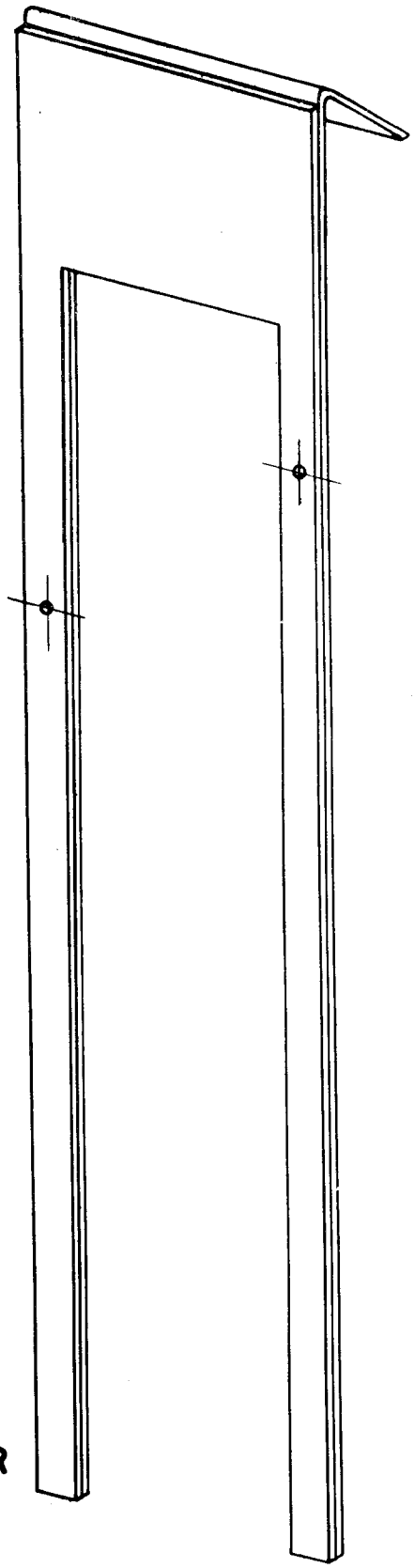
Items of non-complying children's sleepwear which are manufactured during the twelve months following the effective date of the standard shall, prior to introduction into commerce, be prominently, permanently,

and conspicuously labeled with the following statement: "Flammable (Does Not Meet U. S. Department of Commerce Standard DOC FF 3-71.) Should not be worn near sources of fire." Such labels should be in accordance with the rules and regulations established by the Federal Trade Commission.



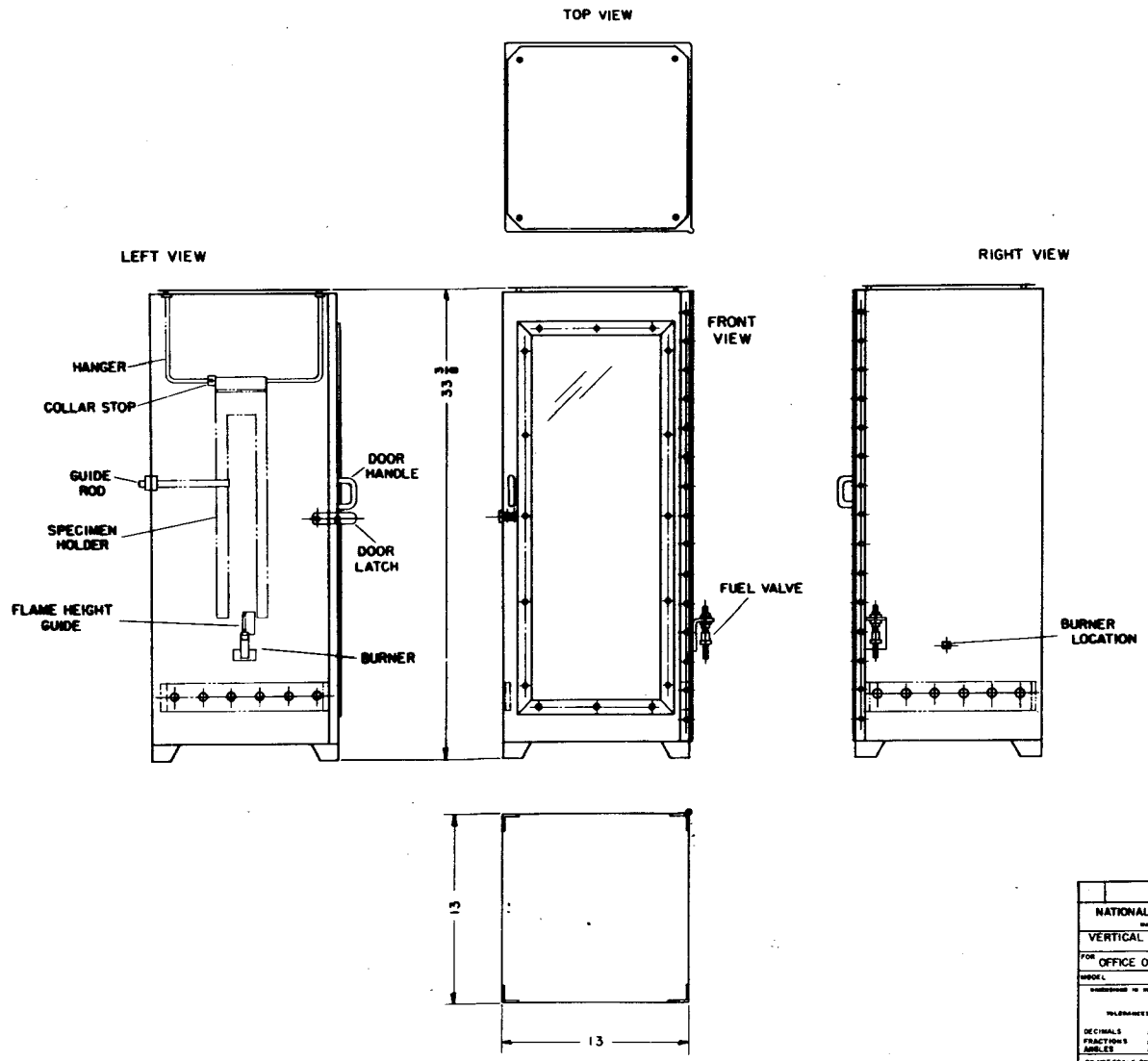
VERTICAL TEST CABINET

FIGURE I



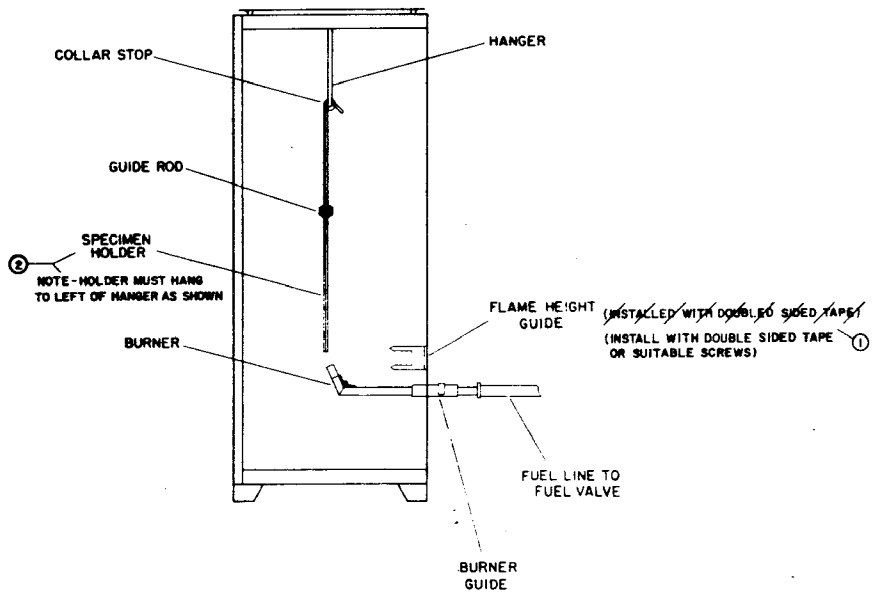
SPECIMEN HOLDER

FIGURE 2

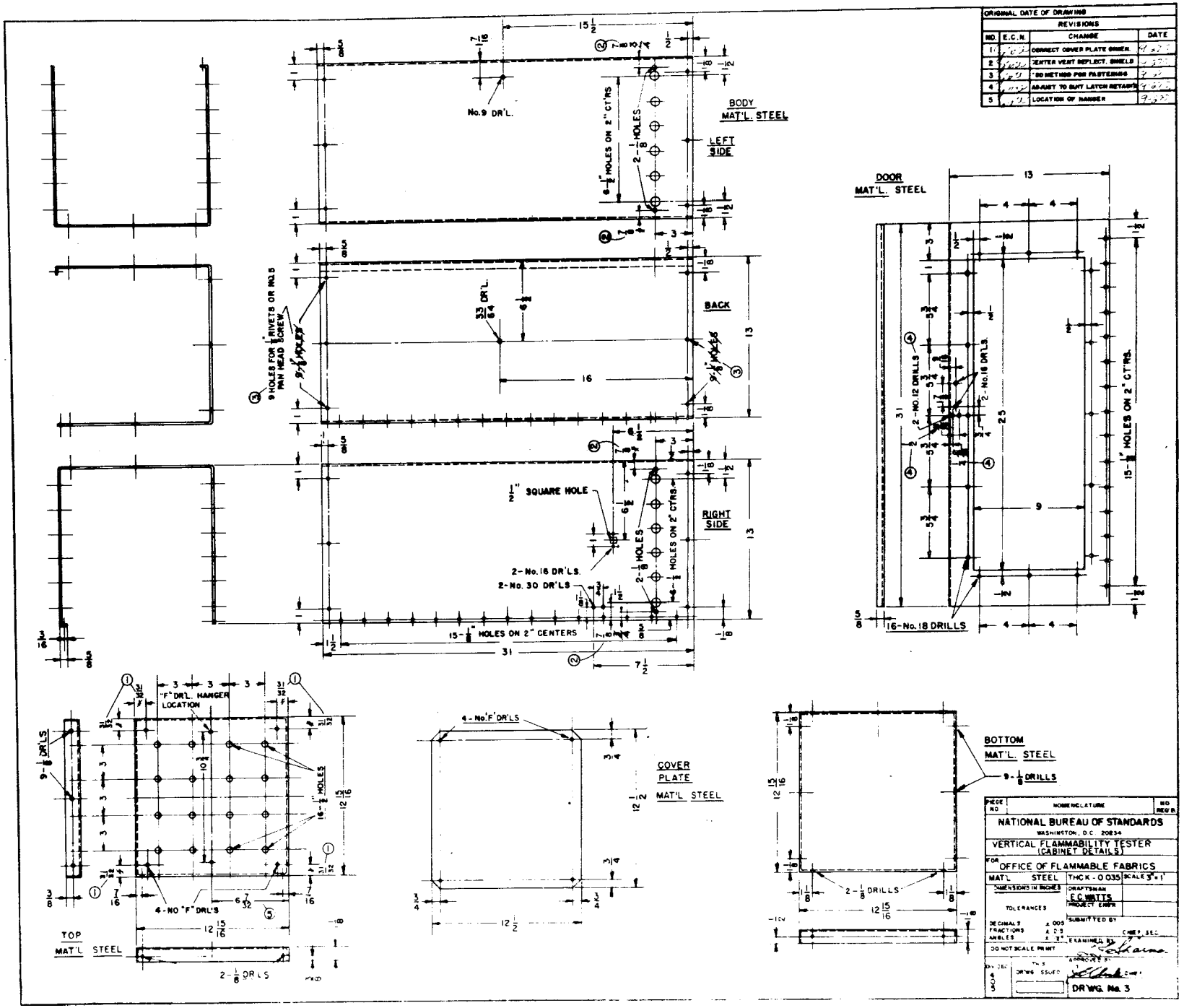

TOP VIEW
LEFT VIEW
RIGHT VIEW
FRONT VIEW
HANGER
COLLAR STOP
GUIDE ROD
SPECIMEN HOLDER
FLAME HEIGHT GUIDE
DOOR HANDLE
DOOR LATCH
BURNER
FUEL VALVE
BURNER LOCATION
33
13
13
NATIONAL BUREAU OF STANDARDS
VERTICAL FLAMMABILITY TESTER
FOR OFFICE OF FLAMMABLE FABRICS
E.C. WATTS
DRWG No 1

ORIGINAL DATE OF DRAWING			
REVISIONS			
NO	E.C.N	CHANGE	DATE
1		PERMIT ALTERNATE FAST'G	
2		SPECIMEN HOLDER LOCATION	
3			
4			

FRONT VIEW
(DOOR REMOVED)



	NATIONAL BUREAU OF STANDARDS
	VERTICAL FLAMMABILITY TESTER HOLDER & BURNER ASSEMBLY
FOR	OFFICE OF FLAMMABLE FABRICS
MODEL	SCALE VAR
DRAWN	E.C. WATTS
CHECKED	
SIZE	A
SHEET	2


ORIGINAL DATE OF DRAWING
REVISIONS
NO. E.C.N. CHANGE DATE
1 CORRECT COVER PLATE SHOWN
2 CENTER VENT REFLECT. SHIELD
3 "DO METHOD FOR FASTENING
4 ADJUST TO SUIT LATCH RETAINER
5 LOCATION OF HANGER
BODY MAT'L. STEEL
LEFT SIDE
No.9 DR'L.
6-1/2" HOLES ON 2" CTRS
2-1/8 HOLES
BACK
9 HOLES FOR RIVETS OR NO.8 PAN HEAD SCREWS
9-1/8" HOLES
33/64 DR'L.
16
13
RIGHT SIDE
1/2" SQUARE HOLE
2-No.16 DR'LS.
2-No.30 DR'LS
15-1/8" HOLES ON 2" CENTERS
31
7 1/2
DOOR MAT'L. STEEL
13
4 4
31
25
9
2-No.12 DRILLS
2-No.18 DR'LS.
15-1/8" HOLES ON 2" CTRS.
16-No.18 DRILLS
"F" DR'L. HANGER LOCATION
3 3 3
9-1/8 DR'LS
16-1/2" HOLES
4-NO "F" DR'LS
12 15/16
TOP MAT'L STEEL
2-1/8 DR'LS
4-No."F" DR'LS
COVER PLATE MAT'L STEEL
12 1/2
BOTTOM MAT'L. STEEL
9-1/8 DRILLS
2-1/8 DRILLS
NATIONAL BUREAU OF STANDARDS
WASHINGTON, D.C. 20234
VERTICAL FLAMMABILITY TESTER (CABINET DETAILS)
FOR OFFICE OF FLAMMABLE FABRICS
MAT'L STEEL THICK - 0.035 SCALE 3" = 1"
DRAFTSMAN E.C.WATTS
PROJECT ENGR
SUBMITTED BY
EXAMINED BY
APPROVED BY
DRWG ISSUED
DRWG. No. 3

ORIGINAL DATE OF DRAWING			
REVISIONS			
NO.	E.C.N.	CHANGE	DATE
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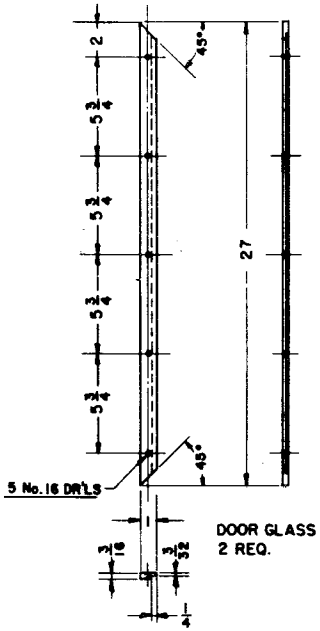
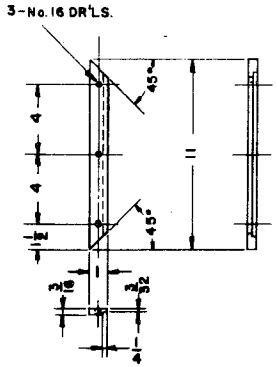
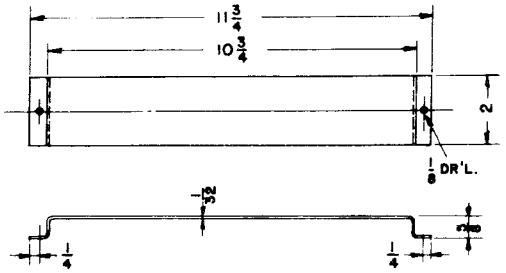
2		CHANGE FROM SCREWS TO RIVETS	



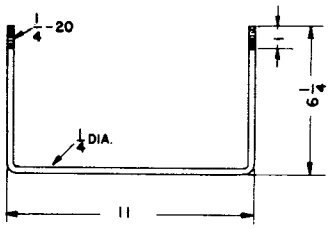
DOOR GLASS PANEL GUIDE (VERT.)
2 REQ. ALUM.



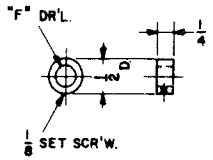
DOOR GLASS PANEL GUIDE (HORZ.)
2 REQ. ALUM.



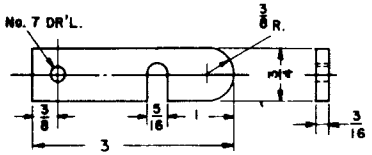
VENT DEFLECTING SHIELD
2 REQ. STEEL



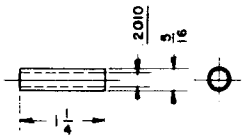
HANGER
1 REQ. STEEL



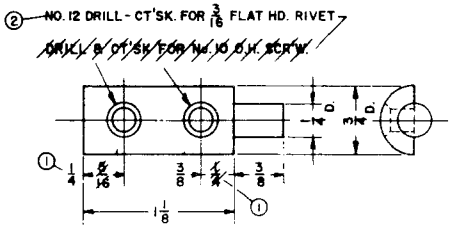
HANGER COLLAR STOP
1 REQ. STEEL



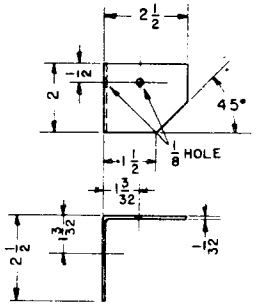
DOOR LATCH
1 REQ. ALUM.



TOP COVER SPACER
4 REQ STEEL



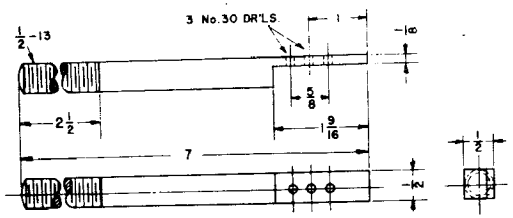
LATCH RETAINER
1 REQ. ALUM.



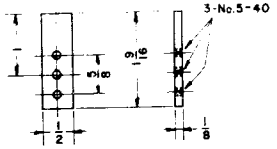
CABINET LEG
4 REQ STEEL

NOMENCLATURE	
NATIONAL BUREAU OF STANDARDS	
WASHINGTON, D.C. 20234	
VERTICAL FLAMMABILITY TESTER DETAILS	
FOR OFFICE OF FLAMMABLE FABRICS	
MODEL	TYPE / SCALE VAR
DRAFTSMAN E.C. WATTS	CHECKER
PROJ. ENGR	PROJ. ENGR
SUBMITTED BY	CHIEF, SEC.
EXAMINED BY	CHIEF DIV.
THIS PRINT ISSUED	CHIEF, DIV.
DRWG. No. 4	

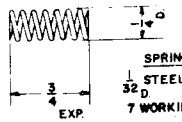
ORIGINAL DATE OF DRAWING			
REVISIONS			
NO.	E.C.N	CHANGE	DATE
1		HOLE TO SUIT VALVE MOUNT	
2		CENTER SCREW (ADJ.)	



GUIDE ROD
1 REQ. ALUM.

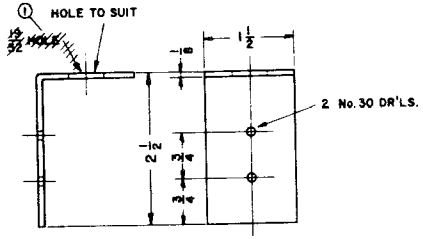


ADJUSTABLE CLAMP
1 REQ. ALUM.

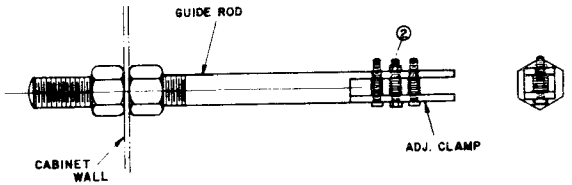


SPRING DATA-
1/32 D STEEL SPRING WIRE
7 WORKING COILS

SPRING (ADJ. CLAMP)
REQ. (SEE NOTE)



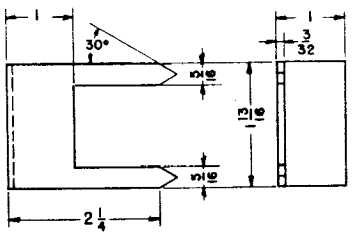
FUEL VALVE BRACKET
1 REQ. ALUM.



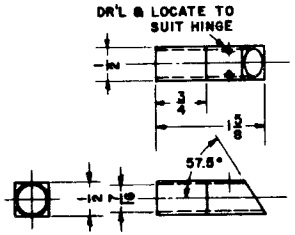
GUIDE ROD ASSEMBLY

PIECE NO	NOMENCLATURE	NO REQ'D
	NATIONAL BUREAU OF STANDARDS WASHINGTON, D.C. 20234	
	VERTICAL FLAMMABILITY TESTER -DETAILS-	
	FOR OFFICE OF FLAMMABLE FABRICS	
	SCALE VAR.	
	DIMENSIONS IN INCHES / TOLERANCES / DECIMALS ± .005 / FRACTIONS ± 1/64 / ANGLES ± 1° / DRAFTSMAN E.C. WATTS / PROJECT ENGR. / SUBMITTED BY / CHIEF, SEC. / APPROVED / DR WG SERIES / DR WG No. 5	

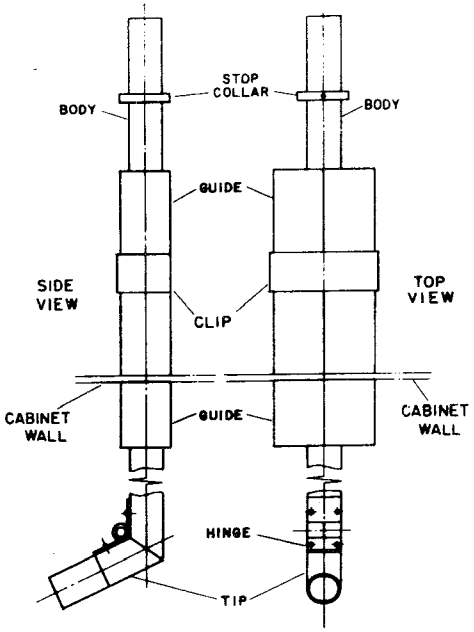
ORIGINAL DATE OF DRAWING			
REVISIONS			
NO.	E.C.N	CHANGE	DATE
1		COLLAR DIM THCK. $\frac{1}{4}$ TO $\frac{3}{8}$	
2		HINGE DIM. (HOLE) $\frac{1}{8}$ TO $\frac{3}{16}$	
3		GUIDE CLIP - $\frac{1}{2}$ DIM. TO $\frac{3}{4}$	
4			



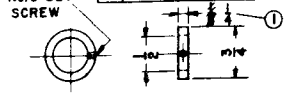
FLAME HEIGHT GUIDE
1 REQ. STEEL



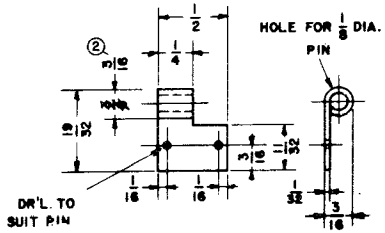
BURNER TIP
1-REQ. STEEL



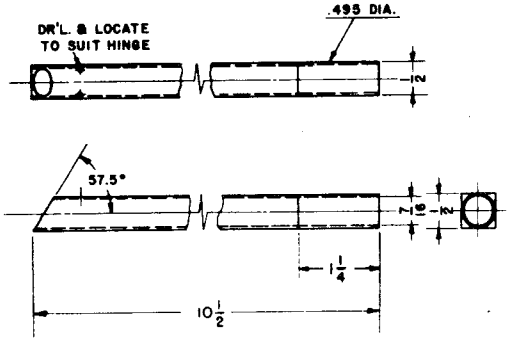
BURNER ASSEMBLY



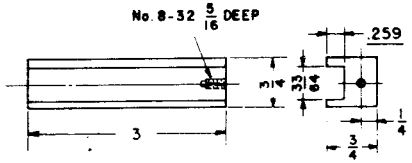
BURNER BODY STOP COLLAR
1 REQ. ALUM.



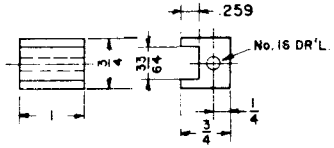
BURNER BODY HINGE
2 REQ. BRASS



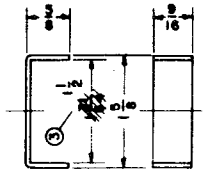
BURNER BODY
1 REQ. ALUM.



BURNER BODY GUIDE (I.S.)
2 REQ. ALUM.



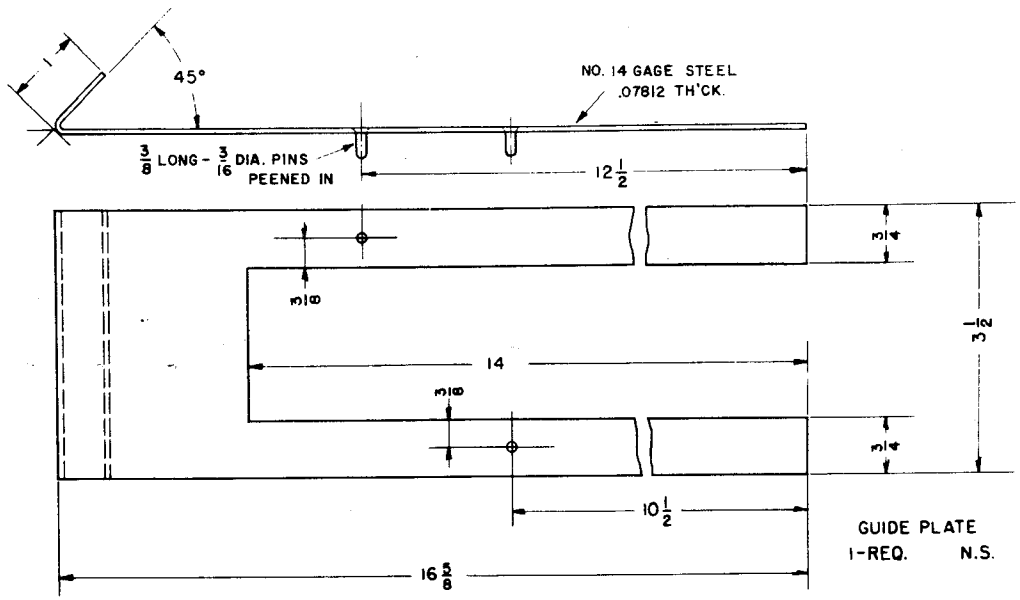
BURNER BODY GUIDE (O.S.)
2 REQ. ALUM.



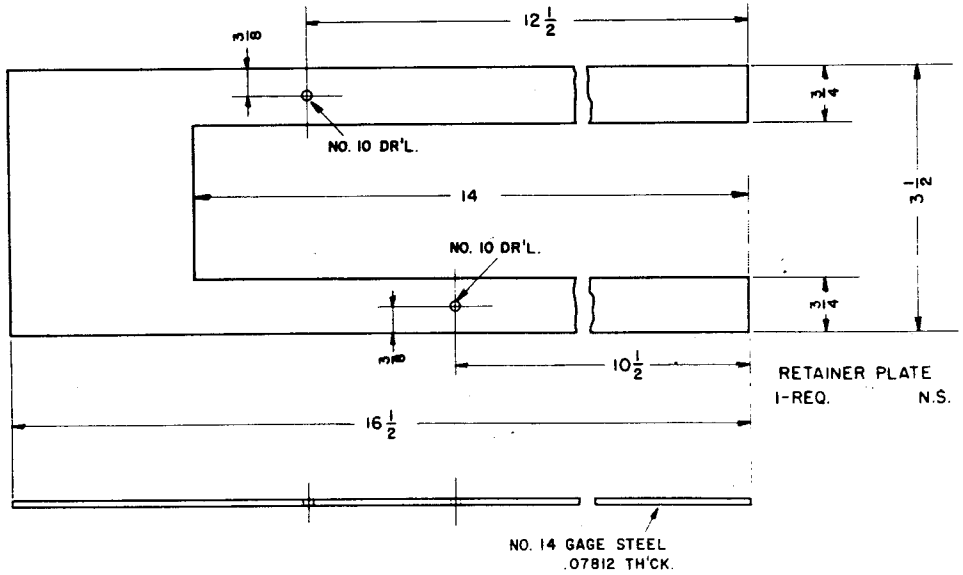
GUIDE CLIP
1 REQ ALUM.

PIECE NO.	NOMENCLATURE	NO. REQ'D
	NATIONAL BUREAU OF STANDARDS WASHINGTON, D.C. 20234	
	VERTICAL FLAMMABILITY TESTER DETAILS	
FOR	OFFICE OF FLAMMABLE FABRICS	
MAT'L - STEEL - ALUM. - B	THCK. - VAR.	SCALE VAR.
DIMENSIONS IN INCHES	DRAFTSMAN E.C. WATTS	
TOLERANCES	PROJECT ENG'R	
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 1/2°	SUBMITTED BY CHIEF, SEC	
DO NOT SCALE PRINT	EXAMINED BY	
DIV SEC 4 03 5	THIS DR'WG ISSUED	APPROVED BY DR'WG. No. 6

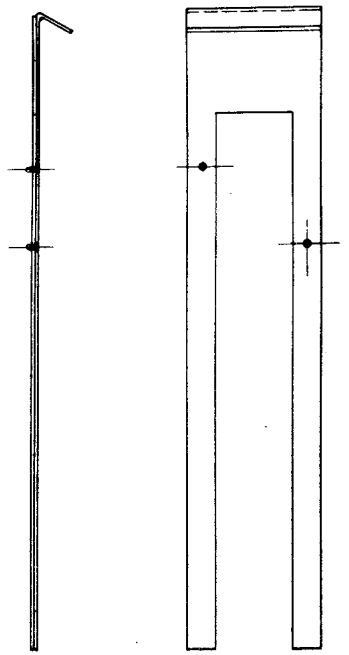
USCOMM-NBS-DC



GUIDE PLATE
1-REQ. N.S.



RETAINER PLATE
1-REQ. N.S.



ASSEMBLY

PIECE NO	NOMENCLATURE	NO REQ'D
	NATIONAL BUREAU OF STANDARDS WASHINGTON, D. C. 20234	
	VERTICAL FLAMMABILITY TESTER SPECIMEN HOLDER - DETAILS	
	FOR OFFICE OF FLAMMABLE FABRICS	
MAT'L.- STEEL		SCALE VAR
DIMENSIONS IN INCHES TOLERANCES DECIMALS ± .005 FRACTIONS ± .015 ANGLES ± 1/2° DO NOT SCALE PRINT	DRAFTSMAN E.C. WATTS PROJECT ENGR SUBMITTED BY CHIEF, SEC EXAMINED BY APPROVED BY CHIEF, DIV	
DIV. SEC. 4 0 5	THIS DR'WG. REV.	DR'WG. No. 7