Commercial Standard 73-51

SUPERSEDES CS73-48

Old Growth Douglas Fir, Sitka Spruce, and Western Hemlock Standard Stock Doors

A RECORDED VOLUNTARY STANDARD OF THE TRADE

COMMODITY STANDARDS

Simplified Practice Recommendations and Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Industry and Commerce, Bureau of Foreign and Domestic Commerce, and with the National Bureau of Standards.

The purpose of Simplified Practice Recommendations is to eliminate avoidable waste through the establishment of standards of practice for stock sizes and varieties of specific commodities that currently are in general production and demand. The purpose of Commercial Standards is to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition.

The adoption and use of a Simplified Practice Recommendation or a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

A Simplified Practice Recommendation or a Commercial Standard originates with the proponent industry. The sponsors may be manufacturers, distributors or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The Division, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Division assures continuous servicing of each effective Simplified Practice Recommendation and Commercial Standard, through review and revision, whenever, in the opinion of the industry, changing conditions warrant such action. Simplified Practice Recommendations and Commercial Standards are printed and made available by the Department of Commerce through the Government Printing Office and the Department of Commerce field offices.

UNITED STATES DEPARTMENT OF COMMERCE
Charles Sawyer, Secretary

U. S. DEPARTMENT OF COMMERCE
CHARLES SAWYER, Secretary

BUREAU OF FOREIGN AND DOMESTIC COMMERCE

Office of Industry and Commerce
H. B. McCOY, Director

IN COOPERATION WITH

NATIONAL BUREAU OF STANDARDS

A. V. ASTIN, ACTING DIRECTOR

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington 25, D. C. - Price 15 cents

Old Growth Douglas Fir, Sitka Spruce, and Western Hemlock Standard Stock Doors [1]

(Fifth Edition)

[Effective August 1, 1951]

PURPOSE

1. This standard is a basis for common understanding between manufacturers, distributors, and users of Douglas fir, Sitka spruce, and western hemlock stock doors. By its general acceptance, use, and certification by labels it is hoped to increase interest in the manufacture, sale, and use of Douglas fir, Sitka spruce, and western hemlock doors manufactured to standard grades, to the mutual advantage of all concerned.

2. In the development of these standards there is no desire to suppress architectural expression, and custom-made doors will still be available from the usual sources. However, the establishment of construction standards, together with universally accepted sizes and layouts, should prove highly advantageous by eliminating the causes of many misunderstandings occurring through the lack of standards, and produce economies in manufacture and sale which should be shared by the ultimate home owner.

SCOPE

3. This standard provides minimum specifications for five grades of Douglas fir, Sitka spruce, and western hemlock stock doors in four thicknesses, ¾, 1⅛, 1⅜, and 1¾ inches. It covers construction, defects, and the grading tolerances for these requirements. Standard stock layouts and designs are covered in door sizes ranging as follows, and in accordance with detailed schedules of the Douglas fir, Sitka spruce, and western hemlock stock door list beginning on page 9:

House doors	2′0″ x 6′0″ to 3′0″ x 7′0″
Side lights	10″ x 6′8″ to 1′6″ x 7′0″
Cupboard doors	1′0″ x 1′6″ to 2′0″ x 6′0″
Garage doors	2′0″ x 7′0″ to 4′0″ x 8′0″

[1] "Old growth Douglas fir" is a term generally applied to distinguish the wood developed in the later stages of the tree's growth. It is generally free from knots; is of medium density with fairly close, uniformly spaced growth rings; and usually has a uniform, light yellowish or pinkish color. The wood is moderately hard; is resilient, tough, durable, and practically impervious to water; holds nails firmly; and takes stain and paint well. The resin in the wood makes it durable. Because of the very small amount of sapwood on a Douglas fir log, it is easy to obtain lumber free from sapwood. This small portion of sapwood is a reason too for the durability of Douglas fir, for heartwood is more durable than sapwood.

Sitka spruce, renowned since World War I as airplane spruce, is distinguished for its toughness yet easy workability and its clear, straight-grained character. It has only very moderate shrinkage or swelling tendencies even under adverse climatic conditions, rating high among millwork species.

Western hemlock is closely associated with Douglas fir in the northwest forests, and is distinct from eastern hemlock. The wood from western hemlock is moderately soft, straight-grained, nonresinous and uniform in texture and is often mixed with Douglas fir in certain standard lumber grades. Western hemlock has found wide use in construction for siding, ceiling, flooring, and finish, as well as in dimension.

A list of the standard door sizes in the above ranges is given in table 1, page 8.

GENERAL REQUIREMENTS

4. All commercial standard Douglas fir, Sitka spruce, and western hemlock doors shall meet the following general requirements:

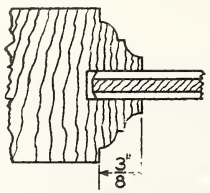
5. *Material.*—Doors shall be made of kiln-dried, old growth Douglas fir, Sitka spruce, or western hemlock.

6. *Workmanship.*—Doors shall be well manufactured and machined, and both faces shall have flat surfaces; that is, with stiles, rails, and panels smoothly sanded.

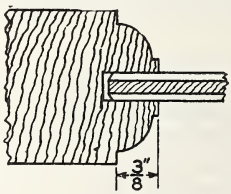
7. *Construction.*—Doors shall be assembled by what is known as doweled construction; that is, stiles and rails shall be bored to receive fir dowels not less than ⅜ inch in diameter by 5 inches long for doors ¾ inch thick, and not less than ⅝ inch in diameter by 5 inches long for doors 1⅛, 1⅜, and 1¾ inches thick. The dowels shall have glue grooves. Dowels shall be set in glue, and extend approximately one-half of their length into each stile and rail, and be assembled under pressure. Because all present standard door-boring machines are built for 2¼-inch dowel centers, the required number of dowels used in joining rails to stiles are limited according to the width of the rails, and shall be based on a minimum number of dowels at each end of rails as follows:

Rails under 4½ in. wide	1 dowel.
Rails 4½ in. to 7 in. wide	2 dowels.
Rails over 7 in. wide	3 dowels.

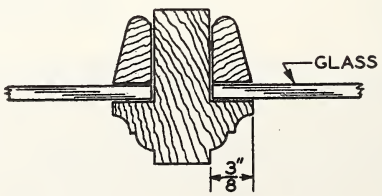
8. *Sticking.*—Three-eighths-inch "bead and cove" or "ovolo" sticking shall be standard on all standard doors. "Bead and cove" sticking will be furnished, unless otherwise specified. (See fig. 1.) Defective sticking which may develop in machining must be carefully repaired or neatly replaced.



BEAD & COVE STICKING



OVOLO STICKING



STANDARD PATTERN GLASS BEAD

FIGURE 1. *Sticking.*

9. *Thicknesses.*—Doors shall be in the following thicknesses, and a thickness tolerance of minus 1/16 inch shall be allowed:

House doors	1⅛″, 1⅜″, and 1¾″
Side lights	1⅜″ and 1¾″
Cupboard doors	¾″ and 1⅛″
Garage doors	1⅜″ and 1¾″

10. *Prefitting.*—Standard house doors may be prefitted at the factory. A tolerance of 1/32 inch, plus or minus, is permissible. Prefit machining shall be smoothly sawn and cut square. Scuff strips shall be securely attached to the bottom of each stile for protection in handling.

11. *Machining for hardware,* when desired, is to be as specified by the buyer.

12. *Resin-sealer prime coat.*—When requested, a resin-sealer prime coat shall be uniformly applied to ends, edges, and faces of all doors. It shall not leave a sticky film or residue, shall be free from objectionable odors, and shall not unduly affect the appearance of the door. The treatment shall in no way adversely affect the paintability as to drying time, sheen, or adhesion of finish.

13. All garage doors shall have their panels made of "exterior-type" plywood.

INSPECTION AND LABELING

14. All doors guaranteed to conform to the grading rules of this commercial standard shall be grade-marked by stamp, brand, or label. All complaints involving the quality of any shipment must be made within 5 days from receipt thereof.

DETAIL REQUIREMENTS

15. Standard stock layouts and designs to which the design numbers given herein refer are to be found in the Douglas fir, Sitka spruce, and western hemlock stock door list beginning on page 9.

16. It is impossible to maintain absolutely arbitrary rules fixing grades, and slight variations within reason and governed by practical common sense may be expected. A shipment of any grade must represent a fair average of that grade.

17. Doors shall be graded on both sides or faces in accordance with the standard grades. Grades *A*, *B*, *BP*, and *C*, covering standard house doors, will be furnished in 1⅜- and 1¾-inch thicknesses only. Standard side lights and doors of special layout or design will be furnished in grade *A* only. Cupboard doors will be furnished in *B* and better grade only. House doors 1⅛ inches thick will be furnished in *Millrun* grade only.

HOUSE DOORS

Grade A.—Recommended for Stain, Paint, or Enamel Finish—Factory Resin Sealing Optional

18. *Stiles, rails, and mullions.*—This stock shall be heartwood, all vertical-grain old growth Douglas fir, Sitka spruce, or western hemlock, the faces of which must be clear, with the exception that small, inconspicuous, and neatly repaired pitch seams are permissible. Characteristic sound dark streaks are permitted in hemlock. Glued-up rails are permissible in widths over 4½ inches. A moisture-resistant glue shall be used. Mixing of woods is not permitted.

19. *Panels, flat-veneered.*—The standard thickness of 3-ply flat-veneered panels shall be ¼ inch after sanding. Each face shall be of a yellowish or pinkish color or a blend of the two, and of smoothly cut veneer, free from knots, splits, pitch pockets, and other open defects. Small streaks and spots of other colors are permissible. Shims that occur only at the ends of panels and inconspicuous well-matched patches shall be admitted.

20. *Panels, solid, raised.*—The standard thickness of solid raised panels shall be not more than 5/16 inch before sanding and not less than 7/16 inch after sanding. They shall be either all vertical or all slash grain in any one door, and shall conform to the grade of the stiles and rails.

Grade B.—Recommended for Paint or Enamel Finish—Factory Resin Sealing Optional

21. *Stiles, rails, and mullions.*—This stock shall be of vertical grain faces with some coarse grain permitted. It shall be sound in all respects, and may contain sap, light stains, streaks, burls, and neatly repaired pitch seams. Glued-up members are permissible. A moisture-resistant glue shall be used. Mixing of woods is permissible provided both stiles are of a single species.

22. *Panels, flat-veneered.*—The standard thickness of 3-ply flat-veneered panels shall be ¼ inch after sanding. Each face shall be of one or more pieces of firm, smoothly cut veneer. When of more than one piece, it shall be well joined and reasonably matched for grain and color at the joints. It shall be free from knots, splits, checks, pitch pockets, and other open defects. Streaks, discolorations, sapwood, shims, and neatly made patches shall be admitted.

23. *Panels, raised.*—The standard thickness of raised panels shall be not more than 5/16 inch before sanding and not less than 7/16 inch after sanding. They may be either slash or mixed grain, or mixed woods, and shall conform to the grade of the stiles and rails.

Grade BP.—Recommended for Paint Finish—Factory Resin Sealing Optional

24. This grade shall meet the requirements as specified in paragraphs 21, 22, and 23 for grade *B*, except that each stile may be spliced for length by not more than one finger joint at least 1⅝ inches long. A moisture-resistant glue shall be used.

Grade C.—Recommended for Paint Finish Only—Factory Resin Sealing Optional

25. This grade is a factory accumulation and is manufactured and sold only in the standard designs.

26. *Stiles, rails, and mullions.*—This stock may be of mixed grain and mixed woods and may contain any amount of discolored sap or heartwood, burls, solid pitch, streaks, and any number of repaired pitch seams, or other sound defects not otherwise permitted in the higher grades, providing it presents a solid surface. Glued-up members are permissible. A moisture-resistant glue shall be used.

27. *Panels, flat-veneered.*—The standard thickness of 3-ply flat-veneered panels shall be ¼ inch after sanding. Each face shall present

a smooth surface suitable for painting. Discoloration, unmatched patches, shims, and pieced faces are admissible.

28. *Panels, raised.*—The standard thickness of raised panels shall be not more than 9/16 inch before sanding and not less than 7/16 inch after sanding. They shall conform to the grade of the stiles and rails.

Millrun (MR) Grade.—Factory Resin Sealing Optional

29. *Stiles, rails, and mullions.*—This grade shall be manufactured and sold in 1⅛-inch thickness only, developed and accumulated by planing down stock too thin for 1⅜-inch thickness; consequently it will include an undetermined amount of all or any of the other grades.

30. *Panels, flat-veneered.*—The standard thickness of 3-ply flat-veneered panels shall be ¼ inch after sanding. They shall conform to the grades applying to grade *B*, grade *BP*, and/or grade *C* doors.

31. *Panels, raised.*—The standard thickness of raised panels shall be not more than 9/16 inch before sanding, and not less than 7/16 inch after sanding. They shall conform to the grades applying to grade *B*, grade *BP*, and/or grade *C* doors.

GARAGE DOORS

Factory Resin Sealing Optional

32. Garage doors are manufactured primarily for paint finish in one quality only, which is described below.

33. *Stiles, rails, and mullions.*—This stock shall be substantially all vertical grain, with accumulations of coarse or mixed grain or mixed woods permitted. It shall be sound in all respects, and may contain sap, stain, burls, pitch streaks, and neatly repaired pitch seams. Glued-up members are permissible. A moisture-resistant glue shall be used.

34. *Panels, flat-veneered.*—The standard thickness of 3-ply flat-veneered panels shall be ¼ inch after sanding. They shall be of door panel grade *B*, as described under paragraph 22.

35. *Panels, solid, raised.*—The standard thickness of solid raised panels shall be not more than 9/16 inch before sanding and not less than 7/16 inch after sanding. They may be vertical, slash, or mixed grain, at the option of the manufacturer, and shall conform to the grade of the stiles and rails.

36. *Batten garage doors* (*designs F190 and F290*).—The stiles and battens shall have all vertical grain faces, which shall be clear, except that neatly repaired pitch seams, not to exceed 4 inches in length, and at a minimum distance of 2 feet apart either way, will be admitted on each face of the door.

DESIGNS AND LAYOUTS

37. House doors of any design narrower than 2 feet will be furnished with stiles 3 3/16 inches over-all width, unless otherwise specified.

38. Measurements for stiles, rails, and mullions shown in the layouts are over-all, including sticking. Glass measurements shown may vary slightly.

39. When specified, doors may be furnished with stiles of $3\frac{3}{16}$ inches over-all, including sticking, these doors to conform to the grading specifications outlined for grades *A*, *B*, *BP*, *C*, and *Millrun* (*MR*).

40. Vertical-grain veneered stiles are recommended for all interior doors. These stiles may be furnished in Douglas fir, Sitka spruce, and western hemlock. The faces and edge strips shall be of the same species and shall conform in all ways with the regular grades of solid stiles. A 10-cycle, moisture-resistant glue shall be used in their manufacture.

TABLE 1. *Standard sizes*

HOUSE DOORS		SIDE LIGHTS		
2′ 0″ x 6′ 0″	2′ 0″ x 6′ 8″	10″ x 6′ 8″	10″ x 6′ 10″	10″ x 7′ 0″
2′ 4″	2′ 4″	1′ 0″	1′ 0″	1′ 0″
2′ 6″	2′ 6″	1′ 2″	1′ 2″	1′ 2″
2′ 8″	2′ 8″	1′ 4″	1′ 4″	1′ 4″
3′ 0″	3′ 0″	1′ 6″	1′ 6″	1′ 6″
2′ 0″ x 6′ 6″	[a] 2′ 0″ x 7′ 0″	GARAGE DOORS		
2′ 4″	[a] 2′ 4″			
2′ 6″	[a] 2′ 6″			
2′ 8″	[a] 2′ 8″	2′ 0″ x 7′ 0″	2′ 0″ x 7′ 6″	2′ 0″ x 8′ 0″
3′ 0″	[a] 3′ 0″	2′ 4″	2′ 4″	2′ 4″
		2′ 6″	2′ 6″	2′ 6″
[a] $1\frac{3}{4}$-inch thickness only.		2′ 8″	2′ 8″	2′ 8″
		3′ 0″	3′ 0″	3′ 0″
		3′ 6″	3′ 6″	3′ 6″
		3′ 9″	3′ 9″	3′ 9″
		4′ 0″	4′ 0″	4′ 0″

CUPBOARD DOORS				
1′ 0″ x 1′ 6″	1′ 0″ x 2′ 6″	1′ 0″ x 3′ 6″	1′ 0″ x 4′ 6″	1′ 0″ x 5′ 6″
1′ 2″	1′ 2″	1′ 2″	1′ 2″	1′ 2″
1′ 4″	1′ 4″	1′ 4″	1′ 4″	1′ 4″
1′ 6″	1′ 6″	1′ 6″	1′ 6″	1′ 6″
1′ 8″	1′ 8″	1′ 8″	1′ 8″	1′ 8″
1′ 10″	1′ 10″	1′ 10″	1′ 10″	1′ 10″
2′ 0″	2′ 0″	2′ 0″	2′ 0″	2′ 0″
1′ 0″ x 2′ 0″	1′ 0″ x 3′ 0″	1′ 0″ x 4′ 0″	1′ 0″ x 5′ 0″	1′ 0″ x 6′ 0″
1′ 2″	1′ 2″	1′ 2″	1′ 2″	1′ 2″
1′ 4″	1′ 4″	1′ 4″	1′ 4″	1′ 4″
1′ 6″	1′ 6″	1′ 6″	1′ 6″	1′ 6″
1′ 8″	1′ 8″	1′ 8″	1′ 8″	1′ 8″
1′ 10″	1′ 10″	1′ 10″	1′ 10″	1′ 10″
2′ 0″	2′ 0″	2′ 0″	2′ 0″	2′ 0″

DOUGLAS FIR, SITKA SPRUCE, AND WESTERN HEMLOCK STOCK DOOR LIST

41. The stock layouts and designs for old growth Douglas fir, Sitka spruce, and western hemlock doors are illustrated beginning on page 12.

42. An index immediately follows showing the various use classifications, and giving the identifying stock number, a brief description of the panel arrangement, and the pages on which the illustrations and dimensions appear.

43. A second index (see p. 10) shows the stock numbers in numerical sequence.

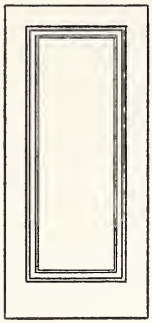
"USE" CLASSIFICATION INDEX

"USE" CLASSIFICATION INDEX—Continued

STOCK NUMBER INDEX

STOCK NUMBER INDEX—Continued

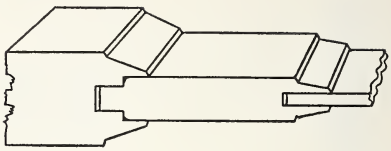
F 2



Stiles and top rail	4 9/16″
Bottom rail	9 3/8″
Insert frame	2 9/16″

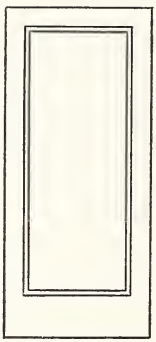
3-ply laminated flat panel. Furnished in grades *A*, *B*, and *BP* only.

F 2



Flat insert frame. Sticking: P & G.

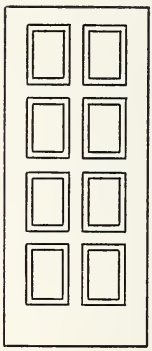
F 20
F 21
F 22



	F20	F21	F22
Stiles	4 9/16″	4 9/16″	5 3/8″
Top rail	4 9/16″	5 3/8″	5 3/8″
Bottom rail	9 3/8″	11 3/8″	11 3/8″

3-ply laminated flat panel. Furnished in grades *A* and *B* only. Sticking: Standard.

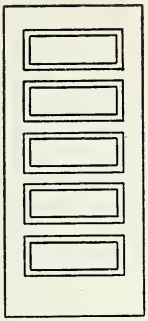
F 88



Stiles and top rail	4 9/16″
Intermediate rails and muntins	3 3/8″
Bottom rail	9 3/8″

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

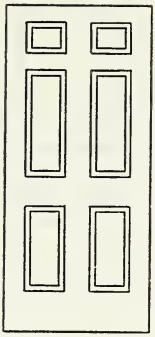
F5



Stiles and top rail	4 9/16"
Intermediate rails	4 1/2"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

F66

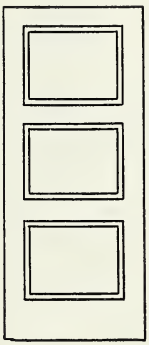


Stiles and top rail	4 9/16"
Lock rail	7 3/8"
Intermediate rail and muntins	4 1/2"
Muntins on 3'0" door	5 3/8"
Bottom rail	9 3/8"
Height from floor to top of lock rail	36 1/2"
Height from top of intermediate rail to top of door	12 5/16"

Height of center panels varies with height of door.

Doors 1' 8" and narrower made one panel wide. 3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

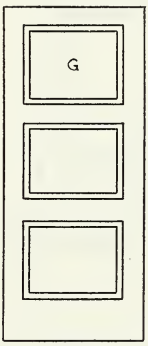
F3
F3W



	F3	F3W
Stiles	4 9/16"	4 9/16"
Top rail	4 9/16"	4 9/16"
Intermediate rails	2 1/4"	4 1/2"
Bottom rail	9 3/8"	9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, *BP*, *C*, and 1 1/8" *Millrun*. Sticking: Standard.

F13
F13W



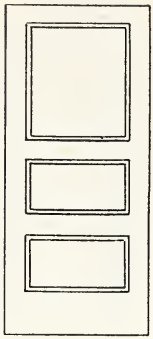
	F13	F13W
Stiles	4 9/16"	4 9/16"
Top rail	4 9/16"	4 9/16"
Intermediate rails	2 1/4"	4 1/2"
Bottom rail	9 3/8"	9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, *BP*, *C*, and 1 1/8" *Millrun*. Sticking: Standard.

Size of door	Size of glass F13	Size of glass F13W
2'6" x 6'6"	21 5/8" x 20 5/8"	21 5/8" x 19"
2'8" x 6'8"	23 5/8" x 21 5/16"	23 5/8" x 19 11/16"
3'0" x 7'0"	27 5/8" x 22 1/16"	27 5/8" x 21"

Beads for glass included.

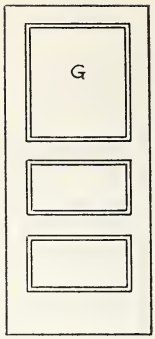
F 30



Stiles and top rail ..... 4 9/16"
Intermediate rails ..... 4 1/2"
Bottom rail ..... 9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

F 130

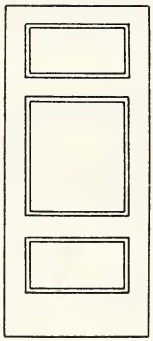


Stiles and top rail ..... 4 9/16"
Intermediate rails ..... 4 1/2"
Bottom rail ..... 9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2'6" x 6'8"	21 5/8" x 26"

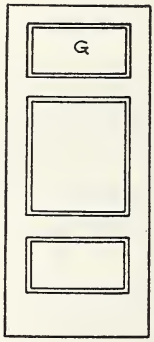
F 31



Stiles and top rail ..... 4 9/16"
Intermediate rails ..... 4 1/2"
Bottom rail ..... 9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

F 131

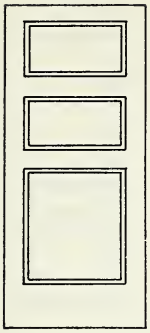


Stiles and top rail ..... 4 9/16"
Intermediate rails ..... 4 1/2"
Bottom rail ..... 9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2'6" x 6'8"	21 5/8" x 16 9/16"

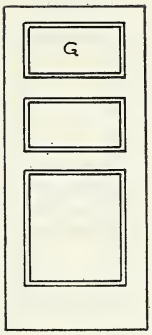
F 32



Stiles and top rail	4 9/16"
Intermediate rails	4 1/2"
Bottom rail	9 3/8"

3-ply laminated flat panels. Furnished in grades *A, B, BP,* and *C.* Sticking: Standard.

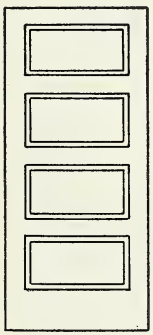
F 132



Stiles and top rail	4 9/16"
Intermediate rails	4 1/2"
Bottom rail	9 3/8"

3-ply laminated flat panels. Furnished in grades *A, B, BP,* and C. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 8"	21 5/8" x 16 9/16"

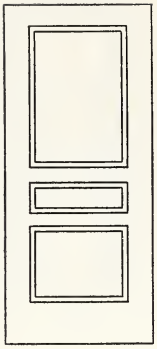


F 4
F 4 W

	F4	F4W
Stiles	4 9/16"	4 9/16"
Top rail	4 9/16"	4 9/16"
Intermediate rails	2 1/4"	3 3/8"
Bottom rail	9 3/8"	9 3/8"

3-ply laminated flat panels. Furnished in grades *A, B, BP,* and *C.* Sticking: Standard.

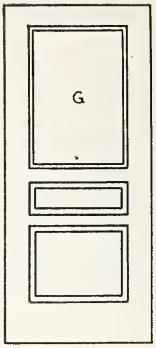
F 33



Stiles and top rail	4 9/16"
Intermediate rails	4 1/2"
Bottom rail	9 3/8"
Height from floor to top of upper cross rail	42 1/4"

3-ply laminated flat panels. Furnished in grades *A, B, BP, C,* and 1 1/8" *Millrun.* Sticking: Standard.

F 133



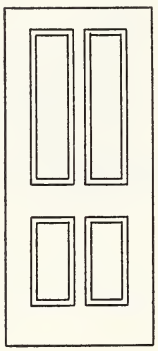
Stiles and top rail	4 9/16"
Intermediate rails	4 1/2"
Bottom rail	9 3/8"

3-ply laminated flat panels. Furnished in grades *A, B, BP, C,* and 1 1/8" *Millrun.* Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 32"
2' 8" x 6' 8"	23 5/8" x 34"
3' 0" x 7' 0"	27 5/8" x 38"

Beads for glass included.

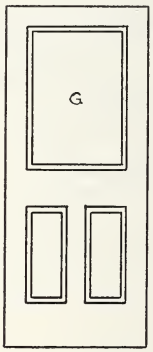
F 44



Stiles and top rail	4 9/16"
Lock rail	7 3/8"
Muntins	4 1/2"
Muntins on 3' 0" door	5 3/8"
Bottom rail	9 3/8"
Height from floor to top of lock rail	36 1/2"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A, B,* and *BP* only. Sticking: Standard.

F 144



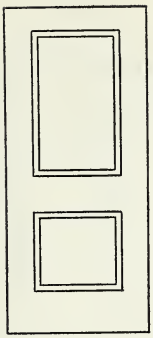
Stiles and top rail	4 9/16"
Lock rail	7 3/8"
Muntins	4 1/2"
Muntins on 3' 0" door	5 3/8"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A, B,* and *BP* only. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 38"
2' 8" x 6' 8"	23 5/8" x 40"
3' 0" x 7' 0"	27 5/8" x 44"

Beads for glass included.

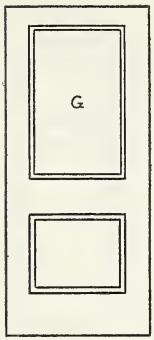
F 82



Stiles and top rail	4 9/16"
Lock rail	7 3/8"
Bottom rail	9 3/8"
Height to top of lock rail	36 1/2"

3-ply laminated flat panels. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

F 182



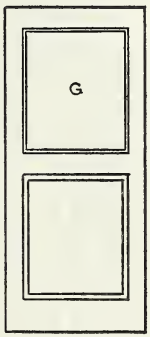
Stiles and top rail	4 9/16"
Lock rail	7 3/8"
Bottom rail	9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 38"
2' 8" x 6' 8"	23 5/8" x 40"
3' 0" x 7' 0"	27 5/8" x 44"

Beads for glass included.

F 108
F 109



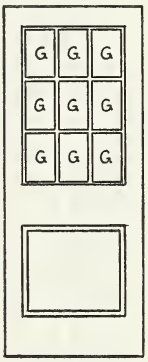
	F108	F109
Stiles	4 9/16"	5 3/8"
Top rail	4 9/16"	5 3/8"
Lock rail	4 1/2"	5 3/8"
Bottom rail	9 3/8"	9 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass F108	Size of glass F109
2' 6" x 6' 6"	21 5/8" x 26"	20" x 26"
2' 8" x 6' 8"	23 5/8" x 28"	22" x 28"
3' 0" x 7' 0"	27 5/8" x 32"	26" x 32"

Beads for glass included.

F 982



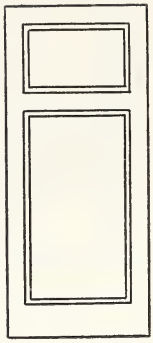
Stiles and top rail	4 9/16"
Lock rail	7 3/8"
Bottom rail	9 3/8"

Bars 1/2" between glass. 3-ply laminated flat panel. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	6 7/8" x 12 5/16"
2' 8" x 6' 8"	7 1/2" x 13"
3' 0" x 7' 0"	8 7/8" x 14 5/16"

Beads for glass included.

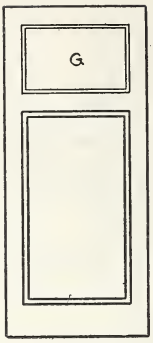
F28
F29



	F28	F29
Stiles and top rail	4 9/16"	5 3/8"
Lock rail	4 1/2"	5 3/8"
Bottom rail	9 3/8"	11 3/8"
Height from top of lock rail to top of door	22"	22 3/4"

3-ply laminated flat panels. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

F128
F129



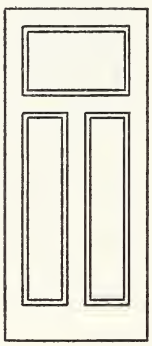
	F128	F129
Stiles and top rail	4 9/16"	5 3/8"
Lock rail	4 1/2"	5 3/8"
Bottom rail	9 3/8"	11 3/8"

3-ply laminated flat panels. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass F128	Size of glass F129
2'6" x 6'6"	21 5/8" x 18"	20" x 18"
2'8" x 6'8"	23 5/8" x 18"	22" x 18"
3' 0" x 7' 0"	27 5/8" x 18"	26" x 18"

Beads for glass included.

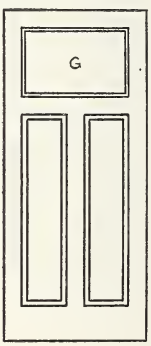
F62



Stiles and top rail	4 9/16"
Lock rail and muntin	4 1/2"
Muntin on 3' 0" door	5 3/8"
Bottom rail	9 3/8"
Height from top of lock rail to top of door	22"

3-ply laminated flat panels. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

F162

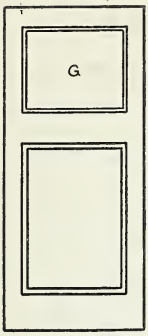


Stiles and top rail	4 9/16"
Lock rail and muntin	4 1/2"
Muntin on 3' 0" door	5 3/8"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 18"
2' 8" x 6' 8"	23 5/8" x 18"
3' 0" x 7' 0"	27 5/8" x 18"

Beads for glass included.



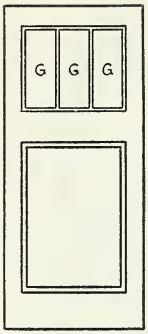
F110
F111

	F110	F111
Stiles	4 9/16"	5 3/8"
Top rail	4 9/16"	5 3/8"
Lock rail	7 3/8"	7 3/8"
Bottom rail	9 3/8"	9 3/8"

3-ply laminated flat panel. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass F110	Size of glass F111
2' 6" x 6' 6"	21 5/16" x 22"	20" x 22"
2' 8" x 6' 8"	23 5/16" x 22"	22" x 22"
3' 0" x 7' 0"	27 5/8" x 22"	26" x 22"

Beads for glass included.



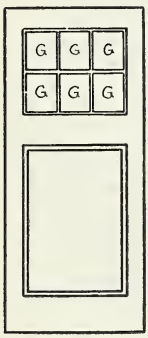
F 310
F 311

	F310	F311
Stiles	4 9/16"	5 3/8"
Top rail	4 9/16"	5 3/8"
Lock rail	7 3/8"	7 3/8"
Bottom rail	9 3/8"	9 3/8"

Bars ½" between glass. 3-ply laminated flat panel. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass F310	Size of glass F311
2' 6" x 6' 6"	6 7/8" x 22"	6 5/16" x 22"
2' 8" x 6' 8"	7 1/2" x 22"	6 15/16" x 22"
3' 0" x 7' 0"	8 7/8" x 22"	8 1/4" x 22"

Beads for glass included.



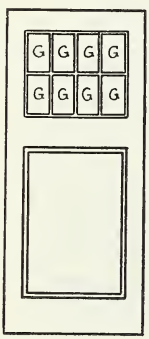
F610
F611

	F610	F611
Stiles	4 9/16"	5 3/8"
Top rail	4 9/16"	5 3/8"
Lock rail	7 3/8"	7 3/8"
Bottom rail	9 3/8"	9 3/8"

Bars ½" between glass. 3-ply laminated flat panel. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard

Size of door	Size of glass F610	Size of glass F611
2' 6" x 6' 6"	6 7/8" x 10 3/4"	6 5/16" x 10 3/4"
2' 8" x 6' 8"	7 1/2" x 10 3/4"	6 15/16" x 10 3/4"
3' 0" x 7' 0"	8 7/8" x 10 3/4"	8 1/4" x 10 3/4"

Beads for glass included.



F810
F811

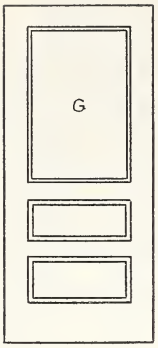
	F810	F811
Stiles	4 9/16"	5 3/8"
Top rail	4 9/16"	5 3/8"
Lock rail	7 3/8"	7 3/8"
Bottom rail	9 3/8"	9 3/8"

Bars ½" between glass. 3-ply laminated flat panel. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass F810	Size of glass F811
2' 6" x 6' 6"	5" x 10 3/4"	4 5/8" x 10 3/4"
2' 8" x 6' 8"	5 1/2" x 10 3/4"	5 1/8" x 10 3/4"
3' 0" x 7' 0"	6 1/2" x 10 3/4"	6 1/8" x 10 3/4"

Beads for glass included.

F 114



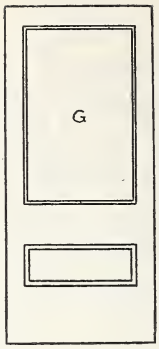
Stiles and top rail	4 9/16"
Intermediate rail	4 1/2"
Lock rail	4 1/2"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 36"
2' 8" x 6' 8"	23 5/8" x 38"
3' 0" x 7' 0"	27 5/8" x 42"

Beads for glass included.

F 147



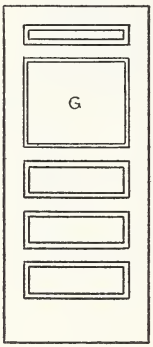
Stiles and top rail	5 3/8"
Lock rail	9 3/8"
Bottom rail	11 3/8"

3-ply laminated flat panel. Can also be furnished with raised panel, if desired. Furnished in grades *A*, *B*, and *BP* only. Sticking: Standard.

Size of door	Size of glass
2' 8" x 6' 8"	22" x 46"
3' 0" x 7' 0"	26" x 50"

Beads for glass included.

F 117



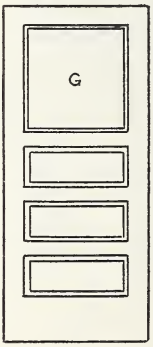
Stiles	4 9/16"
Top rail	4 9/16"
Lock rail	4 1/2"
Intermediate rails	3 3/8"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 24"
2' 8" x 6' 8"	23 5/8" x 26"
3' 0" x 7' 0"	27 5/8" x 30"

Beads for glass included.

F 214



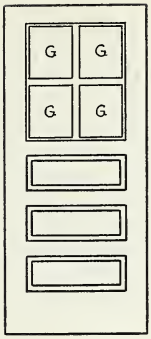
Stiles and top rail	4 9/16"
Lock and intermediate rails	4 1/2"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2' 6" x 6' 6"	21 5/8" x 24"
2' 8" x 6' 8"	23 5/8" x 26"
3' 0" x 7' 0"	27 5/8" x 30"

Beads for glass included.

F416



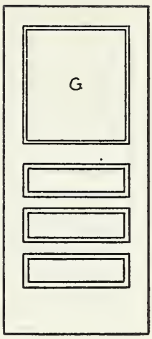
Stiles and top rail	4 9/16"
Lock rail	4 1/2"
Intermediate rails	4 1/2"
Bottom rail	9 3/8"

Bars ½" between glass. 3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2′ 6″ x 6′ 6″	10 5/8" x 15"
2′ 8″ x 6′ 8″	11 5/8" x 16"
3′ 0″ x 7′ 0″	13 5/8" x 18"

Beads for glass included.

F118



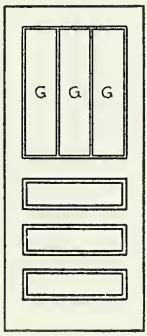
Stiles	4 9/16"
Top rail	4 9/16"
Lock rail	5 3/8"
Intermediate rails	3 3/8"
Bottom rail	9 3/8"

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2′ 6″ x 6′ 6″	21 5/8" x 32"
2′ 8″ x 6′ 8″	23 5/8" x 34"
3′ 0″ x 7′ 0″	27 5/8" x 38"

Beads for glass included.

F 318



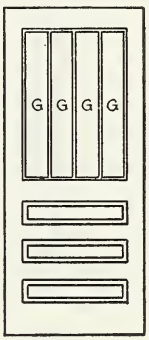
Stiles	4 9/16"
Top rail	4 9/16"
Lock rail	5 3/8"
Intermediate rails	3 3/8"
Bottom rail	9 3/8"

Bars ½" between glass. 3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2′ 6″ x 6′ 6″	6 7/8" x 32"
2′ 8″ x 6′ 8″	7 1/2" x 34"
3′ 0″ x 7′ 0″	8 7/8" x 38"

Beads for glass included.

F418



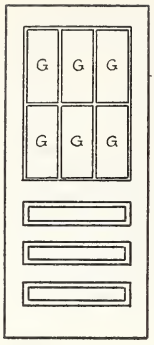
Stiles	4 9/16"
Top rail	4 9/16"
Lock rail	5 3/8"
Intermediate rails	3 3/8"
Bottom rail	9 3/8"

Bars ½" between glass. 3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2′ 6″ x 6′ 6″	5" x 32"
2′ 8″ x 6′ 8″	5 1/2" x 34"
3′ 0″ x 7′ 0″	6 1/2" x 38"

Beads for glass included.

F 618



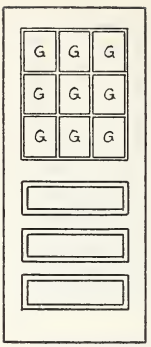
Stiles	4 9/16″
Top rail	4 9/16″
Lock rail	5 3/8″
Intermediate rails	3 3/8″
Bottom rail	9 3/8″

Bars ½″ between glass. 3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2′ 6″ x 6′ 6″	6 7/8″ x 15 3/4″
2′ 8″ x 6′ 8″	7 1/2″ x 16 3/4″
3′ 0″ x 7′ 0″	8 7/8″ x 18 3/4″

Beads for glass included.

F 918

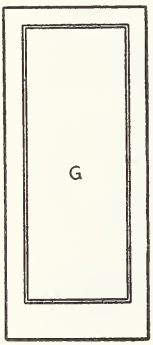


Stiles	4 9/16″
Top rail	4 9/16″
Lock rail	5 3/8″
Intermediate rails	3 3/8″
Bottom rail	9 3/8″

Bars ½″ between glass. 3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Furnished in grades *A*, *B*, *BP*, and *C*. Sticking: Standard.

Size of door	Size of glass
2′ 6″ x 6′ 6″	6 7/8″ x 10 5/16″
2′ 8″ x 6′ 8″	7 1/2″ x 11″
3′ 0″ x 7′ 0″	8 7/8″ x 12 5/16″

Beads for glass included.



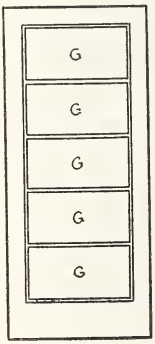
F 35
F 36
F 37

	F35	F36	F37
Stiles	4 9/16″	5 3/8″	5 3/8″
Top rail	4 9/16″	5 3/8″	6 3/8″
Bottom rail	9 3/8″	11 3/8″	18 3/8″

Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass		
	F35	F36	F37
2′ 6″ x 6′ 6″	21 5/8″ x 64 13/16″	20″ x 62″	20″ x 54″
2′ 8″ x 6′ 8″	23 5/8″ x 66 13/16″	22″ x 64″	22″ x 56″
3′ 0″ x 7′ 0″	27 5/8″ x 70 13/16″	26″ x 68″	26″ x 60″

Beads for glass included.



F 535
F 536
F 537

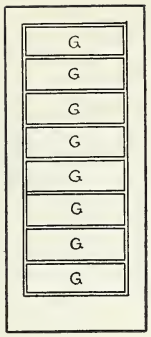
	F535	F536	F537
Stiles	4 9/16″	5 3/8″	5 3/8″
Top rail	4 9/16″	5 3/8″	6 3/8″
Bottom rail	9 3/8″	11 3/8″	18 3/8″

Bars ½″ between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass	
	F535	F536
2′ 6″ x 6′ 6″	21 5/8″ x 12 1/2″	20″ x 11 15/16″
2′ 8″ x 6′ 8″	23 5/8″ x 12 15/16″	22″ x 12 5/16″
3′ 0″ x 7′ 0″	27 5/8″ x 13 3/4″	26″ x 13 1/8″

Size of door	F537
2′ 6″ x 6′ 6″	20″ x 10 5/16″
2′ 8″ x 6′ 8″	22″ x 10 3/4″
3′ 0″ x 7′ 0″	26″ x 11 9/16″

Beads for glass included.



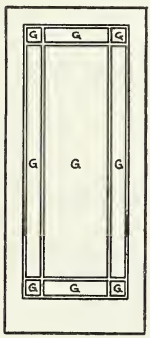
F835
F836
F837

	F835	F836	F837
Stiles	4 9/16"	5 3/8"	5 3/8"
Top rail	4 9/16"	5 3/8"	6 3/8"
Bottom rail	9 3/8"	11 3/8"	18 3/8"

Bars ½" between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass F835	Size of glass F836	Size of glass F837
2' 6" x 6' 6"	21 5/8" x 75/8"	20" x 7 1/4"	20" x 6 1/4"
2' 8" x 6' 8"	23 5/8" x 7 1/8"	22" x 7 1/2"	22" x 6 1/2"
3' 0" x 7' 0"	27 5/8" x 8 3/8"	26" x 8"	26" x 7"

Beads for glass included.



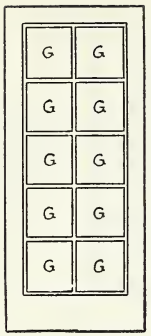
F935 M
F936 M
F937M

	F935M	F936M	F937M
Stiles	4 9/16"	5 3/8"	5 3/8"
Top rail	4 9/16"	5 3/8"	6 3/8"
Bottom rail	9 3/8"	11 3/8"	18 3/8"

Bars ½" between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass (in inches)		
	F935M		
2' 6" x 6' 6"	5 x 5	5 x 53¾	5 x 10½ 10½ x 53¾
2' 8" x 6' 8"	5 x 5	5 x 55¾	5 x 12½ 12½ x 55¾
3' 0" x 7' 0"	5 x 5	5 x 59¾	5 x 16½ 16½ x 59¾
	F936M		
2' 6" x 6' 6"	5 x 5	5 x 50 7/8	5 x 8 7/8 8 7/8 x 50 7/8
2' 8" x 6' 8"	5 x 5	5 x 52 7/8	5 x 10 7/8 10 7/8 x 52 7/8
3' 0" x 7' 0"	5 x 5	5 x 56 7/8	5 x 14 7/8 14 7/8 x 56 7/8
	F937M		
2' 6" x 6' 6"	5 x 5	5 x 42 7/8	5 x 8 7/8 8 7/8 x 42 7/8
2' 8" x 6' 8"	5 x 5	5 x 44 7/8	5 x 10 7/8 10 7/8 x 44 7/8
3' 0" x 7' 0"	5 x 5	5 x 48 7/8	5 x 14 7/8 14 7/8 x 48 7/8

Beads for glass included.



F1035
F1036
F1037

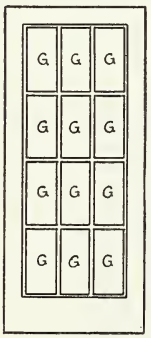
	F1035	F1036	F1037
Stiles	4 9/16"	5 3/8"	5 3/8"
Top rail	4 9/16"	5 3/8"	6 3/8"
Bottom rail	9 3/8"	11 3/8"	18 3/8"

Bars ½" between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass (in inches) F1035	F1036
2' 6" x 6' 6"	10½ x 12½	9 11/16 x 11 7/8
2' 8" x 6' 8"	11½ x 12 7/8	10 11/16 x 12 5/16
3' 0" x 7' 0"	13½ x 13¾	12 11/16 x 13 3/16

	F1037
2' 6" x 6' 6"	9 11/16 x 10 5/16
2' 8" x 6' 8"	10 11/16 x 10¾
3' 0" x 7'0"	12 11/16 x 11 9/16

Beads for glass included.



F1235
F1236
F1237

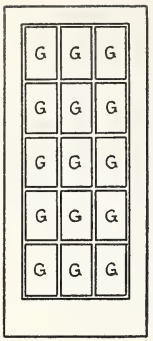
	F1235	F1236	F1237
Stiles	4 9/16"	5 3/8"	5 3/8"
Top rail	4 9/16"	5 3/8"	6 3/8"
Bottom rail	9 3/8"	11 3/8"	18 3/8"

Bars ½" between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass (in inches) F1235	F1236
2' 6" x 6' 6"	6 13/16 x 15 11/16	6 5/16 x 15 1/16
2' 8" x 6' 8"	7 1/16 x 16 1/4	6 15/16 x 15 9/16
3' 0" x 7' 0"	8 13/16 x 17 1/4	8 1/4 x 16 9/16

	F1237
2' 6" x 6' 6"	6 5/16 x 13 1/16
2' 8" x 6' 8"	6 15/16 x 13 9/16
3' 0" x 7' 0"	8 1/4 x 14 9/16

Beads for glass included.



F1535
F1536
F1537

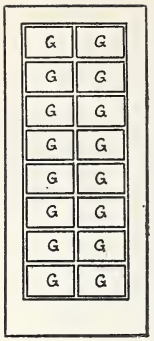
	F1535	F1536	F1537
Stiles	4 9/16"	5 3/8"	5 3/8"
Top rail	4 9/16"	5 3/8"	6 3/8"
Bottom rail	9 3/8"	11 3/8"	18 3/8"

Bars ½" between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass (in inches) F1535	F1536
2' 6" x 6' 6"	6 13/16 x 12½	6 5/16 x 11 7/8
2' 8" x 6' 8"	7 7/16 x 12 7/8	6 15/16 x 12 5/16
3' 0" x 7' 0"	8 13/16 x 13 3/4	8¼ x 13 3/16

Size of door	F1537
2' 6" x 6' 6"	6 5/16 x 10 3/8
2' 8" x 6' 8"	6 15/16 x 10 3/4
3' 0" x 7' 0"	8¼ x 11 9/16

Beads for glass included.



F1635
F1636
F1637

	F1635	F1636	F1637
Stiles	4 9/16"	5 3/8"	5 3/8"
Top rail	4 9/16"	5 3/8"	6 3/8"
Bottom rail	9 3/8"	11 3/8"	18 3/8"

Bars ½" between glass. Furnished in grades *A* and *B* only. Sticking: Standard.

Size of door	Size of glass (in inches) F1635	F1636
2' 6" x 6' 6"	10½ x 7 5/8	9 11/16 x 7¼
2' 8" x 6' 8"	11½ x 7 7/8	10 11/16 x 7½
3' 0" x 7' 0"	13½ x 8 3/8	12 11/16 x 8

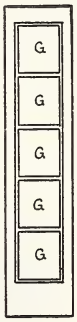
Size of door	F1637
2' 6" x 6' 6"	9 11/16 x 6¼
2' 8" x 6' 8"	10 11/16 x 6½
3' 0" x 7' 0"	12 11/16 x 7

Beads for glass included.

SIDE LIGHTS

F035

F0535



F0635M

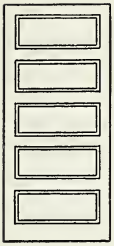
Stiles	Not over 2½" wide.
Top rail	Not over 6½" wide.
Bottom rail	Not over 18¼" wide

Top and bottom rails made same width as in doors with which they are used. Bars ½" between glass. Furnished in grade *A* only. Sticking: Standard.

Beads for glass included.

CUPBOARD DOORS

F05

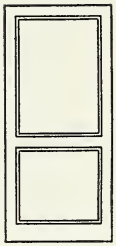


Stiles, top and cross rails.. 2¾″
Bottom rail..... 4½″

F020

Stiles and top rail..... 2¾″
Bottom rail..... 4½″

F082



Stiles and top rail..... 2¾″
Cross rail..... 3½″
Bottom rail..... 4½″

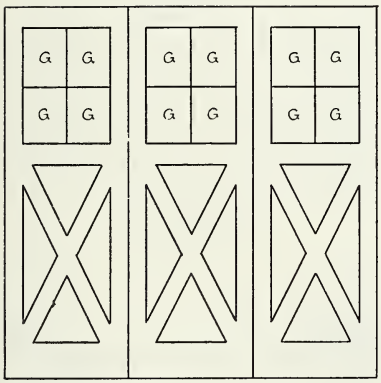
F05 doors are made as below:

1′ 10″ to 2′ 2″..... 2 cross panel.
2′ 4″ to 3′ 0″..... 3 cross panel.
3′ 2″ to 3′ 10″..... 4 cross panel.
4′ 0″ to 5′ 6″..... 5 cross panel.

3-ply laminated flat panels.
F05 can also be furnished with raised panels.
Cupboard doors made in *B* and better grade only.
Sticking: Standard.

GARAGE DOORS

F491

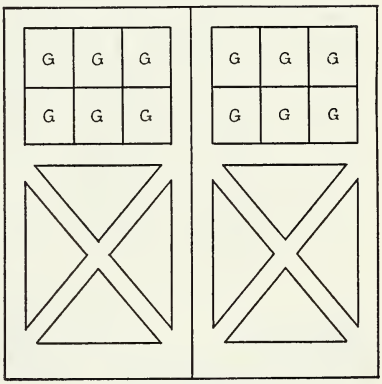


Stiles..... 4⁹⁄₁₆″
Top and lock rails..... 5¾″
Bottom rail..... 9⅜″

Vertical bars ⅝″ between glass. Horizontal bars 1″ between glass.
Ceiling panels. Cross braces screwed on. Sticking: Standard.

Beads for glass included.

F691



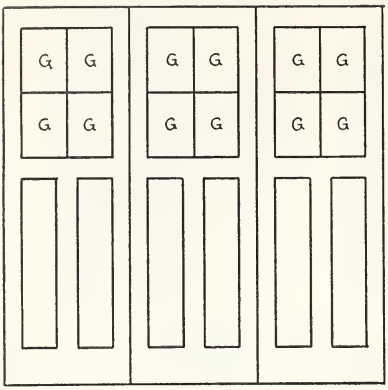
Stiles, top and lock rails..... 5¾″
Bottom rail..... 9⅜″

Vertical and horizontal bars 1″ between glass.
Ceiling panels. Cross braces screwed on. Sticking: Standard.

Beads for glass included.

For standard glass sizes of garage doors, see page 27.

F493

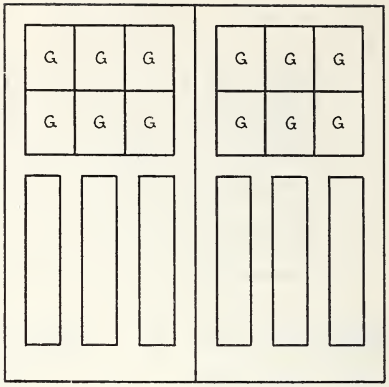


Stiles ..... 4 9/16"
Top and lock rails ..... 5 3/8"
Muntins ..... 5 3/8"
Bottom rail ..... 9 3/8"
Vertical bars, 5/8" between glass.
Horizontal bars, 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Beads for glass included.

F693

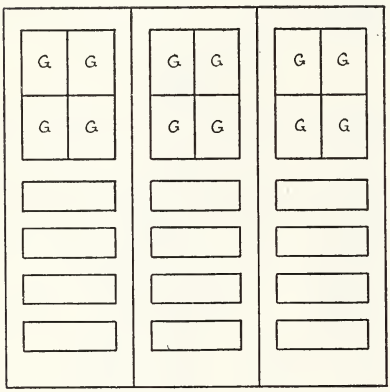


Stiles, top and lock rails ..... 5 3/8"
Muntins ..... 5 3/8"
Bottom rail ..... 9 3/8"
Vertical and horizontal bars, 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Beads for glass included.

F495

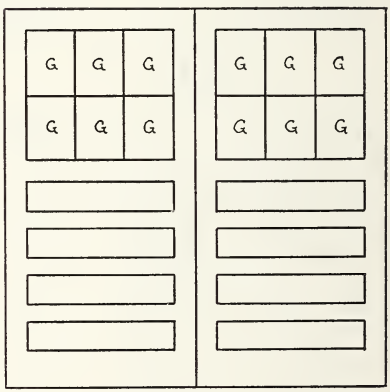


Stiles ..... 4 9/16"
Top and lock rails ..... 5 3/8"
Intermediate rails ..... 4 1/2"
Bottom rail ..... 9 3/8"
Vertical bars, 5/8" between glass.
Horizontal bars, 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Beads for glass included.

F695



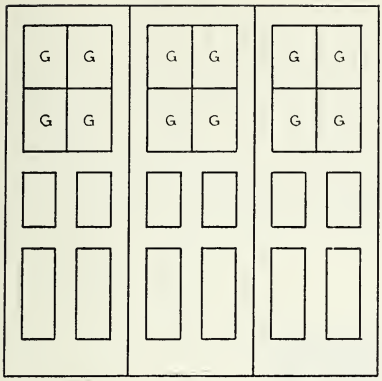
Stiles, top and lock rails ..... 5 3/8"
Intermediate rails ..... 4 1/2"
Bottom rail ..... 9 3/8"
Vertical and horizontal bars, 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Beads for glass included.

For standard glass sizes of garage doors, see page 27.

F496

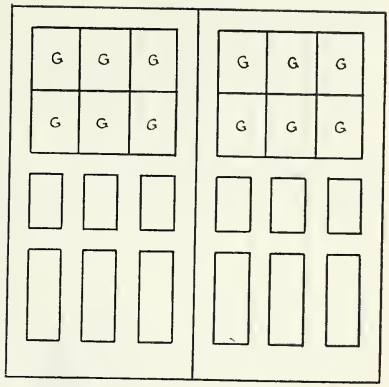


Stiles ..... 4 9/16"
Top and lock rails ..... 5 3/8"
Intermediate rail and muntins ..... 5 3/8"
Bottom rail ..... 9 3/8"
Height of top panels, 9 5/8" shoulder to shoulder.
Vertical bars, 5/8" between glass.
Horizontal bars, 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Beads for glass included.

F696



Stiles, top and lock rails ..... 5 3/8"
Intermediate rail and muntins ..... 5 3/8"
Bottom rail ..... 9 3/8"
Height of top panels 9 5/8" shoulder to shoulder.
Vertical and horizontal bars 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Beads for glass included.

Standard Glass Openings for Standard Garage Door Designs Shown on Pages 25 to 27.

SETS

4 lights per door

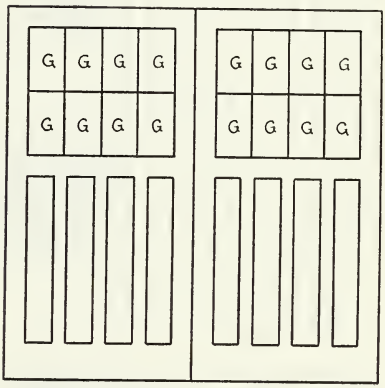
Size of door	Size of glass
2' 0" x 7' 6"	9 1/2" x 16"
2' 0" x 8' 0"	9 1/2" x 16"
2' 6" x 7' 0"	10 1/2" x 13"
2' 6" x 7' 6"	10 1/2" x 16"
2' 6" x 8' 0"	10 1/2" x 16"
2' 8" x 7' 0"	11 1/2" x 13"
2' 8" x 7' 6"	11 1/2" x 16"
2' 8" x 8' 0"	11 1/2" x 16"

PAIRS

6 lights per door

Size of door	Size of glass
3' 6" x 7' 0"	10" x 13"
3' 6" x 7' 6"	10" x 16"
3' 6" x 8' 0"	10" x 16"
3' 9" x 7' 0"	11" x 13"
3' 9" x 7' 6"	11" x 16"
3' 9" x 8' 0"	11" x 16"
4' 0" x 7' 0"	12" x 13"
4' 0" x 7' 6"	12" x 16"
4' 0" x 8' 0"	12" x 16"

F894



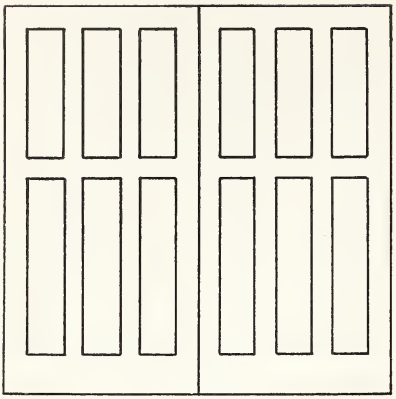
Stiles, top and lock rails ..... 5 3/8"
Muntins ..... 3 1/4"
Bottom rail ..... 9 3/8"
Vertical bars, 5/8" between glass.
Horizontal bars, 1" between glass.

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

Size of door	Size of glass
3' 6" x 7' 0"	7 1/2" x 13"
3' 6" x 7' 6" and 3'6' x 8'0"	7 1/2" x 16"
3' 9" x 7' 0"	8 3/16" x 13"
3' 9" x 7' 6" and 3'9" x 8'0"	8 3/16" x 16"
4' 0" x 7' 0"	9" x 13"
4' 0" x 7' 6" and 4'0" x 8'0"	9" x 16"

Beads for glass included.

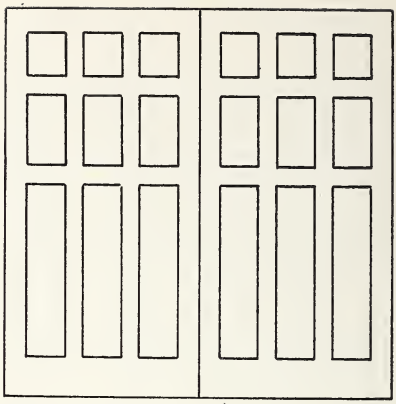
F 093



Stiles, top and lock rails ..... 5⅜″
Muntins ..... 5⅜″
Bottom rail ..... 9⅜″

3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

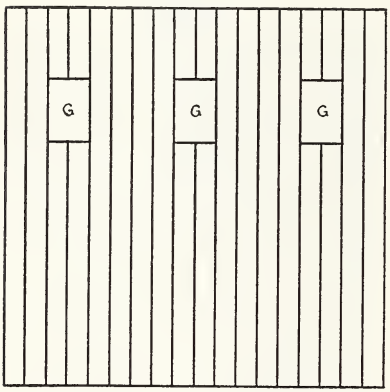
F 099



Stiles, top and lock rails ..... 5⅜″
Intermediate rails and muntins ..... 5⅜″
Bottom rail ..... 9⅜″

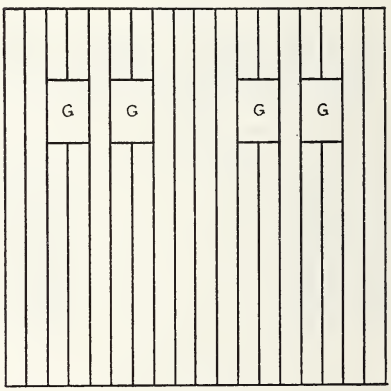
3-ply laminated flat panels. Can also be furnished with raised panels, if desired. Sticking: Standard.

F190



V. G. flush garage door in sets, with standard glass openings, as shown, or without glass openings (blank).
Each side of each door with six batts ("V" ceiling strips) wide, five "V" grooves.
Stiles full thickness of door with intervening ceiling strips glued and nailed to core.
Sets of three, standard width of each door 2′8″, glass size 10⅝″ x 16″, beads tacked in.
One light per door, standard, placed 18″ from top of door.
Metal bars or leaded glass recommended for divided light effect, if desired. Made in 1¾″ thickness only.

F290



V. G. flush garage doors in pairs, with standard glass openings, as shown, or without glass openings (blank).
Each side of each door with nine batts ("V" ceiling strips) wide, eight "V" grooves.
Stiles full thickness of door with intervening ceiling strips glued and nailed to core.
Standard width of each door in pairs, 4′0″, glass size 10⅝″ x 16″, beads tacked in.
Two lights per door, standard, placed 18″ from top of door.
Metal bars or leaded glass recommended for divided light effect, if desired. Made in 1¾″ thickness only.

GRADE MARKING

44. The following sets forth the grade marking symbols adopted by the Fir Door Institute to preserve the high standards of quality herein recorded and to insure that distributors and ultimate consumers receive the proper grade of Douglas fir, Sitka spruce, or western hemlock doors for their specific needs.

45. All Douglas fir, Sitka spruce, and western hemlock doors guaranteed to conform to the commercial standard grading rules herein shall be stamped or branded with the letters "FDI" followed by the grade designation, as indicated below:

For grade *A:*

For grade *B:*

For grade *BP:*

For grade *C:*

For grade *Millrun:*

EFFECTIVE DATE

46. Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this commercial standard was issued by the United States Department of Commerce, effective from August 1, 1951.

EDWIN W. ELY,
Chief, Commodity Standards Division.

HISTORY OF PROJECT

On January 25, 1938, the Fir Door Institute requested the cooperation of the National Bureau of Standards in bringing together all interested parties for the development and establishment of standards for stock fir doors. A draft of the preliminary standard was sent on March 11, 1938, to a comprehensive list of those interested in the production, distribution, and use of this commodity. On April 4, 1938, a general conference was held at Tacoma, Wash., for public discussion of the proposed standard. Some modifications were made and the conference unanimously passed a resolution that the standard, as modified, be circulated for public acceptance as the commercial standard of the industry. This was done on April 28, 1938. Following satisfactory acceptance and in the absence of active opposition, the establishment of the commercial standard, designated as CS73–38, was announced on June 30, 1938, to become effective for new production immediately.

First Revision

On January 4, 1943, the Fir Door Institute submitted a proposed revision which included two new door layouts and a slight modification in the requirements for panels and bottom rails for grade *A* and grade *B* doors. The changes were approved by the standing committee, and the recommended revision was circulated on February 27, 1943 to those directly concerned for written acceptance.

Following acceptance by a satisfactory majority, the success of the revision, designated CS73–43, was announced on May 15, 1943, effective for new production from June 15, 1943.

Second Revision

Difficulties encountered in securing wide widths of old growth Douglas fir shop lumber led to the submission, by the Fir Door Institute, of a proposed revision on April 27, 1945, to permit a limited number of stiles, rails, and mullions to be glued up with moisture-resistant glue. The *Millrun* grade was dropped from five layouts, two stock layouts were deleted entirely, and six additional layouts were made available in grades *C* and *Millrun*. Upon approval by the standing committee, the recommended revision was circulated to the trade for written acceptance on June 25, 1945. Following acceptance by a satisfactory majority, the standard was promulgated as CS73–45, effective from September 20, 1945.

Third Revision

Pursuant to a request from the Fir Door Institute dated April 1, 1947, and following approval by the standing committee, a revision

of this standard was circulated on January 14, 1948, to the trade for written acceptance.

The main purpose of this revision was to include doors made from Sitka spruce and western hemlock, as well as from Douglas fir. Several sizes of house doors were eliminated, as well as 17 designs no longer in large demand. The success of the revision was announced on June 21, 1948. The revised standard was promulgated as CS73–48, effective for new production from July 20, 1948.

Fourth Revision

The Fir Door Institute, on August 29, 1950, submitted a proposed revision of the standard. The major changes were the addition of eight new door layouts or designs which had become popular during the preceding 2 years, and the inclusion of the grade *BP*, which is recommended where a paint finish is to be used. Upon approval by the standing committee, the recommended revision was circulated to the trade for written acceptance on April 10, 1951. Following acceptance by a satisfactory majority, the success of the revision was announced on June 27, 1951, and the revised standard promulgated as CS73–51.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Each organization nominated its own representative. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Industry and Commerce, United States Department of Commerce, which acts as secretary for the committee.

W. P. Woolley, M. & M. Wood Working Co., 2301 N. Columbia Blvd., Portland 3, Oreg. (chairman).
Michael Fetchko, Buffelen Manufacturing Co., Tacoma 1, Wash.
Gilbert Mellis, Simpson Logging Co., 1010 White Bldg., Seattle 1, Wash.
Paul M. Smith, Wheeler Osgood Co., 1216 St. Paul Ave., Tacoma 1, Wash.
Herman Snider, Acme Door Corp., Queen and River Streets, Hoquiam, Wash.
Don S. Coles, W. P. Fuller & Co., 1117 A St., Tacoma 1, Wash.
Edwin W. Tibbetts, Brockway-Smith-Haight-Lovell Co., 465 Medford St., Boston, Mass.
Lionel Ray, Huttig Sash & Door Co., 1206 S. Vandeventer Ave., St. Louis 10, Mo.
Don A. Campbell, Bonner Campbell Co., Lebanon, Ky. (representing National Retail Lumber Dealers Assn.).
C. O. Christenson, Property Requirements Section, Housing and Home Finance Agency, Federal Housing Administration, Washington 25, D. C.
Theodore Irving Coe, American Institute of Architects, 1741 New York Ave., Washington 6, D. C.
Nelson J. Morrison, Room 228, Perkins Bldg., Tacoma 2, Wash. (representing American Institute of Architects).

ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date _____

Commodity Standards Division,
Office of Industry and Commerce,
U. S. Department of Commerce,
Washington 25, D. C.

Gentlemen:

We believe that the Commercial Standard 73–51 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production [1] distribution [1] purchase [1]

of old growth Douglas fir, Sitka spruce, and western hemlock standard stock doors. We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer _____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____
(Fill in exactly as it should be listed)

Street address _____

City, zone, and State _____

[1] Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

(Cut on this line)

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, or purchase of old growth Douglas fir, Sitka spruce, and western hemlock standard stock doors. In accepting the standard, they reserved the right to depart from it as they individually deem advisable. It is expected that doors which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

ASSOCIATIONS

(General Support)

American Specification Institute, Chicago, Ill.
Carolina Lumber & Building Supply Association, Charlotte, N. C.
Fir Door Institute, Tacoma, Wash.
Greater New York Lumber Industries, Inc., New York, N. Y.
Hardwood Plywood Institute, Chicago, Ill.
Michigan Retail Lumber Dealers Association Lansing, Mich.
Mississippi Retail Lumber Dealers Association, Inc., Jackson, Miss.
Prefabricated Home Manufacturers' Institute, Washington, D. C.
Southern Sash & Door Jobbers Association, Memphis, Tenn.
Southwestern Lumbermen's Association, Kansas City, Mo.

FIRMS AND OTHER INTERESTS

Acme Door Corp., Hoquiam, Wash.
Acme Millwork, Inc., Kirkland, Wash.
Akron Sash & Door Co., Akron, Ohio.
American Sash & Door Co., Kansas City, Mo.
Andrews, Jones, Biscoe & Goodell, Boston, Mass.
Armstrong-Thielman Lumber Co., Inc., Calumet, Mich.
Ashton, C. J., Co., Royal Oak, Mich.
Associated Door & Plywood Co., Chicago, Ill.
Barger Millwork Co., Statesville, N. C.
Baris, J. C., Lumber Co., New York, N. Y.
Baxter, C. B., & Co., Kansas City , Mo.
Beasley & Sons Co., Nashville, Tenn.
Bennison, Harvey C., Co., Kansas City, Mo.
Berger, F. E., & R. L. Kelley, and Associates, Champaign, Ill.
Beuttler, William, Architect, Sioux City, Iowa.
Binswanger & Co., Inc., Richmond, Va.
Birmingham Sash & Door Co., Birmingham, Ala.
Blount Lumber Co., Lacona, N. Y.
Boehm, George A., New York, N. Y.
Brattin, F. J., & Son, Shepherd, Mich.
Brockway-Smith-Haigh-Lovell Co., Boston, Mass.
Brust & Brust, Architects, Milwaukee, Wis.
Buell & Co., Dallas, Tex.
Buffalo, City of, Architectural Service, Division of Buildings, Department of Public Works, Buffalo, N. Y.
Buffelen Manufacturing Co., Tacoma, Wash.
Buffelen Manufacturing Company of Tacoma, Wash., Fort Worth, Tex.
Builders Specialty & Hardware Corp., West Somerville, Mass.
Builders Supply Co., Bismarck, N. Dak.
Building Service, Inc., Great Falls, Mont.
Building Supplies Corp., Norfolk, Va.
Burritt, A. W., Co., Bridgeport, Conn.
California Builders Supply Co., Oakland Calif.
California Door Company of Los Angeles, Los Angeles, Calif.
California Panel & Veneer Co., Los Angeles, Calif.
Cameron Lumber Co., Inc., Newburgh, N. Y.
Cameron, Wm., & Co., Waco, Tex.
Camlet, J. Thomas, Passaic, N. J.
Cannon & Mullen, Salt Lake City, Utah.
Carroll Lumber Co., Inc., Alexandria, La.
Cavanagh Lumber Co., Petaluma, Calif.
Cellarius, Charles F., Cincinnati, Ohio.
Central of Georgia Railway Co., Savannah, Ga.
Central Wholesale Co., Inc., Shreveport, La.
Chapin Lumber Co., Aurora, Colo.
Cincinnati Sash & Door Co., Cincinnati, Ohio.
Cockrum Lumber Co., Inc., Knoxville, Tenn.
Cole Manufacturing Co., Memphis, Tenn.
Collingdale Millwork Co., Collingdale, Pa.
Conrad & Cummings, Associated Architects, Binghamton, N. Y.
Conwell, E. L., & Co., Philadelphia, Pa.
Coolidge, Shepley, Bulfinch & Abbott, Boston, Mass.
Corbin, P. & F., Division of American Hardware Corp., New Britain, Conn.
Cordele Sash, Door & Lumber Co., Cordele, Ga.
Cram & Ferguson, Boston Mass.
Crawford Corp., Baton Rouge, La.
Crawford Door Co., Detroit, Mich.
Cresmer Manufacturing Co., Riverside, Calif.
Crowell & Lancaster, Architects, Bangor, Maine.
Cruver Door Co., Tacoma, Wash.
Darby, Bogner & Associates, Milwaukee, Wis.
Davidson Sash & Door Co., Lake Charles, La.
Dayton Sash & Door Co., Dayton, Ohio.
Deats Sash & Door Co., Los Angeles, Calif.
DeJarnette, Charles Wagner, Des Moines, Iowa.
Delmarva Sash & Door Co., Philadelphia, Pa.
Donlin Co., Inc., St. Cloud, Minn.
Door Export Co., Tacoma, Wash.
Dunlap & Co., Inc., Columbus, Ind.
Dykes Lumber Co., New York, N. Y.
Edwards Sash, Door & Lumber Co., Tampa, Fla.
Elliott Bay Mill Co., Seattle, Wash.
Elmer & Moody Co., Seattle, Wash.
Empire Millwork Corp., Corona, L. I., N. Y.
Equity Lumber Co., Painesville, Ohio.
Estes Lumber Co., Birmingham, Ala.
Evansville Sash & Door Co., Inc., Evansville, Ind.
Everett Plywood & Door Corp., Everett, Wash.
Farley & Loetscher Co., Sioux Falls, S. Dak.
Farley & Loetscher Manufacturing Co., Dubuque, Iowa.
Fink & Schindler Co., San Francisco, Calif.
Fischer Lime & Cement Co., Inc., Memphis, Tenn.
Flannagan, Eric G., Henderson, N. C.
Flint Sash & Door Co., Inc., Flint, Mich.
Fort Smith Sash & Door Co., Fort Smith, Ark.
Fort Wayne Builders Supply Co., Fort Wayne, Ind.
Frederick Bros., Inc., Pottstown, Pa.
Fuller, W. P., & Co., Portland, Oreg.
Gate City Sash & Door Co., Fort Lauderdale, Fla.
General Millwork Corp., Utica, N. Y.
Georgeson, F. T., Eureka, Calif.
Georgeson, F. T., San Francisco, Calif.
Gibson Door Co., Inc., Utica, N. Y.
Gilbert, Hawley, Co., Portland, Oreg.
Goshen Sash & Door Co., Goshen, Ind.
Gourley, John, & Co., Highland Park, Ill.
Griffin, A. T., Manufacturing Co., Goldsboro, N. C.
Guest Bros., Inc., Norwalk, Conn.
Hager & Cove Lumber Co., Lansing, Mich.
Hahn, Stanley W., Detroit, Mich.
Hallack & Howard Lumber Co., Denver, Colo.
Hammonds, T. W., & Bro., Bryn Mawr, Pa.
Haralson & Mott, Fort Smith, Ark.
Harbor Plywood Corporation of Indiana, Indianapolis, Ind.
Harbor Plywood Corporation of Southern California, Los Angeles, Calif.
Harbor Sales Co., Inc., Baltimore, Md.
Hastings, A. W., & Co., Inc., Somerville, Mass.

Hawkins Lumber & Warehouse Co., Boston, Mass.
Henrich Plywood Co., Inc., Buffalo, N. Y.
Hilty-Forster Manufacturing Co., Milwaukee, Wis.
Hogan Lumber Co., Oakland, Calif.
Holden, McLaughlin & Associates, New York, N. Y.
Holsman, Holsman, Klekamp & Taylor, Chicago, Ill.
Huttig Sash & Door Co., Jacksonville, Fla.
Huttig Sash & Door Co., Roanoke, Va.
Huttig Sash & Door Co., St. Louis, Mo.
Huttig Sash & Door Co., Inc., Miami, Fla.
Hyde-Murphy Co., Ridgway, Pa.
Illinois Valley Manufacturing Co., Peru, Ill.
Interstate Sash & Door Co., Canton, Ohio.
Iron City Sash & Door Co., Pittsburgh, Pa.
Iroquois Millwork Corp., Albany, N. Y.
Johnson & Wimsatt, Inc., Washington, D. C.
Keely, Hal, Plywood Co., Pittsburgh, Pa.
Keely, S. S., & Sons, Philadelphia, Pa.
Keich & O'Brien, Warren, Ohio.
Kilpatrick Bros., Inc., Oklahoma City, Okla.
Kneeland-Bigelow Distributing Co., Bay City, Mich.
Krauss Bros. Lumber Co. of Florida, Tampa, Fla.
Latenser, John, & Sons, Omaha, Nebr.
Law, Law, Potter & Nystrom, Madison, Wis.
Leidigh & Havens Lumber Co., Salina, Kans.
Lester Lumber Co., Inc., Martinsville, Va.
Loeb, Laurence M., White Plains, N. Y.
Long Bell Lumber Co., Kansas City, Mo.
Los Angeles, City of, Los Angeles, Calif.
Lowell, J. B., Inc., Worcester, Mass.
Lumber Dealers Materials Co., Sacramento, Calif.
Lumber & Millwork Company of Philadelphia, Philadelphia, Pa.
Lumbermen's Credit & Warehouse Co., Kalamazoo, Mich.
M & M Wood Working Co., Portland, Oreg.
MacArthur Planing Mill, Inc., Long Beach, Calif.
Mahoney Sash & Door Co., Canton, Ohio.
Markland, M. B., Contracting Co., Atlantic City, N. J.
Marshall & Hudson, Eatonton, Ga.
Martin, Edgar, Chicago, Ill.
Mason City Millwork Co., Mason City, Iowa.
McClung, C. M., & Co., Inc., Knoxville, Tenn.
McGowin-Lyons Hardware & Supply Co., Mobile, Ala.
McPhillips Manufacturing Co., Inc., Mobile, Ala.
Melander, C. T., & Co., East Orange, N. J.
Memphis Sash & Door Co., Memphis, Tenn.
Metropolitan Millwork Co., Brooklyn, N. Y.
Miller & Vrydagh, Terre Haute, Ind.
Minot Builders Supply Co., Inc., Minot, N. Dak.
Monarch Lumber Co., Great Falls, Mont.
Mooser, William, San Francisco, Calif.
Morgan Millwork Co., Baltimore, Md.
Morris, C. L., Lumber Co., Inc., Plymouth, Ind.
Morrison-Merrill & Co., Salt Lake City, Utah.
Muhlenberg Bros., Wyomissing, Pa.
National Brass Co., Grand Rapids, Mich.
National Manufacturing Co., Sterling, Ill.
National Plywood Co., Inc., New York, N. Y.
National Woodworks Inc., Birmingham, Ala.
Neal-Blun Co., Savannah, Ga.
New Century Homes, Inc., Clinton, Ind.
New Rochelle Coal & Lumber Co., New Rochelle, N. Y.
Newton Lumber & Manufacturing Co., Colorado Springs, Colo.
Nicolai Door Manufacturing Co., Portland, Oreg.
Nicolai Door Sales Co., San Francisco, Calif.
Nord, E. A., Co., Inc., Everett, Wash.
Northern Sash & Door Co., Hawkins, Wis.
Northwest Door Co., Tacoma, Wash.
Norwood Sash & Door Manufacturing Co., Norwood, Ohio.
Nurenburg, W. S., Fort Worth, Tex.
O & N Lumber Co., Menomonie, Wis.
Oklahoma Sash & Door Co., Oklahoma City, Okla.
Oklahoma, University of, School of Architecture, Norman, Okla.
Oregon Woodwork Ltd., Portland, Oreg.
Palmer Lumber Co., Chehalis, Wash.
Patten-Blinn Lumber Co., Los Angeles, Calif.
Pease Woodwork Co., Inc., Cincinnati, Ohio.
Pehrson, G. A., & Associates, Spokane, Wash.
Plywood & Millwork Co. of Maryland, Inc., Baltimore, Md.
Portsmouth Lumber Corp., Portsmouth, Va.
Prentice Lumber Co., Columbus, Ohio.
Progress Lumber Co., Redwood City, Calif.
Quigley, J. R., Co., Gloucester City, N. J.
Radford & Sanders, Inc., Baltimore, Md.
Ramsey, A. H., & Sons, Inc., Miami, Fla.
Reeb Millwork Corp., Roselle, N. J.
Resnikoff, Abraham, New York, N. Y.
Robbins Door & Sash Co., Scranton, Pa.
Roberson, A., & Son, Inc., Binghamton, N. Y.
Robinson, Fred J., Lumber Co., Detroit, Mich.
Rock Island Millwork Co., Rock Island, Ill.
Rockwell Bros. & Co., Houston, Tex.
Rudinger, C. R., Inc., South Kearney, N. J.
Russell, Mullgardt & Schwarz, St. Louis, Mo.
Rust Sash & Door Co., Kansas City, Mo.
Sand Door & Plywood Co., Los Angeles, Calif.
Sanders Bros. Manufacturing Co., Ottawa, Ill.
Santa Fe Builders Supply Co., Santa Fe, N. Mex.
Sash Door & Glass Corp., Richmond, Va.
Seneca Lumber & Millwork Co., Fostoria, Ohio.
Shenk, Henry, Co., Erie, Pa.
Sierra Mill & Building Materials Co., Sacramento, Calif.
Simpson Logging Co., Shelton, Wash.
Sloan Lumber Co., Fort Worth, Tex.
Snell Sash & Door Co., St. Paul, Minn.
Snell Sash & Door Co., Omaha, Nebr.
Sothman Co., Grand Island, Nebr.
Southwestern Sash & Door Co., Joplin, Mo.
Standard Lumber & Supply Co., Fort Wayne, Ind.
Stanton, E. J., & Son, Inc., Los Angeles, Calif.
Steves Sash & Door Co., San Antonio, Tex.
Stoetzel, Ralph, Chicago, Ill.
Strable Hardwood Co., Oakland, Calif.
Summers Hardware & Supply Co., Johnson City, Tenn.
Swan Lake Moulding Co., Klamath Falls, Oreg.
Tacoma Millwork Supply Co., Tacoma, Wash.
Taylor, Ellery Kirke, Haddonfield, N. J.
Teachout Sash, Door & Glass Co., Detroit, Mich.
Tennessee Glass Co., Inc., Nashville, Tenn.
Thal, Nelson E., Toledo, Ohio.
Theiling-Lothman Manufacturing Co., St. Louis, Mo.
Throop-Martin Co., Columbus, Ohio.
Timberline, Inc., Kansas City, Mo
Trans-Oceanic Trading Co., New Orleans, La.
Trexler Lumber Co., Allentown, Pa.
Turner, J. C., Lumber Co., Irvington-on-Hudson, N. Y.
Underwood Builders Supply Co., Mobile, Ala.
United States Plywood Corp., New York, N. Y.
Vancouver Door Co., Inc., Montesano, Wash.
Van Dyke, James H., Los Angeles, Calif.
Vaughan, Geo. C., & Sons, Houston, Tex.
Vaughan, Geo. C., & Sons, Sash & Doors, San Antonio, Tex.
Velde Lumber Co., Pekin, Ill.
Virginia Polytechnic Institute, Department of Architecture, Blacksburg, Va.
Walling Sash & Door Co., Wichita, Kans.
Walsh, Louis A., Waterbury, Conn.
Wanke Panel Co., Portland, Oreg.
Warren Bros. Co., Nashville, Tenn.
Wauna Lumber Co., Wauna, Oreg.
Weinel, Aug. F., Lumber Co., Columbia, Ill.
Welch, Carroll E., Huntington, N. Y.
Weldon Lumber & Manufacturing Co., Seattle, Wash.
Western Door & Sash Co., Oakland, Calif.
Western Hardwood Lumber Co., Los Angeles, Calif.
Wheeler Osgood Co., Tacoma, Wash.
Whissel, L. N., Lumber Co., Inc., Buffalo, N. Y.
White Bros., San Francisco, Calif.
Wholesale Building Supply Inc., Oakland, Calif.
Williams, O. B., Co., Seattle, Wash.
Willingham & Co., Chattanooga, Tenn.
Wilson, Andrian, Los Angeles, Calif.
Zimmerman, A. C., Los Angeles, Calif.

UNITED STATES GOVERNMENT AGENCIES

Agriculture, U. S. Department of, Division of Procurement and Property Management, Washington, D. C.
Army, Department of, Office, Assistant Chief of Staff, Procurement Division, Washington, D. C.
Indian Affairs, Bureau of, Department of Interior, Washington, D. C.
Prisons, Bureau of, U. S. Department of Justice, Danbury, Conn.
Public Housing Administration, Washington, D. C.
Veterans Administration, Procurement Division, Washington, D. C.

CS No.

0–40. Commercial standards and their value to business.
1–42. Clinical thermometers.
2–30. Mopsticks.
3–40. Stoddard solvent.
4–29. Staple porcelain (all-clay) plumbing fixtures.
5–46. Pipe nipples; brass, copper, steel and wrought-iron.
6–31. Wrought-iron pipe nipples. Superseded by CS5–46.
7–29. Standard weight malleable iron or steel screwed unions.
8–51. Gage blanks.
9–33. Builders' template hardware.
10–29. Brass pipe nipples. Superseded by CS5–46.
11–41. Moisture regains of cotton yearns.
12–48. Fuel oils.
13–44. Dress patterns.
14–51. Boys' sport and dress shirt (woven fabrics) size measurements.
15–46. Men's pajama sizes (made from woven fabrics).
16–29. Wallpaper.
17–47. Diamond core drill fittings.
18–29. Hickory golf shafts.
19–32. Foundry patterns of wood.
20–49. Vitreous china plumbing fixtures.
21–39. Interchangeable ground-glass joints, stopcocks, and stoppers.
22–40. Builders' hardware (nontemplate).
23–30. Feldspar.
24–43. Screw threads and tap-drill sizes.
25–30. Special screw threads. Superseded by CS24–43.
26–30. Aromatic red cedar closet lining.
27–36. Mirrors.
28–46. Cotton fabric tents, tarpaulins and covers.
29–31. Staple seats for water-closet bowls.
30–31. (Withdrawn.)
31–38. Wood shingles.
32–31. Cotton cloth for rubber and pyroxylin coating.
33–43. Knit underwear (exclusive of rayon).
34–31. Bag, case and strap leather.
35–49. Hardwood plywood.
36–33. Fourdrinier wire cloth.
37–31. Steel bone plates and screws.
38–32. Hospital rubber sheeting.
39–37. (Withdrawn.)
40–32. Surgeons' rubber gloves.
41–32. Surgeons' latex gloves.
42–49. Structural fiber insulating board.
43–32. Grading of sulphonated oils.
44–32. Apple wraps.
45–48. Douglas fir plywood.
46–49. Hosiery lengths and sizes.
47–34. Marking of gold-filled and rolled-gold-plate articles other than watchcases.
48–40. Domestic burners for Pennsylvania anthracite (underfeed type).
49–34. Chip board, laminated chip board, and miscellaneous boards for bookbinding purposes.
50–34. Binders board for bookbinding and other purposes.
51–35. Marking articles made of silver in combination with gold.
52–35. Mohair pile fabrics (100-percent mohair plain velvet, 100-percent mohair plain frieze, and 50-percent mohair plain frieze).
53–35. Colors and finishes for cast stone.
54–35. Mattresses for hospitals.
55–35. Mattresses for institutions.
56–49. Oak flooring.
57–40. Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings.
58–36. Woven elastic fabrics for use in overalls (overall elastic webbing).
59–44. Textiles—testing and reporting.
60–48. Hardwood dimension lumber.
61–51. Venetian blinds (grade A, custom-made).
62–38. Colors for kitchen accessories
63–38. Colors for bathroom accessories.

CS No.

64–37. Walnut veneers.
65–43. Methods of analysis and of reporting fiber composition of textile products.
66–38. Marking of articles made wholly or in part of platinum.
67–38. Marking articles made of karat gold.
68–38. Liquid hypochlorite disinfectant, deodorant, and germicide.
69–38. Pine oil disinfectant.
70–41. Phenolic disinfectant (emulsifying type) (published with CS71–41).
71–41. Phenolic disinfectant (soluble type) (published with CS70–41).
72–38. Household insecticide (liquid spray type).
73–51. Old growth Douglas fir, Sitka spruce, and western hemlock standard stock doors.
74–39. Solid hardwood wall paneling.
75–42. Automatic mechanical draft oil burners designed for domestic installations.
76–39. Hardwood interior trim and molding.
77–51. Enameled cast-iron plumbing fixtures.
78–40. Ground-and-polished lenses for sun glasses (published with CS79–40).
79–40. Blown, drawn, and dropped lenses for sun glasses (published with CS78–40).
80–41. Electric direction signal systems other than semaphore type for commercial and other vehicles subject to special motor vehicle laws (after market).
81–41. Adverse-weather lamps for vehicles (after market).
82–41. Inner-controlled spotlamps for vehicles (after market).
83–41. Clearance, marker, and identification lamps for vehicles (after market).
84–41. Electric tail lamps for vehicles (after market).
85–41. Electric license-plate lamps for vehicles (after market).
86–41. Electric stop lamps for vehicles (after market).
87–41. Red electric warning lanterns.
88–41. Liquid burning flares.
89–40. Hardwood stair treads and risers.
90–49. Power cranes and shovels.
91–41. Factory-fitted Douglas fir entrance doors.
92–41. Cedar, cypress, and redwood tank stock lumber.
93–50. Portable electric drills (exclusive of high frequency).
94–41. Calking lead.
95–41. Lead pipe.
96–41. Lead traps and bends.
97–42. Electric supplementary driving and passing lamps for vehicles (after market).
98–42. Artists' oil paints.
99–42. Gas floor furnaces—gravity circulating type.
100–47. Porcelain-enameled steel utensils.
101–43. Flue-connected oil-burning space heaters equipped with vaporizing pot-type burners.
102– . (Reserved for "Diesel and fuel-oil engines.")
103–48. Rayon jacquard velour (with or without other decorative yarn).
104–49. Warm-air furnaces equipped with vaporizing-type oil burners.
105–48. Mineral wool insulation for low temperatures.
106–44. Boys' pajama sizes (woven fabrics).
107–45. (Withdrawn.)
108–43. Treading automobile and truck tires.
109–44. Solid-fuel-burning forced-air furnaces.
110–43. Tire repairs—vulcanized (passenger, truck, and bus tires).
111–43. Earthenware (vitreous-glazed) plumbing fixtures.
112–43. Homogeneous fiber wallboard.
113–51. Oil-burning floor furnaces equipped with vaporizing pot-type burners.
114–43. Hospital sheeting for mattress protection.
115–44. Porcelain-enameled tanks for domestic use.
116–44. Bituminized-fibre drain and sewer pipe.
117–49. Mineral wool insulation for heated industrial equipment.
118–44. Marking of jewelry and novelties of silver.

CS No.

(E)119–45.[1] Dial indicators (for linear measurements).
120–48. Standard stock ponderosa pine doors.
121–45. Women's slip sizes (woven fabrics).
122–49. Western softwood plywood.
123–49. Grading of diamond powder.
(E)124–45.[1] Master disks.
125–47. Prefabricated homes.
126–45. Tank-mounted air compressors.
127–45. Self-contained mechanically refrigerated drinking water coolers.
128–49. Men's sport shirt sizes—woven fabrics (other than those marked with regular neckband sizes).
129–47. Materials for safety wearing apparel.
130–46. Color materials for art education in schools.
131–46. Industrial mineral wool products, all types—testing and reporting.
132–46. Hardware cloth.
133–46. Woven wire netting.
134–46. Cast aluminum cooking utensils (metal composition).
135–46. Men's shirt sizes (exclusive of work shirts).
136–46. Blankets for hospitals (wool, and wool and cotton.)
137–51. Size measurements for men's and boys' shorts (woven fabrics).
138–49. Insect wire screening.
139–47. Work gloves.
140–47. Testing and rating convectors.
141–47. Sine bars, blocks, plates, and fixtures.
142–51. Automotive lifts.
143–47. Standard strength and extra strength perforated clay pipe.
144–47. Formed metal porcelain enameled sanitary ware.
145–47. Testing and rating hand-fired hot water supply boilers.
146–47. Gowns for hospital patients.
147–47. Colors for molded urea plastics.
148–50. Men's circular flat- and rib-knit rayon underwear.
149–48. Utility type house dress sizes.
150–48. Hot-rolled rail steel bars (produced from Tee-section rails).
151–48. Body measurements for the sizing of apparel for infants, babies, toddlers, and children (for the knit underwear industry).
152–48. Copper naphthenate wood-preservative (spray, brush, dip application).

CS No.

153–48. Body measurements for the sizing of apparel for girls (for the knit underwear industry).
154– . (Reserved for "Wire rope.")
155–50. Body measurements for the sizing of boys' apparel (knit underwear, shirts, trousers).
156–49. Colors for polystyrene plastics.
157–49. Ponderosa pine and sugar pine plywood.
158–49. Model forms for girls' apparel.
159–49. Sun glass lenses made of ground and polished plate glass, thereafter thermally curved.
160–49. Wood-fiber blanket insulation (for building construction).
161–49. "Standard grade" hot-dipped galvanized ware (coated after fabrication).
162–49. Tufted bedspreads.
163–49. Standard stock ponderosa pine windows, sash and screens.
164– . (Reserved for "Concrete mixers.")
165–50. Zinc naphthenate wood-preservative (spray, brush, dip application).
166–50. Size measurements for men's work trousers.
167–50. Automotive and general service copper tube.
168–50. Polystyrene plastic wall tiles, and adhesives for their application.
169–50. Galvanized ware fabricated from *pregalvanized* steel sheets.
170–50. Cotton flour-bag (sack) towels.
171–50. Hardwood veneered doors.
172–50. Brass trim for water-closet bowls, tanks, and urinals (dimensional standards).
173–50. Heavy-duty alpha-cellulose-filled melamine tableware.
174–51. 140-F dry-cleaning solvent.
175–51. Circular-knitted gloves and mittens.
176–51. Prefinished wall panels.
177–51. Bituminous-coated metal septic tanks (single compartment, residential).
178–51. Testing and rating ventilating fans (axial and propeller types).
179–51. Installation of attic ventilation fans in residences.
180–52. Model forms for boys' apparel.
181– . (Reserved.)
182–51. Latex foam mattresses for hospitals.
183–51. Boys' trouser size measurements.
184–51. Steel fence posts—field and line type (produced from hot-rolled steel sections).
185–52. Wool felt.

[1] Where "(E)" precedes the CS number, it indicates an emergency commercial standard, drafted under war conditions with a view toward early revision.

NOTICE.—Those interested in commercial standards with a view toward accepting them as a basis of everyday practice may secure copies of the above standards, while the supply lasts, by addressing the Commodity Standards Division, Office of Industry and Commerce, U. S. Department of Commerce, Washington 25, D. C.

U. S. GOVERNMENT PRINTING OFFICE: 1952