CS120–44
Doors, pine (ponderosa)

U. S. DEPARTMENT OF COMMERCE
JESSE H. JONES, Secretary
NATIONAL BUREAU OF STANDARDS
LYMAN J. BRIGGS, Director

STANDARD STOCK PONDEROSA PINE DOORS

COMMERCIAL STANDARD CS120–44

Effective Date for New Production from September 15, 1944

A RECORDED VOLUNTARY STANDARD OF THE TRADE

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PROMULGATION

of

COMMERCIAL STANDARD CS120-44

for

STANDARD STOCK PONDEROSA PINE DOORS

On January 29, 1944, at the instance of the National Door Manufacturers Association, a proposed commercial standard for standard stock ponderosa pine doors was submitted to manufacturers, testing laboratories, and distributor and consumer organizations for comment. An adjusted draft was then circulated to the trade for written acceptance. Those concerned have since accepted and approved the standard as shown herein for promulgation by the United States Department of Commerce, through the National Bureau of Standards.

This standard is effective for new production from September 15, 1944.

Promulgation recommended.

I. J. Fairchild,
Chief, Division of Trade Standards.

Promulgated.

Lyman J. Briggs,
Director, National Bureau of Standards.

Promulgation approved.

Jesse H. Jones,
Secretary of Commerce.

STANDARD STOCK PONDEROSA PINE DOORS[1]

COMMERCIAL STANDARD CS120-44

PURPOSE

1. The purpose of this commercial standard is to establish standard specifications and sizes for ponderosa pine, standard stock doors to guide producers, distributors, architects, builders, and the public; to provide a uniform basis for guaranteeing compliance through the use of labels or certifications; to avoid delays and misunderstandings; and to effect economies from the producer to the ultimate user through a wider utilization of standard, ponderosa pine doors.

2. In the development of this standard every effort has been made to include designs which will permit freedom of architectural expression. Ponderosa pine doors will continue to be available for all types of architectural designing.

3. To meet the modern trend toward economy and simplification of installation, doors may be specified "Prefit" to the exact size required. (See par 11.) Doors will be mortised for locks and cut for hinges when so specified.

SCOPE

4. This standard provides minimum specifications for stock ponderosa pine doors in four nominal thicknesses, ¾, 1⅛, 1⅜, and 1¾ inches. It covers construction, grades, and tolerances for these requirements.

4a. There are standard stock lay-outs and designs for the following:

Door	Grade	Sizes	Illustrations
		Page	Page
Blind or Summer	No. 1	5	25
Combination	No. 1	5	25–26
Cupboard	No. 1	5	22
Exterior	No. 1 & No. 2	5	8–20
Flush	No. 1	5	27
Garage	No. 1 & Mill Run	5	23–24
Interior	No. 1 & No. 2	5	6–8
Sidelights	No. 1	5	21
Storm	No. 1 & No. 2	5	21
Toilet	No. 1	5	24

GENERAL REQUIREMENTS

5. All commercial standard ponderosa pine panel and sash doors shall meet the following requirements:

6. *Material.*—Doors shall be made of properly kiln-dried ponderosa pine.

7. *Workmanship.*—Doors shall be well manufactured and machined, with flat faces of stiles, rails, and panels smoothly machine sanded.

8. *Construction.*—Panel and sash doors shall be assembled by what is known as "dowelled construction," that is, stiles and rails to be bored to receive dowels not less than ⅜-inch in diameter by approximately

[1] Ponderosa pine, one of the Western pines, has proved over the past 40 years to be highly adaptable for woodwork. This pine is light in color, ranging from creamy-white to straw color. The grain is close, uniform, and resists raising. The surface is even-textured. It takes nails and screws without splitting, is easy to mortise for locks and cut for hinges. It sands to a satin-smooth finish, takes paint, enamel, stain, and varnish, holding them well. The ends and edges do not splinter easily.

4¾ inches long for doors ¾-inch thick, and not less than ½-inch in diameter by approximately 5 inches long for doors 1⅛, 1⅜, and 1¾ inches thick. (Except that cupboard doors and narrow stile doors may have shorter dowels.) Dowels shall have glued grooves and be

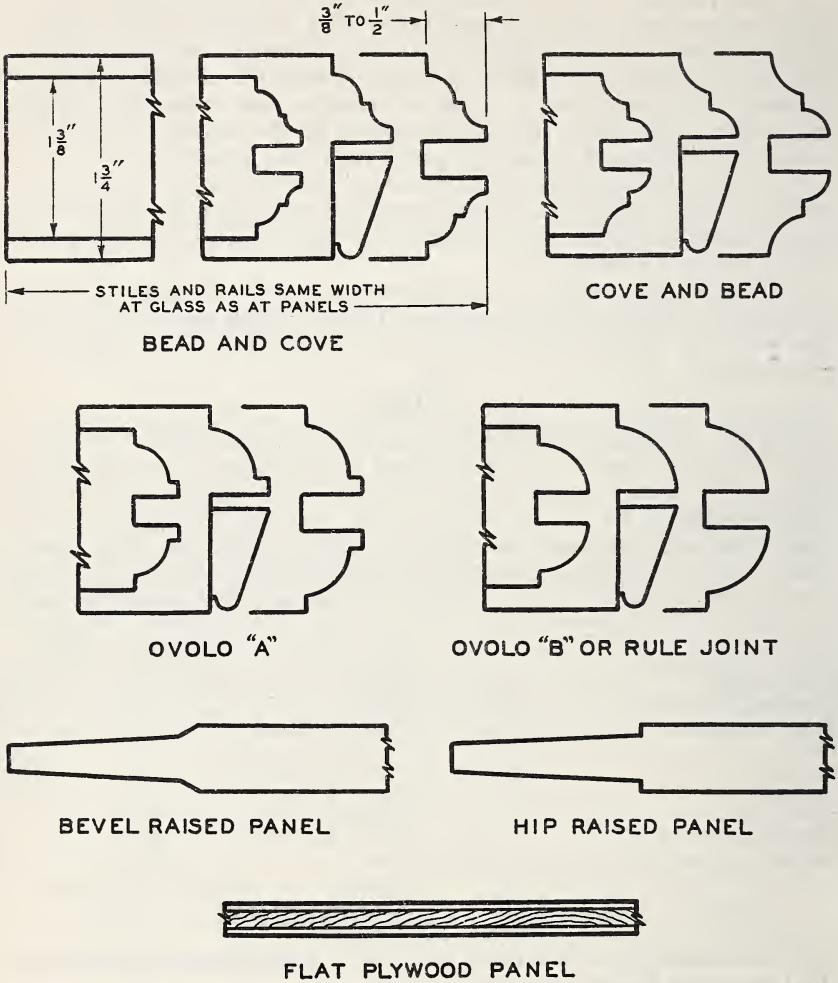


FIGURE 1.—Sticking and panel details.

to a drive fit. Dowels shall be set in water-resistant glue and shall extend approximately one-half their length into each stile and rail, and assembled under pressure. Because of the fact that all present standard door-boring machines are built for 2¼-inch dowel centers, the quantity of dowels used is limited according to the width of the rails and shall be based on the following minimum number of dowels at each end of rails:

Rails under 4¼ inches wide	1 dowel.
Rails 4¼ inches to 7 inches wide	2 dowels.
Rails over 7 inches wide	3 dowels, plus one additional dowel for each additional full 3 inches in width.

8a. At the option of the manufacturer, doors may be assembled by what is known as blind-mortised and tenoned construction instead of dowelled construction.

9. *Sticking.*—Stiles and rails shall have solid sticking. All intersections shall be coped with joints well-fitted. "Cove and Bead," "Bead and Cove," "Ovolo A" or "Ovolo B or Rule Joint" sticking shall be standard on all standard ponderosa pine doors. See figure 1. Imperfect sticking which may develop in machining shall be carefully repaired or neatly replaced. Panels are also illustrated in figure 1.

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

Cupboard doors	3/4" and 1 1/8".
Sidelights	1 3/8" and 1 3/4".
Interior doors	1 1/8", 1 3/8", and 1 3/4".
Exterior doors	1 3/8" and 1 3/4".
Garage doors	1 3/8" and 1 3/4".
Toilet doors	1 1/8".
Blind (Summer) doors	1 1/8" and 1 3/8".
Combination doors and storm doors	1 1/8".

11. *Size tolerance.*—Unless otherwise specified, a height and width tolerance of plus 1/8 inch shall be allowed. When ordered "Prefit", doors will be made to standard opening widths and heights with a tolerance of plus or minus 1/32 inch. "Prefit" doors shall have skid blocks, strips, or other type of protector.

GRADING

12. All doors shall be graded according to both sides or faces. A shipment of any grade shall represent a fair average of that grade.

13. Ordinarily, interior, exterior, and storm doors can be obtained in grades "No. 1" and "No. 2"; cupboard doors, sidelights, casement doors, toilet doors, blind doors, combination doors, and flush doors in grade "No. 1" only; and garage doors in grades "No. 1" and "Mill Run."

GRADE "NO. 1".—Recommended for Natural, Stain, or Paint Finish

14. *Stiles and rails.*—This stock shall be practically clear. Bright sap, light-brown stain, and light-red kiln burn shall be permitted. Each stile or bottom rail may contain one carefully repaired pitch seam on each side, provided it does not extend through the piece nor exceed 2½ inches in length. Rails wider than 4¾ inches may be glued up with not over one joint up to 9¾ inches, two joints up to 12 inches, and with not more than the same proportion of joints being permitted in wider rails. A water-resistant glue shall be used. Stiles and rails may be solid or veneered at the option of the manufacturer. If veneered, a water-resistant glue shall be used.

15. *Panels—flat plywood.*—The standard thickness of 3-ply flat plywood panels shall be not less than 1/4 inch after sanding except inner frame and cupboard doors, which shall be not less than 3/16 inch. If ponderosa pine, they shall be "sound and better two sides," according to standard commercial grading rules issued by pine plywood manufacturers; if fir, they shall be "sound two sides," according to Commercial Standard CS45–42; if hardwood, they shall conform to the generally accepted grades of door panels.

16. *Panels—solid.*—The standard thickness of solid ponderosa pine panels raised two sides shall be not less than 7/16 inch after sand-

ing, and shall conform to the grade of the stiles and rails. Panels wider than 9¾ inches may be glued-up. A water-resistant glue shall be used.

GRADE "NO. 2".—Recommended Primarily for Paint Finish

17. *Stiles and rails.*—This stock may contain light blue stain, medium-brown stain, or medium-red kiln burn showing on not to exceed 50 percent of the area of any piece, as well as pitch streaks, checks, pitch pockets if carefully slivered, tight sound knots not to exceed ⅝ inch in diameter, and other imperfections, not one of which shall be more serious in nature than those already enumerated. Each stile shall contain one such imperfection, but no piece shall contain more than two, and no door shall contain more than eight on each side. Plugs shall be admitted but regarded as imperfections. Rails wider than 4¾ inches may be glued-up. A water-resistant glue shall be used. Stiles and rails may be solid or veneered at the option of the manufacturer. If veneered, a water-resistant glue shall be used.

18. *Panels—flat plywood.*—The standard thickness of 3-ply flat plywood panels shall be not less than ¼ inch after sanding, except inner frame and cupboard doors, which shall be not less than 3/16 inch. If ponderosa pine, they shall be "sound and better two sides" according to standard commercial grading rules issued by pine plywood manufacturers; if fir, they shall be "sound two sides," according to Commercial Standard CS45–42.

19. *Panels—solid.*—The standard thickness of solid ponderosa pine panels raised two sides shall be not less than 7/16 inch after sanding and shall conform to the grade of the stiles and rails. Panels wider than 9¾ inches may be glued-up. A water-resistant glue shall be used.

GRADE "MILL RUN".—Recommended for Paint Finish Only (Garage Doors Only)

20. "Mill Run" grade may contain blue stain, brown stain or red-kiln burn, worm holes, checks, pitch streaks, pitch pockets, fine shake, tight sound knots not to exceed 2 inches in diameter, and other imperfections, none of which shall be more serious in nature than those already enumerated.

21. *Panels—flat plywood.*—The standard thickness of 3-ply flat plywood panels shall be not less than ¼ inch after sanding. If ponderosa pine, they shall be "sound and better two sides" according to standard commercial grading rules issued by pine plywood manufacturers; if fir, they shall be "sound two sides," according to Commercial Standard CS45–42.

22. *Panels—solid.*—The standard thickness of solid ponderosa pine panels raised two sides shall be not less than 7/16 inch after sanding and shall conform to the grade of the stiles and rails. Panels wider than 9¾ inches may be glued-up. A water-resistant glue shall be used.

DESIGNS AND LAY-OUTS

23. Measurements for stiles, rails, mullions, and muntins shown in lay-outs are over-all (face measurement plus the sticking). A tolerance of ⅛ inch in width shall be permitted. Unless otherwise specified, glass measurements may vary not more than ¼ inch from those shown in the lay-outs. (These tolerances allow for variations in different manufacturers' practices.)

24. Interior doors of any design narrower than 1 foot 6 inches in width will be furnished with stiles 3¾ inches over-all width, unless otherwise specified.

TABLE 1.—*Sizes*

Standard sizes, cupboard doors			Standard sizes, interior and exterior panel, sash, and flush doors		Standard sizes, sidelights
1′0″ x 1′6″	1′0″ x 2′10″	1′0″ x 5′0″	2′0″ x 6′0″	1′6″ x 7′0″	1′0″ x 6′8″
1′2″	1′2″	1′2″	2′4″	1′8″	1′2″
1′4″	1′4″	1′4″	2′6″	2′0″	1′4″
1′6″	1′6″	1′6″	2′8″	2′2″	1′6″
1′8″	1′8″	1′8″	3′0″	2′4″	
1′10″	1′10″	1′10″		2′6″	1′0″ x 6′10″
2′0″	2′0″	2′0″	1′6″ x 6′6″	2′8″	1′2″
			1′8″	2′10″	1′4″
1′8″ x 1′8″	1′0″ x 3′0″	1′0″ x 5′6″	2′0″	3′0″	1′6″
	1′2″	1′2″	2′2″	3′4″	
1′10″ x 1′10″	1′4″	1′4″	2′4″	3′6″	1′0″ x 7′0″
	1′6″	1′6″	2′6″		1′2″
1′0″ x 2′0″	1′8″	1′8″	2′8″	2′0″ x 7′6″	1′4″
1′2″	1′10″	1′10″	3′0″	2′6″	1′6″
1′4″	2′0″	2′0″		2′8″	
1′6″			1′6″ x 6′8″	2′10″	1′0″ x 7′6″
1′8″	1′0″ x 3′6″	1′0″ x 5′8″	1′8″	3′0″	1′2″
1′10″	1′2″	1′2″	2′0″	3′4″	1′4″
2′0″	1′4″	1′4″	2′2″	3′6″	1′6″
	1′6″	1′6″	2′4″		
1′0″ x 2′6″	1′8″	1′8″	2′6″	2′6″ x 8′0″	1′0″ x 8′0″
1′2″	1′10″	1′10″	2′8″	2′8″	1′2″
1′4″	2′0″	2′0″	2′10″	2′10″	1′4″
1′6″			3′0″	3′0″	1′6″
1′8″	1′0″ x 4′0″	1′0″ x 5′10″	3′4″	3′4″	
1′10″	1′2″	1′2″	3′6″	3′6″	
2′0″	1′4″	1′4″			
	1′6″	1′6″	1′6″ x 6′10″		
1′0″ x 2′8′	1′8″	1′8″	1′8″		
1′2″	1′10″	1′10″	2′0″		
1′4″	2′0″	2′0″	2′2″		
1′6″			2′4″		
1′8″	1′0″ x 4′6″	1′0″ x 6′0″	2′6″		
1′10″	1′2″	1′2″	2′8″		
2′0″	1′4″	1′4″	2′10″		
	1′6″	1′6″	3′0″		
	1′8″	1′8″			
	1′10″	1′10″			
	2′0″	2′0″			

Standard sizes, garage doors	Standard sizes, blind or summer doors		Standard sizes, combination and storm doors	Standard sizes, toilet doors
2′0″ x 7′0″	2′0″ x 4′6″	2′6″ x 6′6″	2′6″ x 6′7″	2′0″ x 4′0″
2′4″	2′4″	2′8″		2′4″
2′6″	2′6″	2′10″	2′6″ x 6′9″	2′6″
2′8″		3′0″	2′8″	
3′0″	2′0″ x 5′0″		2′10″	2′0″ x 4′6″
3′6″	2′4″	2′6′ x 6′8″	3′0″	2′4″
3′9″	2′6″	2′8″		2′6″
4′0″		2′10″	2′10″ x 6′11″	
	2′0″ x 5′6″	3′0″		2′0″ x 5′0″
2′0″ x 7′6″	2′4″		2′6″ x 7′1″	2′4″
2′4″	2′6″	2′10″ x 6′10″	2′8″	2′6″
2′6″			2′10″	
2′8″	2′0″ x 6′0″	2′8″ x 7′0″	3′0″	2′0″ x 5′6″
3′0″	2′4″	2′10″		2′4″
3′6″	2′6″	3′0″		2′6″
3′9″	2′8″			
4′0″	2′10″			2′0″ x 6′0″
	3′0″			2′4″
2′0″ x 8′0″				2′6″
2′4″				
2′6″				
2′8″				
3′0″				
3′6″				
3′9″				
4′0″				

INTERIOR DOORS

N.D. 100

ONE PANEL

Stiles and top rail ..... 4¾″
Bottom rail ..... 9⅝″

3-ply plywood flat panel. Sticking: Standard.

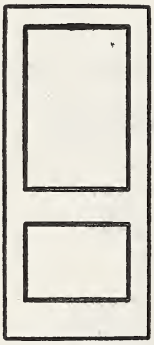
N.D. 101

INNER FRAME

Stiles and top rail ..... 4¼″ face
Bottom rail ..... 9¼″ or 9½″ face

3-ply plywood flat panel. Sticking: P&G or Standard.

N. D. 102

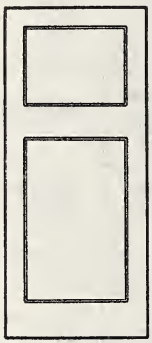


TWO PANEL

Stiles and top rail ..... 4¾″
Lock rail ..... 8″
Bottom rail ..... 9⅝″

3-ply plywood flat panels. Sticking: Standard.

N.D. 103



TWO REVERSE PANEL

Stiles and top rail ..... 4¾″
Cross rail ..... 4⅝″ or 8″
Bottom rail ..... 9⅝″

3-ply plywood flat panels. Sticking: Standard.

INTERIOR DOORS—Continued

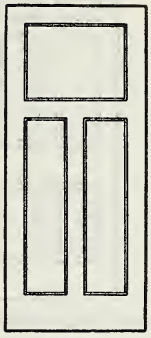
N.D. 104

TWO VERTICAL PANEL

Stiles and top rail	4¾″
Mullion	4⅝″
Bottom rail	9⅝″

3-ply plywood flat panels. Sticking: Standard.

N.D. 105

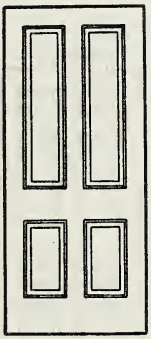


THREE PANEL

Stiles and top rail	4¾″
Cross rail and mullion	4⅝″
Bottom rail	9⅝″

3-ply plywood flat panels. Sticking: Standard.

N.D. 106

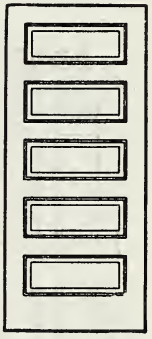


FOUR PANEL

Stiles and top rail	4¾″
Lock rail	8″
Muntins	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

N.D. 107



FIVE CROSS PANEL

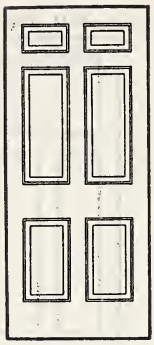
Stiles and top rail	4¾″
Intermediate rails	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Doors 7′6″ and 8′ high are made with 6 cross panels.

INTERIOR DOORS—Continued

N.D. 108



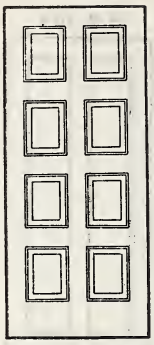
SIX PANEL COLONIAL

Stiles and top rail	4¾″
Lock rail	8″ or 9⅝″
Intermediate rail and mullions	3⅞″ or 4⅝″
Bottom rail	8″ or 9⅝″
Height of top panels over-all	7⅛″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels. Sticking: Standard.

Doors 1′8″ and narrower are made 1 panel wide.

N.D. 109



EIGHT PANEL

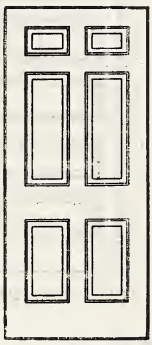
Stiles and top rail	4¾″
Intermediate rails and mullions	3⅞″ or 4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels. Sticking: Standard.

Doors 1′8″ and narrower are made 1 panel wide.

EXTERIOR DOORS

N.D. 110

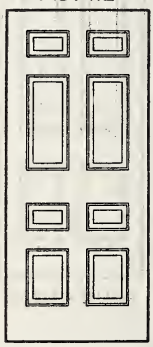


SIX PANEL COLONIAL

Stiles and top rail	5½″
Lock rail	8″ or 9⅝″
Intermediate rail and mullions	5⅜″
Bottom rail	8″ or 9⅝″
Panel thickness	¾″
Height of top panels over-all	7⅛″

Raised panels 2 sides. Sticking: Standard.

N.D. 112



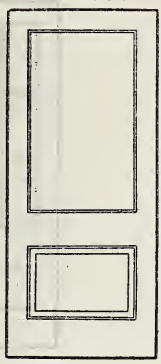
EIGHT PANEL COLONIAL

Stiles and top rail	5½″
Lock rail	8″ or 9⅝″
Intermediate rails and mullions	5⅜″
Bottom rail	8″ or 9⅝″
Panel thickness	¾″
Height of small panels over-all	6⅞″ or 7⅛″

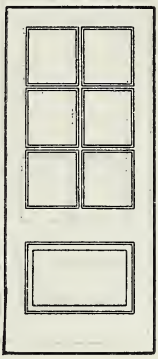
Raised panels 2 sides. Sticking: Standard .

EXTERIOR DOORS—Continued

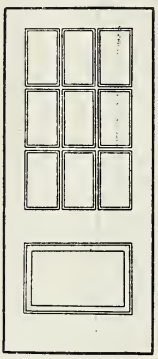
N.D. 500



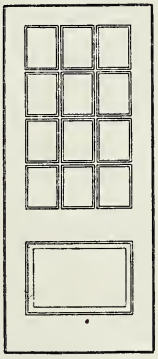
N.D. 501



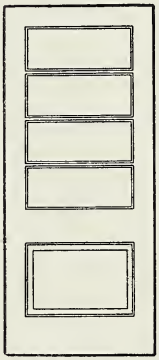
N.D. 502



N.D. 505



N.D. 506



Stiles and top rail ..... 5½″
Lock rail ..... 8″ or 9⅝″
Bottom rail ..... 9⅝″

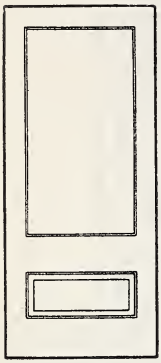
Raised panel 2 sides. Can also be furnished with 3-ply plywood flat panel, if desired.
Sticking: Standard.

Door No.	Size of door 2′8″ x 6′8″	Approximate glass size Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 500	22″ x 40″	26″ x 40″	26″ x 44″
N. D. 501	10¾″ x 13″	12¾″ x 13″	12¾″ x 14 5/16″
N. D. 502	7″ x 13″	8 5/16″ x 13″	8 5/16″ x 14 5/16″
N. D. 505	7″ x 9⅝″	8 5/16″ x 9⅝″	8 5/16″ x 10⅜″
N. D. 506	22″ x 9⅝″	26″ x 9⅝″	26″ x 10⅜″

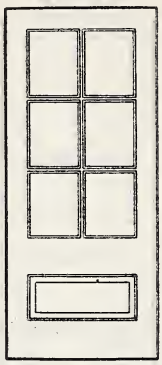
Beads for glass included.

EXTERIOR DOORS—Continued

N.D. 507

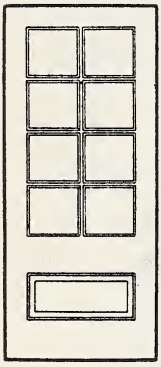


N.D. 508



N.D. 509

N.D. 510



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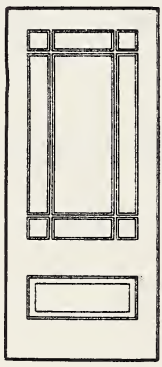
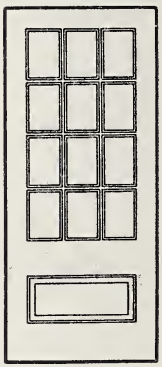


N.D. 512



Stiles and top rail ..... 5½″
Lock rail ..... 8″ or 9⅝″
Bottom rail ..... 9⅝″

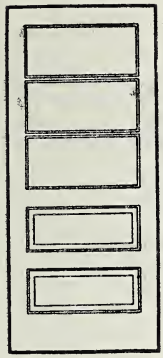
Raised panel 2 sides. Can also be furnished with 3-ply plywood flat panel, if desired. Sticking: Standard.

Door No.	Approximate glass size Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 507	22″ x 46″	26″ x 46″	26″ x 50″
N. D. 508	10¾″ x 15″	12¾″ x 15″	12¾″ x 16 5/16″
N. D. 509	7″ x 15″	8 5/16″ x 15″	8 5/16″ x 16 5/16″
N. D. 510	10¾″ x 11⅛″	12¾″ x 11⅛″	12¾″ x 12⅛″
N. D. 511	5″ x 5″*	5″ x 5″*	5″ x 5″*
N. D. 512	7″ x 11⅛″	8 5/16″ x 11⅛″	8 5/16″ x 12⅛″

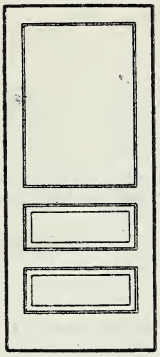
Beads for glass included.
*Corner lights.

EXTERIOR DOORS—Continued

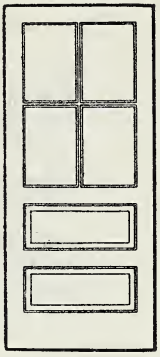
N.D. 513



N.D. 514



N.D. 515



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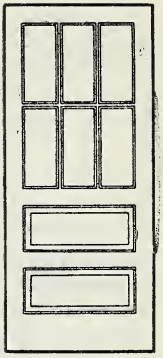
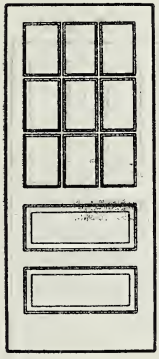
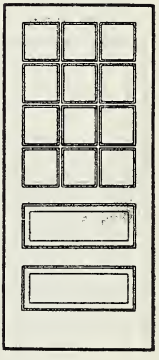


N.D. 517



N.D. 519

N.D. 521



Stiles and top rail	4¾″
Lock rail	4⅝″
Intermediate rail	4⅝″
Bottom rail	9⅝″

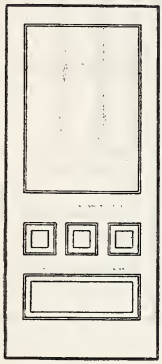
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Door No.	Approximate glass size Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 513	23½″ x 11⅝″	27½″ x 11⅝″	27½″ x 13″
N. D. 514	23½″ x 36″	27½″ x 36″	27½″ x 40″
N. D. 515	11½″ x 17¾″	13½″ x 17¾″	13½″ x 19¾″
N. D. 516	7½″ x 17¾″	8 13/16″ x 17¾″	8 13/16″ x 19¾″
N. D. 517	7½″ x 11⅝″	8 13/16″ x 11⅝″	8 13/16″ x 13″
N. D. 519	7½″ x 36″	8 13/16″ x 36″	8 13/16″ x 40″
N. D. 521	7½″ x 8⅝″	8 13/16″ x 8⅝″	8 13/16″ x 9⅝″

Beads for glass included.

EXTERIOR DOORS—Continued

N.D. 522



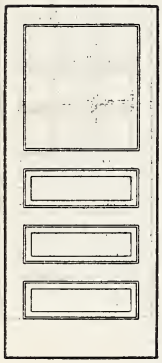
Stiles and top rail	4¾″
Lock rail	8″
Cross rail	5½″
Muntins	3″ or 3½″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

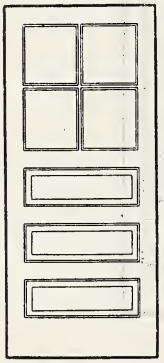
Size of door	Approx. glass size
2′8″ x 6′8″	23½″ x 36″
3′0″ x 6′8″	27½″ x 36″
3′0″ x 7′0″	27½″ x 40″

Beads for glass included

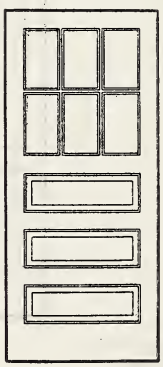
N.D. 530



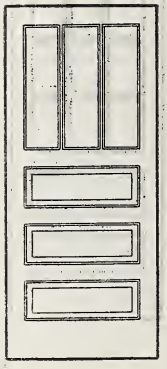
N.D. 531



N.D. 532



N.D. 533



Stiles and top rail	4¾″
Cross rails	4⅝″
Bottom rail	9⅝″

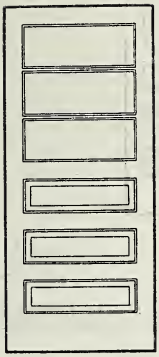
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Door No.	Approximate glass size Size of door 2′6″ x 6′6″	Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 530	21½″ x 24″	23½″ x 26″	27½″ x 26″	27½″ x 30″
N. D. 531	10½″ x 11¾″	11½″ x 12¾″	13½″ x 12¾″	13½″ x 14¾″
N. D. 532	6 13/16″ x 11¾″	7½″ x 12¾″	8 13/16″ x 12¾″	8 13/16″ x 14¾″
N. D. 533	6 13/16″ x 24″	7½″ x 26″	8 13/16″ x 26″	8 13/16″ x 30″

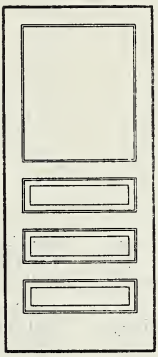
Beads for glass included.

EXTERIOR DOORS—Continued

N.D. 536



N.D. 537



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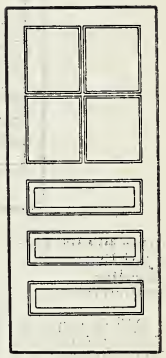

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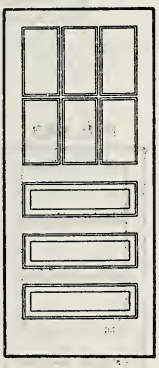
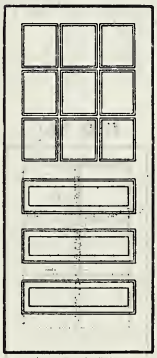


N.D. 540



N.D. 542

Stiles and top rail	4¾″
Cross rails	4⅝″
Bottom rail	9⅝″

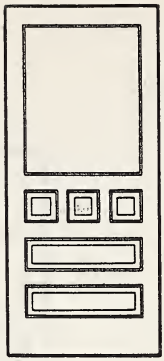
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Door No.	Size of door 2′6″ x 6′6″	Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
	Approximate glass size			
N. D. 536	21½″ x 9″	23½″ x 9⅝″	27½″ x 9⅝″	27½″ x 11″
N. D. 537	21½″ x 28″	23½″ x 30″	27½″ x 30″	27½″ x 34″
N. D. 538	10½″ x 13¾″	11½″ x 14¾″	13½″ x 14¾″	13½″ x 16¾″
N. D. 539	6 13/16″ x 13¾″	7½″ x 14¾″	8 13/16″ x 14¾″	8 13/16″ x 16¾″
N. D. 540	6 13/16″ x 9″	7½″ x 9⅝″	8 13/16″ x 9⅝″	8 13/16″ x 11″
N. D. 542	6 13/16″ x 28″	7½″ x 30″	8 13/16″ x 30″	8 13/16″ x 34″

Beads for glass included.

EXTERIOR DOORS—Continued

N.D. 544



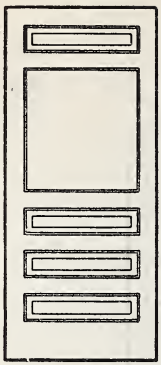
Stiles and top rail ..... 4¾″
Cross rails ..... 4⅝″
Muntins ..... 3″ or 3½″
Bottom rail ..... 9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Size of door	Approx. glass size
2′ 6″ x 6′ 6″	21½″ x 30″
2′ 8″ x 6′ 8″	23½″ x 32″
3′ 0″ x 6′ 8″	27½″ x 32″
3′ 0″ x 7′ 0″	27½″ x 36″

Beads for glass included

N.D. 549



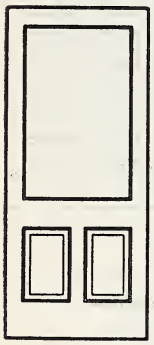
Stiles and top rail ..... 4¾″
Cross rails ..... 4⅝″
Bottom rail ..... 9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

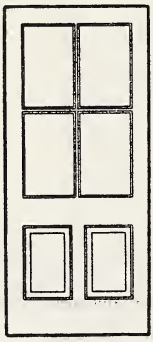
Size of door	Approx. glass size
2′6″ x 6′6″	21½″ x 24″
2′8″ x 6′8″	23½″ x 26″
3′0″ x 6′8″	27½″ x 26″
3′0″ x 7′0″	27½″ x 30″

Beads for glass included

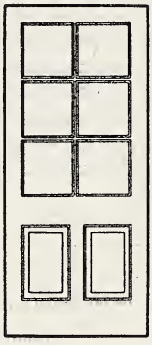
N.D. 559



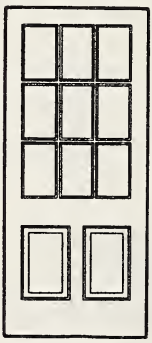
N.D. 560



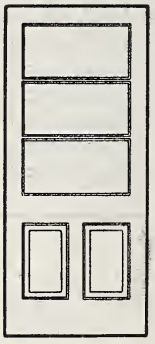
N.D. 561



N.D. 562



N.D. 563



Stiles and top rail ..... 4¾″
Lock rail ..... 8″
Muntins ..... 4⅝″
Bottom rail ..... 9⅝″

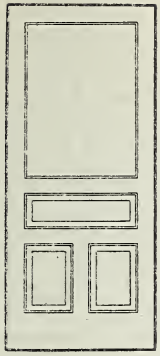
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Door No.	Approximate glass size: Size of door 2′6″ x 6′6″	Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 559	21½″ x 38″	23½″ x 40″	27½″ x 40″	27½″ x 44″
N. D. 560	10½″ x 18¾″	11½″ x 19¾″	13½″ x 19¾″	13½″ x 21¾″
N. D. 561	10½″ x 12 5/16″	11½″ x 13″	13½″ x 13″	13½″ x 14 5/16″
N. D. 562	6 13/16″ x 12 5/16″	7½″ x 13″	8 13/16″ x 13″	8 13/16″ x 14 5/16″
N. D. 563	21½″ x 12 5/16″	23½″ x 13″	27½″ x 13″	27½″ x 14 5/16″

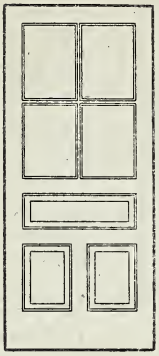
Beads for glass included.

EXTERIOR DOORS—Continued

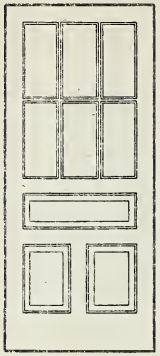
N.D. 567



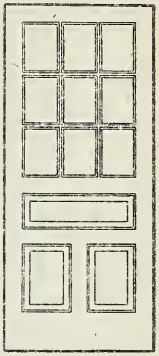
N.D. 568



N.D. 569



N.D. 570



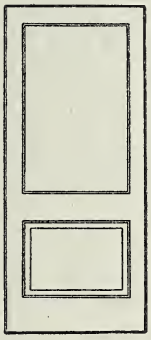
Stiles and top rail	4¾″
Cross rails	4⅝″
Muntins	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

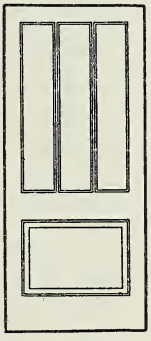
Door No.	Approximate glass size Size of door 2′6″ x 6′6″	Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 567	21½″ x 32″	23½″ x 34″	27½″ x 34″	27½″ x 38″
N. D. 568	10½″ x 15¾″	11½″ x 16¾″	13½″ x 16¾″	13½″ x 18¾″
N. D. 569	6 13/16″ x 15¾″	7½″ x 16¾″	8 13/16″ x 16¾″	8 13/16″ x 18¾″
N. D. 570	6 13/16″ x 10 5/16″	7½″ x 11″	8 13/16″ x 11″	8 13/16″ x 12 5/16″

Beads for glass included.

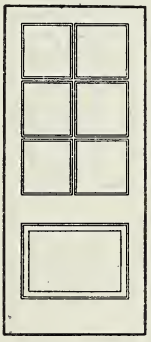
N.D. 575



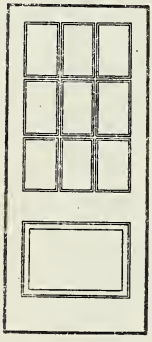
N.D. 576



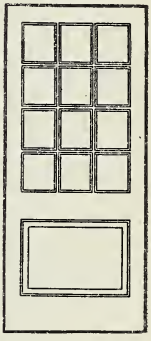
N.D. 578



N.D. 580



N.D. 582



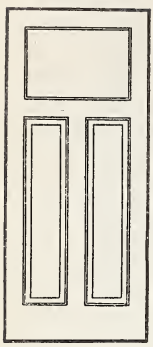
Stiles and top rail	4¾″
Lock rail	8″
Bottom rail	9⅝″

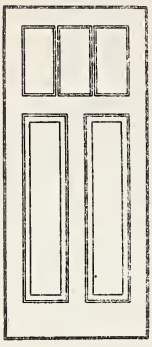
Raised panel 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

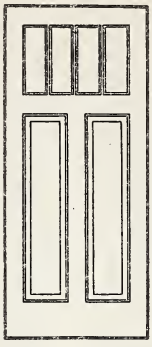
Door No.	Approximate glass size Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 575	23½″ x 40″	27½″ x 40″	27½″ x 44″
N. D. 576	7½″ x 40″	8 13/16″ x 40″	8 13/16″ x 44″
N. D. 578	11½″ x 13″	13½″ x 13″	13½″ x 14 5/16″
N. D. 580	7½″ x 13″	8 13/16″ x 13″	8 13/16″ x 14 5/16″
N. D. 582	7½″ x 9 5/8″	8 13/16″ x 9 5/8″	8 13/16″ x 10 5/8″

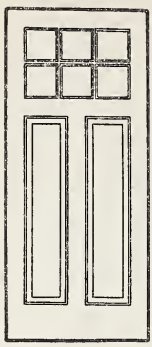
Beads for glass included.

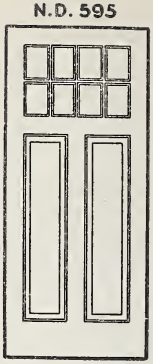
EXTERIOR DOORS—Continued









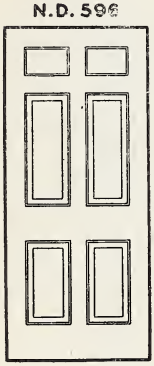


Stiles and top rail ..... 4¾″ or 5½″
Mullion and cross rail ..... 4⅝″ or 5¾″
Bottom rail ..... 9⅝″

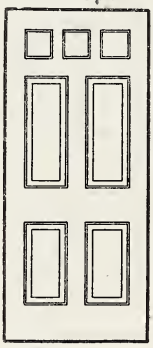
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Door No.	Approximate glass size (for doors with 5½″ stiles) Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
N. D. 591	22″ x 18″	26″ x 18″	26″ x 18″
N. D. 592	7″ x 18″	8 5/16″ x 18″	8 5/16″ x 18″
N. D. 593	5⅛″ x 18″	6⅛″ x 18″	6⅛″ x 18″
N. D. 594	7″ x 8¾″	8 5/16″ x 8¾″	8 5/16″ x 8¾″
N. D. 595	5⅛″ x 8¾″	6⅛″ x 8¾″	6⅛″ x 8¾″

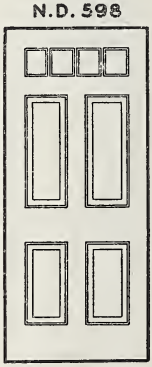
Beads for glass included.



BAR.....5-3/8″



BARS.....3-1/2″



BARS.....1-1/2″

Stiles and top rail ..... 5½″
Lock rail ..... 8″ or 9¾″
Top cross rail and mullions ..... 5⅜″
Bottom rail ..... 9⅝″

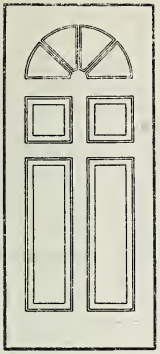
Raised panels 2 sides. Sticking: Standard.

rNo.	Approximate glass size Size of door 2′8″ x 6′8″	Size of door 3′0″ x 6′8″	Size of door 3′0″ x 7′0″
D. 596	8¾″ x 7⅛″	10¾″ x 7⅛″	10¾″ x 7⅛″
D. 597	5¾″ x 7⅛″	7″ x 7⅛″	7″ x 7⅛″
D. 598	5⅛″ x 7⅛″	6⅛″ x 7⅛″	6⅛″ x 7⅛″

Beads for glass included.

EXTERIOR DOORS—Continued

N.D. 600



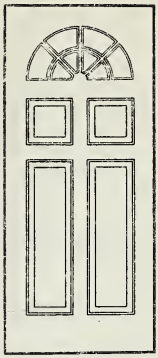
Stiles and top rail	5½″
Top cross rail	5⅜″
Intermediate rail & mullion	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Size of door	Approx. glass opg.
2′8″ x 6′8″	22″ x 11″
3′0″ x 6′8″	26″ x 13″
3′0″ x 7′0″	26″ x 13″

Beads for glass included.

N.D. 601



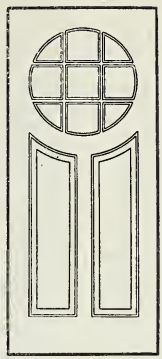
Stiles and top rail	5½″
Top cross rail	5⅜″
Intermediate rail & mullion	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Size of door	Approx. glass opg.
2′8″ x 6′8″	22″ x 11″
3′0″ x 6′8″	26″ x 13″
3′0″ x 7′0″	26″ x 13″

Beads for glass included.

N.D. 603



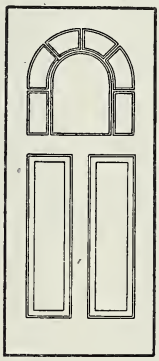
Stiles and top rail	5½″
Cross rail	5⅜″
Mullion	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Size of door	Approx. glass opg.
2′8″ x 6′8″	22″ x 22″
3′0″ x 6′8″	26″ x 26″
3′0″ x 7′0″	26″ x 26″

Beads for glass included.

N.D. 604



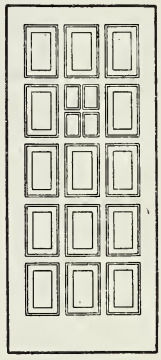
Stiles and top rail	5½″
Cross rail	5⅜″
Mullion	4⅝″
Bottom rail	9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Size of door	Approx. glass opg.
2′8″ x 6′8″	22″ x 22″
3′0″ x 6′8″	26″ x 26″
3′0″ x 7′0″	26″ x 26″

Beads for glass included.

N.D. 605



Stiles and top rail	4¾″
Cross rails and muntins	2⅝″
Bottom rail	9⅝″

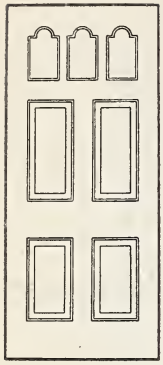
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Size of door	Approx. glass opg.
2′8″ x 6′8″	6¾″ x 11⅞″
3′0″ x 6′8″	8″ x 11⅞″
3′0″ x 7′0″	8″ x 12 1/16″

Beads for glass included.

EXTERIOR DOORS—Continued

N.D. 606



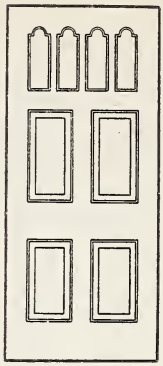
Stiles and top rail	5½″
Lock rail	8″ or 9¾″
Top cross rail and mullions	5⅜″
Bottom rail	9⅝″
Bars	1½″ to 3½″

Raised panels 2 sides. Sticking: Standard.

Size of door	Approx. glass size N. D. 606	N. D. 607
2′8″ x 6′8″	6¾₁₆″ x 9″	4⅜″ x 11″
3′0″ x 6′8″	7½″ x 9″	5⅜″ x 11″
3′0″ x 7′0″	7½″ x 13″	5⅜″ x 15″

Beads for glass included.

N.D. 607



N.D. 608

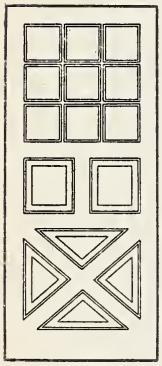
Stiles and top rail	4¾″
Lock rail	9⅝″
Cross rail and mullions	4⅝″
Bottom rail	8¾″
Bars	3½″

Heavy raised panels 2 sides. (¾″ or 1⅛″.) Sticking: Standard.

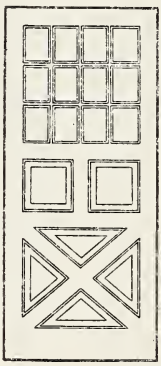
Size of door	Approx. glass size
2′8″ x 6′8″	6⅛″ x 26⅞″
3′0″ x 6′8″	7⅜″ x 26⅞″
3′0″ x 7′0″	7⅜″ x 30⅞″

Beads for glass included.

N.D. 609



N.D. 610



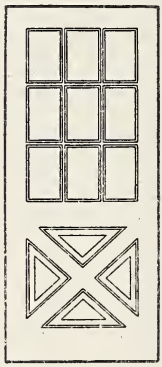
Stiles and top rail	4¾″
Lock rail	4⅝″
Cross rail and mullions	4⅝″
Bottom rail	8″

Hip raised panels 2 sides. (1⅜″ or 1¾″.) Sticking: Standard.

Size of door	Approx. glass size N. D. 609	N. D. 610
2′8″ x 6′8″	7½″ x 7⅝″	5⅝″ x 7⅝″
3′0″ x 6′8″	8¹³⁄₁₆″ x 7⅝″	6⅝″ x 7⅝″
3′0″ x 7′0″	8¹³⁄₁₆″ x 9″	6⅝″ x 9″

Beads for glass included.

N.D. 612



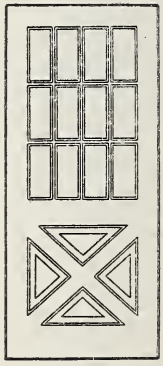
Stiles and top rail	5½″
Lock rail	7″
Mullions	5⅜″
Bottom rail	8¾″

Heavy raised panels 2 sides. (¾″ or 1⅛″.) Sticking: Standard.

Size of door	Approx. glass size N. D. 612	N. D. 613
2′8″ x 6′8″	7″ x 12″	5⅛″ x 12″
3′0″ x 6′8″	8⁵⁄₁₆″ x 12″	6⅛″ x 12″
3′0″ x 7′0″	8⁵⁄₁₆″ x 13⁵⁄₁₆″	6⅛″ x 13⁵⁄₁₆″

Beads for glass included.

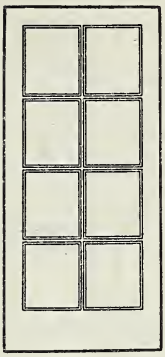
N.D. 613



EXTERIOR DOORS—Continued

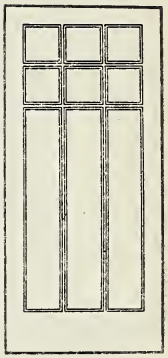
N.D. 620

N.D. 622



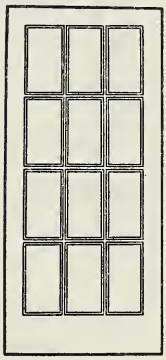
N.D. 623

N.D. 624

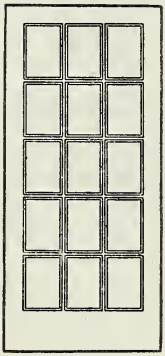


N.D. 625

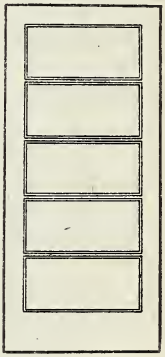
N.D. 626



N.D. 627



N.D. 630



Stiles and top rail ---------- 4¾″
Bottom rail ---------- 9⅝″

Sticking: Standard.

Door No.	Size of door 2′ 0″ x 6′ 8″	Approximate glass size: Size of door 2′ 6″ x 6′ 8″	Size of door 2′ 8″ x 6′ 8″	Size of door 3′ 0″ x 6′ 8″
N. D. 620	15½″ x 66½″	21½″ x 66½″	23½″ x 66½″	27½″ x 66½″
N. D. 622	7½″ x 16¼″	10½″ x 16¼″	11½″ x 16¼″	13½″ x 16¼″
N. D. 623	5″ x 5″**	5″ x 5″**	5″ x 5″**	5″ x 5″**
N. D. 624	4 13/16″ x 4 13/16″*	6 13/16″ x 6 13/16″*	7½″ x 7½″*	8 13/16″ x 8 13/16″*
N. D. 625	7½″ x 12⅞″	10½″ x 12⅞″	11½″ x 12⅞″	13½″ x 12⅞″
N. D. 626	4 13/16″ x 16¼″	6 13/16″ x 16¼″	7½″ x 16¼″	8 13/16″ x 16¼″
N. D. 627	4 13/16″ x 12⅞″	6 13/16″ x 12⅞″	7½″ x 12⅞″	8 13/16″ x 12⅞″
N. D. 630	15½″ x 12⅞″	21½″ x 12⅞″	23½″ x 12⅞″	27½″ x 12⅞″

Beads for glass included.

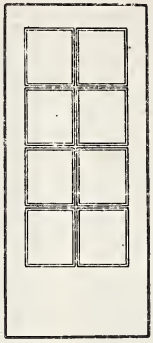
**Corner Lights. *Top Lights.

EXTERIOR DOORS—Continued

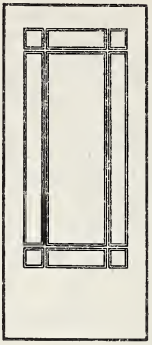
N.D. 635

N.D. 636

N.D. 637

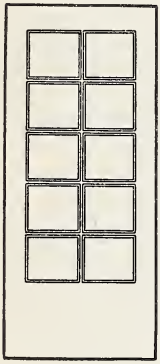


N.D. 638



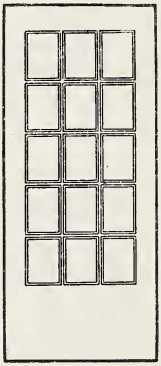
N.D. 639

N.D. 640

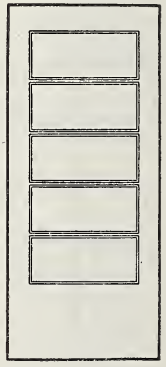


N.D. 641

N.D. 642



N.D. 644



	3′ 0″ wide and under	Over 3′ 0″ wide
Stiles	5½″	6½″
Top rail	6½″	6½″
Bottom rail	18½″	18½″

Sticking: Standard.

Door No.	Approximate glass size (for doors with 5½″ stiles) Size of door 2′ 8″ x 6′ 8″	Size of door 3′ 0″ x 6′8″	Size of door 3′ 0″ x 7′ 0″
N. D. 635	22″ x 56″	26″ x 56″	26″ x 60″
N. D. 636	6 5/16″ x 56″	7 5/8″ x 56″	7 5/8″ x 60″
N. D. 637	10¾″ x 13 5/8″	12¾″ x 13 5/8″	12¾″ x 14 5/8″
N. D. 638	5″ x 5″**	5″ x 5″**	5″ x 5″**
N. D. 639	7″ x 7″*	8 5/16″ x 8 5/16″*	8 5/16″ x 8 5/16″*
N. D. 640	10¾″ x 10¾″	12¾″ x 10¾″	12¾″ x 11 9/16″
N. D. 641	7″ x 13 5/8″	8 5/16″ x 13 5/8″	8 5/16″ x 14 5/8″
N. D. 642	7″ x 10¾″	8 5/16″ x 10¾″	8 5/16″ x 11 9/16″
N. D. 644	22″ x 10¾″	26″ x 10¾″	26″ x 11 9/16″

Beads for glass included.

**Corner Lights. *Top Lights.

SIDE LIGHTS

S.L. 675

Stiles ---------- 2½″ wide
Top rail ---------- 6½″ wide
Bottom rail ---------- 9⅝″ or 18½″ wide

Top and bottom rails made same width as in doors with which they are used.
Sticking: Standard.

Beads for glass included.

S.L. 676

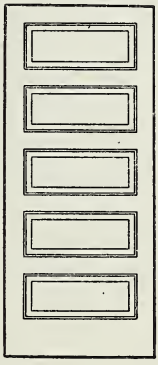
Stiles ---------- 2½″ wide
Top rail ---------- 5½″ wide
Bottom rail ---------- 9⅝″ wide
Lock rail ---------- 8″ or 9⅝″ wide

Top and bottom rails made same width as in doors with which they are used.
Sticking: Standard.

Beads for glass included.

STORM DOORS

N.D. 702



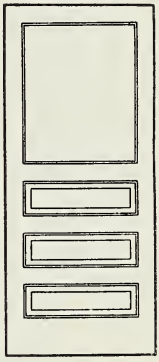
Stiles and top rail ---------- 4¾″
Cross rail ---------- 4⅝″
Bottom rail ---------- 9⅝″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired.
Sticking: Standard.

Size of door

2′6″ x 6′7″
2′8″ x 6′9″
2′10″ x 6′11″
3′0″ x 7′1″

N.D. 703



Stiles and top rail ---------- 4¾″
Cross rail ---------- 4⅝″
Bottom rail ---------- 9⅝″,

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired.
Sticking: Standard.

Size of door	Approx. glass size
2′6″ x 6′7″	22″ x 28″
2′8″ x 6′9″	24″ x 30″
2′10″ x 6′11″	26″ x 32″
3′0″ x 7′1″	28″ x 34″

Beads for glass included.

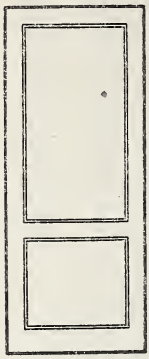
CUPBOARD DOORS

N.D. 710

Stiles and top rail---------- 2¼" or 3½"
Bottom rail---------- 3¼" or 4½"

3-ply plywood flat panel. Sticking: Standard. Can also be furnished solid raised panel one side, flat one side.

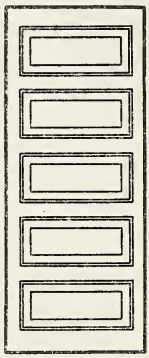
N.D. 711



Stiles, top & cross rail---------- 2¼" or 3½"
Bottom rail---------- 3¼" or 4½"

3-ply plywood flat panels. Sticking: Standard. Can also be furnished solid raised panel one side flat one side.

N.D. 712



Stiles, top & cross rail---------- 2¼" or 3½"
Bottom rail---------- 3¼" or 4½"

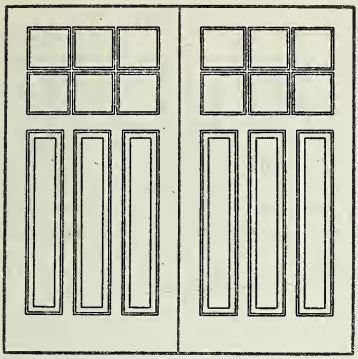
Raised panels 2 sides. Sticking: Standard. Can also be furnished 3-ply plywood flat panels, if desired.

N. D. 712 doors are made as follows:

Doors up to and including 2′0″ high---------- 2 cross panels.
Over 2′0″ up to and including 3′0″ high---------- 3 cross panels.
Over 3′0″ up to and including 4′0″ high---------- 4 cross panels.
Over 4′0″ high---------- 5 cross panels.

GARAGE DOORS

N.D. 720

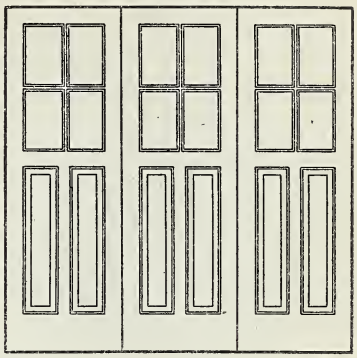


Stiles and top rail	5½″
Cross rail	4⅝″
Mullions	3⅞″
Bottom rail	9⅝″
Vertical and horizontal bars between glass	½″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Beads for glass included.

N.D. 721

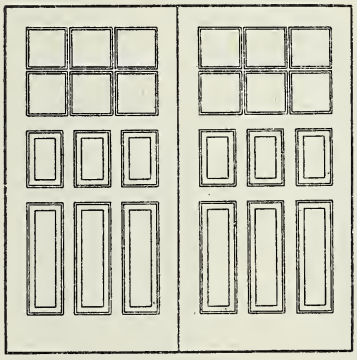


Stiles and top rail	4¾″
Cross rail	4⅝″
Mullions	3⅞″
Bottom rail	9⅝″
Vertical and horizontal bars between glass	½″

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

Beads for glass included.

N.D. 722

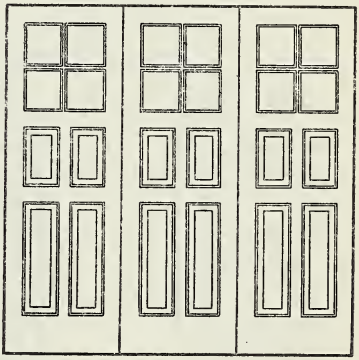


Stiles and top rail	5½″
Cross rail	4⅝″
Mullions	3⅞″
Bottom rail	9⅝″
Vertical and horizontal bars between glass	½″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Beads for glass included.

N.D. 723



Stiles and top rail	4¾″
Cross rail	4⅝″
Mullions	3⅞″
Bottom rail	9⅝″
Vertical and horizontal bars between glass	½″

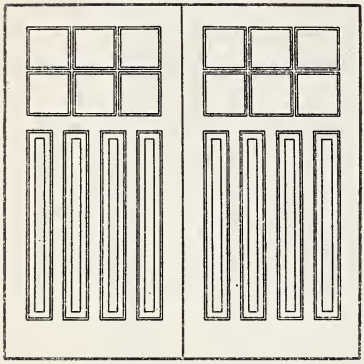
Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Beads for glass included.

611745—44——4

GARAGE DOORS—Continued

N.D. 724

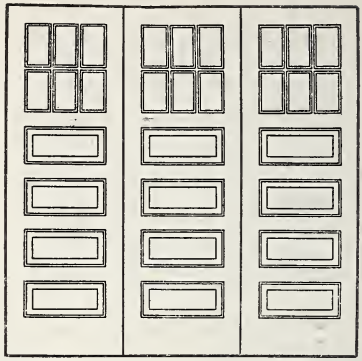


Stiles and top rail	5½″
Cross rail	4⅝″
Mullions	3⅞″
Bottom rail	9⅝″
Vertical and horizontal bars between glass	½″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Beads for glass included.

N.D. 725



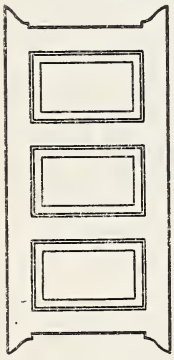
Stiles and top rail	4¾″
Cross rail	4⅝″
Bottom rail	9⅝″
Vertical and horizontal bars between glass	½″

Raised panels 2 sides. Can also be furnished with 3-ply plywood flat panels, if desired. Sticking: Standard.

Beads for glass included.

TOILET DOORS

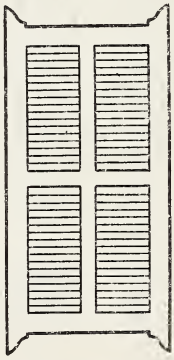
N.D. 726



Stiles and top rail	4¾″
Cross rails	4⅝″

Raised panels 2 sides. Sticking: Standard.

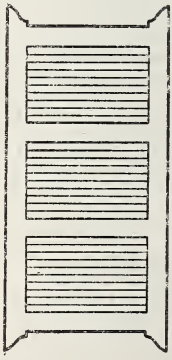
N.D. 727



Stiles and top rail	3½″
Cross rails and mullions	2⅜″

Stationary slats. Sticking: Square.

N.D. 728



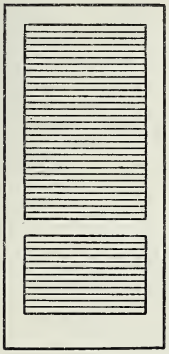
Stiles and top rail	3½″
Cross rails	3⅜″

Stationary slats. Sticking: Square.

Toilet doors can be supplied without lugs, if desired.

BLIND OR SUMMER DOORS

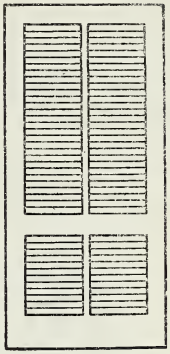
N.D. 730



Stiles and top rail	4¾″
Cross rail	4⅝″
Bottom rail	8″

Stationary slats. Sticking: Square.

N.D. 731

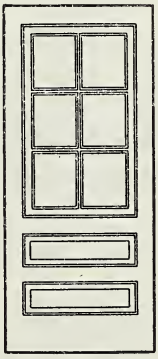


Stiles and top rail	4¾″
Cross rail	5¾″
Mullions	2⅜″
Bottom rail	8″

Stationary slats. Sticking: Square.

COMBINATION DOORS

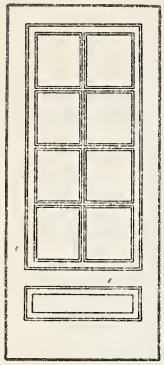
N.D. 736



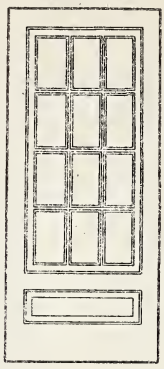
Stiles, top and cross rails	4¼″ to 4¾″
Bottom rail	9″ or 9⅝″

COMBINATION DOORS—Continued

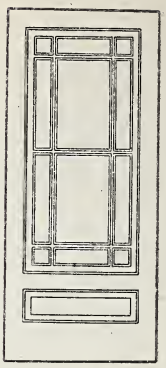
N.D. 737



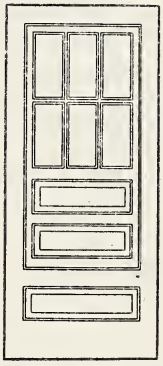
N.D. 739



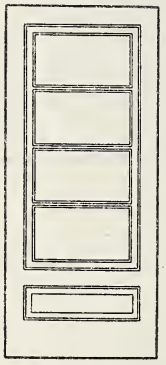
N.D. 742



N.D. 749



N.D. 756



Stiles, top and cross rails	4¼″ to 4¾″
Bottom rail	9″ or 9⅝″

PONDEROSA PINE FLUSH DOORS

25. All commercial standard ponderosa pine flush doors shall meet the following requirements:

26. *Material.*—Ponderosa pine used in the manufacture of flush doors shall be properly kiln-dried. A water-resistant glue shall be used.

27. *Workmanship.*—Flush doors shall be well manufactured and flat surfaces smoothly machine-sanded.

28. *Construction.*—The core of flush doors shall be formed of vertical blocks not over 2 inches wide on the face, securely glued together with water-resistant glue and with joints well staggered and the core surrounded with ¾-inch edge strip on all four edges. In lieu of vertical blocks, the core may be of stile, rail, and panel units, each unit made up of blocks, all of which when assembled with dowels, will make a solid core foundation for the cross banding and veneer. Cores shall be uniformly dried to proper moisture content and dressed to a smooth

surface before applying the crossbanding. If crossbanded, the crossbanding and face veneers shall be glued to each side of the core and assembled under pressure. Exterior flush doors may be manufactured with wide edge strips to allow cutting down width and height of doors and they may also be made to permit cutting circle or other irregular top.

29. *Veneers.*—If cross-banded, the crossbanding shall be not less than 1/16 inch or more than 1/8 inch thick. Face veneers shall be from 1/16 inch to 1/4 inch thick before sanding, except where V-grooving is required, then 1/4 inch thick before sanding.

30. *Thickness.*—Flush doors shall be 1 3/4 inches thick and a thickness tolerance of minus 1/16 inch shall be allowed.

31. *Grading.*—Flush doors shall be of No. 1 grade. The stock shall be clear, except that bright sap, light-brown stain, and light-red kiln burn shall be permitted.

PLAIN FLUSH

FLUSH "V" GROOVED

Light openings may be cut in these doors to suit the wishes of the purchaser.

INSPECTION

32. All ponderosa pine doors sold as conforming to the commercial standard are subject to inspection in the condition received, and complaints regarding any shipment shall be made within ten (10) days after receipt thereof. Any rejected doors shall be held, properly protected, for a period of thirty (30) days after notice of rejection and pending adjustment.

LABELING

33. In order to assure the purchaser that he is getting ponderosa pine doors of the quality specified, producers may individually, or in concert with their trade associations, issue guarantees, or grade mark each door by stamp, brand, or label as conforming to this standard. The following wording is recommended for the label:

> This GRADE _____ ponderosa pine door is guaranteed by the manufacturer to conform to Commercial Standard CS120–44, as issued by the National Bureau of Standards of the U. S. Department of Commerce.
>
> _____
> (Name of Manufacturer)

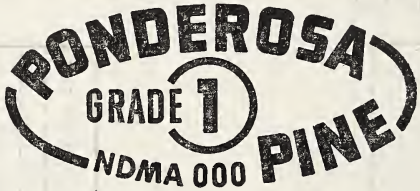
34. *Grade Marking.*

34a. The following grade-marking rules have been adopted by the National Door Manufacturers Association, Inc., as a means of assuring consumers and distributors that ponderosa pine doors conform to the high standards of quality defined herein.

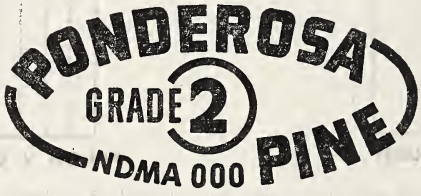
34b. Consumers and distributors may request that ponderosa pine doors be grade-marked. All ponderosa pine doors guaranteed to conform to the commercial grade rules as set forth herein may be stamped, labeled, or branded with the letters "NDMA", the grade designation, and an identification of the manufacturer by numerals.

34c. The following official grade designations have been approved by the National Door Manufacturers Association:

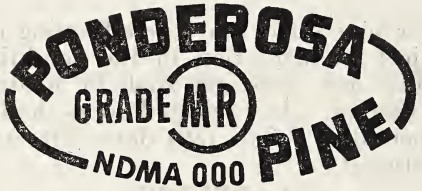
(1) For ponderosa pine doors of No. 1 grade:



(2) For ponderosa pine doors of No. 2 grade:



(3) For ponderosa pine doors of "Millrun" grade:



NOMENCLATURE AND DEFINITIONS

The definitions below give the meaning of various terms used in this standard:

Bars.—Wood divisions separating lights of glass.

Coped.—The shaping of the ends of rails, mullions, muntins, or bars so that they will cover and fit the contour of the sticking.

Core.—The innermost layer in veneered door construction.

Crossbanding.—The veneer which may be used in the construction of flush doors, which is placed between the core and face veneers with the direction of the grain at right angles to that of the face veneer.

Flush door.—Made up of a core, crossbanding, and face veneers, or core and face veneers only.

Panel door.—Made up of stiles, rails, and one or more panels, the stiles and rails forming the frame around the panel.

Sash door.—Same as panel door, except one or more panels are replaced by glass.

Kiln dried.—Dried in a closed chamber in which the removal of moisture is controlled by artificial heat and usually by relative humidity.

Mullion.—An upright or vertical, bar in a door.

Muntin.—Any short or light bar, either vertical or horizontal, in a door between glass or panels and not extending the full width or length of the door.

Plywood panel.—A panel made up of core and face veneer.

Pitch seam.—An opening or imperfection parallel to the grain which is filled with pitch.

Rails.—The cross, or horizontal, pieces of the framework of a door.

Bottom rail.—The bottom cross, or horizontal, piece of a door.

Lock rail.—The wide cross, or horizontal, rail of a door at lock height.

Top rail.—The top cross, or horizontal, piece of a door.

Sticking.—A mold which is worked on the edges of stiles, rails, mullions, muntins, or bars, adjacent to panels or glass.

Stiles.—The upright, or vertical, outside pieces of a door.

Veneered.—Made up of core and face veneers (may include crossbanding in flush doors).

USE CLASSIFICATION INDEX

Interior Doors

Exterior Doors

[a] Also for exterior use.

EXTERIOR DOORS—Continued

EXTERIOR DOORS—Continued

[b] Also for interior use.

Blind or Summer Doors

Stock No	Description	Page
N. D. 730	2 stat. slat panel	25
N. D. 731	4 stat. slat panel	25

Combination Doors

N. D. 736	2 hor. pan. & 6 lts., 2 w	25
N. D. 737	1 hor. pan. & 8 lts., 2 w	26
N. D. 739	1 hor. pan. & 12 lts., 3 w	26
N. D. 742	1 hor. pan. & 12 marg. lts	26
N. D. 749	3 hor. pan. & 6 lts., 3 w	26
N. D. 756	1 hor. pan. & 4 hor. lts	26

Flush Doors

Flush	Plain flush	27
Flush	V grooved	27

EFFECTIVE DATE

35. The standard is effective for new production from September 15, 1944.

STANDING COMMITTEE

36. 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 Division of Trade Standards, National Bureau of Standards, which acts as secretary for the committee:

W. H. Schwab (chairman), Huttig Manufacturing Co., Muscatine, Iowa.
Glen Converse, Anson & Gilkey Co., Merrill, Wis.
Fred A. Hoerner, Farley & Loetscher Manufacturing Co., Dubuque, Iowa.
R. J. Lillibridge, National Door Manufacturers Association, Inc., 712 Transportation Bldg., Washington, D. C.
Frank Stevens, Ideal Co., Waco, Tex. (Representing Ponderosa Pine Woodwork).
Claud F. Wilson, Kimball & Wilson, Inc., 2127 Fenkell Ave., Detroit 3, Mich. (Representing Woodwork Jobbers Service Bureau.)
Norman B. Cove, Hager & Cove Lumber Co., Lansing, Mich. (Representing Michigan Retail Lumber Dealers Association.)
W. A. Compton, Allen Millwork Manufacturing Co., Shreveport, La. (Representing Southern Sash & Door Jobbers Association.)
Edward A. Poynton, Director of Construction, Office of Indian Affairs, U. S. Department of the Interior, Chicago 54, Ill.
Harold A. Parks, Hardware Manufacturers' Statistical Association, 205 Church St. (P. O. Box 1603), New Haven 6, Conn.
E. W. Macy, Property Standards Unit, Federal Housing Administration, National Housing Agency, Washington 25, D. C.

HISTORY OF PROJECT

37. On December 30, 1943, the National Door Manufacturers Association requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for standard stock ponderosa pine doors. A draft of the proposed standard was submitted on January 29, 1944, to producers, and to a number of technical, distributor, and consumer organizations for their views and comment. All comment was carefully considered at a meeting held in Chicago, Ill., on March 28, 1944. The standard was then adjusted to represent the composite views of all interested groups, and circulated on May 31, 1944, to the trade for written acceptance.

38. Upon receipt of official acceptance, estimated to represent a satisfactory majority of the production by volume, and in the absence of active valid opposition, the standard was promulgated on August 15, 1944, as Commercial Standard CS120–44.

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_____

Division of Trade Standards,
National Bureau of Standards,
Washington, D. C.

Gentlemen:

Having considered the statements on the reverse side of this sheet, we accept the Commercial Standard CS120–44 as our standard of practice in the

Production [1] Distribution [1] Use [1] Inspection [1]

of standard stock ponderosa pine doors.

We will assist in securing its general recognition and use, and will cooperate with the standing committee to effect revisions of the standard when necessary.

Signature of individual 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 and State_____

[1] Please designate which group you represent by drawing lines through the other three. Please file separate acceptances for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval, the words "in principle" should be added after the signature.

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 the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

39. The organizations and individuals listed below have accepted these grading specifications as their standard of practice in the production, distribution, and use of standard stock ponderosa pine doors. Such endorsement does not signify that they may not find it necessary to deviate from the standard, nor that producers so listed guarantee all of their products in this field to conform with the requirements of this standard. Therefore, specific evidence of quality certification should be obtained where required.

ASSOCIATIONS

Appalachian Hardwood Manufacturers, Inc., Cincinnati, Ohio.
Associated General Contractors of America, Inc., The, Washington, D. C.
Building Officials Conference of America, Washington, D. C.
Carolina Lumber & Building Supply Association, Charlotte, N. C. (In principle.)
Cleveland Lumber Institute, The, Cleveland, Ohio.
Empire Millwork Association, Buffalo, N. Y.
Hardwood Dimension Manufacturers Association, Louisville, Ky. (In principle.)
Michigan Retail Lumber Dealers Association, Lansing, Mich.
Mississippi Valley Lumber, Sash & Door Salesmen's Association, Minneapolis, Minn.
National Door Manufacturers Association, Inc., Chicago, Ill.
New York Lumber Trade Association, New York, N. Y.
Ohio Association of Retail Lumber Dealers, The, Xenia, Ohio.
Ponderosa Pine Woodwork, Chicago, Ill.
Prefabricated Home Manufacturers' Institute, Washington, D. C. (In principle.)
Southern California Retail Lumber Association, Los Angeles, Calif.
Woodwork Jobbers Service Bureau, Chicago, Ill. (In principle.)

FIRMS

Acme Sash & Door Co., Cincinnati, Ohio.
Adams, Franklin O., Tampa, Fla.
Adams-Rogers Co., Indianapolis, Ind.
Addison-Rudesal Co., Atlanta, Ga.
Adelman Lumber Co., Pittsburgh, Pa.
Adkins & Co., E. S., Salisbury, Md.
Akron Sash & Door Co., The, Akron, Ohio.
Allan Lumber Co., Inc., Greencastle, Ind.
Allen Millwork Manufacturing Co., Shreveport, La.
Allith Prouty, Inc., Danville, Ill.
Alto Mills, Inc., Texarkana, Tex.
Amarillo Sash & Door Co., Houston, Tex.
American Sash & Door Co., Kansas City, Mo.
Andersen Corporation, Bayport, Minn.
Anderson & Lind Manufacturing Co., Chicago, Ill.
Andrews, Jones, Biscoe & Whitmore, Boston, Mass.
Andrews Lumber Co., C. E., New Bethlehem, Pa.
Angel Novelty Co., Fitchburg, Mass.
Angelina County Lumber Co., Keltys, Tex.
Anson & Gilkey Co., Merrill, Wis.
Arizona Sash Door & Glass Co., Phoenix, and Tucson, Ariz.
Arkmo Lumber Co., The, Little Rock, Ark.
Armstrong-Thielman Lumber Co., Calumet, Mich.
Asheim, Leonard, Bridgeport, Conn.
Ashton Co., C. J., Detroit, Mich.
Athens Lumber Co., Athens, Ga.
Atkinson-Stutz Co., San Francisco, Calif.
Augusta Lumber Co., Augusta, Ga.
Aves, Inc., Arthur A., Yakima, Wash.
Bach Millwork Co., E. E., Minneapolis, Minn.
Barnes Lumber Co., W. F. & J. F., Waco, Tex.
Barthmaier, Eugene V., Philadelphia, Pa.
Baxter & Co., C. B., Kansas City, Mo.
Beasley & Sons Co., Nashville, Tenn.
Becker Builders Supply Co., The, Wilmington, N. C.
Becker-Danowitz Co., Inc., Brooklyn, N. Y.
Bedard & Morency Mill Co., Oak Park, Ill.
Belli, Edo J., Chicago, Ill.
Bellman, Gillett & Richards, Toledo, Ohio.
Bennett-Bailey Lumber Co., Minneapolis, Minn.
Bickford, Robert Turner, Elmira, N. Y.
Binswanger & Co., Inc., Richmond, Va.
Birmingham Sash & Door Co., Birmingham, Ala.
Bishop, Horatio W., La Mesa, Calif.
Blithe, Wesley Lesher, Philadelphia, Pa.
Blount Lumber Co., The, Lacona, N. Y.
Boehm, George A., New York, N. Y.
Bogner, Harry, Milwaukee, Wis.
Boise Sash & Door Factory, Boise, Idaho.
Bommer Spring Hinge Co., Brooklyn, N. Y.
Bosman & Casson, Inc., Harrison, N. J.
Bovard, William R., Kansas City, Mo. (In principle.)
Brainerd, Harry B., New York, N. Y.
Bristol Door & Lumber Co., Bristol, Va.
Brockway-Smith-Haigh-Lovell Co., Charlestown, Mass.
Brown-Borhek Co., Bethlehem, Pa.
Brown Graves Co., Akron, Ohio.
Brust & Brust, Milwaukee, Wis.
Buckley Door Co., F. S., San Francisco, Calif.
Bucky, Fred W., Jr., Jacksonville, Fla.
Buechner & Orth, St. Paul, Minn. (In principle.)
Buffalo, City of, Department of Public Works—Architectural Service, Buffalo, N. Y.
Buffelen Lumber & Manufacturing Co., Fort Worth, Tex., and Detroit, Mich.
Builders Supply Co., Bismarck, N. Dak.
Building Supplies Corporation, Norfolk, Va.
Byron Sash & Door Co., Inc., Louisville, Ky.
C & M Construction Co., Inc., Philadelphia, Pa. (In principle.)
Calcasieu Lumber Co., Austin, Tex.
California Door Co., The, Los Angeles, Calif.
Cameron & Co., Inc., Wm., Waco, Tex.
Cameron Lumber Co., Inc., Newburgh, N. Y.
Camlet, J. Thomas, Passaic, N. J.
Cannon & Mullen, Salt Lake City, Utah.
Carder, Macon O., Amarillo, Tex.
Carnahan Manufacturing Co., Loogootee, Ind.
Carr Adams & Collier Co., Dubuque, Iowa.
Carr & Johnston Co., Peoria, Ill.
Carroll, John, Asbury Park, N. J.
Carter-Lee Lumber Co., Indianapolis, Ind.
Cavalier Corporation, Chattanooga, Tenn.
Cellar Lumber Co., Westerville, Ohio.
Central Jersey Wholesale Supply Co., Trenton, N. J.
Chapin Lumber Co., The, Denver, Colo.
Charlottesville Lumber Co., Inc., Charlottesville, Va.
Chesler & Sons Co., J., Brooklyn, N. Y. (In principle.)
Chicago & Riverdale Lumber Co., Chicago, Ill.
Cincinnati, City of, Cincinnati, Ohio.
Cincinnati Sash & Door Co., The, Cincinnati, Ohio.
Cleary Millwork Co., Inc., Ansonia, Conn.
Clem Lumber Co., Dallas, Tex.
Cogswell Construction Co., The, Baltimore, Md.
Cole Manufacturing Co., Memphis, Tenn.
Collier-Barnett Co., The, Toledo, Ohio.
Combs Lumber Co., Lexington, Ky.
Connecticut, State of, Purchasing Department, Hartford, Conn.
Conrad & Cummings, Binghamton, N. Y.
Convertible Door Manufacturing Co., Milwaukee, Wis.
Coolbaugh & Son Co., C. C., Gloucester City, N. J.
Coolidge, Shepley, Bulfinch & Abbott, Boston, Mass.
Corbin Division, P. & F., New Britain, Conn. (In principle.)

Cram & Ferguson, Boston, Mass.
Cresmer Manufacturing Co., Riverside, Calif.
Cross Austin & Ireland Lumber Co., Brooklyn, N. Y.
Crowell & Lancaster, Bangor, Maine.
Curtis Co's., Inc., Clinton, Iowa, Lincoln, Nebr., and other cities.
Curtis Co., Ros, Detroit, Mich.
D'Arcy Co., Dover, N. H.
Davidson Sash & Door Co., Inc., Lake Charles, La.
Davis Hardwood Co., San Francisco, Calif.
Davis Manufacturing Co., New Orleans, La.
Dealers Wholesale Supply, Inc., Detroit, Mich.
Deats Sash & Door Co., Los Angeles, Calif.
Deer Park Lumber Co., Deer Park, Wash.
DeJarnette, Charles Wagner, Des Moines, Iowa.
DeLancy Lumber Co., Lancaster, Ohio.
Deming & Thompson Co., Inc., Frankfort, Ind.
Dibble Lumber Co., The S. B., North Adams, Mass.
District of Columbia, Government of, Office of the Municipal Architect, Washington, D. C.
Dixie Millwork Co., Inc., Hagerstown Md.
Donlin-Johnson Co., St. Cloud, Minn.
East Point Lumber Co., East Point, Ga.
Elmer & Moody Co., Seattle, Wash.
Empire Millwork Corporation, Corona, N. Y.
English, Harold T., Hutchinson, Kans.
Epstein Co., N. B., Scranton, Pa.
Equity Lumber Co., The, Painesville, Ohio.
Estes Lumber Co., Birmingham, Ala.
Evans-MacArthur Co., New York, N. Y.
Evansville Sash & Door Co., Inc., Evansville, Ind.
Everett & Associates, H. F., Allentown, Pa.
Farley & Loetscher Manufacturing Co., Dubuque, Iowa.
Feldman-Wood-Products Co., Long Island City, N. Y.
Fish & Hunter Co., The, Rapid City, S. Dak.
Flannagan, Eric G., Henderson, N. C.
Flint Sash & Door Co., Inc., Flint, Mich.
Florida, University of, School of Forestry, Gainesville, Fla.
Foltz & Son, Herbert, Winter Haven, Fla.
Ft. Wayne Builders Supply Co., Ft. Wayne, Ind.
Foster & Co., Inc., James P., Baltimore, Md.
Foster Lumber Co., R. S., Indianapolis. Ind.
Frank & Co., R. W., Salt Lake City, Utah.
Fuller, Robert K., Denver, Colo.
Fuller & Co., W. P., Boise, Idaho., Portland, Oreg., and Seattle, Wash.
Furer, William C., Honolulu, Hawaii.
Galliher & Huguely, Inc., Washington, D. C.
General Millwork Corporation, Utica, N. Y.
Gibson Door Co., The, Utica, N. Y.
Ginsberg & Sons, Inc., D., Corona, N. Y.
Glendale Sash & Millwork Corporation, Brooklyn, N. Y.
Grand Rapids Sash & Door Co., Grand Rapids, Mich.
Great Lakes Sash & Door Co., The, Cleveland, Ohio.
Grimm Planing Mill, Albert C., Evansville, Ind.
Hager & Cove Lumber Co., Lansing, Mich.
Hallack & Howard Lumber Co., The, Denver, Colo.
Hannaford & Sons, Samuel, Cincinnati, Ohio.
Haralson & Mott, Fort Smith, Ark.
Harbor Plywood Corporation of California, San Francisco, Calif.
Harbor Plywood Corporation (Chicago Division), Chicago, Ill.
Harbor Sales Co., Inc., The, Baltimore, Md., and Washington, D. C.
Harris Brothers Co., Chicago, Ill.
Hasness, Carlisle D., Harrisburg, Pa.
Hastings & Co., Inc., A. W., Somerville, Mass.
Hawkins Lumber & Warehouse Co., Boston, Mass.
Helfensteller, Hirsch & Watson, St. Louis, Mo.
Henderlong Lumber Co., Inc., Crown Point, Ind.
Henshaw & Ellwanger, Inc., Denver, Colo.
Hoener, P. John, St. Louis, Mo.
Holsman & Holsman, Chicago, Ill.
Houston Sash & Door Co., Houston, Tex.
Huber-Lanctot Housewrecking Corporation, Buffalo, N. Y.
Hurd Millwork Corporation, Medford, Wis.
Huttig Manufacturing Co., Muscatine, Iowa.
Huttig Sash & Door Co., St. Louis, Mo., Charlotte, N. C., & other cities.
Ideal Co., Waco, Tex.
Independent Lumber Co., The, Grand Junction, Colo.
Indiana Lumber & Manufacturing Co., South Bend, Ind.
International Steel Co., Revolving Door Division, New York, N. Y.
Interstate Lumber Co., Missoula, Mont.
Interstate Sash & Door Co., The, Canton, Ohio.
Iron City Sash & Door Co., Pittsburgh, Pa.
Iron Mountain City Lumber Yard, Iron Mountain, Mich.
Ivey, Inc., Edwin J., Seattle, Wash.
Jacksonville Sash & Door Co., Inc., Jacksonville, Fla.
Jefferson Wood Products Co., Jefferson, Wis.
Jones Hardwood Co., San Francisco, Calif.
Jordan Millwork Co., Sioux Falls, S. Dak.
Keely Plywood Co., Hal, Pittsburgh, Pa.
Keely & Sons, S. S., Philadelphia, Pa.
Kelley, Frederic P., New York, N. Y.
Kellogg & Sons Co., Charles C., Utica, N. Y.
Keystone Frame & Manufacturing Co., Spokane, Wash.
Kilham, Hopkins, & Greeley, Boston, Mass.
Kimball Lumber Co., Watertown, Mass.
Kimball & Wilson, Inc., Detroit, Mich.
Kinzua Pine Mills Co., Kinzua, Oreg.
Kneeland Bigelow Distributing Co., Bay City, Mich.
Kuebler Co., J. M., Wausau, Wis.
Kullberg Manufacturing Co., Minneapolis, Minn.
Kyle, Herbert S., Charleston, W. Va. (In principle.)
Lafayette Sash & Door Factory, Lafayette, La.
Lank Woodwork Co., Inc., Washington, D. C.
Latenser & Sons, John, Omaha, Nebr.
Law, Law, Potter & Nystrom, Madison, Wis.
Lentz Co., A., Wauwatosa, Wis.
Leuckel & Co., Inc.. A. K., Trenton, N. J.
Lewis Lumber Co., Spring Lake, N. J.
Lock City Manufacturing Co., Sault Ste. Marie, Mich.
Lockland Lumber Co., The, Lockland, Ohio.
Loeb, Laurence M., Elmsford, N. Y.
Loetscher & Burch Manufacturing Co., Des Moines, Iowa.
Long Bell Lumber Co., The, Kansas City, Mo.
Lumber & Millwork Co., of Philadelphia, The, Philadelphia, Pa.
Lumbermen's Credit & Warehouse Co., Kalamazoo, Mich.
Lumbermen's Door & Trim Co., The, East Cleveland, Ohio.
Lumbermens Supply Co., Oklahoma City, Okla.
Lyman-Hawkins Lumber Co., The, Akron, Ohio.
Lyon-Gray Lumber Co., Dallas, Tex.
M & M Wood Working Co., Portland, Oreg.
Mahoney Sash & Door Co., The, Canton, Ohio.
Mansfield Lumber Co., Fort Smith, Ark.
Markland Contracting Co., M. B., Atlantic City, N. J.
Marquard Sash & Door Manufacturing Co., The, Cleveland, Ohio.
Marquart Millwork Co., Oshkosh, Wis.
Martin, Egdar, Chicago, Ill.
Martin Lumber Co., Springfield, Mass.
Mason City Millwork Co., Mason City, Iowa.
Mason & Co., George D., Detroit, Mich.
Mason & Sons, Inc., A., Peru, N. Y.
Mauk Seattle Lumber Co., Seattle, Wash.
McCallum, D. D., Los Angeles, Calif.
McClelland Co., The, Davenport, Iowa.
McCoy & Co., Inc., Lawrence R., Worcester, Mass.
McGrath, R. A., Millwork Sales, Detroit, Mich.
McPhillips Manufacturing Co., Mobile, Ala.
Melander Co., C. T., East Orange, N. J.
Melrose Mill Co., Chicago, Ill.
Memphis Sash & Door Co., Memphis, Tenn.
Merritt Lumber Yards, Inc., Reading, Pa.
Miller Building Service, L. R., Grand Rapids, Mich.
Miller Manufacturing Co., Inc., Richmond, Va.
Miller & Yeager, Terre Haute, Ind.
Missoula White Pine Sash Co., Missoula, Mont.
Montgomery & Patteson, Charleston, W. Va.
Moore & Co., Dallas, Tex.
Moore & Galloway Lumber Co., Fond du Lac, Wis.
Mooser, William, San Francisco, Calif.
Morgan Co., Oshkosh, Wis.
Morgan Millwork Co., Baltimore, Md.
Morgan Sash & Door Co., Chicago, Ill., and Oklahoma City, Okla.
Morris Plains Lumber & Coal Co., The, Morris Plains, N. J.
Morrison-Merrill & Co., Salt Lake City, Utah.

Mueller, Hair & Hetterich, Hamilton, Ohio.
Muhlenberg Brothers, Reading, Pa. (In principle.)
Mummerlyn Lumber Co., H. J., Bennellsville, S. C.
Mutual Millwork Co., Orlando, Fla.
Nashville Sash & Door Co., Nashville, Tenn.
National Plywood Co., Inc., New York, N. Y.
National Manufacturing Co., Sterling, Ill.
Neal-Blun Co., Savannah, Ga.
Neal Millwork & Supply Co., Oklahoma City, Okla.
Neumann & Sons, William, Jersey City, N. J.
Newton Lumber & Manufacturing Co., The, Colorado Springs, Colo.
Nicolai Door Manufacturing Co., Chicago, Ill.
Nicolai Door Sales Co., San Francisco, Calif.
Nielsen Construction Co., Harrisonburg, Va.
Noelke Lyon Manufacturing Co., Burlington, Iowa.
Northern Sash & Door Co., Hawkins, Wis.
Northside Building Supply Co., Doraville, Ga.
Nurenburg, W. S., Fort Worth, Tex.
O & N Lumber Co., Menomonie, Wis.
Oettinger Lumber Co., Greensboro, N. C.
Officer, Gwynn, Berkeley, Calif.
Ohio City Sash & Door Co., Dayton, Ohio.
Pacific Manufacturing Co., Santa Clara, Calif.
Pacific Mutual Door Co., Chicago, Ill. and St. Paul, Minn.
Paducah Sash & Door Co., Paducah, Ky.
Parker Building Specialties, Inc., San Francisco, Calif.
Patten-Blinn Lumber Co., Los Angeles, Calif. (In principle.)
Pease Woodwork Co., Inc., Cincinnati, Ohio.
Peek & Sons, S. H. East Aurora, Erie County, N. Y.
Pennsylvania, Commonwealth of, Department of Property & Supplies, Harrisburg, Pa.
Pepper, George W., Jr., Philadelphia, Pa.
Perlin Lumber Co., Brooklyn, N. Y.
Platt & Brother, F. P., New York, N. Y.
Porter-Haddey Co., Grand Rapids, Mich.
Porter Screen Co., Burlington, Vt.
Queen City Sash & Door Co., The, Cincinnati, Ohio.
Quigley Co., J. R., Gloucester City, N. J.
Radford Co., The, Oskosh, Wis., and Duluth, Minn.
Radford & Sanders Inc., Baltimore, Md.
Ramsey & Sons, Inc., A. H., Miami, Fla.
Rather, J. T., Jr., Houston, Tex.
Red River Lumber Co., The, Los Angeles, Calif., and Chicago, Ill.
Reeb Millwork Corporation, Roselle, N. J.
Resnikoff, Abraham, New York, N. Y.
Rinehimer Brothers Manufacturing Co., Elgin, Ill.
Roach & Musser Co., Muscatine, Iowa.
Roberson & Son, Inc., A., Binghamton, N. Y.
Robert & Co., Inc., Atlanta, Ga.
Roberts Corporation, U. N., Davenport, Iowa.
Rock Island Lumber Co., Cleveland, Ohio.
Rock Island Sash & Door Works, Rock Island, Ill
Rockwell Brothers & Co., Houston, Tex.
Roddis Lumber & Veneer Co,. Milwaukee, Wis.
Rogers Lumber Co., The T. H., Oklahoma City, Okla.
Rohrer Lumber Co., D. J., Clintonville, Wis.
Rounds & Porter Co., Wichita, Kans.
Rudinger, Inc., C. R., South Kearny, N. J.
Ruggles Lumber Co., Carlos, Springfield, Mass.
Russell & Erwin Manufacturing Co., New Britain, Conn.
Rust Sash & Door Co., Kansas City, Mo.
St. Louis Sash & Door Works, St. Louis, Mo.
Sanders Brothers Manufacturing Co., Ottawa,Ill.
Sash, Door & Glass Corporation, Richmond, Va.
Scherer & Co., Inc., Wm. C., Baltimore, Md.
Schulzke, William H., Moline, Ill.
Scott Graff Co., Duluth, Minn.
Sears, Roebuck & Co., Chicago, Ill.
Segelke & Kohlhaus Co., La Crosse, Wis.
Semling Menke Co., Merrill, Wis.
Seneca Lumber & Millwork Co., The, Fostoria, Ohio.
Seville Lumber & Supply Co., Seville, Ohio.
Shannon Sash & Door Co., Inc., Kansas City, Kans.
Shenk Co., Henry, Erie, Pa.
Silbernagel & Sons Co., Geo., Wausau, Wis.
Simons Inc., Minneapolis, Minn.
Sloan Lumber Co., Fort Worth, Tex.
Smith Co., Allen A., Toledo, Ohio.
Snell Sash & Door Co., St. Paul, Minn.
Sothman Co., The, Grand Island, Nebr.
Southern Counties Gas Co. of California, Los Angeles, Calif.
Southwestern Sash & Door Co., Joplin, Mo., Albuquerque, N. Mex., and El Paso, Tex.
Spokane Pine Products Co., Spokane, Wash.
Spokane Sash & Door Co., Spokane, Wash.
Spokane Woodworking Co., Spokane, Wash.
Standard Lumber & Supply Co., Fort Wayne, Ind.
Standard Manufacturing Co., The, Appleton, Wis.
Stark & Co., Kansas City, Mo.
Steves Sash & Door Co., San Antonio, Tex.
Stoetzel, Ralph E., Chicago, Ill.
Stokes & Allyn, Portland, Oreg.
Sturtevant Millwork & Lumber Corporation, Hicksville, Long Island, N. Y.
Swan Lake Moulding Co., Klamath Falls, Oreg.
Swenson Construction Co., Kansas City, Mo.
Taylor Sash & Door Co., Pensacola, Fla.
Teachout Sash, Door & Glass Co., The, Dearborn, Mich.
Theiling-Lothman Manufacturing Co., St. Louis, Mo.
Thomas, Arthur E., Dallas, Tex.
Thorne, Henry Calder, Ithaca, N. Y.
Throop-Martin Co., The, Columbus, Ohio.
Toombs & Co., Springfield, Mo.
Trebing Manufacturing Co., The, Cleveland, Ohio.
Trexler Lumber Co., Allentown, Pa.
Tulsa Rig, Reel & Manufacturing Co, Tulsa, Okla.
Turner Lumber Co., J. C., Irvington, N. Y.
Underwood Coal & Supply Co., Mobile, Ala.
Union Planing Mill, Stockton, Calif.
United Sash & Door Co., Wichita, Kans.
Vallamont Planng Mill Co., Williamsport, Pa.
Vaughan & Sons, Geo. C., Houston, Tex., and San Antonio, Tex.
Velde Lumber Co., Pekin, Ill.
Vetter Manufacturing Co., Stevens Point, Wis.
Victoria Sash & Door Co., Inc., Shreveport, La.
Villaume Box & Lumber Co., The, Saint Paul, Minn.
Virginia Polytechnic Institute, Blacksburg, Va.
Vogel, Willis A., Toledo, Ohio.
Wabash Screen Door Co., The, Chicago, Ill.
Wahlfeld Manufacturing Co., Peoria, Ill.
Wanke Panel Co., Portland, Oreg.
Washington Wood Working Co., Inc., Washington, D. C.
Watertown Sash & Door Co., Watertown, S. Dak.
Weimer & Sons, George, St. Albans, W. Va.
Welch, Carroll E., Huntington, N. Y.
West, Albert E., Boston, Mass.
Western Door & Plywood Corporation, Portland, Oreg.
Western Pine Manufacturing Co., Ltd., Spokane, Wash.
Wheelock, Inc., E. U., Los Angeles, Calif.
Whissel Lumber Co., Inc., L. N., Buffalo, N. Y.
White Pine Sash Co. of Illinois, Chicago, Ill.
Whitmer-Jackson Co., Inc., The, Buffalo, N. Y., Cleveland, Ohio, and Rochester, N. Y.
Whitmer Mills, Albuquerque, N. Mex.
Whittier Lumber & Millwork Co., Newark, N. J.
Wholesale Building Supply, Inc., Oakland, Calif.
Wholesale Sash, Doors & Millwork, Toledo, Ohio.
Wilkinson Co., Inc., The, Indianapolis, Ind.
Williams & Hunting Co., Cedar Rapids, Iowa.
Wimberly & Thomas Hardware Co., Inc., Birmingham, Ala.
Wolverine Shingle & Lumber Co., Detroit, Mich.
Wood Glass Co., Syracuse, N. Y.
Wood Products Magazine, Chicago, Ill. (In principle.)
Young, Edwin, Wilmington, Del.
Zimmerman, A. C., Pasadena, Calif.

U. S. GOVERNMENT

Interior, Department of the, Office of Indian Affairs, Chicago, Ill.
Justice, Department of, Bureau of Prisons, Construction Division, Washington, D. C.
Veterans Administration, Washington, D. C.
War Department, Washington, D. C.
War Production Board, Office of Civilian Requirements, Washington, D. C. (In principle.)