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DOUGLAS FIR PLYWOOD

(Fifth Edition)

COMMERCIAL STANDARD CS45-42

On August 17, 1932, manufacturers, distributors, and users of Douglas fir plywood approved the adoption of standard grading rules for the guidance of the Douglas fir plywood industry. These grading rules were accepted by the trade and promulgated as Douglas Fir Plywood, Commercial Standard CS45-33. The standard was revised in 1936, 1938, and 1940.

A recommended revision submitted by the Douglas Fir Plywood Association and endorsed by the standing committee, was circulated on July 2, 1942 to the trade for written acceptance. The trade has since accepted and approved for promulgation by the United States Department of Commerce, through the National Bureau of Standards, the revised standard as shown herein.

The standard is effective for new production from November 16, 1942.

PURPOSE

1. Because of the extended application of Douglas fir plywood to a large number of new uses, the following standard grading rules are offered as a universal basis of understanding in the industry. General adoption and use of this standard will facilitate procurement of the proper grade of material and the proper type as to moisture resistance for its varied uses and provide a better understanding between buyer and seller. Architects, engineers, contractors, industrial users, and home owners will thus be able to specify their needs from nationally accepted grading standards.

SCOPE

2. These rules cover 6 grades of Moisture-Resistant Type and 7 grades of Exterior Type Douglas fir plywood; a laminated board for paneling, sheathing, concrete forms, cabinet work, and many other structural and industrial uses. In addition there are included grade specifications for door panels, tests, standard sizes, size tolerances, reinspection rules, and nomenclature and definitions.

DEFINITION

3. Douglas fir plywood is a built-up board of laminated veneers in which the grain of each piece is at right angles to the one adjacent to it. The kiln-dried veneer is united under high pressure with a bonding agent, making the joints as strong as or stronger than the wood itself. The alternating direction of the grain with each contiguous layer of wood equalizes the strains and in this way minimizes shrinkage and warping of the product and prevents splitting.

GENERAL REQUIREMENTS

4. All Douglas fir plywood sold as of commercial standard quality shall meet the following general requirements.

5. Workmanship.--Unless otherwise specified, plywood shall be smoothly sanded on two sides. When specified rough or unsanded plywood may have paper tape on either face or back, or both, except for the Exterior type of Industrial grade. It shall be well manufactured and free from blisters, laps, and defects, except as permitted in the specific rules for the various grades.

6. Bonding.--The entire area of each contacting surface of the plywood shall be bonded in an approved manner with material best adapted to each use classification.

7. Loading or packing.--It shall be securely loaded or packed to insure delivery in a clean and serviceable condition.

DETAIL REQUIREMENTS

8. Douglas fir plywood is made in two types, Moisture-Resistant (M. Res.) and Exterior (Ext.). It shall be graded according to both sides of the piece into the various grades as hereinafter defined. The grade descriptions set forth the minimum requirements, and therefore, the majority of panels in any shipment will exceed the specification given.

Moisture-Resistant Type

9. This type represents the majority of production and consists of plywood with a high degree of moisture resistance where its application requires that it shall retain its original form and practically all its strength when occasionally subjected to a thorough wetting and subsequent normal drying, a plywood suitable for construction where subjected to occasional deposits of moisture by condensation through walls or leakage or from other sources. Veneers 1/12 inch or more shall be used in the construction of moisture-resistant type panels 1/4 inch and upward in thickness. The veneer thickness shall be measured before the panel is sanded. This type shall meet the test requirements set forth in paragraphs 26 and 27. This type is available in the following grades:

10. Sound 2 Sides (S02S).--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. This grade shall present a smooth surface suitable for painting.

11. Sound 1 Side (S01S).--The 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. The face shall present a smooth surface suitable for painting. The back shall present a solid surface with all knots in excess of 1 inch patched and with the following permitted: Not more than six knotholes or borer holes 5/8 of an inch or less in greater dimension, splits 1/8 of an inch or less in width and pitch pockets not in excess of 1 inch wide or 3 inches long or that do not penetrate through veneer to glue line. There may be any number of patches and plugs in the back.

12. Wallboard (WB).--This is a 3-ply board of 1/4-inch or 3/8-inch sanded, or 5-ply 1/2-inch sanded thickness, made only in standard wallboard sizes, the face of which 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, pitch pockets, and other open defects. Streaks, discolorations, sapwood, shims, and neatly made patches shall be admitted. The face on this grade shall present a smooth surface suitable for painting. The back shall contain knotholes or pitch pockets, splits, and other defects in number and size that will not seriously affect the strength or serviceability of the panel and which cannot reasonably and economically be repaired to make a sound face. All wallboard panels shall be so designated by grade marking each panel.

13. Sheathing (SH).--This is an unsanded plywood made only in the following sizes: Thicknesses 5/16 inch and 3/8 inch 3-ply; 1/2 inch and 5/8 inch 3- or 5-ply; widths 36 and 48 inches; length 96 inches. The face shall present a solid surface except that the following will be permitted: (a) Not more than ten knotholes none of which shall exceed 1 1/2 inches with not more than five exceeding 3/4 inch in greatest dimension; (b) No group of knotholes within any 12-inch diameter circle shall have an aggregate greatest dimension more than 3 inches; (c) No splits wider than 1/8 inch; nor any type of borer holes longer than 1 inch; nor open pitch pockets more than 1 inch wide. There may be any number of patches and plugs in the face, but the face may not be of such quality that, if sanded, it will pass for a Wallboard face.

No belt sanding is permissible. The back shall be at least equal in quality to a Wallboard grade back. No tape shall be permitted in the glue line. All sheathing panels shall be scored or marked for nailing to conform to standard spacing of lumber studding.

14. Industrial.-- Faces of panels shall be free from knotholes, and any type of borer holes more than 5/8 of an inch in greatest dimension and open pitch pockets more than 1 inch wide. Tight knots, checks, plugs, patches and shims shall be admitted in either face. Core and crossbands shall be of firm stock but shall contain no knotholes greater than 1 1/4 inches in any dimension.

15. Concrete-form Plywood.--Concrete-form plywood shall be built up of three or five thicknesses of veneer, of which the two outside plies are at least 1/8 inch thick before sanding, except for plywood 1/4 inch in thickness. An occasional knothole is permissible in the center or core of 5-ply panels only, but no knotholes are permitted in cross banding. Appearance of faces shall be similar to that of "Sound 2 Sides" grade (paragraph 10). The bonding agent used shall be especially prepared for this purpose and be very highly water-resistant. All concrete-form plywood shall be so designated by grade marking each panel on the face. Concrete-form plywood shall be edge-sealed, and have the faces mill-oiled unless the order specifically states not to oil.

Door Panels

(Moisture-Resistant Type)

16. Number 1 door panel (No. 1 D.P.)--Each face shall be of a single piece of smoothly cut veneer of 100-percent heartwood, free from knots, splits, checks, pitch pockets, and other open defects. The faces shall be a yellow or pinkish color without stain. Shims that occur only at the ends of panels and inconspicuous well-matched small patches not to exceed 3/8 inch wide by 2 1/2 inches long shall be admitted.

17. Number 2 door panel (No. 2 D.P.)-- Each face shall be of a single piece of veneer that is free of knots and other open defects, but may admit medium stain and discoloration. Patches not exceeding 5/8 by 2 1/2 inches and shims of any size, when reasonably selected for color and grain, are admissible.

Exterior Type

18. This type represents the ultimate in moisture resistance, a plywood that will retain its original form and strength when repeatedly wet and dried and otherwise subjected to the elements, and suitable for permanent exterior use. It shall be free from both core gaps and core voids that impair the strength or serviceability of the panel. Only a resin-impregnated tape shall be permitted in the glue line. No veneer thicker than 5/16 inch shall be used. All exterior panels shall be so designated by a distinctive symbol "Ext." branded or stamped on edge of each panel. Plywood of this type shall meet the test requirements set forth in paragraphs 26 and 28 or 29. This type is available in the following grades:

19. Good 2 Sides Exterior (G2S-Ext.)-- Each face shall be of a single piece of smoothly cut veneer of 100-percent heartwood, free from knots, splits, checks, pitch pockets, and other open defects. The faces shall be a yellow or pinkish color without stain. Shims that occur only at the ends of panels and inconspicuous well-matched small patches not to exceed 3/8 inch wide by 2 1/2 inches long shall be admitted. This grade is recommended for uses where a light stain or natural finish is desired.

20. Good 1 Side Exterior (G1S-Ext.) --The face shall be equal to that described under "Good 2 Sides Exterior" grade (paragraph 19), while the back shall be equal to the "Sound 2 Sides Exterior" grade (paragraph 21).

21. Sound 2 Sides Exterior (SO2S-Ext.) --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. This grade shall present a smooth surface suitable for painting.

22. Sound 1 Side Exterior (SO1S-Ext.) -- The 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, pitch pockets, and other open defects. Streaks, discolorations, sapwood, shims, and neatly made patches shall be admitted. The face on this grade shall present a smooth surface suitable for painting. The back shall contain knotholes not larger than 1 inch or pitch pockets, splits not wider than 3/16 inch, and other defects in number and size that will not impair the serviceability of the panel and that cannot be reasonably and economically repaired to make a sound face.

23. Sheathing Exterior (SH.-Ext.)--An unsanded panel, the face of which shall present a solid surface except that the following will be permitted: (a) Not more than six knotholes 3/8 inch or less in greatest dimension, (b) splits 1/16 inch or less in width, (c) one or two strips of paper tape. There may be any number of patches and plugs in the face but the face may not be of such quality that, if sanded, it will pass for "Sound 1 Side Exterior" grade. No belt sanding is permissible. The back shall be the same as the back described under "Sound 1 Side Exterior" grade(paragraph 22. Exterior type sheathing is made in 5/16 inch, 3/8 inch, 1/2 inch and 5/8 inch thicknesses and in one standard panel size 48 inches by 96 inches.

24. Industrial Exterior--Shall have two solid faces made of one or more pieces. All open defects shall be repaired, except small pitch pockets, and tight splits which are 1/16 inch or under in width. All knotholes in the face veneer shall be patched. Panels in this grade shall be lightly "touch" sanded on both sides to remove dry tape, surplus glue, etc., but the tolerance of 1/32 inch, as allowed for unsanded panels, shall apply.

25. Concrete-form Exterior --Shall be the same as "Sound 2 Sides Exterior" (paragraph 21), except that faces shall be 1/8 inch thick before sanding. It is made only in 5/8 inch and 3/4 inch thicknesses. All concrete-form plywood shall be so designated by grade marking each panel on the face. Concrete form plywood shall be edge-sealed, and have the faces mill-oiled unless the order specifically states not to oil.

TESTS

26. Sampling --Samples for testing shall be taken from one percent of the panels in any shipment, but not less than 5 and not more than 10 panels shall be selected. A test specimen shall be cut from each end, approximately at midwidth of the panel, and from each edge approximately at midlength of the panel, while a fifth sample shall be cut from somewhere near the middle or center of the panel.

27. Test for Moisture-Resistant Type --Five samples 6 by 6 inches shall be taken from each test panel. They shall be submerged in water at room temperature for a period of 4 hours, followed by drying at a temperature not to exceed 100°F for a period of 20 hours. This cycle shall be repeated a second time, after which the samples must show not more than 2 inches of delamination along the edge.

28. Test for Exterior Type --Five samples shall be cut as shown in Figure 1 from each test piece. They shall be submerged in water at room temperature for a period of 48 hours and dried for 8 hours at a temperature of 145° F (± 5° F.) and then followed by two cycles of soaking for 16 hours and drying for 8 hours under the conditions described above. The samples shall again be soaked for a period of 16 hours and tested while wet in a shear testing machine as illustrated in Figure 2, by placing them in the jaws of the device to which a load shall be applied at the rate of 600 to 1,000 lbs per minute until failure. The test specimens must show no less than 30 percent minimum and 60 percent average wood failure and no delamination. If the number of plies exceeds 3, the cuts shall be made so as to test any two of the joints, but the additional plies need not be stripped except as demanded by the limitations of the width of the retaining jaws on the testing machines. When desired, special jaws may be constructed to accommodate the thicker plywood. If number of plies exceeds 3, the choice of joints to be tested shall be left to the discretion of the inspector, but at least one-half the tests shall include the innermost joints.

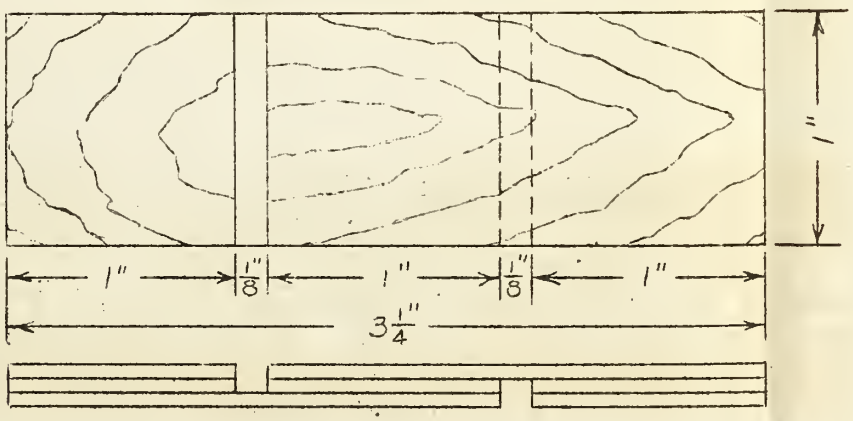


Fig. 1. Test specimen.

29. Alternate Test for Exterior Type --An alternate test applicable at the manufacturer's option to the one above mentioned consists of taking the samples as described above and boiling them in water for 4 hours, followed by a drying of 20 hours at the above-mentioned temperature. They shall be boiled again for a period of 4 hours and the samples tested while wet, as above described. The test specimens must show no less than 30 percent minimum and 60 percent average wood failure, and no delamination.

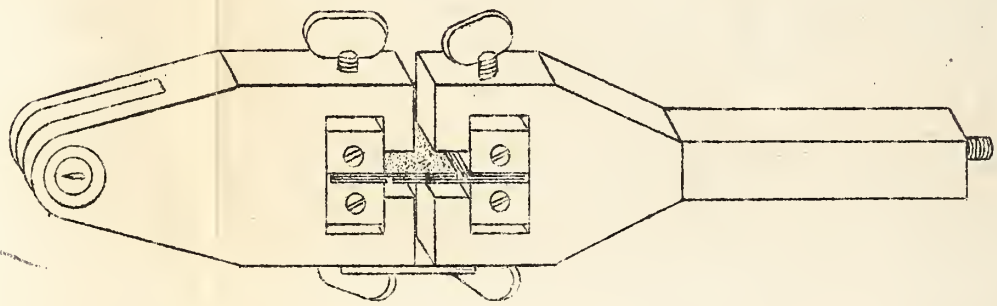


Fig. 2. Jaws for shear test.

30. Interpretation of tests --If there is failure of more than one test specimen from any panel, that specific panel shall be rejected. If there is a failure in any of the panels tested, 5 additional panels shall be selected and tested under the conditions described, and all of these 5 panels must pass the required test. If the panels do not pass such test, a reinspection may be demanded either by buyer or seller as provided for in paragraphs 34 to 36.

STANDARD SIZES

31. Douglas fir plywood is made in the following standard sizes:

Table 1. - Standard Douglas Fir Plywood Sizes

(Moisture-Resistant Type)

Item	Width (Inches)	Length (Inches)	Thickness (Inches) (after sanding)
Standard Panels (S02S) (S01S)	24 30 36 48	60 72 84 96	1/8 (3 ply) 3/16 (3 ply) 1/4 (3 ply) 3/8 (3 ply) 1/2 (5 ply) 5/8 (5 ply) 3/4 (5 ply)
Wallboard	48	60 72 84 96	1/4 (3 ply sanded 2 sides) 3/8 (3 ply sanded 2 sides) 1/2 (5 ply sanded 2 sides)
Sheathing	36 48	96	5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 1/2 (3 or 5 ply unsanded) 5/8 (3 or 5 ply unsanded)
Automobile and Industrial	As ordered up to 48	As ordered up to 96	1/4 (3 ply unsanded) 5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 1/2 (5 ply unsanded) 9/16 (5 ply unsanded) 5/8 (5 ply unsanded) 11/16 (5 ply unsanded) 3/4 (5 ply unsanded) 7/8 (5 ply unsanded) 7/8 (7 ply unsanded)
Concrete form panels	36 48	60 72 84 96	1/4 (3 ply sanded 2 sides) 1/2 (5 ply sanded 2 sides) 9/16 (5 ply sanded 2 sides) 5/8 (5 ply sanded 2 sides) 3/4 (5 ply sanded 2 sides)

Table 2 - Standard Douglas Fir Plywood Sizes

(Exterior Type)

Item	Width (Inches)	Length (Inches)	Thickness [1] (Inches) (after sanding)
Standard Panels (G2S-Ext.) (G1S-Ext.) (S02S-Ext.) (S01S-Ext.)	12 26 14 28 16 30 18 36 20 42 22 48 24	48 60 72 84 96	3/16 (3 ply) 3/4 (5 ply) 1/4 (3 ply) 13/16 (5 ply) 5/16 (3 ply) 7/8 (7 ply) 3/8 (3 ply) 15/16 (7 ply) 7/16 (5 ply) 1 (7 ply) 1/2 (5 ply) 1 1/16 (7 ply) 9/16 (5 ply) 1 1/8 (7 ply) 5/8 (5 ply) 1 3/16 (7 ply) 11/16 (5 ply)
Sheathing Exterior	48	96	5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 1/2 (3 ply unsanded) 5/8 (3 ply unsanded)
Industrial Exterior	As ordered	As ordered	1/4 (3 ply unsanded) 5/16 (3 ply unsanded) 3/8 (3 ply unsanded) 7/16 (3 ply unsanded) 1/2 (5 ply unsanded) 9/16 (5 ply unsanded) 5/8 (5 ply unsanded) 11/16 (5 ply unsanded) 3/4 (5 ply unsanded) 7/8 (5 ply unsanded)
Concrete form panels Exterior	Same as standard panels	Same as standard panels	5/8 (3 ply sanded 2 sides) 3/4 (5 ply sanded 2 sides)

[1] Number of plies listed under thickness is minimum.

SIZE TOLERANCES

32. A tolerance of 1/64 (0.0156) inch over or under the specified thickness shall be allowed on sanded panels and a tolerance of 1/32 (0.0312) inch on unsanded panels.

33. A tolerance of 1/32 (0.0312) inch over or under the specified length and/or width shall be allowed but all panels shall be square within 1/8 (0.1250) inch.

INSPECTION

34. All plywood guaranteed to conform to the commercial standard grading rules is sold subject to inspection in the white only, except concrete form material which may have a priming of oil or other preparation before shipment. All complaints regarding the quality of any shipment must be made within 15 days from receipt thereof.

35. Where the grade of any plywood shipment is in dispute and a reinspection is demanded, the cost of such reinspection shall be borne by the seller and the shipment settled for on the basis of the reinspection report if the shipment is more than 5 percent below grade.

36. If reinspection establishes the shipment to be 5 percent or less below grade, the buyer pays the cost of reinspection and pays for the shipment as invoiced.

GRADE MARKING AND CERTIFICATION

37. In order to assure the purchaser that he is getting Douglas fir plywood of the grade specified, producers may individually or in concert with their trade association or Inspection Bureau, issue certificates with each shipment; or grade mark each panel as conforming to the standard.

38. The following sets forth the grade marking and certification rules adopted by the Douglas Fir Plywood Association to preserve the high standards of quality herein recorded and to insure distributors and ultimate consumers receiving the proper kind of plywood for their specific needs. All standard-size panels are stamped or branded with the following symbols:

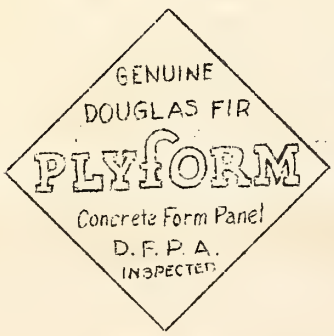
(a) Standard Panels of Sound 2 Sides and Sound 1 Side grades are stamped or branded on one edge.

PLYPANEL D.F.P.A.

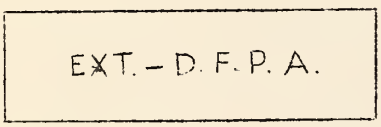
(b) Wallboard is stamped on the back.

(c) Sheathing is scored in parallel lines at 16-inch intervals across the face, with the name, "PLYSCORD", repeated at frequent intervals, and also stamped in the corner of the panel.

(d) Concrete-form Panels are stamped on the face.



(e) All Exterior Type Plywood is stamped or branded on the edge.



39. The Douglas Fir Plywood Association maintains an Inspection Bureau for the careful grading of its members' products. By the use of certificates on carload lots, the first unloading buyer of a carload is assured of receiving plywood of the grade specified. This is of special value to buyers of industrial grade plywood which, because of frequent odd sizes, cannot be grade marked separately.

(It is planned to illustrate the inspection certificate in the printed pamphlet.)

NOMENCLATURE AND DEFINITIONS

Back --The side reverse to the face of the panel.

Centers --See cores.

Checks -- Small splits running parallel to the grain of the wood caused chiefly by strains produced in seasoning.

Cores -- Cores or centers are the innermost layer in plywood construction.

Crossbanding --Veneer used in the construction of plywood with five or more plies. In 5-ply construction it is placed at right angles between the core and faces.

Defects, open --Checks, splits, open joints, cracks, loose knots, and other defects interrupting the smooth continuity of the panel surface.

Face --The better side of a panel in any grade calling for a face and a back; also, either side of a panel where the grading rules draw no distinction between faces.

Heartwood --The darker-colored wood occurring in the inner portion of the tree, sometimes referred to as "heart".

Knots --Cross section of a branch or limb whose grain usually runs at right angles to that of the piece in which it is found.

Knotholes -- Voids produced by the dropping of knots from the wood in which they were originally embedded.

Lap --A condition where the veneers used are so misplaced that one piece overlaps the other rather than making a smooth butt joint.

Patches --Insertions of sound wood glued and placed into panels from which defective portions have been removed.

Pitch pockets --A pitch pocket is a well-defined opening between rings of annual growth, usually containing, or which has contained, more or less pitch, either solid or liquid.

Pitch streaks --A pitch streak is a well-defined accumulation of pitch in a more or less regular streak.

Sapwood --The lighter-colored wood occurring in the outer portion of the tree, sometimes referred to as "sap".

Shim --A long, narrow patch not more than 3/16 inch wide.

Streaks --See Pitch streaks.

METHOD OF ORDERING

The established procedure in specifying size and grade of plywood is to name the number of plies, width, length, grade, moisture resistance, finished thickness, and whether sanded or unsanded.

Width always refers to distance across the grain of the face plies; length refers to the distance along the grain. Width should always be specified first.

If, for example, you require 100 pieces of plywood 1/4 inch thick, 48 inches wide, and 96 inches long, for interior or semi-exposed conditions, one side of which is to be nailed against a wall where it will not show, but the other side is to be exposed to view and painted, this material should be ordered as follows:

> Douglas Fir Plywood: 100 pcs., 3-ply
> 48" x 96", Wallboard Grade,
> Moisture-resistant, Sanded 2 Sides to 1/4" thickness.

For most uses, sanded panels are desirable, but there are occasional uses where unsanded panels, of a "Sound" or other grade, are satisfactory. Such panels should be specified, unsanded.

For special types of service, special features may be desirable in plywood panels, such as omission of oiling for concrete-form panels; extra-thick faces for certain architectural treatments, etc. In such cases, the special treatment or feature should be stated after the standard specification. For example, a "Standard Sound 2 Sides" panel of 3/8 inch thickness is desired for permanent exterior use. The order should read:

> Douglas Fir Plywood: 100 pcs., 3-ply
> 48" x 96", Sound 2 Sides, Exterior,
> Sanded 2 Sides to 3/8" thickness
> (Add further special requirements)

GRADE USE CLASSIFICATION FOR DOUGLAS FIR PLYWOOD

The following chart is offered by the Douglas Fir Plywood Association, as a rough guide to the grades generally suitable to the various uses listed. Where the material is to be exposed to the weather, plywood of "Exterior" type should be specified.

USE	TYPES		GRADES							
	Moisture Resistant	Exterior for Permanent Exposure to Weather	Good 2 Sides (Exterior Only)	Good 1 Side (Exterior Only)	Sound 2 Sides	Sound 1 Side	Wallboard (Moisture Resistant Only)	Concrete form panels	Sheathing	Automobile & Industrial Stock
Amusement-park devices	X	X			X	X	X			
Archways	X						X			
Auto-body parts	X	X			X					X
Auto trailers	X	X	X		X	X				X
Base molding	X						X			
Benches		X			X					
Billboards		X			X	X				
Pins	X	X			X	X	X			
Birdhouses		X				X				
Boats		X	X	X	X					
Bookcases	X				X					
Boxes, trays, etc	X				X					
Breakfast Nooks	X				X		X			
Bulletin boards	X						X			
Cabinets:										
General	X				X					
Ice Cream	X				X					
Kitchen	X				X					
Medicine	X				X					
Ceilings	X						X			
Chests	X				X					
Church pews	X				X					
Closets	X						X			
Clothes chutes	X						X			
Concrete forms	X	X						X		
Counter fronts	X				X	X				
Desks	X				X	X				
Display racks	X				X					
Drawers and bottoms	X				X					
Farm buildings	X	X			X	X	X		X	
Fixtures, Store	X				X					
Flooring	X						X			
Flower boxes		X			X					

GRADE USE CLASSIFICATION FOR DOUGLAS FIR PLYWOOD --Contd.

USE	TYPES		GRADES							
	Moisture Resistant	Exterior for Permanent Exposure to Weather	Good 2 Sides (Exterior only)	Good 1 Side (Exterior Only)	Sound 2 Sides	Sound 1 Side	Wallboard (Moisture Resistant Only)	Concrete form panels	Sheathing	Automobile Industrial Stock
Furniture.....	X	X	X	X	X	....	....	....	...	....
Garages.....	X	X	....	....	X	X	X	X	X	....
Houses, play.....	X	X	....	....	....	X	....	X	...	....
Ironing boards...	X	....	....	....	X	....	....	....	...	....
Lockers.....	X	....	....	....	X	....	....	....	...	....
Manual training uses.....	X	X	X	X	X	....	X	X	...	....
Mirror backs.....	X	....	....	....	....	....	X	....	...	....
Paneling.....	X	X	....	X	....	X	X	....	...	....
Partitions.....	X	....	....	....	X	....	....	....	...	....
Picnic tables....	...	X	....	....	X	....	X	....	...	....
Radio cabinets...	X	....	....	....	....	....	....	....	...	X
Refrigerators....	...	X	....	....	X	X	....	....	...	X
Screens (folding).	X	....	....	....	X	....	....	....	...	....
Sheathing.....	X	....	....	....	....	....	X	....	X	....
Shelving.....	X	....	....	....	X	....	X	....	...	....
Siding.....	...	X	....	....	X	X	....	....	...	....
Signs.....	X	X	....	X	X	....	....	....	...	....
Subflooring.....	X	....	....	....	....	....	....	....	X	....
Sun room porch...	X	....	....	....	....	....	X	....	...	....
Table tops.....	X	X	....	X	....	X	X	....	...	....
Toys.....	X	X	....	X	X	....	....	....	...	....
Trailers.....	X	X	....	....	X	X	X	....	...	....
Trench sheeting..	X	X	....	....	....	....	....	X	...	....
Trunks.....	X	....	....	....	X	....	....	....	...	....
Wardrobes.....	X	....	....	....	X	....	....	....	...	....
Walls.....	X	....	....	....	....	....	X	....	...	....
Window displays..	X	....	....	....	X	X	....	....	...	....
Window seats.....	X	....	....	....	X	X	....	....	...	....
Window valances..	X	....	....	....	X	X	....	....	...	....
Work benches.....	X	X	....	....	X	X	X	....	...	....

While the above is the complete standard, it is but an excerpt from a pamphlet entitled, "Douglas Fir Plywood (Fifth Edition) Commercial Standard CS45-42", to be issued by the Department of Commerce. This pamphlet, which includes a list of acceptors, brief history of the project, membership of the standing committee, etc., will be available from the Superintendent of Documents, Washington, D. C., as soon after the issuance of this mimeographed edition as is practicable.

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 CS45-42 as our standard of practice in the

Production 1/ Distribution 1/ Use 1/ Testing 1/

of Douglas fir plywood.

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.

Please send me a printed copy of the standard when available.

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 in pamphlet)

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, 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.