tional Bureau of Standards

Reference book not to be taken in the Library.

## PREFABRICATED HOMES

(Second Edition)

## **COMMERCIAL STANDARD CS125-47**

Effective Date for New Production From November 25, 1947



# A RECORDED VOLUNTARY STANDARD OF THE TRADE

## UNITED STATES DEPARTMENT OF COMMERCE

W. AVERELL HARRIMAN, Secretary

## COMMODITY STANDARDS

Simplified Practice Recommendations and Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division<sup>1</sup> of the National Bureau of Standards. The purpose of Simplified Practice Recommendations is to eliminate avoidable waste through the establishment of standards of practice for stock sizes and varieties of specific commodities that currently are in general production and demand. The purpose of Commercial Standards is to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition.

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

usual legal channels as a part of the sales contract.

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

## COMMERCIAL STANDARD FOR PREFABRICATED HOMES

On September 27, 1944, at the instance of the Prefabricated Home Manufacturers' Institute, a proposed commercial standard for prefabricated homes was circulated to the industry for comment. Following adjustment in the light of the comment received, the recommended commercial standard for this commodity was accepted in writing by the trade and published as Commercial Standard CS125-45.

On May 16, 1947, with the approval of the standing committee, a revision of CS125-45, proposed by the Prefabricated Home Manufacturers' Institute, was circulated for acceptance. Those concerned have since accepted and approved the standard as shown herein.

Project Manager: J. W. Medley, Commodity Standards Division, National Bureau of Standards.

Technical Adviser: V. B. PHELAN, Building Technology Division, National Bureau of Standards.

<sup>&</sup>lt;sup>1</sup> Effective July 1, 1947, the Division of Simplified Practice, organized in 1921, and the Division of Trade Standards, organized in 1927, were combined to form the Commodity Standards Division. Since their organization, both of these Divisions have assisted many industries in the development of Simplified Practice Recommendations and Commercial Standards for a wide variety of commodities. A list of previously established Commercial Standards appears herein. A list of effective Simplified Practice Recommendations may be obtained from the Commodity Standards Division, National Bureau of Standards, Washington 25, D. C.

## COMMERCIAL STANDARD CS125-47

for

## PREFABRICATED HOMES

(SECOND EDITION)

## **PURPOSE**

100. The purpose of this standard is to establish a measure of quality for prefabricated homes.

### SCOPE

200. This standard provides minimum requirements for one-, one-and-a-half-, and two-story prefabricated homes. It covers requirements for light and ventilation, space access and privacy, structural strength of the various component parts, thermal insulation and condensation control, and requirements for heating, plumbing, and electric wiring. It includes general requirements for materials and workmanship, site erection and assembly of prefabricated units, and protection during transportation and erection.

### DEFINITION

300. A prefabricated home is one having walls, partitions, floors, ceilings, and/or roof composed of sections or panels varying in size which have been fabricated in a factory prior to erection on the building foundation. This is in contrast to the conventionally built home which is constructed piece by piece on the site.

## GENERAL REQUIREMENTS

- 400. Prefabricated homes shall conform to the following general requirements.
  - 401. Light and ventilation.
- .1. Habitable rooms shall be provided with natural light and ventilation by means of glazed openings. Other spaces shall be provided with natural light and ventilation as required for habitable rooms, or with adequate ventilation only by means of screened openings, louvers, or ducts opening to outside air. Ratios between the areas of openings for light and ventilation and areas of rooms and spaces shall be not less than shown in table 1. Required areas for ventilation may be reduced when equipment for all-year forced-air circulation is installed in the building.

Table 1. Ratio of glass and openable areas to floor area

Type of room or space	Glass area	Openable area (ventilation)
Type of room of space	(light)	
Living room, dining room, bedroom, laundry, utility room.	1/10	1/20.
KitchenBathroom and water-closet compartment	1/8 1/10 (3 sq ft mini- mum).	1/16. 1/20 (3 sq ft minimum).
Spaces between ceiling and roof		1/300 (minimum of two vents spaced for maximum cross ventilation).
Confined space enclosing furnace or boiler		Fixed vent with free area equal to free area of flues or vents to which equipment is connected.
Basement for storage and general utility a	1/50	1/50.

a Portions of basements partitioned for habitable rooms shall conform to specific requirements for such rooms.

Space, access, and privacy.

.1. Each dwelling unit shall contain not less than one bedroom, one bathroom, living room, and facilities for dining and cooking in separate rooms or in combination with the living room.

.2. Minimum room areas shall be as shown in table 2. Area occupied by a stair is not considered part of a habitable room. Where a space heater is in a habitable room, the minimum area shall be increased by 25 sq ft. If solid fuel is used, storage space, in addition to that required for general storage, shall be provided.

402.3. Minimum ceiling heights shall be as set forth below:

(a) Basement—7 ft.

(b) Main story—7 ft 6 in.

(c) Second story—7 ft 6 in. for at least one-half of the required room area.

Note.—Areas under sloping ceilings up to 50 percent of total room area with clear height of 5 ft or more may be included in determining room area.

.4. Clothes closets shall have a minimum depth of 1 ft 9 in. and clear hanging space at least 5½ ft high.

.5. Access and privacy:

(a) The bedroom in one-bedroom dwelling units and at least two bedrooms in all other dwelling units shall have access to a bathroom without passing through another habitable room.

(b) For dwelling units having three or more bedrooms each bedroom shall have access to a bathroom

without passing through another bedroom.

(c) Each habitable room shall have access to each other habitable room without passing through a bedroom or bathroom.

(d) A bathroom shall not open directly into a kitchen nor shall the only bathroom serving a living unit be

located in the basement.

Table 2. Minimum room area and storage space

	Storage, general		cu ft 160 160 160 160 160		200 200 200 200		240 240 240 240
	Linen		8q ft 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		භ භ භ භ		
Closets	Coat and 3 bed- room		8q ft		4		24 24 24 24 24 24 24 24 24 24 24 24 24 2
Clo	Coat and Coat and Coat and 1 bed-2 bed-3 bed-room room room		sq ft		18 18 18 18		
	Coat and 1 bed- room		sq ft 12 12 12 12 12 12				
	Bath a		1f bs (a) (b) (a) (b) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d		(a) (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c		· · · · · · · · · · · · · · · · · · ·
100	habitable rooms		sq ft 70 70 70 70 70 70 70 70 70 70 70 70 70		70 20 20 20		700 700
	Three	JNIT	sq ft	UNIT		UNIT	700
Bedrooms	Two	ONE-BEDROOM UNIT	sq ft	110	70 20 20 20	THREE-BEDROOM UNIT	100
	One ONE-I		sq ft 110 110 110 110 110	TWO-	110	THREE	110
а	Living, dining, kitchen		sq ft 250		250		250
Combination	Dining, kitchen		sq ft ps		06		06
0	Living, dining		sq ft 190		190		190
	Kitchen		1f bs		09		09
Rooms	Dining		sq ft		02		02
	Living		sq ft 160		160		160
Total area. liv-	ing and dining rooms, kitchen		*q ft 250 250 250 250 290		250 250 250 250 250 250 250 250 250 250		2250 2250 2250 2250

a To accommodate bathtub, water closet, and lavatory.

Workmanship.

.1. Manufacture, assembly, and erection shall be such as will assure results that meet the requirements of this standard. Manufacturing tolerances shall be such as will assure assembly and erection in accordance with the design, without creating unanticipated stresses. All connections between panels, elements, and sections shall be tight and true. Exposed exterior surfaces, joints, and connections shall be weathertight and durable.

Materials. 404.

.1. Materials shall be suitable and sufficiently durable for the purposes intended. The suitability and durability of materials not in

general use shall be determined by appropriate tests.

.2. Working stresses for materials, where not assigned in nationally recognized standards, shall be based upon test performance, using factors of safety comparable to those assigned to established materials.

405. Protection.

.1. All sections, panels, materials, and equipment shall be protected against damage at all times prior to the completion of the dwelling.

406. Erection.

.1. Erection shall be in accordance with the manufacturer's drawings and instructions covering field assembly procedure. Damage to any part of the dwelling prior to completion shall be repaired or replaced as may be necessary to restore the original appearance and assure performance as required under the standard.

407. Certification.

.1. When required, the prefabricator shall furnish certification that:

> (a) All factory-fabricated parts of the house are in conformance with:

Requirements of this standard.
 Drawings, specifications, and supporting data.

(b) Prefabricated houses, sections, or panels, the components of which are not readily accessible to inspection at the site, are identical with specimens upon which approval was based.

- (c) All mechanical and electrical installations which are not readily accessible to inspection at the site are identical with installations which have been inspected and certified by <sup>1</sup> \_\_\_\_\_ as complying with applicable laws and ordinances of <sup>2</sup>
- .2. The following certificate illustrates the method used by member companies of the Prefabricated Home Manufacturers' Institute to assure buyers of receiving a home of sound quality and substantial construction.

 $<sup>^1\,\</sup>mathrm{A}$  testing laboratory, inspection service, or other qualified organization.  $^2\,\mathrm{Name}$  of community.



Figure 1. Certificate of Prefabricated Home Manufacturers' Institute.

## STRENGTH REQUIREMENTS

500.

Foundations. 501.

Foundations shall conform to the requirements of Building Materials and Structures Report BMS107, dated January 1, 1947, entitled "Building Code Requirements for New Dwelling Construction," issued by the National Bureau of Standards and recommended by the National Housing Agency.

.2. Effective protection against termites shall be provided in

areas in which termite infestation exists.

Strength.

.1. The strength of each panel, member, joint, fastening, and connection shall be determined by one of the following methods:

(a) Structural analysis, based on nationally recognized

engineering procedures.

(b) Comparison with certified test data for generally similar panels, members, or connections for which strengths have been established.

(c) Certified tests made as set forth herein.

503. Design loads.

.1. Design loads used to determine the stiffness of panels,

sections, or members shall be the live loads required herein.

.2. Design loads used to determine the transverse bending strength of floors, ceilings, and roof under uniformly distributed load, and the compressive strength of walls and partitions shall be made up of the required live loads plus dead loads.

.3. All other design loads are as required herein.

.4. Design loads for girders carrying more than 90 sq ft of floor area, and for columns, bearing walls, and footings supporting such girders, shall be made up of the dead load plus the full uniform live load on the roof, plus 50 percent of the uniform live load on floors and in attics used for light storage.

Test loads. 504.

Test loads are expressed as a multiple of the design loads.

.2. The weight of a panel or section under test shall be properly evaluated as dead load when dead load is a part of the design

.3. The weight of a panel or section under test shall be neglected when dead load is not included in the design load.

505. Tests.

> Tests shall be made in accordance with the procedures of: (a) The National Bureau of Standards, Washington, D. C., or

(b) The Forest Products Laboratory, Madison, Wis., or (c) The American Society for Testing Materials, Phila-

delphia, Pa., or

(d) Other authorities approved by the building official.

Performance. 506.

- Performance of tested construction shall be as required .1. herein.
- .2. Computed construction shall not exceed the stiffness requirements listed herein and shall not exceed established working stresses for materials under design loadings.

Snow and wind loads. 507.

.1. Snow load (fig. 2) and wind velocity pressure (fig. 3) maps contained herein are taken from "American Standard Building Code Requirements for Minimum Design Loads in Buildings and Other Structures", published by the National Bureau of Standards as Miscellaneous Publication M179 and by the American Standards Association as A58.1–1945,

508. Floors.

Uniformly distributed load.

.11. Live load.

(a) 20 lb per sq ft for attics used for light storage.

(b) 30 lb per sq ft for habitable upper story of singlefamily houses.

(c) 40 lb per sq ft for main story.

.12. Performance.

(a) Under the design load the maximum permitted deflection shall be:

(1) 1/360 of the clear span where surface below is plaster, or

(2) 1/270 of the clear span for all other cases.

(b) Under 2 times design load applied for 24 hours, or under fast loading totaling 2½ times design load the following shall be causes for rejection:

(1) Failure of any member considered in the design

of the panel; or

(2) Permanent set greater than 25 percent of the maximum deflection.

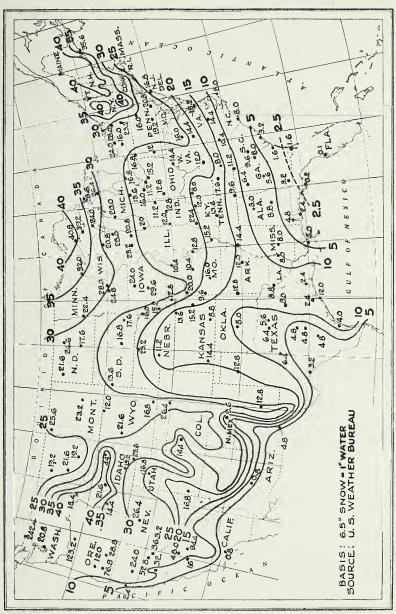


FIGURE 2. Snow loads (in pounds per square foot).

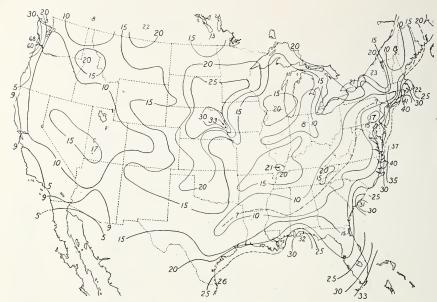


Figure 3. Velocity pressures (in pounds per square foot).

.2. Concentrated load.

.21. Design load.

Load applied at weakest point of panel on an area having a 1-in. diameter.

(a) 150 lb for floored attics used for light storage.

(b) 250 lb for all other cases.

.22. Performance.

Performance of panels and sections shall be as required for floors, paragraph 508.12 (a) and (b).

(a) For portions of panels spanning between framing

members:

(1) Under design load, the maximum deflection shall

be 1/270 of the clear span.

(2) Under 2 times design load, applied for 24 hours, or under fast loading totaling 2½ times design load, there shall be no failure or permanent set greater than 25 percent of the maximum deflection.

.3. Impact load.

Design load. Drop of a 10-in.-diameter sand bag weighing 60 lb.

.32. Performance.

- (a) Under drop of 4 ft, damage to any member considered in the design shall be cause for rejection.
- (b) Under drop of 6 ft, failure of any structural member shall be cause for rejection.

509. Walls.

.31.

.1. Uniformly distributed load.

.11. Design load.

Load acting transversely, inward, or outward, consisting of the number of 1b per sq ft (in no case less than 15 lb) derived by considering the wind velocity pressures at 30-ft-height above ground as design wind pressures at the assumed average height of a two-story building and by multiplying wind velocity pressure, for locality as shown on wind velocity pressure map (fig. 3), by 0.9 or 1.1 for main or upper story walls, respectively.

.12. Performance.

As required for floors under uniform load, paragraph 508.12.

.2. Concentrated load.

.21. Design load.

50 lb acting transversely at weakest point of panel on an area having 1-in. diameter.

.22. Performance:

(a) Under design load the maximum permitted deflections for portions of panel spanning between ribs shall be:

(1) 1/360 of clear span for interior surfaces; or

(2) 1/120 of clear span for interior surfaces other than plaster, or

(3) 1/240 of clear span for exterior surfaces.

.3. Impact load..31. Design load.

Drop of 10-in.-diameter sand bag weighing 60 lb.

.32. Performance:

(a) Under drop of 2 ft, damage to any member considered in the design of the panel shall be cause for rejection.

(b) Under drop of 4 ft, failure of any structural member

shall be cause for rejection.

.4. Compressive and tensile loads.

.41. Design load.

Compressive and tensile forces resulting from design loads (including wind, snow, and dead loads) applied on a line one-third of wall thickness from inside face, or according to conditions of actual loading.

.42. Performance:

(a) Under above loads, any damage to any wall covering, header, or other structural member shall be

cause for rejection.

(b) Under 2 times above loads applied for 24 hours or under fast loading of 2½ times above loads, failure of any structural member considered in the design of the panel shall be cause for rejection.

.5. Racking load. .51. Design load.

Racking load resulting from design wind load as set forth

## herein.

<sup>&</sup>lt;sup>3</sup> Racking design load may be based on proportional distribution of wind forces from wall and roof surfaces under transverse load to walls, bearing partitions, and other braced partitions loaded parallel to the plane of the panel. To obtain unit design load for wall sections of identical construction, without openings, assume equal distribution of racking load throughout the total length of all portions of the wall between door and window openings.

.52. Performance.

For a panel or panels nominally 8 ft by 8 ft:

(a) Under above racking load the maximum permitted

displacement shall be % in.

(b) Under 2 times above load, failure of any structural member considered in design of panel shall be cause for rejection.

510. Partitions, load-bearing.

.1. Uniformly distributed load.

.11. Design load.

Minimum of 15 lb per sq ft, acting transversely.

.12. Performance.

As required for floors in paragraph 508.12.

2. Concentrated load.

.21. Design:

50 lb, acting transversely, applied at weakest point of panel on an area having 1-in. diameter.

.22. Performance.

(a) Under above concentrated load the maximum permitted deflections for portions of panel spanning between ribs shall be:

(1) 1/360 of clear span for plaster surfaces.

(2) 1/120 of clear span for surfaces other than plaster.(b) As required in paragraph 508.12 (b).

.3. Impact load.

As required in paragraph 509.3.

.4. Compressive and tensile loads.
As required in paragraph 509.4.

.5. Racking load.

As required in paragraph 509.5.

511. Ceilings.

.11. Design load.

No live load need be assumed for ceiling where no provision is made for attic storage.

.12. Performance.

Deflection limitations under design load as required in paragraph 508.12(a).

Note.—Where access to storage space above is provided or where ceiling is underside of floor, live loads and performance shall be as set forth in paragraph 508.

512. Roofs.

.1. Uniformly distributed load.

.11. Live load.

Load consisting of wind load and snow load as set forth herein, but not less than:

(1) Vertical load of 20 lb per sq ft of horizontal projection for slopes 40 degrees or less; or

(2) Load of 12 lb per-sq ft normal to the roof surface for slopes greater than 40 degrees

for slopes greater than 40 degrees.
(3) Load of 15 lb per sq ft normal to roof acting outward.

(a) Design wind loads 4 higher than 15 lb per sq ft normal to roof, shall be obtained from the windvelocity pressure map (fig. 3) directly as explained under paragraph 509.11. The map values shall be multiplied by 0.9 for a one-story and by 1.1 for a two-story building roof and by the applicable values given in table 3.

Table 3. Multiplying factors to be used with velocity pressure to obtain total wind loads (exterior plus interior) in pounds per square foot normal to roof

[Values obtained from factors below are for 1-story houses. For 2-story houses, add 20 percent]

Direction of force	Slope of roof $\phi$	Multiplying factor
Inward	(0 degrees to 20 degrees 20 degrees to 30 degrees 30 degrees to 60 degrees or more	$0 \\ 0.037 (\phi-20) \\ 0.37+.0163 (\phi-30)$
Outward	For all roof slopes	1.15

(b) Snow load in lb per sq ft of horizontal projection 512.11.shall be as shown on snow-load map (fig. 2) for roofs of 0- to 30-degree slope. For any angle of slope  $\phi$  from 30 to 60 degrees, snow loads shall be obtained by multiplying snow load from snow-load map by factor  $2-(\phi/30)$ .

(c) Combination of wind, snow, and dead loads may be reduced 25 percent, for purposes of design, pro-

vided:

(1) Reduced amount is not less than snow load and dead load combined, or wind and dead load combined, and

(2) Total live loads are not less than value required in paragraph 512.11, (1), (2), and (3).

.12. Performance.

(a) Under the design load the maximum permitted deflections shall be:

(1) 1/360 of the clear span where surface below is plaster.

(2) 1/240 of the clear span for roofs having other applied finish below.

(3) 1/180 of the clear span for roofs having unfinished

interior surfaces.

(b) As required in paragraph 508.12 (b).

(c) All performance requirements for floors, paragraph 508.12, shall apply to flat roofs designed as decks.

.2 Concentrated load.

.21. Design load. 200 lb applied vertically at weakest point of panel on an area having 1-in. diameter.

<sup>&</sup>lt;sup>4</sup> Loads are based upon combined maximum interior and exterior forces as given in BMS107, Building Code Requirements for New Dwelling Construction, par. 702, Appendix.

.22. Performance.

As required in paragraph 512.12 (a), (b), and (c), and for portions of panels spanning between framing members:

(1) Under design load, maximum deflection shall be

1/180 clear span.

(2) Under 2 times design load, there shall be no failure and no permanent set greater than 25-percent maximum deflection.

.3. Impact load.

As required in paragraph 509.3.

513. Anchorage.
1. Design load.

Connections between foundations and other components and elements of the dwelling, such as sills, beams, floors, and walls, shall be designed to resist sliding, uplift, and overturning resulting from wind loads. Calculations to determine anchorage design loads shall be based on the use of the full dead load of the dwelling.

.2. Performance.

Connections shall sustain 2 times the design load without failure.

## DETAIL REQUIREMENTS

600.

601. Chimneys, flues, and vents.

.1. Masonry chimneys shall conform to the requirements of the "Building Code" recommended by the National Board of Fire Under-

writers, and may be used for all fuels.

.2. Flues and vents other than as required under paragraph 601.1 shall be as approved and listed by the Underwriters' Laboratories, Inc., and may be used only for the fuel on which approval is based.

602. Roofing.

Roofing materials shall be applied in accordance with the manufacturer's directions. The type and method of applying roofing and flashing shall assure weathertightness for at least 10 years.

603. Insulation.

.1. The heat loss of a dwelling unit, and of each heated or finished space within, expressed in Btu per hour, shall not exceed 60 times the number of square feet of floor area of such unit or space.

Note.—Floor-area measurements (at each principal floor level) shall be to outer faces of exterior walls (or enclosing partitions in attics) and to center lines of interior partitions.

.2. Heat-transmission coefficients for panels or sections shall be in accordance with data and methods described in the latest edition of Heating, Ventilating, and Air Conditioning Guide, published by the American Society of Heating and Ventilating Engineers.

.3. Heat-loss calculations shall be in accordance with data and methods described in the above Guide, and shall be based upon maintaining 70° F inside air temperature at 5 ft above floor, with outside temperature as required in the above Guide or in accordance with commonly accepted practice of local professional engineers.

604. Condensation control.

.1. Means shall be provided to minimize condensation on concealed or exposed surfaces of the dwelling and within spaces and materials thereof. Some such means are:

(a) Adequate thermal resistance of the construction.

(b) Vapor barrier on warm side providing greater vapor resistance than the total vapor resistance of all materials and construction on the exterior side of the vapor barrier.

(c) Ventilation. As required in paragraph 401.

605. Miscellaneous.

All other items, including but not limited to painting, glazing, sheet metal work, etc., not specifically covered by this standard shall conform to nationally recognized standards or to commonly accepted trade practices.

## HEATING, PLUMBING, AND ELECTRICAL REQUIREMENTS

700.

701. Heating.

.1. Each dwelling unit shall be provided with heating facilities which are safe, durable, efficient, properly adjusted and economical to operate.

.2. Capacity of the heating facility shall be determined in conformance with the Heating, Ventilating and Air Conditioning Guide published by the American Society of Heating and Ventilating Engineers.

.3. Under design conditions, facilities shall produce not less than an inside temperature of 70° F at 5 ft above floor and 1 foot from any wall within heated space. Maximum permitted difference in temperature between centers of any two rooms, measured at 5 ft above floor, shall be not more than 10° F for overflow heaters and 5° F for heating systems.

.4. Net output (gross output less allowances for distribution and pickup and any other loads imposed) shall be not less than heat loss of dwelling. Gross output and allowances for distribution and pickup shall be determined by the applicable nationally recognized

rating code or commercial standard.

.5. All coal- and oil-fired heating equipment shall conform to

applicable commercial standards.

.6. All gas-fired equipment shall conform to requirements of

the American Gas Association.

.7. The products of combustion from coal- and oil-fired heating equipment, and from gas-fired central heating equipment and floor furnaces shall be discharged into a chimney, flue, or vent through an acceptable breeching. See paragraph 601, chimneys, flues, and vents.

.8. Space shall be provided within dwelling unit for heating equipment and smoke pipe, with sufficient clearances for maintenance, repair, and safety. Heat generated shall not raise surface temperatures of combustible walls, floor, or ceiling above 160° F. Installation shall conform to the requirements of the National Board of Fire Underwriters.

.9. Warm air distribution systems shall not transfer air from

one dwelling unit to another.

702. Plumbing, piping, and sanitation.

.1. Each dwelling unit shall be provided with:

(a) Necessary plumbing fixtures.

(b) Adequate supply of safe, potable, hot and cold water, connected to plumbing fixtures.

(c) Adequate, safe facilities for sewage disposal.

.2. Materials, workmanship, and installation shall conform to all applicable local and State laws and to "Uniform Plumbing Code" 5 issued by the Housing and Home Finance Agency.

703. Electrical wiring.

- .1. Each dwelling unit shall be provided with electrical service.
- .2. Materials, workmanship, and installation shall conform to the recommendations of the current National Electrical Code.

## HISTORY OF PROJECT

800. On November 19, 1943, the Prefabricated Home Manufacfacturers' Institute requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for prefabricated homes. A preliminary draft of the proposed commercial standard was submitted on February 25, 1944, to manufacturers and a large number of interested organizations for their views and comment. All comment was carefully considered at a meeting held in Chicago on March 27, 1944. An adjusted draft was then prepared and submitted on September 27, 1944, to technical organizations, lending agencies, testing laboratories, building officials, and to all known interested manufacturers for further review and comment. The standard was then modified in accordance with the composite recommendations of those concerned and circulated to the trade for written acceptance. Following written acceptance by a satisfactory majority, the standard was promulgated as Commercial Standard CS125-45, effective May 10, 1945.

#### FIRST REVISION

801. In accordance with the proposal of the Prefabricated Home Manufacturers' Institute, based upon suggestions made by the National Housing Agency and approved by the standing committee, a recommended revision of the standard was circulated on May 16, 1947, to the trade for written acceptance. The success of the revision was announced on October 27, 1947, the revised standard being designated CS125–47.

## STANDING COMMITTEE

802. 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

<sup>&</sup>lt;sup>8</sup> Expected to be available about January 1, 1948.

to any member of the committee or to the Commodity Standards Division, National Bureau of Standards, which acts as secretary for the committee.

HARRY H. STEIDLE (chairman), Prefabricated Home Manufacturers' Institute, 908 20th Street NW., Washington 6, D. C.

JOHN A. STEWART, Bennett-Stewart Co., Inc., 105 Newbury Street, Boston 16,

JOHN PEASE, Pease Woodwork Co., Inc., Blue Rock and Turrill Streets, Cincinnati 23, Ohio.

H. ARTHUR TUCKER, Southern Mill & Manufacturing Co., P. O. Box 1087, Tulsa 1, Okla.

George A. Poag, George A. Poag & Associates, 925 Lincoln Tower, Fort Wayne 2, Ind.

KARL H. KETTELHUT, 77 LaFayette Loan & Trust Building, LaFayette, Ind. WILLIAM V. TORMA, National Cooperatives, Inc., Architectural & Building Divi-

sion, 343 South Dearborn Street, Chicago 4, Ill.

E. J. Fricke, Indiana Farm Bureau Cooperative Association, Inc., 47 South Pennsylvania Street, Indianapolis 9, Ind. (Representing National Cooperatives, Inc.)
CARROLL A. TOWNE, Office of the Housing Expediter, Temporary E Building,

Washington 25, D. C. HOWARD L. SMITH, Underwriting Division, Federal Housing Administration, Washington 25, D. C.

RAYMOND F. TALBERT, Pittsburgh Home Savings & Loan Assn., 438 Wood Street, Pittsburgh 22, Pa. (Representing National Savings & Loan League.)
Franklin Hardinge, Jr., U. S. Savings & Loan League, 221 North LaSalle

Street, Chicago 1, Ill.

STANLEY B. BAKER, 719 Van Buren Street, Topeka, Kans. (Representing Building Officials Conference of America.)

CHESTER CROSSFIELD, 302 City Hall, Nashville 3, Tenn. (Representing Southern

Building Code Congress.)

Reed B. Coyle, Arrott Building, Pittsburgh 22, Pa. (Representing Mortgage Bankers Association of America.)

Milton T. MacDonald, Trust Company of New Jersey, 35 Journal Square, Jersey City, N. J. (Representing American Bankers Association.)

#### EFFECTIVE DATE

803. Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this commercial standard was issued by the Department of Commerce, effective from November 25, 1947.

> Edwin W. Ely, Chief, Commodity Standards Division.



## ACCEPTANCE OF COMMERCIAL STANDARD

														n, signed,
					he	record	ling	of	your	orga	nizatior	ı as	an	acceptor
of this	comme	ercia	l standa	rd.										

Date								
Commodity Standards Division, National Bureau of Standards, Washington 25, D. C.								
Gentlemen:								
We believe that the Commercial Standard CS125-47 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the								
$\begin{array}{cccccccccccccccccccccccccccccccccccc$								
of prefabricated homes.								
We reserve the right to depart from it as we deem advisable.								
We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.								
Signature of authorized officer								
(Kindly typewrite or print the following lines)								
Name and title of above officer								
Organization(Fill in exactly as it should be listed)								
Street address								
City, zone, and State								
1 Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.								
after the signature.								

## TO THE ACCEPTOR

The following statements answer the usual questions arising in con-

nection 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, distri-

bution, 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

804. The organizations listed below have individually accepted this standard as far as practicable in the production, distribution, testing, or purchase of prefabricated homes. In accepting the standard, they reserved the right to depart therefrom as they individually deem advisable. It is expected that articles which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

#### ASSOCIATIONS

#### (General Support)

Building Officials Conference of America, Inc., Washington, D. C. Dairymen's League Co-Operative Association, Inc., New York, N. Y. Insulation Board Institute, Chicago, Ill. Mortgage Bankers Association of America, Pitts-

Mortgage Bankers Association of America, Pittsburgh, Pa.
National Cooperatives, Inc., Building & Architectural Standards Division, Chicago, Ill.
National Savings & Loan League, Pittsburgh, Pa.
Ninth Federal Savings & Loan Association of New York City, New York, N. Y.
Northeastern Wood Utilization Council, Brooklyn, N. Y., and New Haven, Conn.
Prefabricated Home Manufacturers' Institute, Washington, D. C., and Tulsa, Okla.

#### FIRMS

Abingdon Potteries, Inc., Abingdon, Ill. Adams Rite Manufacturing Co., Glendale, Calif. Adirondack Log Cabin Co., Inc., New York, N. Y. Admiral Homes, Inc., West Newton, Pa. Advance Aluminum & Brass Co., Los Angeles, Calif.

Calif.
Akron Hardware Manufacturing Corp., Long Island City, N. Y.
Aladdin Co., The, Bay City, Mich.
Alton Mineral Wool Insulation Co., St. Louis, Mo.
Anchorage Homes, Inc., Westfield, Mass.
Anderson-Rawlings Co., The, Crete, Nebr.
Armstrong Cork Co., Lancaster, Pa.
Associated Plywood Mills, Inc., Eugene, Oreg.
Baldwin-Hill Co., Trenton, N. J. (General support)
Bennett-Stewart Co., Inc., Boston, Mass.
Bickel-Poe Corp., The, Massillon, Ohio.
Bigelow, Frederic, Newark, N. J.
Bilco Co., The, New Haven, Conn. (General support.)

port.) port.)
Bittwell Steel Products Corp., Brooklyn, N. Y.
Binghamton, City of, Binghamton, N. Y.
Birmingham, City of, Birmingham, Ala.
Bohannen, David D., Organization, San Mateo,

Calif.
Bradshaw, H. W., Watseka, Ill.
Bradei Homes, Inc., North Little Rock, Ark.
Brown, Geo. C., & Co., Greensboro, N. C.
Bruce, E. L., Co., Memphis, Tenn.
Brust & Brust, Milwaukee, Wis.
Builders' General Supply Co., Cranford, N. J.
Burck Construction Co., Hollywood, Calif.
Butler Manufacturing Co., Kansas City, Mo.
Calbar Paint & Varnish Co., Philadelphia, Pa.
Campeol, J. W., Inc., Palatka, Fla.
Canova, Alfred, Inc., Union City, N. J.
Capital Prefabricators, Inc., Austin, Tex.
Carey, Philio, Manufacturing Co., The. Cincing

Carey, Philip, Manufacturing Co., The, Cincinnati, Ohio.

Casein Co. of America, New York, N. Y. Charlotte Lumber & Manufacturing Co., Charlotte, N.C.

#### FIRMS-Continued

Citro Oil Burners Corp., Pompton Lakes, N. J. (General support.)
City Lumber Co. of Bridgeport, Inc., The, Bridge-

City Lumber Co. of Bridgeport, Inc., The, Bridgeport, Conn.
Clark-Stek-O Corp., Rochester, N. Y.
Cleveland, City of, Department of Public Safety,
Division of Building and Housing, Cleveland,
Ohio. (General support.)
Cleverdon, Varney & Pike, Boston, Mass.
Coffin, R. V., Seattle, Wash.
Commonwealth Plywood Co., Ltd., Ste. Therese
(Terrebonne), Quebec, Canada.
Condensation Engineering Corp., Chicago, Ill.
Consolidated Water Power & Paper Co., Wisconsin
Rapids. Wis.

Rapids, Wis. Construction Service Co., Middlesex, N. J.

Construction Service Co., Middlesex, N. J. Crawford Co., Inc., Baton Rouge, La. Curtis & Davis, New Orleans, La. Cuyahoga Falls, City of, Cuyahoga Falls, Ohio. Designers for Industry, Inc., Cleveland, Ohio. Detroit Testing Laboratory, The, Detroit, Mich. Eagle Home Insulation Co., Lincoln, Nebr. Eagle-Picher Sales Co., The, Insulation Division, Cincinnati, Ohio. (General support.)
Eckhart Manufacturing Co., Roselle, N. J. (General support.)

eral support.)
Edeo Products, Inc., Hopkins, Minn.
Eddy Shipbuilding Corp., Housing Division, Bay City, Mich.
Electrical Testing Laboratories, Inc., New York,

N. Y. Elkin, Bernard P., New York, N. Y. Erie Flooring & Wood Products, Ltd., West Lorne,

Ontario, Canada. Eureka Williams Corp., Bloomington, Ill. Field Detroit Co., Birmingham, Mich. Florida, University of, School of Forestry, Gaines-

Editera Williams Colp., Bloomington, In.
Field Detroit Co., Birmingham, Mich.
Florida, University of, School of Forestry, Gainesville, Fla.
Ford, Ivon R., Inc., McDonough, N. Y.
GBH-Way Homes, Inc., Walnut, Ill.
Gadsden, City of, Gadsden, Ala.
Gem Trailer Co., Inc., Twin Falls, Idaho.
General Industries, Inc., Fort Wayne, Ind.
General Panel Corp. of California, Burbank, Calif.
General Wood Works, Council Bluffs, Iowa.
Georgia Housing Co., Inc., Macon, Ga.
Goodall Electric Manufacturing Co., Ogallala, Nebr.
Green Lumber Co., The, Laurel, Miss.
Green's Ready-Built Homes, Inc., Rockford, Ill.
Greenwood Engineering Co., Inc., Baltimore, Md.
Gunnison Homes, Inc., U. S. Steel Corp. Subsidiary,
New Albany, Ind.
H & S Lumber Co., Charlotte, N. C.
Hagerman Construction Corp., Fort Wayne, Ind.
Hagerstown, The Mayor and Council of, Hagerstown, Md. (General support.)
Halliday Co., Ltd., The, Burlington, Ontario,
Canada.

Canada. Hammel Radiator Engineering Co., Los Angeles,

Calif.

Galif.

Harbor Sales Co., Inc., The, Baltimore, Md.

Harman, William H., Corp., Wilmington, Del.

Harnischfeger Corp., Houses Division, Port Washington, Wis.

Levipur, F. L. Co., Seattle, Wash.

Hartung, F. L., Co., Seattle, Wash.

#### FIRMS-Continued

Hawaiian Cane Products, Ltd., Culver City, Calif. Hawkins Lumber & Warehouse Co., Boston, Mass. Hess, Charles, Co., New York, N. Y. Hilpert Developments, Bethlehem, Pa. Hess, Charles, Co., New York, N. Y.
Hilpert Developments, Bethlehem, Pa.
Hilz Homes Co., Toronto, Ohio.
Hodgson, E. F., Co., Division of Allied-Hodgson
Housing Corp., Boston, Mass.
Hoffmann, George W., Corp., New York, N. Y.
Holden, McLaughlin & Associates, New York, N. Y.
Home Builders Corp., Atlanta, Ga.
Home Building Corp., Sedalia, Mo.
Home Corp. of America., De Kalb, Ill.
Homeola Corp., The, Chicago, Ill.
Hopmayer Stove Co., Passaic, N. J.
Houston Ready-Cut House Co., Houston, Tex.
Ilg Electric Ventilating Co., Chicago, Ill.
Illinois Lumber Manufacturing Co., Cairo, Ill.
Illinois Steel Bridge Co., Jacksonville, Ill.
Jackson Electrical Co., Chicago, Ill.
Johnson, S. T., Co., Oakland, Calif.
Johnson Quality Home, Inc., Brooklyn, N. Y.
Joseph Lumber Co., Chicago, Ill.
K & M Corp., Norfolk, Va.
Kenosha, City of, Kenosha, Wis. (General support)
Kettelhut, K. H., Lafayette, Ind.
Kimberly-Clark Corp., Neenah, Wis. (General support) support) Klomparens Lock-Joint Manufacturing Co., Wash-Klomparens Lock-Joint Manufacturing Co., Washington, D. C.
Kneeland Bigelow Dist. Co., Bay City, Mich.
Kohler Co., Kohler, Wis. (General support)
Kolb, M. B., Co., Inc., New York, N. Y.
Ladue, City of, St. Louis County, Mo.
Lennox Furnace Co., Marshalltown, Iowa.
Lincoln Lumber Co., Oakland, Calif.
Lindsay, Claude T., Inc., San Francisco, Calif.
Little, H. C., Burner Co., Inc., San Rafael, Calif.
Long Beach, Better Business Bureau of, Long Beach,
Calif. Calif. Macomber, Inc., Canton, Ohio.
Mahoney Sash & Door Co., The, Canton, Ohio.
Malleable Iron Fittings Co., Branford, Conn. Malleable from Fittings Co., Branch, (General support)
Marsh & Truman Lumber Co., Chicago, Ill.
Martin, W. Marshall, Huntington, W. Va.
Maryland Modern Housing Corp., Baltimore, Md.
McKeown Bros. Co., Chicago, Ill.
Mercoid Corp., The, Chicago, Ill. (General support) Metz Homes, Inc., Bethpage, N. Y. Midwest Fabricating Co., Mansfield, Ohio.
Midwest Housing Corp., Janesville, Wis.
Minnesota Linseed Oil Paint Co., Minneapolis, Minn.

Minnesota & Ontario Paper Co., Insulite Division,
Minneapolis, Minn. (General support)
Minot Builders Supply Co., Minot, N. Dak.
Modular Structures, Inc., Tacoma, Wash.
Monarch Metal Weatherstrip Corp., St. Louis, Mo.
Monsanto Chemical Co., Western Division, Lockport, N. Y. (General support.)
Morley Brothers, Saginaw, Mich.
Moser, C. S., Industries, Lumber Division, Savannah, Tenn.
National Airoil Burner Co., Philadelphia, Pa Minn. National Airoil Burner Co., Philadelphia, Pa. National Homes Corp., Lafayette, Ind. National Rock Wool Sales, Inc., Lagro, Ind. Neal-Blun Co., Sayannah, Ga. Neal-Blun Co., Savannah, Ga.
New Hampshire, University of, Engineering Experiment Station, Durham, N. H.
New York Iron Roofing & Corrugating Co., Inc.,
The, Jersey City, N. J.
Nichols & Cox Lumber Co., Grand Rapids, Mich.
Nuway Corp., The, Rock Island, Ill.
Paducah Sash & Door Co., Inc., Paducah, Ky.
Page & Hill Co., Minneapolis, Minn.
Palace Corp., Flint, Mich.

#### FIRMS-Continued

Payson Manufacturing Co., The, Chicago, Ill.
Pearson, Frederick Z., Consulting Engineers,
Aurora, Ill. Pease Woodwork Co., Inc., Cincinnati, Ohio. Peerless Housing Co., Inc., New York, N. Y. Pierce, John B., Foundation, Raritan, N. J. Pittsburgh Plate Glass Co., Pittsburgh, Pa. (General support.) Ply-Wel Industries, Oakland, Calif. Poag, George A., & Associates, Fort Wayne, Ind. Portland, City of, Bureau of Buildings, Portland, Oreg.

Precision Homes Co., Stockton, Calif.

Preco Corp., Kirkland, Wash.

Pre-Fab Industries (Operating Division General Building Materials, Inc.), Bremen, Ind.

Prefabricated Products Co., Seattle, Wash.

Prefabrication Engineering Co., Portland, Oreg.

Production Line Structures, Los Angeles, Calif.

Puritan Lighting Fixture Co., Brooklyn, N. Y.

Quality Homes, Inc., Joliet, Ill.

Rastetter, Louis, & Sons Co., Fort Wayne, Ind.

(General support.)

Riedel, L. H., Lumber Co., Inc., Marlette, Mich.

Rolker, E. Chas., Albany, N. Y.

Raberoid Co., The, New York, N. Y.

S & S Roofing Co., York Haven, Pa.

St. Paul & Tacoma Lumber Co., Tacoma, Wash.

Salem Lime & Stone Co., Salem, Ind.

Scott Lumber Co., The, Wheeling, W. Va.

Sears, Roebuck & Co., Chicago, Ill.

Shappert Engineering Co., Belvidere, Ill.

Skill-Craft Homes, Inc., Akron, Ohio.

Southern Mill & Manufacturing Co., Tulsa, Okla.

Special Materials Corp., Oakland, Calif. Precision Homes Co., Stockton, Calif. Special Materials Corp., Oakland, Calif. Springfield, City of, Springfield, Mo. Stackhouse, S. J., & Son, Baltimore, Md. Standard Fabrication, Inc., Chicago, Ill. Stanway Prefabricated Buildings Co., Montclair, N. J.
Strand Building Products Co., Detroit, Mich.
Structures, Inc., Chicago, Ill.
Synvar Corp., Wilmington, Del.
Tacoma Lumber Fabricating Co., Tacoma, Wash.
Tec-Bilt Homes of Miami, Inc., Miami Springs, Fla.
Technical Glass Co., Inc., Los Angeles, Calif.
Tex-Rock Insulation Co., Temple, Tex. (General support.)
Texas Housing Co., Dallas, Tex.
Throop-Martin Co., The, Columbus, Ohio.
Timber Structures, Inc., Portland, Oreg.
Timmerman, Karl G., Fayetteville, N. Y.
Tovell Construction Co., Greenville, Ga.
U. S. Homes, Inc., Marietta, Ga. U. S. Homes, Inc., Marietta, Ga. United States Prefab Corp., Patchogue, Long Island, N. Y.
United States Testing Co., Inc., Hoboken, N. J.
Waukegan Construction Material Co., Waukegan, III.

West Side Manufacturing Co., Milwaukee, Wis. Wheeler, Osgood Co., The Tacoma, Wash. Williams & Hunting Co., Cedar Rapids, Iowa. Williams oil-O-Matic Division, Eureka Williams Corp., Bloomington, III. Williamson, Inc., Sheboygan Falls, Wis. Williamson, Inc., Sheboygan Falls, Wis. Winner Manufacturing Co., Inc., Trenton, N. J. Winston-Salem, City of, Winston-Salem, N. C. Winston System Homes, Redlands, Calif. Wisconsin Oil Burner Co., Madison, Wis. Wood Lumber Co., Birmingham, Ala. Wood Lumber Co., Birmingham, Ala. Wood Products Magazine, Chicago, Ill. (General support.) UNITED STATES GOVERNMENT

Interior, U. S. Department of the, Office of Indian Affairs, Washington, D. C.

### COMMERCIAL STANDARDS

CS No. Item 0-40. Commercial standards and their value to business (third edition).

Clinical thermometers (third edition).

1-42. Clinical thermometers (third edition).
2-30. Mopsticks.
3-40. Stoddard solvent (third edition).
4-29. Staple porcelain (all-clay) plumbing fixtures.
5-46. Pipenipples; brass, copper, steel and wroughtiron (second edition).
6-31. Wrought-iron pipe nipples (second edition).
Superseded by CS5-46.

7-29. Standard weight malleable iron or steel screwed unions.

Gage blanks (third edition). 9-33. Builders' template hardware (second edition). 10-29. Brass pipe nipples. Superseded by CS5-46.

11-41. Moisture regains of cotton yarns (second edition).

12-40. Fuel oils (fifth edition). 13-44. Dress patterns (fourth edition). 14-43. Boys' button-on waists, shir 14-43. Boys' button-on waists, shirts, junior and sport shirts (made from woven fabrics) (third edition).

15-46. Men's pajama sizes (made from woven fabrics) (third edition).

16-29. Wall paper.

17-47. Diamond core drill fittings (fourth edition).

18-29. Hickory golf shafts.

19-32. Foundry patterns of wood (second edition).
20-47. Staple vitreous china plumbing fixtures
(fourth edition).

21-39. Interchangeable ground-glass joints, stop-cocks, and stoppers (fourth edition). 22-40. Builders' hardware (nontemplate) (second edition).

23-30. Feldspar.

24-43. Screw threads and tap-drill sizes. 25-30. Special screw threads. Superseded by CS24-43.

26-30. Aromatic red cedar closet lining.

27-36. Mirrors (second edition). 28-46. Cotton fabric tents, tarpaulins and covers

(second edition).

29-31. Staple seats for water-closet bowls.
30-31. Colors for sanitary ware.
31-38. Wood shingles (fourth edition).
32-31. Cotton cloth for rubber and pyroxylin coating.
33-43. Knit underwear (exclusive of rayon) (second edition).

edition).

34-31. Bag, case, and strap leather.

35-47. Hardwood plywood (third edition).

36-33. Fourdrinier wire cloth (second edition).

37-31. Steel bone plates and screws.

38-32. Hospital rubber sheeting.

39-37. Wool and part wool blankets (second edition). (withdrawn as commercial standard, July

(windawn as commercial standard, July 14, 1941). 40-32. Surgeons' rubber gloves. 41-32. Surgeons' latex gloves. 42-43. Structural fiber insulating board (third edition)

43-32. Grading of sulphonated oils.

44-32. Apple wraps. 44-32. Apple wraps. 45-47. Douglas fir plywood (seventh edition). 46-40. Hosiery lengths and sizes (third edition).

47-34. Marking of gold-filled and rolled-gold-plate articles other than watchcases.

48-40. Domestic burners for Pennsylvania anthracite

49-34. Chip board, laminated chip board, and mis-cellaneous boards for bookbinding purposes. 50-34. Binders board for bookbinding and other

purposes. 51-35. Marking articles made of silver in combina-

tion with gold.
52-35. Mohair pile fabrics (100-percent mohair plain

velvet, 100-percent mohair plain frieze, and 50-percent monair plain frieze). 53-35. Colors and finishes for cast stone. 54-35. Mattresses for hospitals. 55-35. Mattresses for institutions. 56-41. Oak flooring (second edition).

CS No.

57-40. Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings (second edition).
 58-36. Woven elastic fabrics for use in overalls (over-

all elastic webbing).

59-44. Textiles—testing and reporting (fourth edition).

60-36. Hardwood dimension lumber.

61–37. Wood-slat venetian blinds. 62–38. Colors for kitchen accessories 63-38. Colors for bathroom accessories. Walnut veneers.

64-37. Walnut veneers. 65-43. Methods of analysis and of reporting fiber composition of textile products (second edition).

66-38. Marking of articles made wholly or in part of platinum.
67-38. Marking articles made of karat gold.
68-38. Liquid hypochlorite disinfectant, deodorant,

and germicide. 69–38. Pine oil disinfectant

103-36. File of usinfectant.

70-41. Phenolic disinfectant (emulsifying type) (second edition) (published with CS71-41).

71-41. Phenolic disinfectant (soluble type) (second edition) (published with CS70-41).

72-38. Household insecticide (liquid spray type).

73-45. Old-growth Douglas-fir standard-stock doors

(third edition). 74–39. Solid hardwood wall paneling.

75-42. Automatic mechanical-draft oil burners designed for domestic installations (second edition).

76-39. Hardwood interior trim and molding.

77-40. Sanitary cast-iron enameled ware. 78-40. Ground-and-polished lenses for sun glasses (second edition) (published with CS79-40).

79–40. Blown, drawn, and dropped lenses for sun glasses (second edition) (published with CS78–40).

80-41. Electric direction-signal systems other than semaphore type for commercial and other vehicles subject to special motor-vehicle laws (after market). 81-41. Adverse-weather lamps for vehicles (after

market). 82-41. Inner-controlled spotlamps for vehicles (after

market).

83-41. Clearance, marker, and identification lamps for vehicles (after market).

84-41. Electric tail lamps for vehicles (after market). 85-41. Electric license-plate lamps for vehicles (after market).

86-41. Electric stop lamps for vehicles (after market).

88–41. Liquid burning flares. 89–40. Hardwood stair treads and risers.

(Reserved for power shovels and cranes.) Factory-fitted Douglas-fir entrance doors 91-41.

92-41. Cedar, cypress and redwood tank stock lumber

93-41. Portable electric drills (exclusive of high frequency). 94-41. Calking lead.

95–41. Lead pipe. 96–41. Lead traps and bends.

97-42. Electric supplementary driving and passing lamps for vehicles (after market).

98-42. Artists' oil paints. 99-42. Gas floor furnaces—gravity circulating type. 100-44. Porcelain-enameled steel utensils (second edition).

101-43. Flue-connected oil-burning space heaters equipped with vaporizing pot-type burn-

ers.

102- (Reserved for Diesel and fuel-oil engines).
 103-42. Cotton and rayon velour (jacquard and plain).
 104-46. Warm-air furnaces equipped with vaporizing

pot-type oil burners (second edition). 105-43. Mineral wool; loose granulated, or felted form, in low-temperature installations.

CS No.	Item .	CS No.	Item	
106-44. Boys'	pajama sizes (woven fabric	s) (second 127-45, Self-contained	l mechanically	r

edition). 107-45. Commercial electric-refrigeration condensing

units (second edition). 108-43. Treading automobile and truck tires.

109-44. Solid-fuel-burning forced-air furnaces. 110-43. Tire repairs—vulcanized (passenger, truck, and bus tires). (vitreous-glazed) plumbing

111-43. Earthenware fixtures.

112-43. Homogeneous fiber wallboard.
113-44. Oil-burning floor furnaces equipped with vaporizing pot-type burners.
114-43. Hospital sheeting for mattress protection.
115-44. Porcelain-enameled tanks for domestic use.
116-44. Bituminized-fibre drain and sewer pipe.

117-44 Mineral wool; blankets, blocks, insulating cement, and pipe insulation for heated industrial equipment.

118-44. Marking of jewelry and novelties of silver. (E)119-45. Dial indicators (for linear measurements). 120-46. Standard stock ponderosa pine doors (second

edition).

121-45. Women's slip sizes (woven fabrics).

122-45. Western hemlock plywood.

123-45. Grading of diamond powder. (E)124-45.1 Master disks.

125-47. Prefabricated homes (second edition). 126-45. Tank-mounted air compressors.

refrigerated

drinking water coolers. 128-45. Men's sport shirt sizes-woven fabrics (other than those marked with regular neckband sizes).

129-47. Materials for safety wearing apparel (second edition)

130-46. Color materials for art education in schools. 131-46. Industrial mineral wool products, all typestesting and reporting.

132-46. Hardware cloth. 133-46. Woven wire netting.

134-46. Cast aluminum cooking utensils (metal composition).

135-46. Men's shirt sizes (exclusive of work shirts). 136-46. Blankets for hospitals (wool, and wool and cotton). 137-46. Size measurements for men's and boys' shorts

(woven fabrics). 138-47. Insect wire screening.

139–47. Work gloves. 140–47. Testing and rating convectors

141-47. Sine bars, blocks, plates, and fixtures. 142-47. Automotive lifts. 143-47. Standard strength and extra strength perforated clay pipe. 144-47. Formed metal porcelain enameled sanitary

ware. 145-47. Testing and rating hand-fired hot-water-

supply boilers. 146-47. Gowns for hospital patients.

Notice.—Those interested in commercial standards with a view toward accepting them as a basis of everyday practice may secure copies of the above standards, while the supply lasts, by addressing the Commodity Standards Division, National Bureau of Standards, Washington 25, D. C.

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