PRODUCT STANDARD **PS2-66**

Supersedes Simplified Practice Recommendation R15-35

Standard Sizes of Blackboard Slate

A RECORDED VOLUNTARY STANDARD OF THE TRADE

U.S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

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U.S. DEPARTMENT OF COMMERCE
John T. Connor, Secretary

NATIONAL BUREAU OF STANDARDS
A. V. Astin, Director

Office of Engineering Standards Services

EFFECTIVE DATE

Having been passed through the regular procedures of the Office of Commodity Standards (now the Office of Engineering Standards Services, National Bureau of Standards) and approved by the acceptors hereinafter listed, this Product Standard is issued by the National Bureau of Standards, effective May 15th, 1966.

A. V. ASTIN, *Director*

PRODUCT STANDARDS

Product Standards are developed by manufacturers, distributors, and users in cooperation with the Office of Engineering Standards Services of the National Bureau of Standards. The purpose of a Product Standard may be either (1) to establish standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; or (2) to establish quality criteria, standard methods of testing, rating, and labeling of manufactured products.

The adoption and use of a Product Standard is voluntary. However, when reference to a Product 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.

Product Standards usually originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Office of Engineering Standards Services, the necessary data to be used as a basis for developing a standard of practice. The Office, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Office assures continuous servicing of each product Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

The initial printing of PS2-66 was made possible through the cooperation of the Pennsylvania Slate Producers Guild, Inc.

Standard Sizes of Blackboard Slate

(Effective May 15, 1966)

1. PURPOSE

1.1 This recommendation seeks to utilize sizes of blackboard slate available in the natural state to the fullest possible extent. It is recommended that purchasers specify the exact amount of blackboard slate, in feet, required to fill the lengths of wall spaces, and avoid ordering individual sizes of slabs. This will make it possible to place orders in advance and to prevent delays in waiting for final measurements. Such practice will make it unnecessary for quarries to wait for a required number of exactly equal-length slabs. The number of slabs, however, should not exceed the maximum numbers shown in table 1.

2. DEFINITION

2.1 **Slate.**—A dense, fine-grained rock, with characteristic near-parallel cleavage, formed by the compression (metamorphism) of clay, shales, etc.

3. SCOPE

3.1 This recommendation covers dimensions for blackboard slabs (table 1), and dimensions of blackboard slates for other than wall use (table 2). Also included are requirements for thickness, finish, and color and imperfections of natural slate.

4. GENERAL RECOMMENDATIONS

4.1 Dimensions

4.1.1 **Thickness.**—All finished blackboards shall be not less than ¼ inch or more than ⅜ inch in thickness. Since it is not a simple matter to precisely control uniformity in the splitting of this natural rock, a maximum deviation of 1/16 inch from the standard limits is permissible when an average thickness of at least ¼ inch is maintained.[1]

4.1.2 **Size of slab.**—The standard sizes of blackboard slabs are given in tables 1 and 2 for wall mounting and for other than wall mounting respectively.

[1] Utilizing the cleavage property of slate, blocks of slate are split into uniform slabs about one-half inch thick. These slabs are then placed on rubbing beds to be ground to the specified thickness. A gage is attached to the rubbing bed and the final gaging of the thickness is done on the rubbing bed.

TABLE 1. *Dimensions of blackboard slabs for wall mounting.*[1]

Modular stock heights	Number of slabs to be used in wall spaces	
	Maximum number of slabs [2]	Length of wall space
Feet		
3, 3½, or 4	1	Up to 5 ft.
3, 3½, or 4	2	5 ft. to 9 ft.
3, 3½, or 4	3	9 ft. to 13½ ft.
3, 3½, or 4	4	13½ ft. to 18 ft.
3, 3½, or 4	5	18 ft. to 22½ ft.
3, 3½, or 4	6	22½ ft. to 27 ft.

[1] When ordering slabs for wall mountings, the dimensions of both slate and frame must be considered.
[2] The joints between the slabs shall be equally spaced, with an allowance of 3 inches in either direction of what would be exactly equal spacing of joints in the wall space.

TABLE 2. *Dimensions of blackboard slates for other than wall use.*

Portable or small blackboards-bulletin boards		School slates, kitchen slates, score-card slates, and memorandum slates	
Clear writing surface [1]		Clear writing surface [1]	
Inches	*Inches*	*Inches*	*Inches*
10 x 12	18 x 24	4 x 6	7 x 10
12 x 18	20 x 30	5 x 7	7 x 11
14 x 14	24 x 36	6 x 8	8 x 12
14 x 16	27 x 40	6 x 9	9 x 13
14 x 20	36 x 48		
16 x 16	42 x 60		
18 x 18	48 x 72		

[1] When ordering slate slabs that are to be set into frames, due allowance must be made for the margin that will be covered by the frames, in order to provide clear writing surfaces of the above specified dimensions.

4.2 **Grade descriptions.**

4.2.1 **Surface.**—The writing face of each blackboard shall be finished to a true, even, uniform and finely smoothed surface.

4.2.2 **Color and imperfections.**—Blackboard slate shall be free from ribbons, concentrations of secondary minerals, and imperfections in the form of metallic formations and vitreous substances. Inherent natural markings differing in darkness from clear sections of the slate shall be permitted providing they do not impair the use and durability of the slate as a writing surface.[2]

4.3 **Installations.**

4.3.1 Blackboards shall be installed as shown on manufacturers recommended installation directions. Joints shall be fitted to provide a continuous writing surface.

[2] For quality requirements see ASTM Designation C543–64T, Slate Blackboards. Obtainable from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103.

HISTORY OF PROJECT

This standard was first initiated in 1924 because the slate industry believed that there was needed a better understanding on the part of the slate users, of the limitations of manufacturers who must handle and process a natural rock—limitations that do not occur in the production of fabricated articles—and which are closely related to seasonal operations. This standard was reaffirmed 3 times over a period of ten years, during which time adherence to the schedule had steadily increased, and made possible a reduction in the number of slab heights for fixed wall blackboards from 90 to 3, in the number of sizes of portable or small blackboards from 141 to 14, and in the number of sizes of school, score-card, and memorandum slates from 20 to 8; representing eliminations of 96.6, 90, and 60 percent respectively.

In 1935 the standard was revised to include the recommendation that the specifications concerning the finish of blackboard slate be amplified to include a statement in reference to natural markings in blackboard slate. Some misunderstanding had arisen among slate users on this question of natural markings. Due largely to their lack of familiarity with the characteristics of slate, some users had become convinced that such natural markings constituted actual defects. A clarifying statement was added to the effect that blackboard slate shall be even in color and free from imperfections or veinings that would impair its use or durability as a writing surface.

CURRENT REVISION

In November 1964, the Pennsylvania Slate Producers Guild, Inc., requested the cooperation of the Office of Commodity Standards, now the Office of Engineering Standards Services, in the revision of R15–35, Blackboard Slate. This revision was desired to bring the standard up to date in content. The principal change is the rewording of Paragraph 4.2.2 **Color and imperfections** to be more consistent with present trade practice and ASTM Designation C543–64T for Slate Blackboard.

The proposed revision was submitted to the new Standing Committee for consideration on April 1, 1965. After approval by the Standing Committee, Simplified Practice Recommendation SP–4689 was circulated to representative producers, distributors, users, testing laboratories, and Government agencies on August 6, 1965, for consideration and acceptance. Sufficient acceptances were received from producers, distributors, and users to indicate success of the project; producers representing approximately 100 percent of production capacity returned signed acceptances indicating approval of the standard. The new edition PS2–66 was announced to become effective for new production on May 15, 1966.

Project Manager: Dolores B. Manning, Office of Engineering Standards Services, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the Standing Committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the Committee or to the Office of Engineering Standards Services, National Bureau of Standards, U.S. Department of Commerce, which acts as secretary for the committee.

W. F. Mullen, Pennsylvania Slate Producers Guild, Inc., 120 Hillview Avenue, State College, Pa. 16801 (Chairman)
F. D. Spry, General Manager, the Structural Slate Company and The Natural Slate Blackboard Company, Pen Argyl, Pa. 18072
Thomas Papay, President, Penn Big Bed Slate Company, Inc., P. O. Box 184, Slatington, Pa. 18080
Elwood Stoddard, President, Albion Vien Slate Company and The Stoddard Slate Companies, Bangor, Pa. 18013
David Stoddard, Executive Vice President, David Stoddard & Sons, Inc., Bangor, Pa. 18013
Paul J. Fink, Superintendent, School District, City of Allentown, 31 South Penn Street, Allentown, Pa. 18105
Wallace E. Neal, President, W. E. Neal Slate Co., 1215 Second Avenue, North, Minneapolis, Minn. 55405
Keller F. Johnson, President, Building Specialties Company of Pittsburgh, 1324 Beldale Street, Pittsburgh, Pa. 15233
W. S. Hays, Secretary-Treasurer, National Slate Association, 455 West 23*rd* Street, New York, N. Y. 10011

ACCEPTORS

The manufacturers, distributors, users, and others listed below indicated in writing their acceptance of this Product Standard prior to its publication.

ASSOCIATIONS

American Institute of Architects, Washington, D. C.
National Slate Association, New York, N. Y.
Pennsylvania Slate Producers Guild, Inc., State College, Pa.

FIRMS AND OTHER INTERESTS

Acme Quality Paints, Inc., Detroit, Mich. (General Support).
Ashton, Brazier, Montmorency & Associates, Salt Lake City, Utah

Bangor Cork Co., Inc., Pen Argyl, Pa.
Bangor Slate Co., Bangor, Pa.
Barry & Kay, Architects, Chicago, Ill.
Baumer, Herbert, Architect, Columbus, Ohio
Belli & Belli, Architects, Chicago, Ill.
Building Specialties Co., Pittsburgh, Pa.

Camlet, J. Thomas, & Son, Architects, Clifton, N.J.
Claridge Products and Equipment, Inc., Harrison, Ark.
Colborn School Supply Co., Grand Forks, N.D.
Conrad & Cummings, Associated Architects, Binghamton, N.Y.

Doney Slate Co., Pen Argyl, Pa.

Educator Supply Co., Mitchell, S.D.
Ellerbe Architects, St. Paul, Minn.
Everett Associates, Allentown, Pa.

Flannagan, Eric G., & Sons, Architects & Engineers, Henderson, N.C.

Gotham Educational Equipment Co., Inc., New Rochelle, N.Y.
Grellinger-Rose Associates, Inc., Milwaukee, Wis. (General Support)

Hamme, J. Alfred, & Associates, York, Pa. (General Support)
Hamm, James G., Distributor of Slate Products, Bangor, Pa.
Hamm, S. H., & Son, Bangor, Pa.
Hogner, Pierre R. L., Architect, Fort Lauderdale, Fla.

Holdstein, Milo S., Cleveland, Ohio
Hope, Frank L. & Associates, San Diego, Calif.

Lawrie and Green, Harrisburg, Pa.
Linder, Wright & White, Architects, Denver, Colo.

Magnetic Aids, Inc., New York, N.Y.
Masters Slate Co., Swathmore, Pa.
Masters, A. M., & Sons, Inc., Pen Argyl, Pa.
Miller, Ewing, Associates, Inc., Terre Haute, Ind.

National School Slate Co., Inc., Slatington, Pa.
Natural Slate Blackboard Co., Pen Argyl, Pa.
Neal, W. E., Slate Co., Minneapolis, Minn.
New York Blackboard, Inc., New York, N.Y.

Ohio Valley Slate Co., Inc., Cincinnati, Ohio

Patzig Testing Laboratories, Inc., Des Moines, Iowa (General Support)
Peninsula Acoustical Co., Dover, Del.
Penn Big Bed Slate Co., Inc., Slatington, Pa.
Price, Beryl, FAIA, Philadelphia, Pa.

Rolee, Inc., Harrisburg, Pa.
Rolite Manufacturing Inc., Lancaster, N.Y.

Sorenson, N. T., Co., Scottsdale, Ariz.
Stephens-Jackson Co., Pen Argyl, Pa.
Stoddard Slate Companies, Bangor, Pa.
Structural Slate Co., Pen Argyl, Pa.

Vogel, Willis A., Architect & Consultant, Toledo, Ohio

Wagoner, Harold E., & Associates, Philadelphia, Pa.
Wank, Adams & Slavin, Architects & Engineers, Office of Fellheimer & Wagner, New York, N.Y.

STATE BOARDS AND DEPARTMENTS OF EDUCATION

Minnesota State Department of Education, School Plant Section, St. Paul, Minn.
Missouri State Department of Education, Jefferson City, Mo.
Pennsylvania State Public School Building Authority, Harrisburg, Pa.
Wisconsin State Department of Public Instruction, Madison, Wis.

CITY BOARDS AND DEPARTMENTS OF EDUCATION

Dade County Board of Public Instruction, Materials Testing Division, Miami, Fla.
Jamestown Public Schools, Jamestown, N. Y.
Minneapolis Special School District No. 1, Minneapolis, Minn.
Pittsburgh Board of Public Education, Pittsburgh, Pa.
St. Louis Board of Education, Building Department, St. Louis, Mo.

U.S. GOVERNMENT

Bureau of Indian Affairs, Department of the Interior, Washington, D. C.
Interior, Department of the, Washington, D. C.
Veterans Administration, Washington, D. C.

A list of voluntary standards may be obtained from the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C., 20234. This list includes the purchase price of each publication and gives direction for ordering copies.

Acceptance of Product Standard

PS2-66, Standard Sizes of Blackboard Slate

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 Product Standard.

Date_____

Office of Engineering Standards Services
National Bureau of Standards
Washington, D.C., 20234

Gentlemen:

We believe that this Product Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production [1] distribution [1] use [1] other interest [1]

of this product.

We reserve the right to depart from the standard as we deem advisable.

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

Signature of authorized officer_____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer_____

Organization_____
(Fill in exactly as it should be listed)

Street address_____

City, State, and ZIP Code_____

[1] Underscore the applicable words. 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 interest trade associations, trade papers, etc., desiring to record their general support, the words "General support" 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*—A Product Standard contains requirements which are 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 National Bureau of Standards 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 soon become established as trade customs, and are made effective through incorporation into sales contracts, labels, invoices, and the like.

2. *The acceptor's responsibility*—The purpose of a Product Standard is to establish, for specific items, 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 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 National Bureau of Standards in the voluntary establishment of Product Standards on a nationwide basis is fourfold: First, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory development of voluntary 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 of the standard on the part of producers, distributors, and users; and fourth, after acceptance to publish the standard for the information and guidance of buyers and sellers of the product.

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

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