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Standard Specification for Slate Dimension Stone¹

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1. Scope

1.1 This specification covers the material characteristics, physical requirements, and sampling appropriate to the selection of slate for general building and structural purposes. Refer to Guides C1242 and C1528 for the appropriate selection and use of slate dimension stone.

1.2 Dimension slate shall include stone that is sawed, cut, split, or otherwise finished or shaped, and shall specifically exclude molded, cast, or otherwise artificially aggregated units composed of fragments, and also crushed and broken stone.

1.3 It specifically excludes roofing slate (see Specification C406/C406M) and slate for industrial uses.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

- C119 Terminology Relating to Dimension Stone
- C120/C120M Test Methods for Flexure Testing of Structural and Roofing Slate
- C121/C121M Test Method for Water Absorption of Slate
- C217/C217M Test Methods for Weather Resistance of Slate

¹ This specification is under the jurisdiction of ASTM Committee C18 on Dimension Stone and is the direct responsibility of Subcommittee C18.03 on Material Specifications.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

- C241/C241M Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic
- C406/C406M Specification for Roofing Slate
- C1242 Guide for Selection, Design, and Installation of Dimension Stone Attachment Systems
- C1353 Test Method for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic Using a Rotary Platform Abraser
- C1528 Guide for Selection of Dimension Stone

3. Terminology

3.1 *Definitions*—All definitions are in accordance with Terminology C119.

4. Classification

- 4.1 Dimension slate shall be selected for the following uses:
 - 4.1.1 *I Exterior.*
 - 4.1.2 *II Interior.*

5. Physical Requirements

5.1 Slate supplied under this specification shall conform to the requirements listed in Table 1.

5.2 Slate used for exterior applications in ambient acidic atmospheres or in industrial areas where heavy air pollution occurs shall be free of carbonaceous ribbons. Slate shall be sound, durable, and free of spalls, cracks, open seams, pits, or other defects that are likely to impair its structural integrity in its intended use.

5.3 Slate shall be selected for overall satisfactory and natural appearance.

5.4 The desired color and texture, with their permissible natural variations in material characteristics for all material to be produced for the project, shall be established by control samples. Select representative samples by viewing a sufficient number of physical samples prior to production that show the complete range of variations in color and texture of the slate specified.

6. Sampling

6.1 Samples, if required, for testing to determine the characteristics and physical properties shall be representative of the slate to be used.

TABLE 1 Physical Requirements

NOTE 1—The values in Table 1 were established using samples prepared according to the individual test methods. Finishes, other than those specified in the individual test methods, may result in a deviation from established values.

Property	Test Requirements	Classifications		Test Method(s)
Absorption, max, %	0.25	I	Exterior	C121/C121M
	0.45	II	Interior	
Modulus of rupture, min, psi (MPa):	9000 [62]	I	Exterior	C120/C120M
		7200 [50]	II	
Across grain	7200 [50]	I	Exterior	C241/C241M/C1353
		5500 [38]	II	
Along grain	8.0	I	Exterior	C217/C217M
		8.0	II	
Abrasion resistance, min, H _a ^A	0.015 [0.38]	I	Exterior	C217/C217M
		0.025 [0.64]	II	

^A Pertains only to stone subject to foot traffic.

7. Keywords

7.1 acid resistance; carbonaceous ribbons; slate

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