



November 14, 2025

Arto Brick
Attn: Julie Grajeda
15209 S. Broadway
Gardena, CA 90248
USA

Julie Grajeda,

International Product Assurance Laboratories has tested the samples you submitted. Test report IPAL-0539-25 is enclosed. If you have any questions or concerns, please contact us.

Best Regards,

INTERNATIONAL PRODUCT ASSURANCE LABORATORIES,

Damon McDowell
Laboratory Supervisor
Enclosures



IPAL TEST REPORT NUMBER:

IPAL-0539-25

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TEST REQUESTED BY:

Arto Brick

TEST METHOD: **ASTM C1645-21: “Standard Test Method for Freeze-thaw and De-icing Salt Durability of Solid Concrete Interlocking Paving Units”**

Informal Test Method Description: This test method evaluates the resistance to freezing and thawing of solid interlocking concrete paving units conforming to the dimensional requirements of Specification C936/C936M. Units are tested in a test solution that is either tap water or 3% saline solution, depending on the intended use of the units in actual service. This summary is provided for the reader’s convenience and is not a complete description of the method. See ASTM C1645 for all method details and information.

TEST SUBJECT MATERIAL:

Identified by client as: **“8x8 Artillo Early Gray Standard”**
Approximate Size as Received: 193mm x 193mm x 18 mm

TEST DATE:

9/24/2025 – 11/4/2025

TEST PROCEDURE NOTES:

- Sample Prep: Five (5) specimens were prepared and conditioned according to ASTM C1645, sections 6.2.2 and 6.3.
- The specimens were subjected to twenty-eight (28) cycles of freeze-thaw consisting of freezing the tiles in tap water to $-5\pm 3^{\circ}\text{C}$ ($23\pm 5^{\circ}\text{F}$) and then thawing the tiles in water to 5°C (40°F).
- The mass loss was calculated per the test method.

TEST RESULTS:

Specimen #	Residue Dry Wt. (g)	Mass Loss (g/m^2) after 28 days	Observations After 28 Cycles
1	11.34	8.0	Spalled surface of tile
2	19.33	13.7	Spalled surface of tile
3	6.57	4.6	Spalled surface of tile
4	14.91	10.5	Spalled surface of tile
5	3.98	2.8	Spalled surface of tile
	Average:	7.9	

COMMENTS: None

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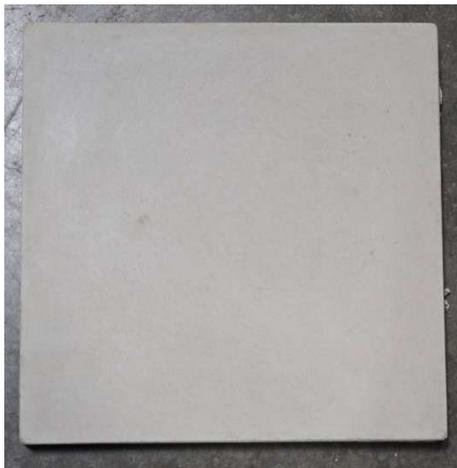
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ASTM SPECIFICATION*:

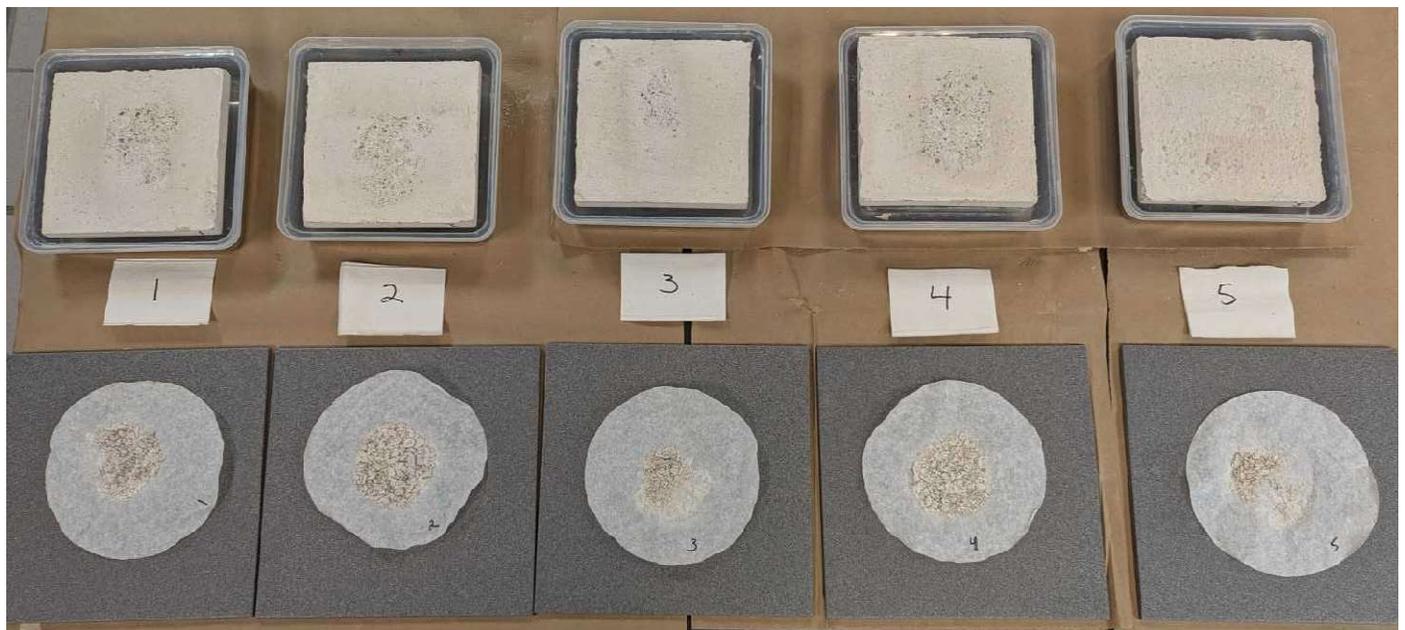
ASTM standard	Tile Type	Specification
ASTM C1731	Concrete Floor Type	The average mass loss of all the specimens tested shall not be greater than: (a) 225 g/m ² when subject to 28 freeze-thaw cycles

**For more detailed information, refer to ASTM C1731 Standard Specification for Concrete Floor Tile*

IMAGE OF PRODUCT TESTED:



After 28 cycles (each specimen face and back exhibited spalling)





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11/12/2025

Damon McDowell
Laboratory Supervisor