

Makers of



deGruchy's

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ecologic® Plaster TOPCOAT™ *Platinum* 24 Month Tests

Testing was completed in October 2022. All material was made in a laboratory conditioned to ASTM C511's specifications for a mortar mixing room. All samples were prepared with enough demineralized water to obtain a flow of $110 \pm 5\%$. Samples were stored in an incubator with conditions maintained at constant temperature of 23°C (73.5°F) with a relative humidity (RH) of 95% until the time of testing. Specific preparation methods and testing techniques may be found in the procedures of the referenced standards.

Materials were prepared by LimeWorks®.us laboratory personnel. In cases where off-site preparation was a required part of third-party testing, LimeWorks®.us laboratory personnel were on site to supervise and ensure proper environmental conditioning and specimen preparation.

Third-party testing was completed by the Intertek Architectural Testing Laboratory, York, PA or their accredited laboratory subcontractors.

Testing shows mortar meets the requirements of both *ASTM C1707-17, Standard Specification for Pozzolanic Hydraulic Lime for Structural Purposes*; and *ASTM C1713-17 Standard Specification for Mortars for the Repair of Historic Masonry*.

Note: Laboratory preparation and storage conditions do not and cannot reflect all possible job site conditions. Mortar strength may vary depending on, but not limited to, mixing techniques, water amount and type, curing conditions, and site conditions. Data in these tests are considered representative, not exhaustive.

Units provided in (parentheses) are conversions from unit output from test. Conversions vary in exactness depending on precision of original data and method of conversion.



Table 1:

C1707-18 Standard Specification for PHLs for Structural Purposes

Property	ASTM C1707-18 Requirements	Test Result	Standard/ Method for Test
Water Soluble Alkali	0.2% (max)	<0.01%	ASTM C114-18
Sulfur Trioxide (SO ₃)	3.0% (max)	0.013%	ASTM C25-17
Carbon Dioxide (CO ₂) as produced	16.0% (max)	0.72%	ASTM C25-17
Fineness (retained on #30 mesh)	<0.5% (max)	0.325%	ASTM C110-16E1
Fineness (retained on #200 mesh)	<15% (max)	9.220%	ASTM C110-16E1
Time of Initial Set	24h (max)	4h 45m	ASTM C266-18
Time of Final Set	48h (max)	11h 00m	ASTM C266-18
Autoclave Expansion	0.80% (max)	0.14%	ASTM C110-16E1
Air Content	7.0% (max)	6.33%	ASTM C110-16E1
Water Retention	70% (min)	92%	ASTM C110-16E1
Compressive Strength (28 days)	>2.4 MPa (>350 psi)	(4.1 MPa) 590 psi	ASTM C109/ C109M-16a

Table 2:

Miscellaneous Physical Properties

Property	Test Result	Standard/ Method for Test
Specific Surface Area	2570 cm ² /g (11,290 in ² /oz)	ASTM C204-18E1
Apparent Density (Loose)	1.23 g/cm ³ (76.52 lb/ft ³)	ASTM C110-16E1
Apparent Density (Packed)	1.43 g/cm ³ (89.26 lb/ft ³)	ASTM C110-16E1
Specific Gravity	2.56	ASTM C188-17
Drying Shrinkage, max	0.070%	ASTM C596-18
Compressive Strength (72h)	140 psi (0.97 MPa)	EN 1015-21:2002



**Table 3:
Physical Properties Over Time (24 Months)**

Property	28 Days	6 Months	1 Year	2 Years	Standard/ Method for Test
<i>Compressive Strength</i>	593 psi (4.09 MPa)	740 psi (5.10 MPa)	908 psi (6.26 MPa)	727 psi (5.012 MPa)	ASTM C109-16a
<i>Flexural Strength</i>	205.9 psi (1.42 MPa)	108.7 psi (0.749 MPa)	96.3 psi (0.664 MPa)	56.4 psi (0.390 MPa)	ASTM C348-18
<i>Water Vapor Transmission (WVT)</i>	20.2 perms (1107 ng*s ⁻¹ *m ⁻² *Pa ⁻¹)	21.7 perms (1240 ng*s ⁻¹ *m ⁻² *Pa ⁻¹)	20.4 perms (1170 ng*s ⁻¹ *m ⁻² *Pa ⁻¹)	22.5 perms (1290 ng*s ⁻¹ *m ⁻² *Pa ⁻¹)	ASTM E96-00e1
<i>Apparent Porosity</i>	20.455%	25.461%	28.034%	27.190%	ASTM C948-RI6
<i>Water Absorption, max</i>	10.352%	13.361%	14.335%	14.295%	ASTM C948-RI6
<i>Relative Absorption (15m)</i>	24.7%	21.7%	25.4%	25.6%	ASTM C1403-15
<i>Relative Absorption (1h)</i>	42.4%	40.4%	46.9%	47.9%	ASTM C1403-15
<i>Relative Absorption (4h)</i>	79.3%	84.3%	93.6%	95.2%	ASTM C1403-15
<i>Relative Absorption (24h)</i>	99.9%	97.9%	95.3%	97.5%	ASTM C1403-15