



DuPont™ Corian® Solid Surface Freeze/Thaw Cycling Resistance

Freeze/thaw resistance was determined using ASTM C666. In this standard specimens are moisture-conditioned by immersion in saturated lime water at 73.4 °F (23 °C) for 48 hours prior to testing. The nominal freezing-and-thawing cycling consists of 300 cycles of alternately lowering the temperature of the specimen from 40 to 0°F (4 to -18°C) and raising it from 0 to 40°F (-18 to 4°C) in not less than 2 nor more than 5 hours. Refer to the ASTM standard for details.

Freeze/thaw cycling resistance data and reporting from *Architectural Testing, Inc. Report No. 01-35335.02*, dated February 12, 2001, appears below, reproduced in its entirety. Mechanical tensile and flexural properties at -40, 74, and 200 °F temperatures (-40, 23, and 93°C), and following the freeze/thaw testing were also measured in the same testing program at ATI and appear below.

Rosetta is a discontinued Corian® color, but is representative of current colors containing particulate.

Freeze/Thaw Cycling Resistance of DuPont Corian® solid surface in accordance with ASTM C666-92, *Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing*.

Definition: A performance evaluation providing indications of the durability of a product to withstand freezing and thawing. This test simulates Northern winter days.

Product Samples: a) Rosetta, b) Seamed Rosetta, c) Glacier White, d) Rosetta/Glacier White

Procedure Summary: The procedure as defined in ASTM C666 was performed for 300 cycles for each of the sample types. During the cycling process, each sample type was visually inspected for obvious cracking and chipping. After the exposure period, each sample was visually examined for any noticeable changes.

Evaluation Results: The tables below contain the test data recorded for each sample.

Rosetta

Sample #	Pre-Exposure Weights(lbs.)	Post-Exposure Weight(lbs.)	Observations
1	1.38	1.38	No observable changes
2	1.38	1.38	
3	1.38	1.38	

Seamed Rosetta

Sample #	Pre-Exposure Weights(lbs.)	Post-Exposure Weight(lbs.)	Observations
1	1.36	1.36	No observable changes
2	1.36	1.36	
3	1.36	1.36	

Glacier White

Sample #	Pre-Exposure Weights(lbs.)	Post-Exposure Weight(lbs.)	Observations
1	1.50	1.50	No observable changes
2	1.50	1.50	
3	1.50	1.50	

Rosetta/Glacier White

Sample #	Pre-Exposure Weights(lbs.)	Post-Exposure Weight(lbs.)	Observations
1	1.42	1.42	No observable changes
2	1.42	1.42	
3	1.42	1.42	

Tensile Strength of DuPont™ Corian® in accordance with ASTM D638-95, *Standard Test Method for Tensile Properties of Plastics*.

Definition: A basic property test of many solid products, this test evaluates the resistance of a product from being pulled apart.

Product Sample: a) Seamed Rosetta, b) Rosetta, c) Glacier White.

Procedure Summary: The procedure as defined in ASTM D638 was performed for each of the sample types at each of several conditions listed below. After each sample was evaluated, the sample was visually examined for any noticeable changes.



Evaluation Results: The table below contains the test data recorded for each sample.

Seamed Rosetta

Condition	Average Ultimate Load (psi)	Average Tensile Modulus (psi)
-40°F (-40°C)	3750	2,186,000
74°F (23°C)	2792	1,668,000
200°F (93°C)	1018	1,075,800
Freeze/Thaw	3017	1,370,000

Rosetta

Condition	Average Ultimate Load (psi)	Average Tensile Modulus (psi)
-40°F (-40°C)	4404	1,857,500
74°F (23°C)	4042	1,404,000
200°F (93°C)	2912	900,000
Freeze/Thaw	4180	1,608,000

Glacier White

Condition	Average Ultimate Load (psi)	Average Tensile Modulus (psi)
-40°F (-40°C)	7108	2,328,000
74°F (23°C)	6074	1,834,000
200°F (93°C)	4486	1,186,000

Flexural Strength of DuPont™ Corian® in accordance with ASTM D790-95a, *Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.*

Definition: A basic property test of many solid products, this test evaluates the load carrying capacity of the product when two edges are supported.

Product Sample: a) Seamed Rosetta, b) Rosetta, c) Glacier White.

Procedure Summary: The procedure as defined in ASTM D790 was performed for each of the sample types at each of several conditions listed below. After each sample was evaluated, the sample was visually examined for any noticeable changes.

Evaluation Results: The table below contains the test data recorded for each sample.

Seamed Rosetta

Condition	Average Ultimate Load (psi)	Average Flexural Modulus (psi)
-40°F (-40°C)	6896	2,186,000
74°F (23°C)	4509	1,668,000
200°F (93°C)	2614	1,075,800
Freeze/Thaw	3017	1,370,000

Rosetta

Condition	Average Ultimate Load (psi)	Average Flexural Modulus (psi)
-40°F (-40°C)	8933	1,857,500
74°F (23°C)	8396	1,404,000
200°F (93 °C)	5784	900,000
Freeze/Thaw	6646	1,608,000

Glacier White

Condition	Average Ultimate Load (psi)	Average Flexural Modulus (psi)
-40°F (-40°C)	10481	2,328,000
74°F (23°C)	9156	1,834,000
200°F (93°C)	7482	1,186,000

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