

PETRARCH ARCHITECTURAL BUILDING PANELS PRODUCT DATA TEST RESULTS

PRODUCT DESCRIPTION

Petrarch panels are composite sheets made by incorporating natural slate and stone fillers in a resin binder with chopped fiberglass strand reinforcement. The panels are completely homogeneous, highly consolidated, with through color and will not delaminate or decay under any conditions. They have a hard, impact resistant surface with low moisture absorption producing a virtually impervious, low maintenance finish suitable for both interior and exterior use.

PERFORMANCE AND DURABILITY

Petrarch panels provide superior performance utilizing the latest panel composite technology. They have an indefinite life and are highly resistant to the effects of natural exposure, climatic extremes and atmospheric pollution. This has been confirmed by accelerated tests in a weatherometer, and natural exposure on buildings for over 30 years. Petrarch panels will weather similar to natural materials, initial non-progressive change in color shade will appear. Dark colors show more change than light colors. In all instances the properties of Petrarch panels are substantially unchanged.

The high impact strength of Petrarch panels makes them particularly suited to use in areas where vandalism is experienced or anticipated. Due to the very low rate of moisture absorption, paint and other marking substances can be removed from the surface of the panels.

FEATURES

- Natural Colors, textures, and appearance
- Homogeneous through color
- High strength and impact resistance
- Vandal and graffiti resistant
- ISO 9001 accredited
- Does not require specialist installation skills
- Highly resistant to climate extremes
- New construction or retrofit
- Interior or exterior applications
- Low maintenance easy to clean finish
- Compliments other building finishes
- Designated Class A fire rating
- Will not delaminate or decay
- Proven life expectancy in excess of 30 years
- ASTM test results

APPEARANCE

The seventeen standard colors* of Petrarch are offered in standard textures including **Riven Slate, **Riven Slate Shot Blast, Smooth, and Smooth Shot Blast. They project the aesthetic appeal of natural stone and are illustrated in the Petrarch product brochure and sample folder. Many existing non-standard colors are available and special colors can be developed for specific projects subject to quantity and the particular color shade required. An increase in material cost may result and is determined on a case-by-case basis.

Because of the very high natural stone content it is not possible to guarantee the complete consistency of the colors of Petrarch panels. Slight shade variations can exist and are seen to add to the natural stone-like qualities of the product. We recommend that actual product samples be obtained before specification. The surface of Petrarch panels project the appearance of the smooth master molds or the impression of the surface imperfections and variation in thickness obtained from original cleft state. In common with natural stone, Petrarch may contain some element of pin holing, open texture and random fissure lines. None of these features affect the structural strength of the product.

*Standard Colors: Alabaster-010, Aluminum-672, Ash-023, Dorset-519, Dover-026, Graphite-003, Heather-002, Jade-001, Light Stone-009, Limestone-012, Mocha-022, Parchment-011, Pewter-247, Russet-598, Rye-025, Salmon-024, Terracotta Red-639

**Note: The Riven Slate texture is directional in the long or 8' and 10' dimensions.

TYPICAL APPLICATIONS

- Façade cladding, fascias and soffits
- Store fronts, balcony facings
- Equipment / roof screen enclosures
- Insulated window infill panels
- Spandrel and curtain wall infill panels
- Exhibition displays
- Signage backgrounds
- Interior wall panels and wainscoting

TEST RESULTS

The following ASTM tests have been carried out by an independent United States testing laboratory:

ASTM TEST DESCRIPTION		TEST RESULTS	
		5/16" PANEL	7/16" PANEL
ASTM D-792	Density	2.24	2.27
ASTM D-570	Moisture Absorption	0.08%	0.06%
ASTM D-790	Modulus of Rupture and Elasticity	5690 psi 3.07 x 10 ⁶ psi	5850 3.13 x 10 ⁶ psi
ASTM D-638	Tensile Strength	2960 psi	2880 psi
ASTM D-177	Thermal Conductivity	4.862BTU IN/HR-Ft ²	5.822BTU IN/HR-Ft ²
ASTM D-696	Thermal Expansion	15.8 x 10 ⁻⁶ IN/IN°C	15.8 x 10 ⁻⁶ IN/IN°C
ASTM D-256	Izod Impact Test	0.49 Ft-Lbs/Ins of Notch	0.43 Ft-Lbs/Ins of Notch
ASTM D-785	Hardness Barcol	64	64
ASTM E84-81	Flame Spread Fuel Contribution	15 0	15 0

DIMENSIONS AND WEIGHTS

Panel Thickness	Weight (lb/SF)	Stock Size (inches)
5/16" nominal (7 mm)	3.2	47 3/4" x 95 3/4"
7/16" nominal (10 mm)	4.5	47 3/4" x 119 3/4"

Note: The size tolerance is ± 1/8" and the thickness tolerance is ± 1/16". The riven textured surface results in an additional manufacturing tolerance of ± 1/16".

FIRE GRADE

As per the ASTM E84-81 Tunnel Test, the flame spread is 15 and the fuel contribution is 0. Petrarch panels therefore, conform to a Class A fire rating.

DEFLECTION / WIND LOADING

The most common cause of any panel system failure is inadequate fastening leading to excessive deflection or stress on the panel. Given design loading conditions, deflection of the wood or light-gauge steel studwall must be limited to L/240. Petrarch approved installation systems are designed to withstand wind loads up to 30 lbs. per sq. ft. Fastener spacing may be required at closer center spacing for wind loads exceeding 30 lbs. per sq. ft.

MOISTURE, BIOLOGICAL AND CHEMICAL RESISTANCE

Moisture Absorption (24 hours total immersion)	0.2% by weight
Permeability (BS473, 550)	16 x 10 ⁻⁶ ml/m ²
Apparent porosity	1%

Petrarch panels are resistant to most acid and organic solvents. The panels are immune to insect and vermin attack and their low porosity inhibits mold growth.

FROST RESISTANCE

Due to the nature of its homogeneous reinforcement, Petrarch panels will not delaminate or decay when subject to freezing or thawing conditions. Cyclic freeze/thaw testing has shown that no changes occurred after 250 cycles of temperature changes between -40°F and +120°F. Panels have been specified and installed in every type of climate, from Saudi Arabia to Alaska.

THERMAL INSULATION

Petrarch panels are products of high density and low thickness and the contribution to thermal insulation is therefore small. Insulation values are provided using back-up insulating materials. Panels are often laminated with insulation producing energy efficient sandwich panels.

THERMAL EXPANSION

5/16" and 7/16" 15.8 x 10⁻⁶ IN/IN°C
A 90° temperature change will produce 1/16" movement in a 48" width of 5/16" Petrarch panel. It is important in all external applications, particularly those in areas with abnormally high extremes of temperature, that proper provision is made for expansion and movement.

FABRICATION

Factory Fabrication

Having panels fabricated before shipment saves labor on site, insures precision and quality control providing material that is clean and ready to install. Omnis Panels, Inc. offers a comprehensive fabrication service including:

1. Cutting standard sheets to special sizes.
2. Pre-drilling or countersinking fastener holes.
3. Cutting special shapes and cut-outs.
4. Polishing, beveling or mitering edges.
5. Grooving and engraving.
6. Prefabricating inside and outside corners.
7. Preparing 7/16" panels with special inserts for the back fastening system.
8. Bonding insulation materials to panels.

Panels are often delivered already cut to size and pre-drilled, but it is usually necessary to fabricate some panels on the job, e.g.: corner panels cut to suit a site dimension.

Shop Cutting

Cutting in the shop or on site is usually carried out using an electric circular saw with either an abrasive cutting disc (for minimal cutting) or a dry-cut diamond blade (for more extensive cutting). For cutting radius, use abrasive jig saw blade with carbide chips. **Operators should always wear eye protection and a respiratory mask.** The panels should be face up, held down to a flat saw bed and a guide rail used to ensure true and straight cutting. Dust should be cleaned from all panels immediately after cutting.

Hole Drilling

Normal drilling can be carried out using a portable hand-held pistol drill fitted with a masonry bit suitable for drilling at between speeds of 900 and 1200 rpm. The drill size should be 1/16" larger than the screw shank diameter. Dust should be cleaned from all panels immediately after drilling.

Special drills can be supplied to combine the drill and countersink operation where applicable. These are suitable for various size screws and will provide accurate countersinking for either wood or self-drilling tek point screws. When ordering these tools it is important to specify the type of screw being used. The depth of countersinking is vital to the success of subsequent hole filling and the load carrying capacity of the screws. Refer to the Omnis Face Fastening Installation Guide for more details on proper drilling and hole filling.

Edge Polishing

After cutting, the edge will appear to be lighter than the face of the panel (most obvious with dark colors). An exposed edge (for example, at a corner detail) can be polished using a "wet and dry" abrasive pad with water. This will remove saw marks and polish the edge to the main body color of the panel. Polishing can be carried out by Omnis Panels, Inc. Specify exact edges when ordering.

STORAGE AND HANDLING

Extreme care should be taken when handling Petrarch panels on site. Panels will normally be delivered to the site on wood pallets, face side up, separated by embossed straw paper and wrapped in plastic sheets. The pallets should be stored flat, clear of the ground and under cover in a ventilated space. Extreme care should be taken to avoid rain or standing water as migration of moisture between the panels can cause staining or bowing. Should wet material be suspected or discovered, it must be uncrated immediately and towel dried.

Panels should always be carried vertically and care taken not to damage the surface, edges or corners. To prevent surface scratches or marks, one sheet must always be lifted completely off the next. The face of one panel must never be slid across another or across a work surface. They should not be temporarily stored outside of the original shipping crate unless completely supported and separated by the protective paper. If mechanical lifting equipment is used, panels should always be properly protected to avoid scuffing from ropes or chains.

If the panels are soiled or scratched, remedial treatment should be administered *immediately* for best results (as outlined in the following section). It is much easier to clean *before* the panels are in place rather than after permanently installed when the panels are more difficult to access.

CLEANING

Petrarch panels have very low absorbency and therefore the attraction of atmospheric dirt is minimal. Generally rain water will provide sufficient cleansing. However the building owner should include an inspection in his annual maintenance schedule. A high pressure wash or scrubbing with a mild detergent followed by a clean water rinse, at high pressure, from the top down, using standard commercial cleansing techniques is all that is normally required. During installation or subsequently during building alterations, building site dirt and dust can contaminate the surface. This should be removed immediately. The following lists the most common contaminants and the recommended course of action for cleaning:

Drilling and Cutting Dust

After drilling or cutting, it is important to clean the panel *immediately*, before panel installation. Use a sponge or brush and hot water with a mild diluted detergent and rinse with clean water, at high pressure, from the top down. If the dust is allowed to collect on the surface, it will become ingrained into the texture and will subsequently require more vigorous cleaning. Hole filling should *never* be done until the panel has been thoroughly cleaned.

Splashes of Plaster and Concrete

These are most easily removed before the plaster or cement has set. To clean, simply hose off with a jet of water and finally wipe down with a clean cloth. If plaster or concrete sets, apply a hydrochloric acid solution (10%) and within 15 minutes wash with hot water with a mild diluted detergent. Finally, rinse with clean water at high pressure.

Paint, Tar, Pen, Pencil

Best removed when wet using the appropriate solvent and washing down with hot, soapy water. If paint has dried, apply the appropriate solvent to the affected area with a nylon brush. It may be necessary to repeat this several times before all the paint is removed. Afterwards, thoroughly scrub the panels using hot water with a mild diluted detergent and rinse with clean water at high pressure, from the top down. Pencil marks can often be removed with a simple eraser.

DO NOT ALLOW SOAP OR DETERGENT TO DRY OR BAKE ONTO THE PANEL SURFACE. ALWAYS THOROUGHLY RINSE.

DO NOT USE PAINT STRIPPERS AS THESE CAN PERMANENTLY STAIN THE PANELS.

Caulking Materials

Using the solvent recommended by the caulking manufacturer, if necessary using a nylon brush, wash down with hot water with a mild diluted detergent and finally rinse with clean water at high pressure, from the top down. Structural silicone sealants must be removed from the panel surface immediately. If allowed to cure, they can leave a permanent residue.

Solvents

Petrarch panels are unaffected by the following solvents:

- Turpentine
- White Spirit
- Carbon Tetrachloride
- Toluene
- Xylene
- Paraffin
- Gasoline

The following solvents can also be used, but should be removed and the panel cleaned within 60 minutes:

- Methyl Ethyl Ketone
- Acetone
- Methylated Spirit
- Ethyl Acetate
- Trichlorethylene

Cleaners

- Goof Off
- Brakleen
- Brick Cleaner

Follow with a rinse and observe manufacturers instructions.

NOTE:

The installation of Petrarch panels must conform to the information contained in this Product Data paper, dated August, 2015, or all warranties are void.