

## Technical Data Sheet

### Description

**Perma-Deck® Avantage +** is made of thermoplastic polymers, foaming agents, UV-stabilized pigments and chosen process additives.

The thermoplastics polymers included in **Perma-Deck® Avantage +**, come from post-consumer and post-industrial sources. Post-consumer material includes rigid plastic, such as high density polyethylene (HDPE # 2), polyvinyl chloride (PVC #3), low density polyethylene (LDPE # 4), polypropylene (PP # 5), polystyrene (PS # 6) and others (# 7). The post-industrial material includes flexible plastic film such as cut-outs from plastic bag manufacturers. This material is then compounded and extruded into a very dense and rigid board containing 100% recycled plastic.

Because **Perma-Deck® Avantage +** is made of thermoplastic polymers (100% recycled plastic), it is extremely resistant to chemical products, oil, mould and mildew, salt spray and insects. It does not absorb moisture; therefore will not split, rot or splinter.

**Perma-Deck® Avantage +** is manufactured in lumber size deck boards; square boards and tongue & groove boards. The boards come in many selected colors: light grey, harbor grey, sand, redwood and walnut.

### MAIN USES

**Perma-Deck® Avantage +** is a solution for exterior applications where no-maintenance and weathering resistance are required such as decks, porches and balconies for residential, municipal and commercial applications.

PHYSICAL PROPERTIES	METHOD	VALUE
<b>Flexural Properties :</b>		
Flexural Strength	ASTM D6109	2,810 psi
Modulus of Elasticity	ASTM D6109	139,500 psi

<b>Compressive Properties :</b>		
Compressive Strength	ASTM D6108	1.773 psi
Modulus of Elasticity	ASTM D6108	117.835 psi
<b>Coefficient linear Thermal Expansion</b>	ASTM D6341	0.0000498 in/in/°F
<b>Static Coefficient of Friction Rubber Shoe Sole</b>	ASTM D2394	Longitudinal: 0.538 Transversal: 0.622
<b>Kinetic Coefficient of Friction Rubber Shoe Sole</b>	ASTM D2394	Longitudinal: 0.622 Transversal: 0.643
<b>Density (specific Gravity)</b>	ASTM D6111	.035 Lbs/cu in
<b>Water Absorption</b>	ASTM D1037	<0.01%
<b>Screw Withdrawal #10, 2 1/2"</b>	ASTM D6117	1.158 lbs

### DESIGN CONSIDERATIONS

Because plastic lumber boards are more flexible than wood, **Perma-Deck® Avantage+** is not intended for use as load-bearing members such as posts, joists, stringers or beams.

When designing for decking or flooring with **Perma-Deck® Avantage +**, joist spacing is a very important point to consider. The following tables give the joist spans vs. Allowable Live Loads and/or Concentrated Loads.

ALLOWABLE LIVE LOAD (PSF) 70 °F			
Maximum Deflection	12" span	16" span	20" span
<b>15/16 x 6 Perma-Deck® Board</b>			
L/360	359	152	78
L/240	539	227	116
L/180	719	303	155

## Technical Data Sheet

CONCENTRATED LOADS (LBS) AT 70°F			
Maximum Deflection	12" span	16" span	20" span
<b>15/16 x 6 Perma-Deck® Board</b>			
L/240 instant	129	73	47
L/180 long term	250	100	55
<b>2 x 6 Perma-Deck® Board</b>			
L/240 instant	266	153	99
L/180 long term	150	100	80

### INSTALLATION

**Perma-Deck® Avantage +** can be cut, drilled, mitered and installed with conventional wood working tools. Carbide tipped saw blades are suggested. #10 stainless steel flat-head wood screws are recommended as fasteners. Pre-drill 1/4" hole. Install one screw at each joist, on one edge of the board and alternating to the other edge, put two screws at each end of the board. Fasteners should be placed no closer than 3/4" from any edge of the board.

Consideration should be given to expansion and contraction, gaps should be provided between the boards when installing **Perma-Deck® Avantage +**. As an example, a **Perma-Deck® Avantage +** 10' board will expand or contract 1/8" over a 10°C temperature change. See Coefficient of Linear Thermal Expansion in Physical Properties table.

### DIMENSIONS

**Perma-Deck® Avantage +** is manufactured in the following lumber sizes:

Nominal Dimensions	Actual Dimensions
15/16" x 6" double grooves	15/16" x 5-9/16" double grooves
15/16 x 6"	15/16" x 5-9/16"
2" x 10" step	1-7/16" x 10"
2" x 2"	1-7/16" x 1-7/16"
2" x 3"	1-7/16" x 2-7/16"
2" x 4"	1-7/16" x 3-3/8"
2" x 6"	1-7/16" x 5-3/8"
2" x 8"	1-7/16" x 7-1/2"
2" x 10"	1-7/16" x 9-1/4"

### WARRANTY

**Perma-Deck® Avantage +** comes with a 25-Year Limited Warranty. The product is warranted not to rot, split, crack or splinter during this period. If the material does not perform as stated it will be replaced.

### MAINTENANCE & CLEANING

**Perma-Deck® Avantage +** is not affected by most chemical products and does not absorb moisture. To keep the original finish, clean it with mild soap and water. PERMA-DECK® is a lowmaintenance product that requires no painting, no staining and no sealing.

**Perma-Deck® Avantage +** offers maximum durability and excellent weathering resistance; however, as with other polyolefin based material, it is possible that the material will fade slightly over the life of the product. This will not impair the product's performance.

### OTHER INFORMATION

**Perma-Deck® Avantage +** has been tested, for UV exposure, extreme temperatures and hygrothermal cycled exposure (freeze/thaw) as per ASTM test methods and proven to retain its performance characteristics.

**Perma-Deck® Avantage +** has been tested by Underwriter's Laboratories to determine the surface burning characteristics of the material (Flame Spread Index) in accordance with ASTM Test Method. The product has a melting point temperature of approximately 280°F and a flash point temperature of approximately 645°F..