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### **SELECTFORCE® HTP PLASTIC LUMBER PRODUCTS**

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Updated 1/12/11

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**SELECTFORCE**® 100% recycled plastic product utilizes high quality HDPE (*High Density Polyethylene*) and color stabilizers to manufacture a high performance product. The material used to manufacture our product comes primarily from post consumer waste such as milk jugs, detergent bottles and is 100% recycled. This material is shredded and blended with additives to create a strong end product.

**SELECTFORCE**® plastic products are available in many different profiles and many proprietary and non-proprietary parts. **SELECTFORCE**® is available in variable lengths and comes standard in black. Other colors are available and custom color formulations are available upon request. Color stabilizers minimize color fading over the life of the product.

**SELECTFORCE**® is a cost effective alternative to products such as wood or composite materials. Due to low maintenance costs. It does not have to be painted, stained or treated and will not rot or splinter. Cleaning consists of soap and water then rinse. The cost savings only increases over time.

### **Basic Uses**

**SELECTFORCE**® has been used for many applications and is best suited where low load bearing is required.

## **SELECTFORCE® PLASTIC LUMBER** **SPECIFICATIONS**

### DESCRIPTION:

Plastic lumber shall be manufactured with recycled HDPE. Lumber shall be molded in one piece per specified size. All materials will have UV additives to prevent deterioration of the plastic lumber from exposure to UV light. HDPE will be made up of no less than 95% recycled material; both post industrial and post consumer. Finished plastic lumber will not rot, split, crack or splinter for a minimum of 50 years. It shall be resistant to termites, marine borers, salt spray, oil, and fungus.

TEST	ASTM TEST	VALUE	ENGLISH		METRIC	
			UNITS	VALUE	UNITS	
Flexural Strength	D6109-97	1355	PSI	95	Kg/cm <sup>2</sup>	
Flexural Modulus Secant @ 1% strain	D6109-97	95939	PSI	6744	Kg/cm <sup>2</sup>	
Compression Strength	D6108-97	1420	PSI	100	Kg/cm <sup>2</sup>	
Compression Modulus	D6108-97	51000	PSI	3585	Kg/cm <sup>2</sup>	
Specific Gravity	D6111-97	0.861	g/cc	0.861	g/cc	
Flash Point		644	Deg F°	340	Deg C°	
Moisture Absorption		0.06	% by Weight	0.06	% by Weight	
Thermal Expansion	D6341-98	0.000055	Inch/Inch/Deg F°			
Average Screw pull out	D6117	646	Lbs	293	Kg	
Static coefficient of Friction-Dry	D2394-83(99)	.48				
Static coefficient of Friction-Wet	D2394-83(99)	.40				
Sliding coefficient of Friction-Dry	D2394-83(99)	.22				
Sliding coefficient of Friction-Wet	D2394-83(99)	.43				

### MECHANICAL PROPERTIES:

FACE WIDTH	4"	6" 8"		10"	12"
Tolerance (+/-)	3/32"	1/8"	3/16"	1/4"	1/4"

### DIMENSIONAL TOLERANCES:

**CUP/BULDGE TOLERANCES-deviation in the face from a straight line from edge to edge of piece.**

**LENGTH TOLERANCE = + 3" / -0" - MEASURED AT 70° DEG F**

The technical data on this page represents only average values and not minimum values. Safety factors must be added into the design.

# **SELECTFORCE® PLASTIC LUMBER** **SPAN TABLES 122 DEGREE F.**

## **DECKING MODE**

### **60 LBS/SQ FOOT LIVE LOAD**

<b>SIZE</b>	<b>ACTUAL SIZE</b>		<b>MAXIMUM SPAN</b>	
	<b>THICKNESS</b>	<b>INCHES</b>	<b>FT</b>	
5/4X4,6,8	1.125	17.5	1.5	
2X6,8,10,12	1.5	23.1	1.9	
3X4,6,8,10,12	2.4	36.3	3	
4X4,6,8,10,12	3.4	50.4	4.2	
5X5	4.4	63.9	5.3	
6X6,8,12	5.4	77	6.4	

### **150 LBS/SQ FOOT LIVE LOAD**

<b>SIZE</b>	<b>ACTUAL SIZE</b>		<b>MAXIMUM SPAN</b>	
	<b>THICKNESS</b>	<b>INCHES</b>	<b>FT</b>	
5/4X4,6,8	1.125	13.1	1.1	
2X6,8,10,12	1.5	17.4	1.5	
3X4,6,8,10,12	2.4	27.6	2.3	
4X4,6,8,10,12	3.4	38.7	3.2	
5X5	4.4	49.7	4.1	
6X6,8,12	5.4	60.5	5	

### **100 LBS/SQ FOOT LIVE LOAD**

<b>SIZE</b>	<b>ACTUAL SIZE</b>		<b>MAXIMUM SPAN</b>	
	<b>THICKNESS</b>	<b>INCHES</b>	<b>FT</b>	
5/4X4,6,8	1.125	14.9	1.2	
2X6,8,10,12	1.5	19.8	1.6	
3X4,6,8,10,12	2.4	31.3	2.6	
4X4,6,8,10,12	3.4	43.7	3.6	
5X5	4.4	55.8	4.7	
6X6,8,12	5.4	67.7	5.6	

### **200 LBS/SQ FOOT LIVE LOAD**

<b>SIZE</b>	<b>ACTUAL SIZE</b>		<b>MAXIMUM SPAN</b>	
	<b>THICKNESS</b>	<b>INCHES</b>	<b>FT</b>	
5/4X4,6,8	1.125	11.9	1	
2X6,8,10,12	1.5	15.9	1.3	
3X4,6,8,10,12	2.4	25.2	2.1	
4X4,6,8,10,12	3.4	35.5	3	
5X5	4.4	45.6	3.8	
6X6,8,12	5.4	55.6	4.6	

Chart for ambient 122° F  
For use with live load only; for dead loads please consult factory

## **SELECTFORCE® RECYCLED PLASTIC LUMBER** **SIZE CHART**

<b>LUMBER SIZE</b>	<b>ACTUAL DIMENSIONS</b>	<b>LONGEST LENGTH AVAILABLE FEET</b>	<b>WEIGHT LBS PER FOOT</b>
2 1/2" Round	2.25" Diameter	8	1.6
4" Round	3.9" Diameter	12	4.4
10" Round	9.8" Diameter	24	26.2
5/4" x 4"	1.1" x 3 1/2"	12	1.4
5/4" x 6"	1.1" x 5 1/2"	12	2.2
5/4" x 8"	1.1" x 7 1/2"	12	2.9
2" x 2"	1 1/2" x 1 1/2"	8	0.9
2" x 3"	1 1/2" x 2 1/2"	8	1.5
2" x 4" Bull Nose	1 1/2" x 3 1/2"	16/12	2
2" x 6"	1 1/2" x 5 1/2"	16	3.2
2" x 8"	1 1/2" x 7 1/2"	20	3.9
2" x 10"	1 1/2" x 9 3/8"	16	5
2" x 12"	1 1/2" x 11 1/4"	16	6
3" x 4" Bull Nose	2 1/2" x 3 1/2"	16	3.1
3" x 6"	2 1/2" x 5 1/2"	12	4.7
3" x 8" Bull Nose	2 1/2" x 7 1/2"	12/16	6.5
3" x 10"	2 1/2" x 9 3/8"	16	8.1
3" x 12"	2 1/2" x 11 1/4"	16	10
4" x 4"	3 1/2" x 3 1/2"	16	4.4
True 4" x 4"	4" x 4"	16	5.4
4" x 6"	3 1/2" x 5 1/2"	20	6.7
4" x 8"	3 1/2" x 7 1/2"	16	9.1
4" x 12"	3 1/2" x 11 1/4"	20	13.8
5" x 5"	4 1/2" x 4 1/2"	16	7
6" x 6"	5 1/2" x 5 1/2"	20	9.7
6" x 8"	5 1/2" x 7 1/2"	20	15.2
6" x 10"	5 1/2" x 9 3/8"	20	19.5
6" x 12"	5 1/2" x 11 1/4"	20	22
8" x 8"	7 1/2" x 7 1/2"	24	20
8" x 10"	7 1/2" x 9 3/8"	18	26
8" x 12"	7 1/2" x 11 3/8"	24	31
10" x 10"	9 3/4" x 9 3/4"	20	36
10" x 12"	9 3/8" x 11 3/8"	24	43
12" x 12"	11 3/4" x 11 3/4"	24	52
Heavy Duty Parking Curb	6.5" x 4.5" tall	8	8.8
Parking Curb	6" x 4" tall	8	5.9
Speed Bump	2" tall x 10"	8	4.2

# **SELECTFORCE® PLASTIC PRODUCT INSTALLATION GUIDE**

## **1. Structural Ability**

SELECTFORCE ® plastic is not recommended for structural use; therefore, the substructure must be constructed of FIBERFORCE ®, or another structural grade material. Due to its increased flexibility (as compared to wood), SELECTFORCE ® plastic lumber requires more support. Please refer to span tables to determine support requirements based on live load and ambient temperature.

## **2. Expansion/Contraction**

SELECTFORCE ® plastic expands and contracts along its length. A 10' (3.048m) length will expand and contract up to 3/8" (1cm). Due to this fact, SELECTFORCE ® plastic should be run along the shortest length with the joist running the long direction. **Example:** An 8'x16' (2.44m x 4.88m) deck should use 8' (2.44m) SELECTFORCE ® plastic over joists running the 16' (4.88m) length. These joists are normally divided into 2– 8'x8' (2-2.44m x 2.44m) sections with a header between them. Also, lighter colors do not heat up as much in sunlight and are therefore preferable when installing in a sunny location.

## **3. Fastening**

To withstand the expansion and contraction as well as to maintain a long lasting, beautiful looking deck, stainless steel deck screws should be used, preferably #10 x 2 1/2 (#10 x 6.5cm) or 3" (7.5cm) long, square drive stainless steel deck screws. Each deck board should be fastened with at least 2 screws per joist. Screws must be pre-drilled and should be counter-sunk. Also, coating the screws with a lubricant, such as a silicone caulk, or soap will ease installation. All screws should be a minimum of 3/4" (2cm) from the edge or end of the board.

## **4. Butt Joints**

When butting SELECTFORCE ® plastic lumber against any wall, fixed surface or other boards (if necessary), they should be securely fastened to the nailer or double joist with a gap allowing for expansion. The size of gap should be determined based on weather conditions at the time of installation—the closer the temperature is to the usual high temperature for the year, the smaller the gap. (See chart below). The project should be designed to minimize the butt joints. However, in the event that joints are required, a double joist underneath the butt joint should be used. Boards should be securely fastened with a row of screws on each side of the joint 1" (2.5cm) from end of the board. Always keep deck boards out 3/8" (1cm) from permanent structure.

<b>Temperature at time of installation</b>	<b>Gap between butt ends</b>
Greater then or equal to 90° F (32° C)	1/16" (1.5mm) or less
70° F (21° C)	1/8" (3mm)
50° F (10° C)	1/4" (6mm)
Less than 30° F (-1° C)	3/8" (1cm)

## **10. Rip Cutting**

Rip cutting is not recommended on any plastic lumber. In the event that rip cutting is needed please refer to the following example. Example, if a 4" (10cm) board is needed, 3/4" (2cm) should be ripped off of both sides of a 5-1/2" (14cm) board.

Should there be any questions regarding these instructions, please contact your sales representative for more details. **Failure to follow these instructions will void all warranties.**

\* Note: Information in parenthesis is a metric conversion of the English representation