



Weaver

CONSTRUCTION MANAGEMENT

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SUBMITTAL TRANSMITTAL

April 23, 2012

Submittal No: 06601-001

PROJECT: **Harold Thompson Regional WRF**
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: **GMS, Inc.**
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: **Lower Fountain Metropolitan
Sewage Disposal District**
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: **American Plastic Lumber Co.**
877-677-7701

SUBJECT: Plastic Timbers for Dumpster Guides @ Headworks.

SPEC SECTION: 06601

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and, unless indicated otherwise, has been found to be in conformance with the intent of the contract documents.

Contractor's Stamp:

Engineer's Stamp:

Date: 4/18/12

Reviewed by: Tyler Ammerman

() Reviewed Without Comments

(X) Reviewed With Comments

ENGINEER'S

COMMENTS:



Project: HDTWRF Project

Location: Fountain, CO

Supplier: American Plastic Lumber Co.

Date: 4/20/12

Submittal for: 06600-001 Plastic timbers for Dumpster guides at Headworks.

- 1) Refer to HW-14, HW-17 and (1) HW-18**
- 2) We would like to use this product as an alternate to the plan specified Complex Plastics Fiber Force product. It appears to be an equal and would net a savings of 810.42.**
- 3) Please specify red or yellow.**

American Plastic Lumber's Lumber Sizes

Here are our available lumber sizes; if you can not find the size or type of lumber you are looking for, please give us an email or call.

- * Structural Grade Available
 - + Utility Grade Available
 - Bull Nose Available
- Standard Lumber Colors:**
black, gray, brown
- Standard Decking Colors:**
cedar, sand, light gray, redwood, weathered wood, white
- Custom Colors:**
limited only by your imagination

LUMBER SIZE	ACTUAL DIMENSIONS
Rounds: 2 1/2", 4", 6", 8", 10", 12", 24", 30", 36" *+	Typically 1/4" to 1/2" under
1/2 x 1 1/2	1/2" x 1 1/2"
1/2 x 2 1/2	1/2" x 2 1/2"
1/2 x 9 1/2	1/2" x 9 1/2"
7/8 x 2 1/8	7/8" x 2 1/8"
7/8 x 2 7/8	7/8" x 2 7/8"
1 x 3	3/4" x 2 5/8"
1 x 4	3/4" x 3 1/2"
1 x 6	3/4" x 5 1/2"
1 x 6 T&G	3/4" x 6"
True 1 x 6 T&G	1" x 6"
1 x 6 G&G	1" x 5 1/2"
1 x 8	3/4" x 7 1/2"
1 x 10	3/4" x 9 1/2"
1 1/8 x 1 1/8	1 1/8" x 1 1/8"
5/4 x 4 *	1" x 3 1/2"
5/4 x 6 *	1" x 5 1/2"
5/4 x 6 T&G *	1" x 5 1/2"
5/4 x 8 *	1" x 7 1/2"
5/4 x 10 *	1" x 9 1/2"
2 x 2 *+	1 1/2" x 1 1/2"
2 x 3 *	1 1/2" x 2 1/2"
2 x 4 *+ •	1 1/2" x 3 1/2"
2 x 6 *+	1 1/2" x 5 1/2"
2 x 8 *+	1 1/2" x 7 1/2"
2 x 10 *+	1 1/2" x 9 3/8"
2 x 10 T&G *+	1 1/2" x 9 3/8"
2 x 12 *	1 1/2" x 11 1/4"
2 x 12 T&G *	1 1/2" x 11 1/4"
3 x 4 *+ •	2 1/2" x 3 1/2"
3 x 6 *	2 1/2" x 5 1/2"
3 x 8 * •	2 1/2" x 7 1/2"
3 x 10 *+	2 1/2" x 9 3/8"

3 x 10 T&G *+	2 1/2" x 9 3/8"
3 x 11 *	2 3/4" x 10 1/2"
3 x 11 T&G *	2 3/4" x 10 1/2"
3 x 12 *+	2 1/2" x 11 1/4"
3 x 12 T&G *+	3" x 10 3/8"
4 x 4 *+	3 1/2" x 3 1/2"
True 4 x 4 *	4" x 4"
4 x 5 *	3 1/2" x 4 1/2"
4 x 6 *+	3 1/2" x 5 1/2"
4 x 8 *	3 1/2" x 7 1/2"
4 x 12 *	3 1/2" x 11 1/4"
4 x 12 T&G *	3 1/2" x 11 1/4"
5 x 5 *	4 1/2" x 4 1/2"
→ 6 x 6 *+	5 1/2" x 5 1/2"
6 x 8 *+	5 1/2" x 7 1/2"
6 x 9 *	
6 x 10 *	
6 x 12 *	5 1/2" x 11 1/4"
7 x 9 *	
8 x 8 *	7 1/2" x 7 1/2"
8 x 10 *	7 1/2" x 9 3/8"
8 x 12 *	7 1/2" x 11 1/4"
9 x 9 *	9 3/8" x 9 3/8"
10 x 10 *	9 3/4" x 9 3/4"
12 x 12 *	11 1/4" x 11 1/4"
speed bumps, wheel stops	4', 6', 8'
fiberglass rod reinforced marine pilings *	6" to 36" round rectangular & square



Redwood



Cedar



Dark Brown



Dark Teak



Caramel



Mink



Spice



Caroline Red



Light Oak



Turf Green



Forest Green



Yellow



Blue Black



Orange



Red



Blue



Bright White



Light Gray



Blue Gray



Gray



Dark Gray



Black



Sand



Weathered Redwood



Weathered Wood



White

American Plastic Lumber

Structural HDPE

Structural HDPE custom-engineered extruded shapes are manufactured from purified blends of post consumer, post industrial and virgin HDPE (high density polyethylene) base resins. Additional proprietary additives are compounded into each product to meet customer specifications for color, strength and stiffness.

FEATURES

- True structural strength comparable to that of treated wood lumber of the same dimensions. Suitable for deck or dock structures and other outdoor applications where structural integrity is required. See Specifications. The suitability for your application should be confirmed by a structural engineer and conform to local building requirements.
- Manufactured to tolerances specified by customers.
- Material is easily machined with any tools appropriate for working with real wood.
- Essentially maintenance free, with exceptional resistance to moisture, fading, insects, splintering, warping and other hazards of environmental exposure common to wood or wood fiber composite products.
- Requires no waterproofing, staining or other recurring maintenance. The material is easily cleaned with an occasional washing with soap and water.
- Manufactured with high color stabilizing UV pigment systems that resist breakdown from prolonged sun and weather exposure. Our Structural HDPE retains its new look for years.
- American Plastic Lumber has over one hundred extrusion shapes that meet most customer needs, or we can create custom shapes for unique applications.
- The standard Structural HDPE color is medium gray. Special order colors are available in popular wood tones. American Plastic Lumber can also custom match colors to meet your requirements
- It is possible that the material may fade slightly over the service life of the product. However, the fading is minimal compared to most wood and wood composite products that contain wood fibers that fade quickly to a weathered gray color due to the wood fiber content inherent in the products.

Property	ASTM Method	Units	Value
Specific Gravity	D6111	Lbs cubic in	0.0216-0.030*
Water Absorption	D570-98	%	< 0.1
Modulus	D6109-03	Psi	305,000
Secant Modulus @ 1% Strain	D6109-03	Psi	169,000
Stress @ 3% Strain	D6109-03	Psi	2,069,000
Flexural Property Screw Withdrawal	D6117-97	Pounds force	703
Coefficient of	D6341-98	In/in	°f 0.0000281
Linear Expansion			
* Lower density may occur in larger cross sections			
** Testing performed on samples of 2"x6" nominal size			

TYPICAL APPLICATIONS

- Our Structural HDPE is well suited for exterior applications where quality appearance, reinforcing properties and superior weather resistance are required. Our Structural HDPE maintains its color stability and surface finish over its entire useful service life, and never needs to be sealed, painted or stained.
- Used in municipal and commercial applications, Our Structural HDPE is well suited for marine structures, boardwalks, dock & deck planks and other fresh and salt-water shoreline applications.

ASTM D6109-03, Standard Tests Methods for Flexural Properties of Non-reinforced and Reinforced Plastic Lumber is a 4-point flexural test, which gives a measure of the stiffness of the beam (American Plastic Lumber modulus and secant modulus at 1% strain) and an assumed flexural strength (stress @ 3% strain).

Hygrothermal Cycling Test (ASTM D6662-01) was performed on a flexural test sample to water immersion for 24 hour periods until water absorption reaches equilibrium. The samples are then frozen a -20° F for 24 hours and then immersed in water again

SUITABILITY AND LIMITATIONS

These products have greater impact resistance than wood but may be less rigid. Prior to use, a thorough design engineering study should be performed to determine the suitability of Our Structural HDPE in any structural or load bearing application.

Material characteristics are similar to wood; normal woodworking tools can be used during product fabrication. One should be advised that transforming the product by drilling holes or routing its edges may alter the material's strength and integrity. Normal safety precautions must be used when handling and fabricating the product including the use of protective eyewear, dust masks and gloves. (See MSDS sheet for more details)

Our Structural HDPE products have an inherently greater coefficient of thermal expansion than stiffer wood products. When designing your application, an accommodation must be made to allow for this expected expansion and contraction over the length and width of the product. In certain weather conditions, it is possible to experience the effects of static electricity with Our Structural HDPE material - especially when the material is new. This is similar to the static shocks experienced when walking across a carpet in dry weather and touching a metal doorknob.

We do not warrant against static electricity, as it is a natural phenomenon and not a sign of a product defect. As with any exterior surface material, winter conditions can make an Our Structural HDPE surface slippery with frost or snow. Fortunately, it is completely safe to use rock salt or other melting agents on Our Structural HDPE without damaging the material.

for a total of three cycles. The modulus and strength values were determined by ASTM D6109 and when compared to baseline values exhibited very little change.

WARRANTY

The manufacturer of the Structural HDPE product offers a limited warranty that this product will not rot, splinter, decay or suffer structural damage directly from termites or fungal decay under normal use. American Plastic Lumber does not recommend or approve this product for all end use applications. The appropriate national and local code authorities should be consulted for safety, suitability and applicability for intended use prior to purchasing product. (See Full Warranty Details)

This guideline and summary is intended to provide the distributor, installer and end user with basic guidelines and technical specifications for designing and properly installing the Our Structural HDPE products. However, the finished product manufacturer, installer and/or purchaser is solely responsible for interpreting specific job conditions, and determining the engineering design and suitability of end use and application of any Our Structural HDPE product. Adherence to applicable building and safety codes for specific locations and applications of this product are the sole responsibility of the installer and/or purchaser. In no event shall the manufacturer of the Our Structural HDPE products, be liable for labor, installation, reinstallation or for any indirect, punitive, exemplary or consequential damages of any kind whatsoever from the provision of this information. This revision 2.0 [8/06] supersedes all other technical data sheets