

9730000, Structural Plastics
Comments from Industry Review

Cheryl Hudson
850-414-5332
cheryl.hudson@dot.state.fl.us

Comments:

"fiberglass structurally reinforcing rods placed in the corners of the section. Reinforce 10"x10" fiberglass structurally reinforced composite lumber for use in light duty fender systems with a minimum of four 1 inch fiberglass structurally reinforcing rods placed in the corners of the section. Reinforce 16" O.D. Components including fiberglass structurally reinforced composite piles for use in heavy duty" fiberglass structurally reinforcing rods does not read well. I would suggest fiberglass structurally reinforced rods or fiberglass structural reinforcing rods (unless they are actually called structurally reinforcing rods).

Barry E. Smith
(850)414-4776
(850) 414-4199
barry.smith@dot.state.fl.us

Comments:

973-3 Materials

Is a specific color requirement needed?

must be smooth and black in color unless otherwise specified in the Contract Documents.

Should the 4 highlighted portions not all be the same wording?

Reinforce 10"x10" fiberglass structurally reinforced composite lumber for use in heavy duty and medium duty fender systems with a minimum of four 1 1/2 inch fiberglass structurally reinforcing rods placed in the corners of the section. Reinforce 10"x10" fiberglass structurally reinforced composite lumber for use in light duty fender systems with a minimum of four 1 inch fiberglass structurally reinforcing rods placed in the corners of the section. Reinforce 16" O.D. Components including fiberglass structurally reinforced composite piles for use in heavy duty fender systems with a minimum of sixteen 1 1/2 inch fiberglass reinforcing rods. Reinforce 16" O.D. Components including fiberglass structurally reinforced composite piles for use in medium duty fender systems with a minimum of sixteen 1 inch fiberglass reinforcing rods.

John Previte

Comments:

Please check grammar:

Structurally-reinforced member.....OK

Structural reinforcing rods.....OK

Structurally reinforcing rods????not ok?

One may say “they are **structurally reinforcing** a member...”or

“While **structurally reinforcing** rods, the man smoked a cigarette”

Not so sure about the usage in *italic red* below:

and medium duty fender systems with a minimum of four 1 1/2 inch **fiberglass structurally** reinforcing rods placed in the corners of the section. Reinforce 10”x10” fiberglass structurally reinforced composite lumber for use in light duty fender systems with a minimum of four 1 inch **fiberglass structurally** reinforcing rods placed in the corners of the section. Reinforce 16” O.D.

Duane Brautigam

Comment:

In 973-2, the term "fiberglass structurally reinforcing rods" seems very awkward. Suggest "fiberglass structural reinforcing rods" or just "fiberglass reinforcing rods".

Brian Larsen P.E.
Bedford Technology, LLC
Blarsen@bedfordtech.com
Phone 507-372-5558

Comments:

1) Table 1 - Tensile properties. This has been changed from skin/core to core. The cores of these materials are foamed and will be hard to test for tensile properties because the test procedure calls out a coupon test. The coupon test will need to be machined from the cross section and the test results can vary widely depending on where the coupon is machined from. The core is not the main structural portion of the member and so the skin is more important than the core. This property should be changed to skin or be required to be tested as a full cross section. The problem with using full cross section for tensile test is there are no ASTM tests to be used as a full cross section test. **I recommend keeping it as skin.**

2) Table 1 – Compressive modulus. This was also changed from skin/core to just core. The compressive modulus to give true values should be tested for the product as a complete composite structure to give a true comparison. This can be done using the newer test D6108. D695 calls out to use a specimen of standard shape so you will not get a true test using D695 for the complete member. **I recommend using D6108 and test a full cross section, but if you keep the D695 I think you should leave it at skin/core or skin.**

3) Table 2 – Impact resistance. Why not use the same test as table 1 D256 to keep things consistent. **I recommend using D256.**

4) Table 3 - Corner Radius SCL - When we manufacture this product we have a smaller corner radius of approximately 1" radius. I would like to see the radius tolerance changed to include these radiuses. This has not been a problem in the past but it would be good to get clarified. – **I recommend on the SCL use radius of 1 ½" +/- ½"**

5) Table 5 - Compressive strength. – It has been changed from a full member compressive test using standard D6108 to a coupon test of D695. To get a true reading of the product a full member should be tested under D6108 for both parallel and perpendicular to grain. When doing a coupon test you only value from the skin of the product, but not the true value of the complete structure. If you used only the skin for compressive strength you will get a higher value because it does not have any of the foamed center. Using this kind of a test giving a higher value than the full cross section could result in a design that could fail because the designer used too large of a value for the full board? If you keep test D6108 testing the full cross section you will get a good number for a full board. The current value of 1960 PSI is OK for parallel to grain. If you use D6108 as the test standard then the value for perpendicular to grain should remain at the 700 PSI as the D6112 had called out is it is a full member test also. **I recommend keeping D6108.**

6) Table 4A and 4B. Testing of the modulus of elasticity and yield stress on both of these tables uses a specialized non-ASTM test. ASTM D6109 calculates modulus of elasticity and flexural strength using a standard ASTM test. Why use a non standard test? **I recommend using D6109.**

Steve Shannon
717-459-3471 (office)
steve.shannon@trelleborg.com

Comment:

- Table 1 (Abrasion) - Based on recent testing, the CP and SCL abrasion value should be < 0.124 grams

- Table 1 (Tensile Properties) - The 2200 psi tensile strength value listed was an average value from testing. The minimum tested value was 1740 psi. We recommend listing a minimum value of 1700 psi rather than the average (2200 psi).

- Table 2 (Abrasion) - Based on recent testing, the FFRCL abrasion value should be < 0.300 grams

- Table 3 (Width & Height) - We recommend changing the Width & Height tolerances to +/- 1/2"

- Table 5 (Compressive Strength Parallel to Grain) - The 3500 psi compressive strength value listed was an average value from testing. The minimum tested value was 2970 psi. We recommend listing a minimum value of 2900 psi rather than the average (3500 psi).

- Table 5 (Compressive Strength Perpendicular to Grain) - The 4500 psi compressive strength value listed was an average value from testing. The minimum tested value was 2470 psi. We recommend listing a minimum value of 2400 psi rather than the average (4500 psi).
