**APBA REINFORCED COCKPIT QUESTIONNARE**

**2015 Rev B.**

Note:

The following questions must be answered and materials supplied for APBA Safety Committee registration of proposed reinforced cockpits.

The manufacturer’s name, type designation, date of manufacture and registration number must be permanently molded into a visible place on or in the reinforced cockpit. If the registered number is not molded in, it shall be ground onto the surface in a manner not to harm the structural integrity of the cockpit.

1. Enclose a complete set of drawings of the cell showing internal and external dimensions. Drawings must show the dimension between the floor and the underside of the cockpit over the driver’s head.
2. Detail your construction technique and laminating schedule including components and materials. (Fill in table at end of questionnaire.) Include published physical properties information from the manufactures of materials used. State type of construction method and sequence. (Conventional lay-up, vacuum bag, autoclave, etc.) Note: the Safety Committee Chairman may request a sample of the materials being submitted.

Provide four test panels of your laminate. Panel size is to be 3.15/16” (100mm) wide x 31.1/2" (800mm) long. Also supply one test panel of the Joint/bonding of the cockpit halves transverse to length of the sample. The panel orientation should have the long side parallel with the bottom surface of the intended homologated cockpit.

Samples must be laminated on a flat surface using the same manufacturing process, materials and fiber orientation’s as the intended homologated cockpit construction. The side of the panel that corresponds to the inside skin of the reinforced cockpit must be marked as such. The samples must be submitted to a testing facility that can perform a 4 point flexure test per ASTM D 6272 requirements.

 Suggested Testing Resource:

Structural Composites, Inc.

7705 Technology Dr.

W. Melbourne Fl. 32904

Ph. 321 951 9464 Web.www.structuralcomposites.com

The sample will be supported across the full width perpendicular to the long edges by two parallel 1” dia. Steel bars at a distance of 19.5/8” (500 mm) apart. The load will be applied equally through two 1” dia. Steel bars, each a distance of 6.9/16” (167 mm) parallel from each support.

The molded face of the sample will have the load applied and the unmolded face will support the sample.

The load will be applied at 0.16 in/sec (0.4 mm/sec) and the deflection will be measured at the two 1” dia. Steel bars applying the load within 2 minutes.

1. Provide copies of test data an outside laboratory may have regarding this laminate.
2. Detail precisely how the reinforced cockpit is to be fastened to the hull.
3. Explain in what ways the driver is protected from impact with water and/or debris in case of an accident.
4. Identify the areas of the cockpit, which are left open or unprotected.
5. Detail the materials and the location of all cockpit interior cushioning or energy absorption.
6. Explain how the seat is attached to the boat.
7. Describe the Driver restraint system and fasteners if installed. (See illustrations in OPC rule book.)
8. If a canopy is used, the canopy must be constructed of the same materials and layup schedule as the Reinforced Cockpit. If supplied by others then the source must supply this information.
9. Describe the windshield of the cockpit:

|  |  |  |  |
| --- | --- | --- | --- |
| **Windshield** |  |  |  |
| **Material** | **Thickness** | **Bolted or glued** | **Flange width** |
|  |   |   |   |
|  |  |  |  |

Flange refers to the area of the cockpit where the windshield overlaps the cockpit structure.

1. Describe floatation material, location, and effective support in pounds or Kilos this material provides.

Send completed questionnaire and results from the testing facility to the OPC Safety Committee Chairman

Sam LaBanco

1005 N Keystone Ave.

Northbrook IL. 60062

Tel 847 702 8322

samsst60@yahoo.com

After the sample test data has met the requirements as described in the OPC rule book the Safety Committee Chairman will inform the OPC Committee Chairman, ABPA and manufacturer.

Laminate Schedule:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|   |   |   |   |   |   |   |  |
| **Cell Outside** | **Material** | **Brand** | **Grade** | **Areal weight** | **Weave** | Check one | **Angle** |
|  |   |   |   |  Oz./sq.yd. |  |   |
| **Ply 10** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 9** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 8** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 7** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 6** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
|  | **Material** | **Brand** | **Grade** | **Density** |  |  |  |
| **Core** |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|   | **Material** | **Brand** | **Grade** | **Areal weight** | **weave** | check one | **Angle** |
|  |   |   |   |  Oz/sq.yd. |  |   |
| **Ply 5** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 4** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 3** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 2** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
|  |  |  |  |  | other |   |   |
| **Ply 1** |   |   |   |   | unidirectional |   |   |
|  |  |  |  |  | plain weave |   |   |
|  |  |  |  |  | twill |   |   |
| **Cell inside** |   |   |   |   | other |   |   |
|  |  |  |  |  |  |  |  |