Appendix 2
03/27/17

Minimum Capsule Requirements:

1.5L stock 3000 Newtons for a type 2 and 3 cockpit

1L 3000 Newtons for a type 2 and 3 cockpit
4000 Newtons for a type 4 cockpit, must have either a 4130 or composite cage
2.5L stock: 3000 Newtons for a type 2 or type 3 cockpit
4000 Newtons for a type 4 cockpit, must have either 4130 or composite cage
2.5 mod/5L: 4000 Newtons for a type 2 or 3 cockpit
4000 Newtons for a type 4 cockpit, must have either a 4130 or composite cage
NM: 5000 Newtons for a type 2 or 3 cockpit
5000 Newton for a type 4 cockpit with 4130 or composite cage
GNH: 5000 Newtons for a type 4 cell, must have either a 4130 or composite cage
(any new construction after October 31, 2013 must have type 4 cockpit)
GP: 7000 Newtons for a type 4 cockpit, must have either a 4130 or composite cage
(use of type 1,2,or 3 cockpit is not allowed to run in this class)

Capsule Drawings and Laminate Schedules must be submitted for approval of the inboard safety committee:

i) Top, side and rear view drawings of the capsule must be submitted with the positioning of the cage reinforcements whether 4130 or composite.
ii) A diagram with a cross sectional view of the cage positioning, window And hatch flang.
iii) A core sample of the capsule lay up of 4”x32” on a flat surface using the same manufacturing process. The outside laminates must be on the molded surface and the inside laminates must be on the peel ply side.
iv) If manufacturing a composite cage a lay up schedule and sample of the cage must be included
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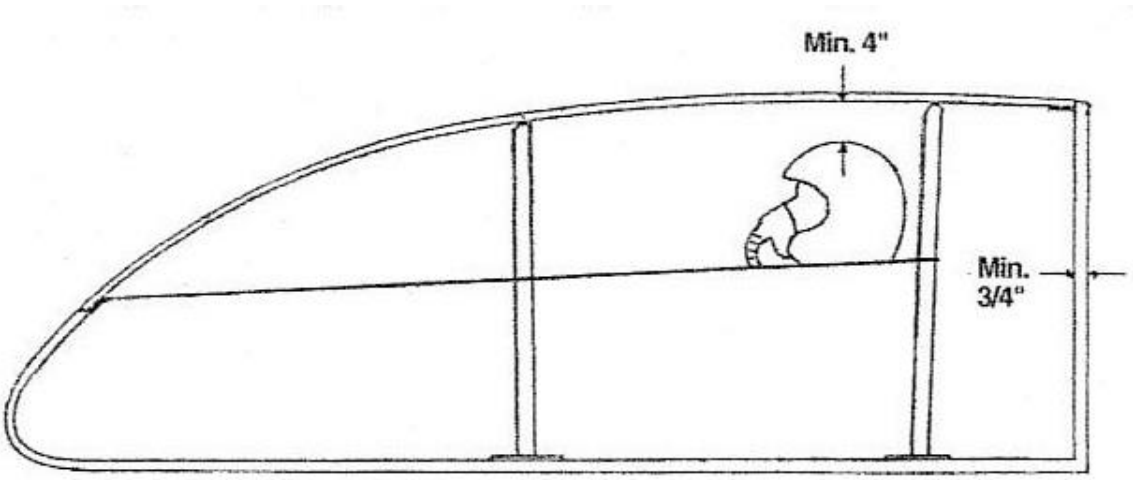
v) If your capsule has any joints or splices in the part, a sample of the joint must be included in your submission, one of which must include a sample of the cockpit halves, transverse to the length of the sample.
(NOTE: The capsule must be fastened to the bottom of the boat, no joints in a horizontal plane from the top of the capsule to the fastening point of the hull. All capsules must have the same lay up schedule from the top of the capsule continuous to the fastening point of the hull)
vi) A lay up schedule of your capsule must be included in writing.
vii) Dry samples of the coring and materials used must also be submitted. Size must be no less than 12 square inches.
viii) The manufacturing method must also be submitted. Example Vacuum bagged 3 steps or autoclave 3 steps.

ix) Proof of window material (polycarbonate) must be submitted with the first submission.

Steel Roll Cage for type 4 cockpit for:
1.5L stock
1L
2.5L stock
2.5 mod/5.0L

i) 4130 Steel 1.25" O.D. .065" Wall thickness
ii) Base pad where cage fastens to bottom must be a minimum of 12 sq"x.125"
iii) When fastening to bottom of an existing hull, aluminum doublers must be used on the outside of the hull.
iv) When fastening to a new hull, hard spots must be used to prevent crushing of coring. Extra laminates must be used both on the inside and outside of the hard spots. Hard spots must be aluminum or stainless steel sleeve or epoxy and cab-o-sil/fumed silica. The hard spot must be 3 times larger than the diameter of the bolt being used for mounting. If using an aluminum or stainless sleeve, the sleeve must be mechanically fastened with epoxy, thus sealing the exposed coring.

See Diagram for positioning of hoops and locations of roll bars for all Type 4 cockpits



Steel Roll Cage for Type 4 cockpits in:

National Modified
Grand National Hydroplane
Grand Prix

i) 4130 Steel 1.5" O.D. .065" wall thickness
ii) Base pad where cage fastens to bottom must be a minimum of 12 sq"x.125"
iii) When fastening to bottom of an existing hull, aluminum doublers must be used on the outside of the hull.
iv) When fastening to a new hull, hard spots must be used to prevent crushing of coring. Extra laminates must be used both on the inside and outside of the hard spots. Hard spots must be aluminum or stainless steel sleeve or epoxy and cab-o-sil/fumed silica. The hard spot must be 3 times larger than the diameter of the bolt being used for mounting. If using an aluminum or stainless sleeve, the sleeve must be mechanically fastened with epoxy, thus sealing the exposed coring.

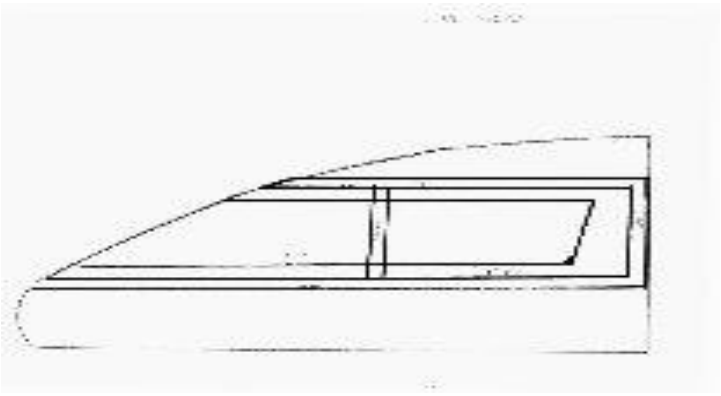
Composite Roll Cages for type 4 cockpits: 1.5L stock NM/GNH/GP
1L
2.5L stock
5L/2.5L Mod

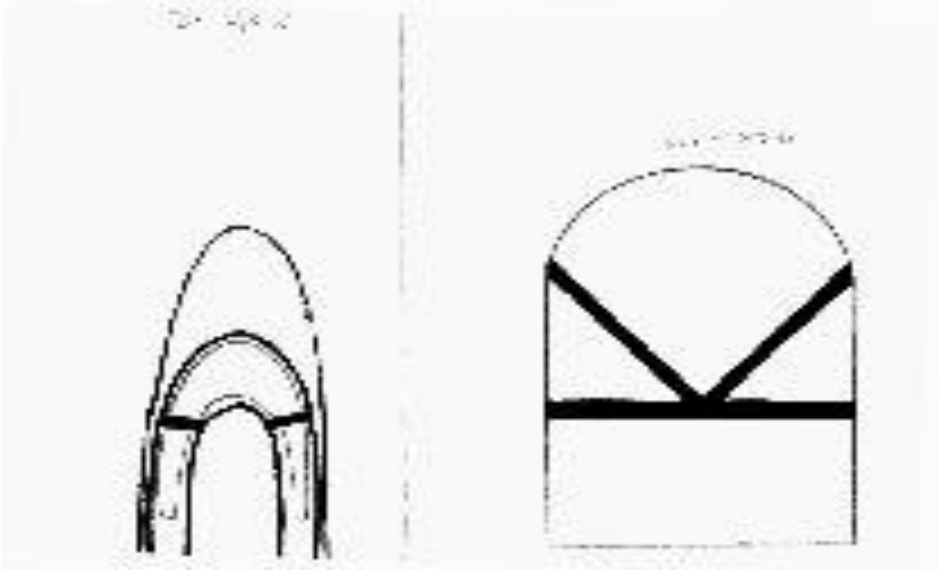
i) The coring used must be a closed cell with a minimum density of 5 lbs per cubic foot
ii) The coring must be fastened with an epoxy resin
iii) Minimum size of the cage must be 1.5"x1.5"

iv) Reinforcements over the cage coring will be approved upon inspection of their core samples and must be approved by the inboard safety committee upon receipt of the core samples of the cockpit certification.
v) The cage must start at the back of the cell and tie into the top hoops around the top of the cell (following the curve of the windshield). The horizontal structure must be no more than (top of hoop) 2" below the lower window flang.

vi) Must have a cage support where the side windows meet the front window section

See Diagram below for an illustration of the composite roll cage.





Sample Test method Used for testing core samples:

i) The sample will be supported across its full width perpendicular to the 32" edges 2 parallel 1" steel bars at a distance of 20" apart. The load will be applied equally through 2 – 1" steel bars, each a distance of 6.75" parallel from each support.

ii) The molded face of the sample will have the load applied and the un-molded face will support the sample

iii) The sample when loaded must have no more than a maximum deflection of 1" without the sample failing