

Small Cat

a kind of endeavour

The Small Cat haven't earned any reputation whatsoever, and rightly so.

The latest model is the logical result of the world's most inexperienced hobbyist boat designer continuing to listen carefully to the experienced ones, but hearing nearly nothing.

The hobbyist boat builder needs a boat which is easy to build, and will hopefully not sink, capsize or breaks apart in the first breeze.

To meet at least some of those harsh design criteria, careful choice of material¹ has been made, computer-aided calculations² and model tests³ has been conducted, without any result of course.

The most appealing attribute is, however that all plans have been made available under the copyright terms CC-BY-SA: you can share and adapt the work, as long as you share your adaptations and name the author.



Every brochure have to have a smiling face on the first page

The copyright licence means that anyone willing to tinker around, or wanting to die early in a sailboat accident have a unique, priceless opportunity to do so.

The steering arrangement is one of the greatest traits of the boat: it is not just primitive beyond belief, but also an easy-to-assemble bunch of pieces.

This is the only area where mechanical calculations have been attempted to be made, with a notable lack of success.

This tiny diamond is actually three boats in one: Two canoes (or kayaks, I don't know the difference) And those two kayaks⁴ compiled into one sailing catamaran.

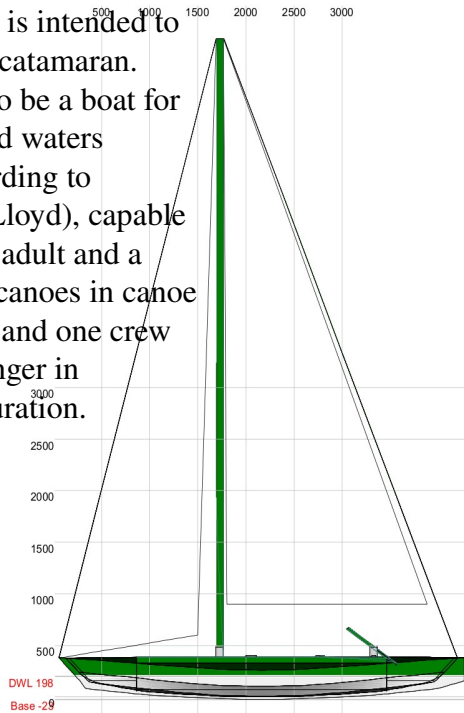
The design unites all the worst characteristics of both worlds: The canoes⁵ have keels which makes turning them a real challenge.

However the cat have very little freeboard, which makes even low waves interesting.

1. „It might be built of some kind of plywood”
2. Pressing the „Design Hydrostatics” button of FreeShip, and trying to figure out what at least some of the numbers mean.
3. Giving a model of one hull of earlier design to the kids to play with in bath.

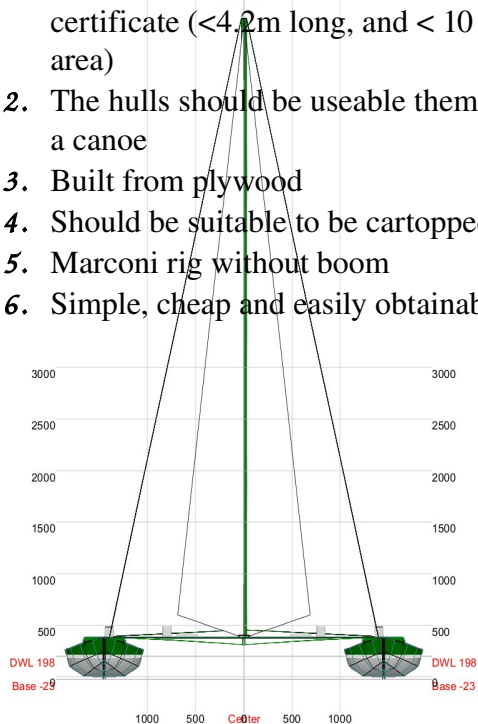
4. or canoes
5. or kayaks

The Small Cat is intended to be a ... small catamaran. It is intended to be a boat for confined inland waters (range V according to Germanischer Lloyd), capable of carrying an adult and a child for each canoes in canoe configuration, and one crew and one passenger in sailing configuration.

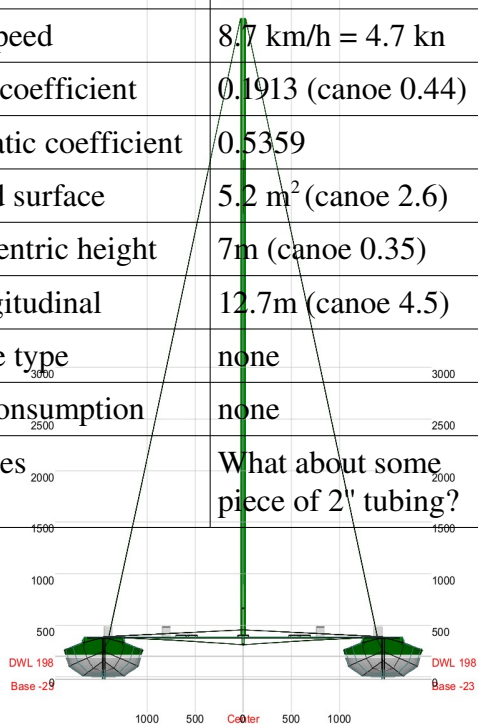


Design goals include:

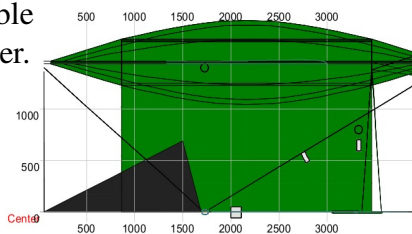
1. should be small enough to go without a certificate (<4.2m long, and < 10 m2 sail area)
2. The hulls should be useable themselves as a canoe
3. Built from plywood
4. Should be suitable to be cartopped
5. Marconi rig without boom
6. Simple, cheap and easily obtainable parts



Length Overall	4.072m
Length of waterline	3.761
beam	3.717 (0.82 for canoe)
Beam on waterline	3.695 (0.79 for canoe)
Design draft	0.221m
Freeboard	0.18m
Displacement at 0.221m	587 kg (294 for canoe)
No trim calculations!	
Approx weight	160 kg (28 for canoe)
Sail area	(round down to sum 10 at building time)
mainsail	5.7 m ²
jib	4.7 m ²
Water to masthead	6.18 m
Mast length	6 m
Displacement/length	156 t/m
Hull speed	8.7 km/h = 4.7 kn
Block coefficient	0.1913 (canoe 0.44)
Prismatic coefficient	0.5359
Wetted surface	5.2 m ² (canoe 2.6)
Metacentric height	7m (canoe 0.35)
longitudinal	12.7m (canoe 4.5)
Engine type	none
Fuel consumption	none
Winches	What about some piece of 2" tubing?



Careless placement of deck hardware ensures truly unforgettable moments at water.

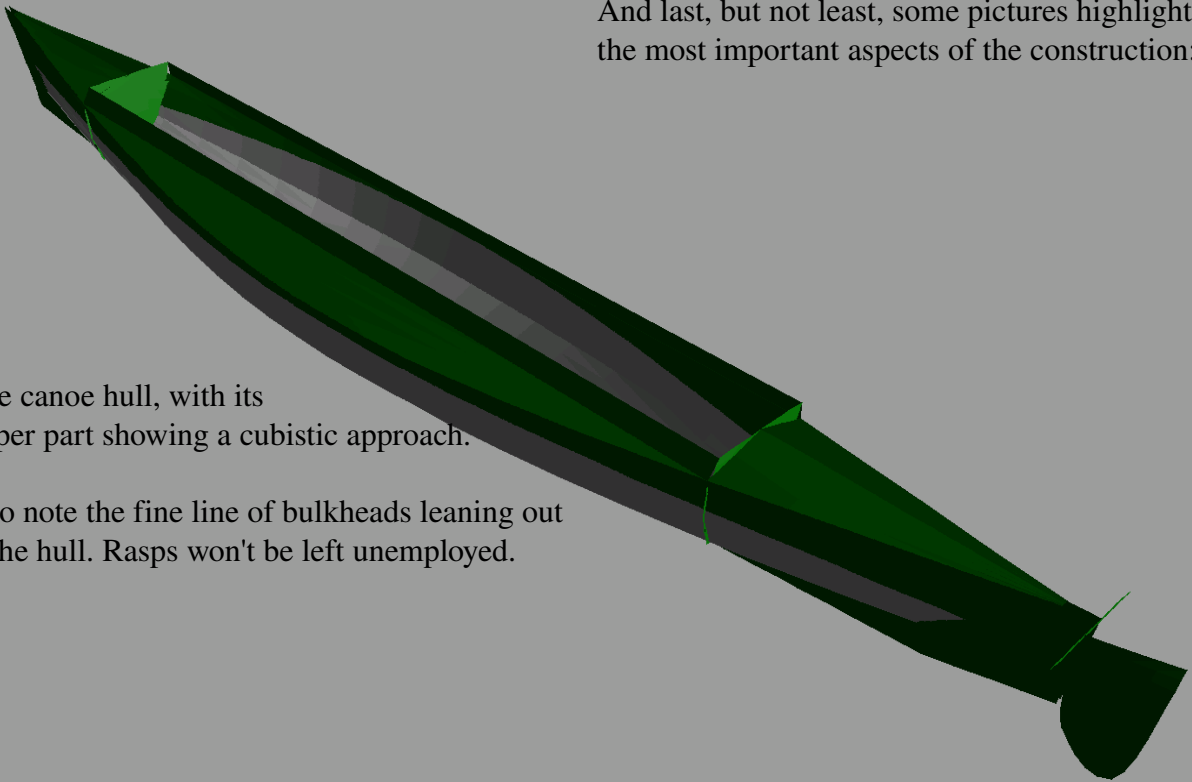


Another highly researched area is the type and placement of engines. It is not just that you do not want to lose a costly equipment in the probable event of accident, but it would also mean considerable damage to the environment. Not to mention the boredom of motoring in marinas. Careful design of the steering arrangement led to a truly green solution: you won't be able to use an engine even if you wanted.

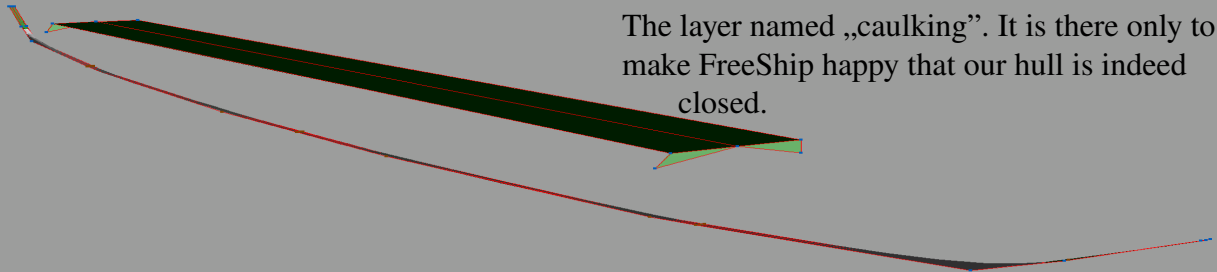
And last, but not least, some pictures highlighting the most important aspects of the construction:

The canoe hull, with its upper part showing a cubistic approach.

Also note the fine line of bulkheads leaning out of the hull. Rasps won't be left unemployed.



The layer named „caulking”. It is there only to make FreeShip happy that our hull is indeed closed.



Magwas, the designer can be contacted at magwas@rabc.org.

Plans are available © CC-BY-SA 3.0.

Any criticism, identification of even further design flaw, hatred comment, suggestion or offer of contribution (unlikely, I know) is welcome.

Authors of pictures used in this brochure (the drinking cat and the smiling woman):

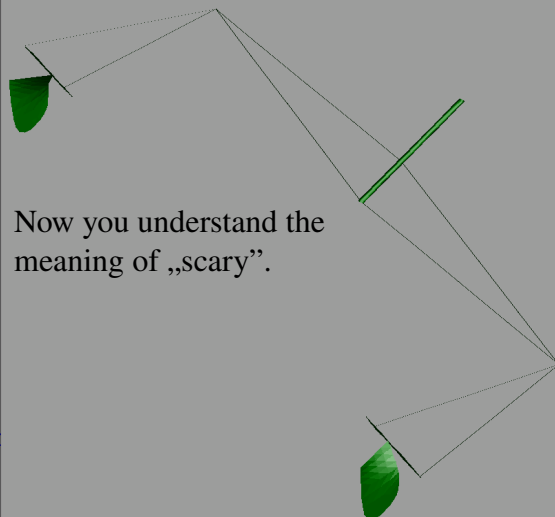
Hisashi from Japan

[http://commons.wikimedia.org/wiki/File:Fat tabby cat drinking water from a pond-Hisashi-01.jpg](http://commons.wikimedia.org/wiki/File:Fat_tabby_cat_drinking_water_from_a_pond-Hisashi-01.jpg)

biscan

http://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_183-16039-0002_LPG_Domersleben_Mitglied_der_LPG.jpg

The highly boasted steering arrangement.



Now you understand the meaning of „scary”.