

**The so named „new alloy mast“ is in use on some folkboats. The man behind the project is Bjarne Marcussen, a Danish folkboat sailor.**

**An interview from Michael Fehlandt – Vice-chairmann NFIA - with the man who wasn't satisfied with the already existing alloy masts:**

**Bjarne, why did you start the project "new alloy mast"?**

*I have been sailing with the Swedish Benn mast for some time. I find it nicer than the Danish JM, but it needs some improvement if it should really fit to the Folkboat. In 2015 I took contact to Benn in Sweden to show them how the mast could be improved. But they obviously were not interested.*

*Then I decided to look for my own design and found a factory nearby who could do the extrusion.*

*Together with the company I designed the profile 2015/2016 as I want it, as close as possible to wooden mast and complying with the Class Rules (CR) to gain most flexibility, which means minimum weight and dimensions.*

*Within this CR limits I could change the interia to have the right flex longitudinal, and the right stiffness traverse.*

*So the working title for the project became: Flexibility and look as close as possible to the wooden mast.*

**Who does stand behind the project?**

*I worked together with Per Buch from Kerteminde to make a budget to find out if it was possible to afford our own mast production. Per was very determined to replace his old wooden mast.*

*Per and I found out that if we invited four more sailors to the project and put some money and a lot of work in it, we could make ten masts relatively cheap - six for the sailors, and four for sale.*

*And so six sailors from Kerteminde started the project, none of those did now anything about mast production. But under my supervision we managed to produce ten masts during the winter 2016/2017.*

*I did all the drawings, calculations, contacts to a many subcontractors etc. etc.*

*Today the project is finished. All sailors have their new mast and are most satisfied.*

*Now it is only me owning the project and the rights to continue the project.*

**What were the main problems that had to be solved?**

*I think the main challenge in the project was to find out how to weld the top. I wanted the top to be welded all the way from top to the jumper strut as allowed in the CR and also for a nice look.*

*After three trials with complicated tool modifications assisted by a subcontractor, we were succesful*

**When was the first testing and what results did you recognize?**

*In October 2016 we made the first testsailing in Kerteminde. The first impression was that the mast behaved exactly as we wished and as we calculated.*

*There was no need for any adjustment in the shape or profile, it was right in the eye.*

*We did some adjustment to the fittings, and made a second testsailing in February 2017 together with Theis Palm from North Sails. He was very impressed by the mast.*

*After this testsailing the mast was measured and according to measurement documentation approved by NFIA.*

**The shape of the new mast looks more similar to the wooden mast. Was that one of your intentions or did that happen by chance?**

*The main reason for starting this project was that we wanted to have a beautiful mast for a beautiful boat - like the wooden mast.*

*The top fitting has a shape similar to the wooden mast. Therefore the fitting is cast in alloy. But since we need a minimum topweight it fits with the lighter profile weight. The jumper strut has a plain and simple look because the fastening and main fitting is inside the mast.*

*Outside dimensions of the mast are less than others, and the mast is provided with three outside integrated "stripes" which all together makes the mast look much more slim than others. It was all my intention.*

**Are you satisfied with the performance in racing or is there still something to work on?**

*The mast, the profile and general shape and sailing performance are excellent for the Folkboat. Gold Cup number one by Per Buch, and total three boats in top ten. Some fittings can be improved, also for the cruise sailors. That's it - nothing else.*

**Thank you Bjarne for your time to comment the project.**

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Background of Bjarne:

Bjarne once owned a boatyard where he designed and built more than 300 boats, 24 - 40 feet length. He also built for FBC in Kerteminde about 50 folkboats. Over the last many years he worked as a free lance composite engineer for boat builders and for blades in the wind turbine industry world-wide.