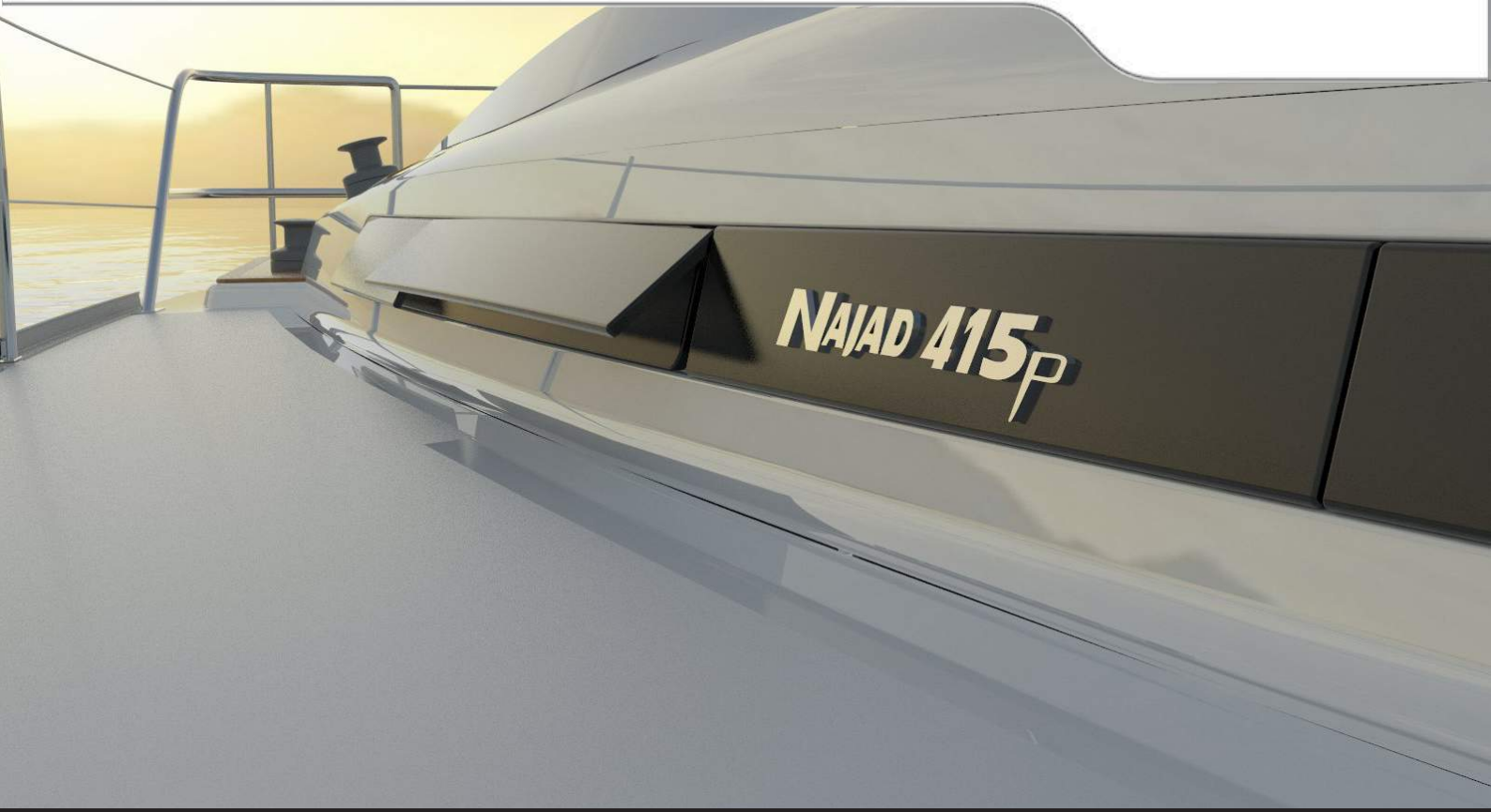


CHALMERS



Re-Designing and Re-Branding Najad 415p

Master Thesis Project,
Industrial Design Engineering

SAMUEL NILSSON

MASTER THESIS PROJECT PPUX05

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Master Thesis, Industrial Design Engineering

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Print: Repro Service Chalmers

ABSTRACT

In 2013 the core of the company Najad Yachts was acquired of Lidköpings Båtbyggeri, a year later the board decided to re-brand the Swedestar boats built by Lidköpings Båtbyggeri and use the Najad brand instead. The new boat models are re-named to Najad 415 Performance (Najad 415p) and Najad 370 Performance (Najad 370p). The work carried out to fit the boats to the existing Najad product portfolio was limited and the only change made to the boats was replacing the color of the hull stripe from blue to red.

Therefore this master thesis was set up with the aim to re-design the interior of the Najad 415p so it would fit Najad's existing product portfolio. In addition to the main aim, the company also wanted to make a face lift on the boat exterior, designing new port lights and a bowsprit were also set up as goals for the project.

Designing the interior demanded extensive knowledge regarding the brand identity of Najad. Therefore a user study containing questionnaire and a online survey, were carried out in order to gain knowledge about how the brand is perceived today. A more tangible study was also carried out with the aim to extract parts and details in existing Najad interiors characteristic for the brand. These details were then used in the design process of the interior. Iterative sketching and evaluation sessions led to a final interior design proposal.

The bowsprit and port light design process were carried out with an initial focus on benchmarking competitors. With inspiration from the benchmarking study the design process mainly consisted explorative sketching followed up with evaluation sessions in cooperation with Najad. Insights gained were then taken back to the drawing board making the whole design process highly iterative. The final designs were modeled and rendered in order to accurately present the concepts.

Details and characteristics for the Najad brand found during the brand analysis part of project were summarized in brand identity book in order to facilitate future cooperation between Najad and design consults. The final result of the whole design project, the new Najad 415p, was showcased in a brochure.

At the end of the project all work done reached a highly detailed concept level, although constructional calculations and manufacturing preparations needs to be carried out before the concepts could be turned into real products.

SAMMANFATTNING

Efter konkursen 2013 blev Najad Yachts uppköpta av Lidköpings Båtbyggeri, ett år senare beslutade styrelsen för bolaget att låta de befintliga båtarna i modellportfolion, Swedestar 370 och Swedestar 415, döpas om till Najad 370 Performance och Najad 415 Performance. Arbetet som utfördes för att få de nya Najad båtarna att passa in i den befintliga produkt familjen var dock mycket begränsat, egentligen var det enbart randen i skrovet som byte färg från blå till Najad röd.

Målet för denna masteruppsats är att designa om interiören av Najad 415p på så sätt att den passar in i den befintliga produkt portfolion. Uppsatsen kommer också innefatta uppdateringar av exteriören. Nya kabinrutor och ett nytt peke designades under arbetsgång.

Designprocessen av interiören krävde mycket kunskap kring varumärket Najad. Därför så genomfördes en användarstudie som innefattade ett frågeformulär och en online-enkät för att få en djupare förståelse för hur användare ser på varumärket Najad. En mer visuell varumärkesanalys utfördes också för att kunna definiera vilka detaljer i inredningen som är karaktäristiska för Najad båtar. Dessa karaktäristiska detaljer användes sedan då interiören designades. Själva interiören designades genom iterativ idé skissning följt av utvärdering av idéer tillsammans med företaget.

Processen med att designa peke och kabinrutorna inleddes med fokus på att kartlägga konkurrenter. Med inspiration från kartläggningen startade design processen som främst bestod av utforskande idéskissande följt av utvärdering och diskussion av idéer. Feedback från företaget styrde i mångt och mycket vilka steg som togs under design processen, efter att ha fått feedback så omarbetades designförslagen så processen var av iterativ karaktär. De slutgiltiga design förslagen modellerades och renderades för att på ett precist sätt kunna presentera design förslagen.

Detaljerna och karaktärsdragen för varumärket Najad som varumärkesanalysen hade definierat sammanfattades in en dokument kallat, "Design Guidelines", ett dokument som ska förenkla samarbetet mellan Najad och externa konsulter i framtiden. De slutgiltiga designförslagen var sammanfattade i en broschyr.

Vid projektets slut så var design förslagen långt utvecklade med hög detaljrikedom, däremot så krävs en del hållfasthetsberäkningar samt en del arbete kring tillverkningsprocessen innan koncepten kan förverkligas.

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ACKNOWLEDGEMENTS

During this master thesis project occasions where expertise and specialized knowledge has been helpful are countless, in fact, without access to these resources the project would not been as successful as it has been.

Therefore I want to give a special thanks to Stefan Berne and Håkan Bengtsson at Najad Yachts, who came up with the scope for this thesis project and has supported the project since day one and all the way to the end. Their expertise regarding sailboats and boat building has been invaluable in the decision making process and for guiding the project in the right direction.

Thanks to the examiner Johan Heinerud and the supervisor Pontus Wallgren at Chalmers University of Technology for giving inspiration to the project and helping keeping it on track.

All the manufactures, Eric Qourning at BSE Marine, Jan Gramhstad at Ö-metall, personal at Båtsystem, that has been part of the project deserves a thank for sharing knowledge and information regarding their products.

The boat designer, Håkan Södergren, the father of Najad 415p, did agree on sharing the drawings of the Najad 415p. Without him doing so this project would not be nearly as accurate as it turned out. So this man really deserves a thank.

A thank to all fellow students at the faculty of Industrial Design Engineering for all the support, joy and inspiration you have contributed with.

Last but no least, I want to thank my parents for raising me on the boat building island, Orust. Without you I'm not sure if I would have found my passion for boats.

Chapter

1. INTRODUCTION

This first chapter will give an insight in why this master thesis project was carried out. It includes background description, project objectives, aims and finally limitations.



Figure 1: Najad 34 from 1971

1.1 BACKGROUND

In the late 1960's Najad Varvet AB was founded and they launched their first boat in 1971, since then Najad has built a strong brand and is one of the most well known boat manufacturers in Sweden. Najad is also well recognized on global scale, as most of the boats are sold and sailed in large range of countries.

The whole boat business struggled after the financial crisis in 2007-2008, many companies went bankrupt, and so did Najad in 2011. After a couple of years with different ownership constellations, the core company and the brand was sold to Lidköpings Båtbyggeri AB. After several years without building boats manufacturing started up again in autumn 2014.

In the past, Lidköpings Båtbyggeri, has been building and selling boats using the brand Swedestar. After the acquisition of Najad a decision was made to re-brand the existing Swedestar boats to Najad 370 Performance and Najad 415 Performance. The SwedeStar boats in the Najad product portfolio have not yet been re-branded to fit the Najad family of boats.

In collaboration with the CEO Stefan Berne and one of the owners, Håkan Bengtsson, this master thesis project was set up and aims to re-design the interior of the Najad 415p (earlier SwedeStar 415) in order to fit in the existing boat portfolio. The project also include face lifting the exterior; a new port light design and a new bowsprit design will give the exterior a more modern look.

1.2 DESIGN GOAL

The main design goal is to incorporate visual elements that are characteristic for the Najad brand into the new interior of the Najad 415p. To some extent, new details will also be added to the design in order to evolve the brand appearance.

In addition to the interior design part of this thesis project, the exterior of the Najad 415p will be updated, including new port lights, and new a bowsprit.

1.3 PURPOSE

Since merging Swedestar boats into the Najad boat portfolio the lack of unity in the portfolio have been evident, such a variation in the model range could potentially hurt the brand as customers prefer distinct and coherent brands.

The old Swedestar 415, now called Najad 415p, is one of the boats in the portfolio causing lack of unity. This projects purpose is to create a new interior- and exterior design for this boat in order to create a more unified product portfolio.

1.4 OBJECTIVES

In the process of unify the Najad 415p with the other Najad boat models, the first objective is find out what defines and characterize the Najad brand visually. With that knowledge extracted, details that define the Najad brand will be applied to a whole new interior. In this process the existing models will off course be in focus, but it is also important to take a step back and look in to the brand heritage to really understand the brand. Implementing such a holistic view makes it possible to use visual elements and/or expressions from the past in the re-design process in order to create a design that is closely related to the brand heritage.

The objective for the re-design process of the port lights on the Najad 415p is essentially all about to find a port light design that suit the brand and the existing hull shape. It is important to consider that the port lights could be manufactured and therefore this design process has to involve a distributor to ensure that the design is applicable.

At the moment Najad use a bowsprit system from the company Båtsystem. It is a modular system that is designed to suit all kinds of sailboats. The company's opinion is that the system is not appealing enough for Najad boats. Therefore they want to design their own bowsprit system that can be mounted on all Najad performance boats. A list of requirements will be established with demands that have to be fulfilled. Containing boat measurements, different anchors sizes, user needs, and so on. Then a benchmarking study will be carried out before starting the creative part of the design process.

1.5 LIMITATIONS

Designing a whole new interior is an extensive task; one could consider the overall interaction between user and the interior and make a thorough investigation of how the layout should be arranged to best suit the intended user. As the project does not only focus on the interior of the boat, such an approach would be too extensive to carry out. As well as the end result is considered to be of higher quality and more useful for the company if the project is limited to use the existing layout and instead focus more on the details in the interior.

The overall shape of the hull and deck will keep the original shape as the molds that the boats are made from are very expensive to make changes to. Although, use of additive cores attached to the mold in order to make smaller changes to it will be considered as an option in the design process of the bowsprit and port lights.

Chapter

2. GLOSSARY

*Specific knowledge regarding sailboats has been a necessity for this project.
Descriptions to odd sailboat terms can be found in this chapter.*



Figure 2: A sailboat exterior

2.1 SAILBOAT EXTERIOR

In this section, sailboat parts frequently used in this thesis report will be explained.

Bow

The front part of the boat is called bow.

Stern/Aft

The rear part of the boat is called stern or aft.

Hull

The main body of the boat is called the hull. The hull is the side of the boat and the part of the boat that is in connection with the water.

Deck

The upper part of the boat, or the “roof” of the boat is called the deck.

Pulpit

In the front and rear of the boat there are stainless steel constructions, mainly made for mounting the fence that covers both sides of the boat, these constructions is called pulpit.

Bowsprit

In the very front of the boat an extension of the hull can be mounted in order to facilitate alighting and it does also work as an attachment point for sails, this part of the boat is named bowsprit.

Port light

The windows on the side of the boats are called port lights.

Code 0 sail

Sails have different names depending on their placement, size and usage. A Code 0 sail is a large sail mounted in the top of the mast and on an attachment point far out on the bow or on a bowsprit.

Plunch

Parts added to a existing mold in order to change the shape of the hull is called plunch.



Figure 3: A sailboat interior

2.2 SAILBOAT INTERIOR

Word and terms frequently used in the report connected to the interior of a sailboat will be explained in this section.

Galley

The kitchen in a boat is called galley.

Saloon

The area in the boat where the dinner table and the sofas are is named saloon.

Navigation station

The navigation station of the boat is a place made for reading maps and plan boat trips. It often contains a small table with integrated storage for maps.

Berth

Bedrooms on boat are called berths.

Bulkhead

A wall on a boat is called bulkhead, if a bulkhead only covers some of a hull section, it is called partial bulkhead.

Veneer

Veneer is a thin wooden sheet, often made out of expensive wooden material such as teak, oak or mahogany. This thin sheet is used to cover cheaper and less exclusive wooden materials.

Plywood

Most boat interiors build using plywood. Plywood is made out of thin layers of wooden sheets glued together with an outer layer in a more expensive and exclusive wooden material. Such a construction is lighter, stiffer and less expensive than massive wood.

Lipping

The edge of plywood sheets is not visually appreciated. Therefore the edges are covered with the same material as the outer layer of the plywood. The wood covering the edges is called lipping. Lipping can be made out of massive thick wood or thin veneer.



Figure 4: Veneer, Plywood and Wooden lipping

Chapter

3. METHODS

All methods used during this project are explained and defined in this chapter. Reading this chapter will give deeper understanding regarding how and why certain methods were used.

3.1 RESEARCH AND ANALYSIS METHODS

3.1.1 BENCHMARKING

The idea behind benchmarking is to analyze companies in the same business or businesses closely related to the subject for the design project. Different aim for the analysis could for example be to look more in to business strategy, visual brand identity and product portfolios. (Boeijen et al, 2013)

3.1.2 LITERATURE STUDY

A literature study is based on reading and analyzing previous scientific papers and other publications done within the same areas as the present design project. (Boeijen et al, 2013)

3.1.3 QUESTIONNAIRE

A questionnaire is a set of questions or statements that is handed out to participants to answer. The questions in the questionnaire should follow from your research questions. There is different classification of questions in a questionnaire, closed, open or categorical. Open questions do enable probing, which allows deeper discussion regarding interesting subjects. This is a qualitative method and is used to generate new insights. Closed questions are used to generate quantitative results, often used to gain insight into the frequency which certain perceptions/opinions/behaviors occurs. Posting closed questionnaires on Internet forums is a smart approach if a high number of participants appreciated. (Boeijen et al, 2013)

3.1.4 DESIGN FORMAT ANALYSIS

A Design Format Analysis is a method used to pinpoint what visual elements defines and characterize a brand of interest.

Step 1, Element Identification

First, a sample of products from the brand product portfolio is picked out. A list of visual elements that the project group finds characteristic for the products are generated, those visual elements could for example be “shiny plastic”, “high contrast between materials”.

Step 2, Element Ranking

The element ranking is carried out in order to generate the relative weight of the visual elements with respect to how visually characteristic the element is compared to the other elements from the first step.

A matrix is set up with the visual elements in the first row and column, all element is then compared individually, see figure 5, for entire table see figure 21 in section 5.2.2. The most characteristic element gets one point, the other one gets minus one point, if they are both equally characteristic, no points is distributed. When all the elements are compared to each other the result is calculated and an internal characteristic rank is generated.

Step 3, Element typicality

Step 3 included investigation of how representative a visual element is for the specific product family studied, when compared to the elements found in the other studied products of the product family.

The occurrence of an element within a product family, is multiplied with the “frequency of occurrence”, e.i. how many of the studied products of the product family it is found. The generated value is later on used when choosing the visual elements for step 4.



Figure 5: Step 2 Element Ranking.

Step 4, Format Assessment

The chosen products is then evaluated using this list, the product is given 2 point if the visual elements present in the product, 1 point if the partly present, 0 points if the element is not present. From the final result, the product that best represent the brand is generated, as well as the visual elements that are most frequently used. Knowledge that will be useful when designing a new product that is supposed to fit in an existing product portfolio. (Warell, 2006)

3.1.5 ECOSTRATEGY WHEEL

Ecostreatgy Wheel (see figure 7) enlightens a range of different aspects important to consider when it comes to optimize sustainability aspects for a product. Derived from the lifecycle of a product there are eight main areas to consider. (Brezet &Van Hemel, 1999)

- Optimize function
- Minimize environmental impact during usage
- Minimize material usage
- Optimize the material selection
- Optimize lifecycle length
- Optimize production
- Optimize waste material
- Optimize distribution

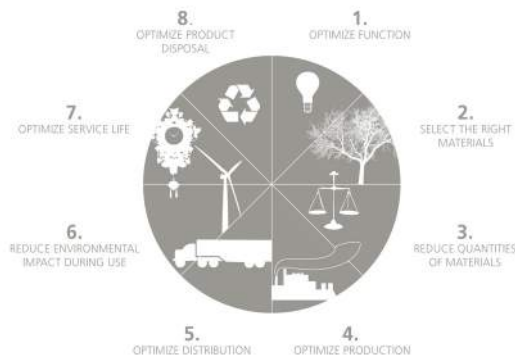


Figure 6: Ecostrategy Wheel

3.1.6 USER OBSERVATION

User observation is a method that could be carried out in different ways, open or closed observation, direct or indirect observation, natural or unnatural observation. When the users know that the observations is taking place the observation is categorized as open, a direct observation is defined by the fact that the

actions observed right in front of the observer, unnatural observation is defined by the action is taking place in a lab or by using some sort of prototype.

This method is preferable when the designer aims to investigate how the user actually interacts and behave within the intended context. Users are not always able to fully reproduce the actions taking place and the problems occurring in the context verbally, therefore user observations are a useful tool to gain new insights.(Boeijen et al, 2013)

3.1.7 INTERVIEW

Interview technique is a fundamental method for gaining insight of users thoughts and opinions. The data gathered could be considered to be qualitative, due to that the approach during interview sessions often is open questions in combination with probing e.i a semi-structured interview. If an interview is carried out without a questionnaire it is a defined as an unstructured interview. (Boeijen et al, 2013)

3.1.8 KJ-ANALYSIS

Quality data from interviews conducted in the research phase are often hard to grasp due to the vast amount data generated. The KJ-analysis method can be used in order to bring structure to the gathered information and will facilitate the analyze phase. Conducting a KJ-analysis starts by selecting all important quotes from the interviews and write down on separate notes. Then the notes that are connected to each other are clustered together with in certain themes. From all the piles of notes conclusions could be made, for example, the various themes will probably uncover the main issues. (Boeijen et al, 2013)

3.1.9 PERSONA

Communicating conclusions from a user study can be, to some extent, summarized using a persona. The characteristics of the user group found in the user study are applied to a fictive person and via a persona story the essential information regarding the user group could be communicated. People in general can easier digest and understand information using this approach rather than when a list of requirement is presented to them.

3.2 IDEATION AND CONCEPTUALIZATION METHODS

3.2.1 COLLAGE

The collage method is basically based on gathering pictures within a certain theme, or picking pictures that is found inspiring. Then the pictures are put on a board for visual observation. This method is often carried out when the design process requires easy accessible inspiration, for example during the initial phase of a Design Format Analysis (see section 3.1.4.).(Boeijen et al, 2013)

3.2.2 CO-CREATION

Users are often experts within the context in focus for design projects. Therefore make use of the users when it comes to ideation and evaluation is a very effective approach in order to generate new and novel ideas. A problem that could occur is that users might find it hard to think in new novel ways, as they are not trained in innovating thinking. With proper preparation this problem could be avoided by using mediating objects during the ideation session. Pictures, scale models or other objects can help the users asses and express their thoughts and ideas. Another approach to overcome this problem is to create and hand out a workbook in order to force the users to think of the intended situation beforehand. This makes it easier for them to be more innovative. (Boeijen et al, 2013).

3.2.3 BRAIN DRAWING

Brain drawing, also called the 3-6-5 method, is used for ideation and generating novel ideas. It is carried out by gathering 6 persons, each one with a papers in front of them, the paper has 5 rows and 3 columns. During 5 minutes, each participants fill the first row with new ideas, then the paper is past to the next person and the action is repeated until the rows and cloumns are filled with ideas. Using this method will generate a lot of ideas. In a short period of time 108 ideas are generated, which makes it an effective way to come up with new ideas. (Boeijen et al, 2013)

3.2.4 LIST OF REQUIREMENTS

Users and companies have demands that needs to be fulfilled to create successful products. Establishing a list of requirement will make it easier to assess the important issues that have to taken into account when designing. A list of requirement could also very useful when evaluating different concepts, or when communicating with other companies or colleagues. (Boeijen et al, 2013)

3.2.5 FUNCTION ANALYSIS

Function Analysis is often used when re-designing an already existing product. The method is used to break down the functions of the product into sub-divisions. This approach then makes it easier to approach each sub-division instead of the overall function, which will be useful when ideating. (Boeijen et al, 2013)

3.2.6 SKETCHING

Expressing and exploring new ideas is a essential part of the design process. Creating simple visual representations of ideas facilitates the exploration phase as well as it will make the communication with colleagues and companies representatives more accurate and efficient. (Boeijen et al, 2013)

3.3 FINALIZATION METHODS

3.3.1 PROTOTYPING

Prototyping could be used in many different phases of the design process. It could be used in an early stage in order to evaluate an existing design, when organizing a co-creation session, or in the very end of the project when presenting the final product. Basically prototypes is used when the designer want to interact with the concept to evaluate proportions and overall expression, or when the designer find it useful to let users interact with concepts explore how the concept are experienced. (Boeijen et al, 2013)

3.3.2 CAD-MODELING

CAD is an abbreviation for Computer Aided Design. The method is used to create a computer model of a product. Proportions and appearance of the intended design is can be evaluated. The main advantage using CAD-modeling is the potential of change a design with little effort, making it possible to evaluate a large number of designs. (Boeijen et al, 2013)

3.3.3 VISUALIZATION

In the end of the design process visualizations is often used to present the final concept. Visualizations is generated using a rendering program such as Keyshot or V-ray. Material, light, structures and various features to are applied to the CAD-model in order to create photo realistic representations of the product. The rendered pictures can then be used in presentations, due to accurate representation of the intended design. Visualizations are also useful when it comes to color and material selection. (Boeijen et al, 2013)

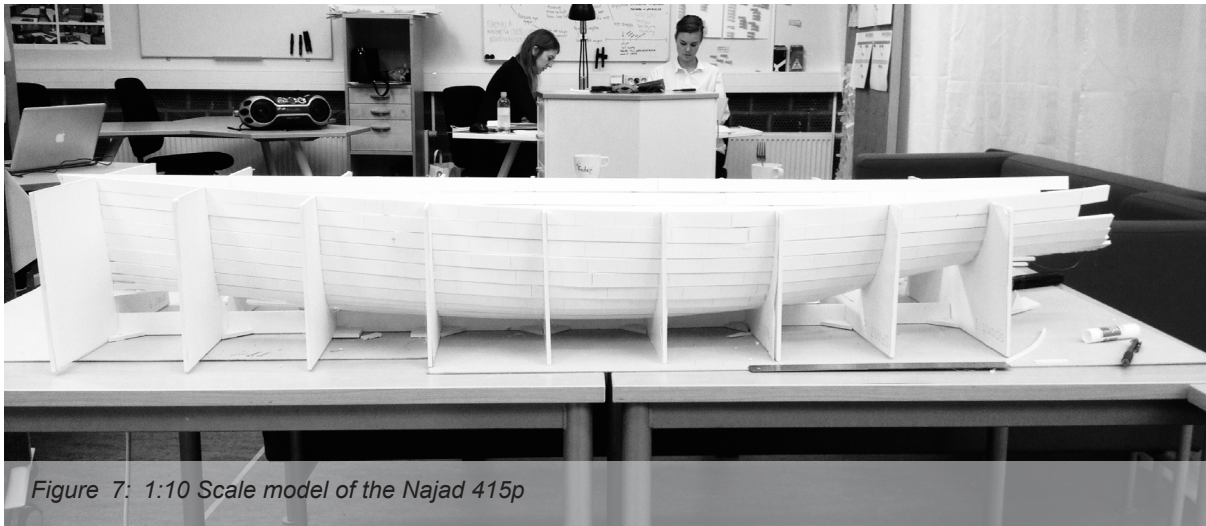


Figure 7: 1:10 Scale model of the Najad 415p

3.4 BRANDING METHODS

3.4.1 BRANDING AND PRODUCT DESIGN

Branding and Product design are two activities that arose with the industrial revolution. History has shown that companies working deliberately within these fields have had an advantage to their competitors. For brand strategists, understanding the feelings that the customers connect to the product is essential when defining a new brand strategy. If a brand is closely related to a product and the brand strategy is changed without understanding and considering the brand heritage, the brand strategist is risking the very foundation of the brand. (Hestad, 2013)

In the process of building a strong brand, key factors are coherence and substance within the brand story. Monika Hestad suggests that in order to create a coherent brand story and not mislead the customers with ambiguity, the brand story should be based on the model presented in figure 5.

The model has three layers; these three layers represent different levels of abstraction from the tangible product. The first layer refers stories about the product. The second layer, refers to the wider story told by the form of the product, it

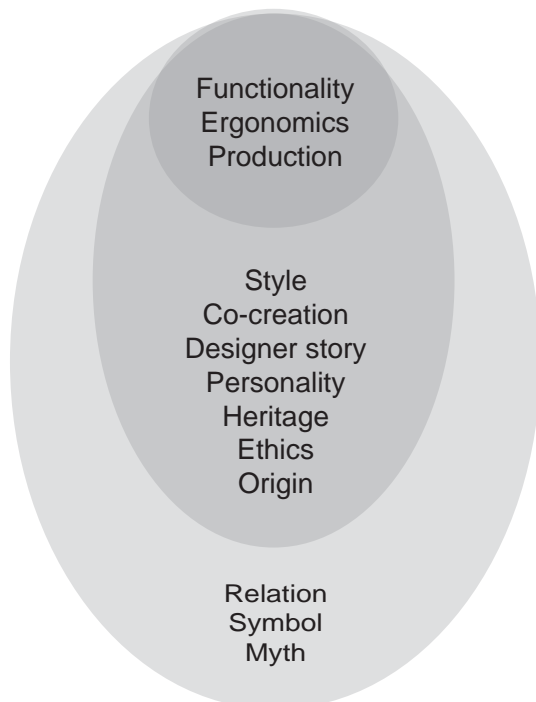


Figure 8: Overview of various product stories that can tell a brand story (Hestad, 2013)

do not necessarily need to be related the actual product. The outer and third layer refers to cultural stories, with a symbolic role. A coherent brand story is only related to one or few of the suggested brand connectors. (Hestad, 2013)

Brand stories with substance can be built in various ways, for example, building the brand story around the heritage of the company and preserving it, communicates extensive knowledge within specific product field and pride of the heritage. All together, it generates a relevance and substance orbiting the brand story. (Hestad 2013)

3.4.2 VISUAL BRAND ANALYSIS

It is well established that product design contributes to increased sales and product success and therefore is it essential for companies to consider. Product design cannot solely be directed in line the business objectives, creating a strong and well recognized brand and product identity is an important and factor for success in the market place. (Warell, 2006)

Warell suggests implementation of the method, Design Format Analysis (DFA), for designers new to a certain brand in order to extract existing product identity. Generating knowledge regarding the visual elements defining the brand using the DFA method facilitates and guides the designer in the process of creating products within the existing product identity.

Chapter

4. RESEARCH & ANALYSIS

In this chapter the reader get a view of the different steps taken in the research phase and how they were conducted. Followed by a description of the analyze phase and the insights gain during the research.

4.1 COLLECTION OF DATA

4.1.1 BOAT SHOW EXCURSIONS

The initial step for this project was to examine the sailboat market. Observing and admire beautiful boats at boat shows are truly inspiring, it does also give an idea of what is trending in the market. A perfect kick-off for this project.

Dusseldorf International Boat Show, Dusseldorf 23-31 January 2015

Dusseldorf International Boat Show, or more commonly known as Boot Dusseldorf is one of the largest boat shows in the world with over 1600 exhibitors from over 50 countries. Here you can find all types of boats, from small, 20 feet, wooden sailboats to massive, 100 feet, luxury yachts, se figure 9 (Preinerger, 2015).

Båtmässan, Gothenburg, 6-14 February 2015

Båtmässan in Gothenburg has been around for 56 years, a range of boats can be seen at the fair, although the shift amongst the exhibitors towards smaller motorboats rather than larger sailboat was obvious. Actually the Najad 440 CC was the only leisure sailboat over 35 feet present on the fair. (Wallin, 2015)

Allt för Sjön, Stockholm 28 February -8 Mars 2015

For 80 years the boat fair "Allt för sjön" has been a recurring event every year. Similar to Båtmässan in Gothenburg, the boat fair in Stockholm was dominated by small fast motorboats and Najad 440 CC was the only leisure sailboat over 35 feet.

4.1.2 LITERATURE STUDY

In order to gain knowledge and find information regarding focus areas of the project a literature study was carried out. Relevant articles and literature was found online as well as in physical books.

A key factor for this project to be successful was to conduct a thorough brand analysis. Literature addressing branding and product design was therefore a big asset, especially literature from the branding expert Anders Warell and Monika Hestad were thoroughly examined.

In the process of getting up to speed when it came to the design of boat interiors, the book Principle of Yacht design gave a lot of important information. Dimensions, measurements and general knowledge useful when designing a boat interior, were found the in the book.

Information gathered online mainly regarded materials and manufacturers, especially the sustainability research were conducted online. Other projects and masters thesis within the same area as this thesis project were assets used also found online.

4.1.3 BENCHMARKING

A benchmarking study were carried out, containing a thorough web search for information regarding the three focus areas for this project, interior, bowsprit and port lights.



Figure 9: Dusseldorf Boat Show, 28 January

Interior

In collaboration with the company, the main competitors on the sailboat market were pinpointed. These were determined to be main focus for the interior benchmarking process. The competitors' websites and boat models in the 40 feet segment were examined.

Bowsprit

A thorough examination of the web gave inspiration and knowledge regarding innovative bowsprit solutions, perfect input for the bowsprit design process.

Port lights

The port light benchmarking was conducted within two categories, port lights that open inwards and port lights that open outwards. These two categories differs a lot from each other visually, therefore the decision to make a categorization was made.

Manufacturer study

The port lights and bowsprits implemented in Najad boats today are not manufactured in-house, but subcontractors manufacture them. The company suggested that the project should include a manufacturer study in order get to know more about what the advantages new subcontractors might bring.

Personal contact with manufacturers of interest for the project was established during the boat shows. Meeting the manufacturers gave information that could not have been extracted from the manufacturers websites and gave a wider perspective what different design challenges that might appear later on in the project.

In addition to the boat fair manufacturer study, port light manufacturers not present at any of the boat fairs visited, were contacted via email in order to generate more specific knowledge regarding their port light construction. CAD-drawings displaying previous port light systems were the main part of the information gathered.

4.1.4 SUSTAINABILITY

Sustainability analysis using Ecostrategy Wheel
All of the steps included in the eco strategy wheel were included in the sustainability analysis. Additional information needed regarding specific parts of the analysis was found online. Building boats is a complex process therefore, in the end, some of the steps in the eco strategy wheel was considered not to be applicable and were left out.

4.1.5 USER STUDY

Establishing a close contact with the users is an important step in order to understand their needs. During the boat shows visited, users were approached both via interviews and observations.

Interviews

The boat show "Allt för Sjön" in Stockholm was visited with the aim to interview users. A questionnaire with open questions regarding sailboat interiors and a mediating object consisting of a A3 paper with 3 different sailboat interiors printed on it was prepared on beforehand, se appendix 15. Using mediating object in combination with a questionnaire made it easier to assess the users thoughts and opinions regarding sailboat interiors.

In total, 6 persons were interviewed; they all were men with an estimated age over 50. The interviews took place at the boat show "Allt för Sjön", in Stockholm, Mars 2015.

Observation

Several bowsprit retailers were represented at the boat shows visited. Standing and observing potential customers in the bowsprit stands generated interesting insights. While the customers examined the bowsprits they talked to each other and implicit expressed their needs without any influence by the interviewer.

The retailers stands, Båtsystem and Hjertmans, were in focus for the most extensive observations studies during the boat show "Allt för Sjön" in Stockholm, 3 mars 2015."

4.1.6 SURVEY

The initial step in the user study was to learn more about the users attitude and preferences regarding sailboat interiors and sailboat brands, therefore a survey was putted together. The survey contained 12 questions, mainly addressing sailboat brands, some questions about sailboat interiors were also included. The entrie survey can be seen in appendix 1. Various sailing forums were used to reach out to participants, which turned out to be an effective approach. The survey that was posted on Swedish sailing forums generated 119 answers within one week. The age varied but the 98% percent of the participants were men.

4.2 RESULT AND ANALYSIS

In this section results from the initial data collection phase will be presented together with the analysis connected to it. This part of the project is the foundation of the design process and the decisions that are to be made later on will be based on the insights presented here.

4.2.1 BOAT FAIR EXCURSIONS

The boat shows in Sweden did differ a lot from Boot Dusseldorf. In Dusseldorf all the well-known brands in the leisure sailboat segment were represented, compared to one brand at the Swedish boat shows. With such a large number of exhibitors you were able to jump from one sailboat to another in a matter of minutes. This gave the opportunity to compare a vast amount different layouts and ways to build sailboat interiors.

The Swedish Boat Fairs, Båtmässan and Allt för Sjön mainly generated insights from visually examine larger motorboat interiors. Although a sailboat interior differ a lot from interior motorboat, inspiration could be found in combinations of materials, lockers, knobs and so forth.

Not only boat brands were present at the boat shows, many manufacturers and retailers of boat accessories also showcased their products. So these visits did also generate a lot of inspiration and knowledge regarding bowsprit and port lights.

4.2.2 SURVEY

In order to keep focus on the outcome, the way results were to be represented was decided before the survey was created. Approaching the creation of a survey in this way makes it easier to ask the right questions. Perceptual map and COB-web in combination with regular bar graph was considered to be the best way to present the result.



Figure 10: Port light study at Allt för Sjön

Interior

When planning the creation of the survey it was considered to be important to investigate what users find appealing in boat interiors. In order to do so, three pictures of boat interiors were presented to the users and they were asked which one of the interior was most...(positive expression). The participants had evaluate to the interiors in relation to seven different expressions, see figure 11.

This approach gave a general view over what users appreciate. It was evident that the interior of the Hallberg-Rassy 412 was the most attractive one, the Najad interior scored low for the most expressions. In the graph it can be seen that the Hallberg-Rassy interior is found the most traditional and most attractive. The Najad interior is perceived as the most modern one and the least attractive amongst the interiors. There seems to be a connection between attractive and traditional, users tend to find traditional interiors attractive.



Above you see three boat interiors. Which one of these interiors is...

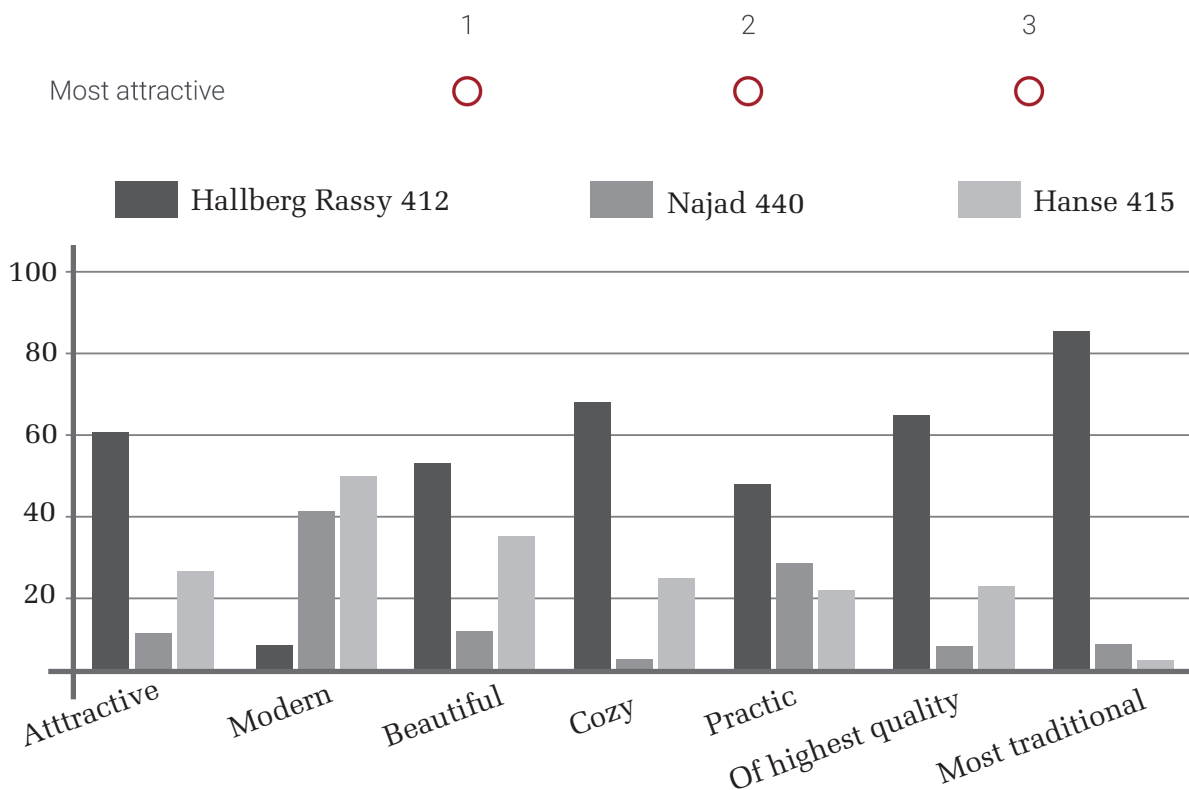


Figure 11: Result from interior survey question.

Functions

A boat interior layout consists of many different functions, there are basic functions such as a washing-sink, fridge and lockers. For some functions the objective is to increase the comfort in the boat, for example a television or a wine cooler. In the survey, the appreciation of a range of comfort functions was investigated in order to find out what functions should be incorporated in the new interior design.

Storage dedicated for wet clothes is the most appreciated function together with handrail within the whole saloon. TV and multimedia station is not considered to be a necessity according to the respondents. Port light in the hull, navigation station with a seat and shower cabin in the toilet are functions that the users do not respond unified to.

Down below you will find a list of functions that you can find on many sailboats. Drag and drop the functions in to the square with the headline you think corresponds to that very function.

Items	I would not buy a boat without it.	Good to have.
Navigation station with separate seat.		
Shower cabin in the bathroom.		
TV or multimedia station.		
Handle with in reach throughout the entire saloon.		
Hull windows in the saloon.	Unecassary.	I don't really care about it.
A place that is dedicated for wet sail gear.		
A bowsprit.		

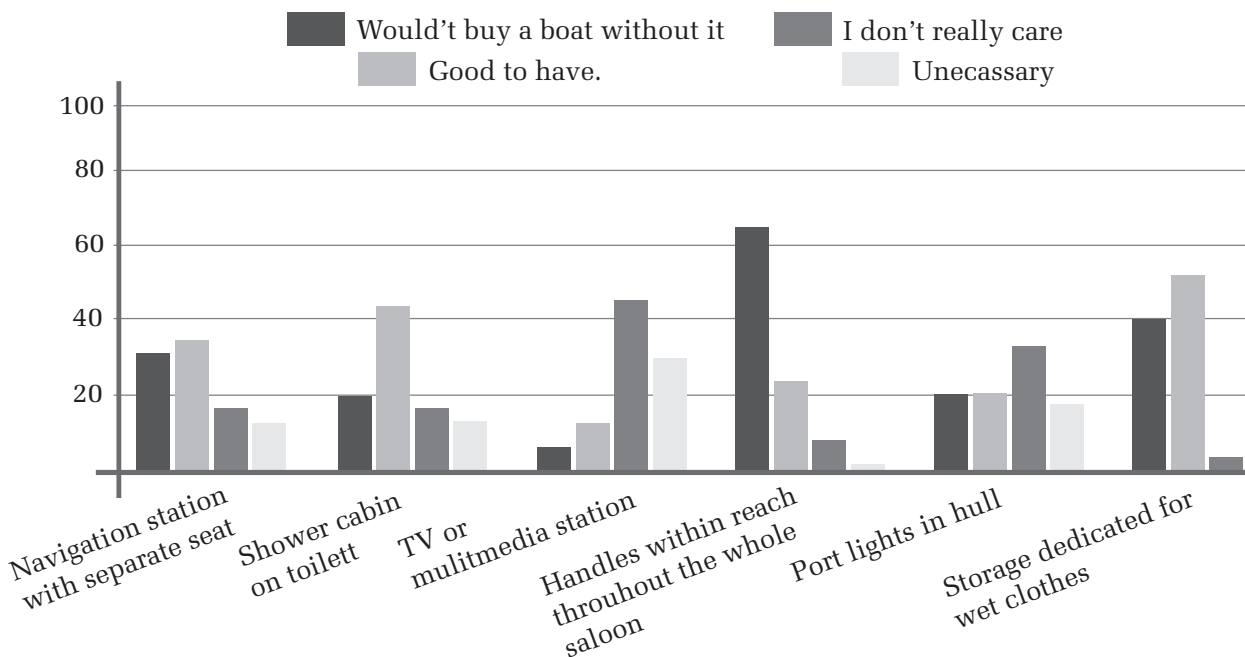


Figure 12: Result from interior survey question.

4.2.3 USER STUDY

From the interviews and observations carried out in the user study, a range of quotes was derived. In order to analyze the data, the KJ-analysis method was applied using the gathered data. Each one of the quotes were written down on post-it notes, clustered together in themes forming groups of quotes. The groups formed were then given a subject, doing so generated a holistic view over the users thoughts and needs.

Five groups/themes of quotes were derived from the KJ-analysis:

Storage of wet clothes

Where and how to store wet clothes in the boat was an issue many of the interviewees had been thinking of as a problem.

Sailing context

The boat layout does differs from were it is meant to be sailed, since the context varies a lot depending on which area you sail in.

Move a round in rough sea

Moving around in the boat when out on the water is not an easy task according the users, at least if you are on a modern boat. Boats built in the 70's or 80's the interior is more suited to those circumstances, many of those boat has handles reachable in the whole saloon.

General interior thoughts

This group contains abstract quotes regarding interiors. Many quotes are connected to the material of interiors, making it evident that material selection is an important thing to

considered when designing a boat interior. The users did also express thoughts regarding the feel of the interiors; they did not like interiors that reminded them of a regular IKEA kitchen or a caravan. Instead the appreciated interiors that were those who had a more crafted feel.

In sum, it is important for the customers that the boat is built for the context they are sailing in, many issues can be derived from it; storage of wet clothes, material selection, moving around in the boat. These insights made it obvious that it is important to know whom you are designing for, what are they going to use the boat for? Cruising? Competing? Where will the boat be used? Are rough seas common? Is there a lot of rain?

Statement cards

A KJ-analysis is an extensive method to carry out, ending up with a sea of clustered notes, which is impossible for a second part to fully understand. In order to be able to present the findings from the KJ-analysis the result were summarized in statement cards, one of them can be seen in figure 13, all statements card can be found in appendix 3.

The statement cards were primarily made for communicating with the company during the user study presentation.

“the most of the boats there is made for charter”

Many of the boats on the swedish boat fair are not suited for nordic climate

Figure 13: One of the statementcards made.

4.2.4 PERSONAS

When summarizing the user study, it was obvious that knowing what user group the re-design of the Najad 415p were aimed for will affect the design process. The specialist in the area, the company representatives, they know who buys their boats. Although, it is known that non-designers, such as the representatives, are not trained to communicate what users group their customers belongs to. Therefore a set of personas was prepared before meeting the company to easier assess their knowledge regarding their customers, see figure 14.

Presenting the personas to the company lead to a long discussion regarding whom the actual buyer is. Franco and Maria was not one of them. Lars and Gunilla did match the general Najad buyer with the exception that Najad buyer usually do not dream of sailing far way. The typical Najad 415p buyer matched best

with Erik and Nina, if their age were +40 with kids roughly 15 years old.

The discussion made it clear what type of user the project was aimed for, and the personas Erik and Nina was updated to match the input from the company.

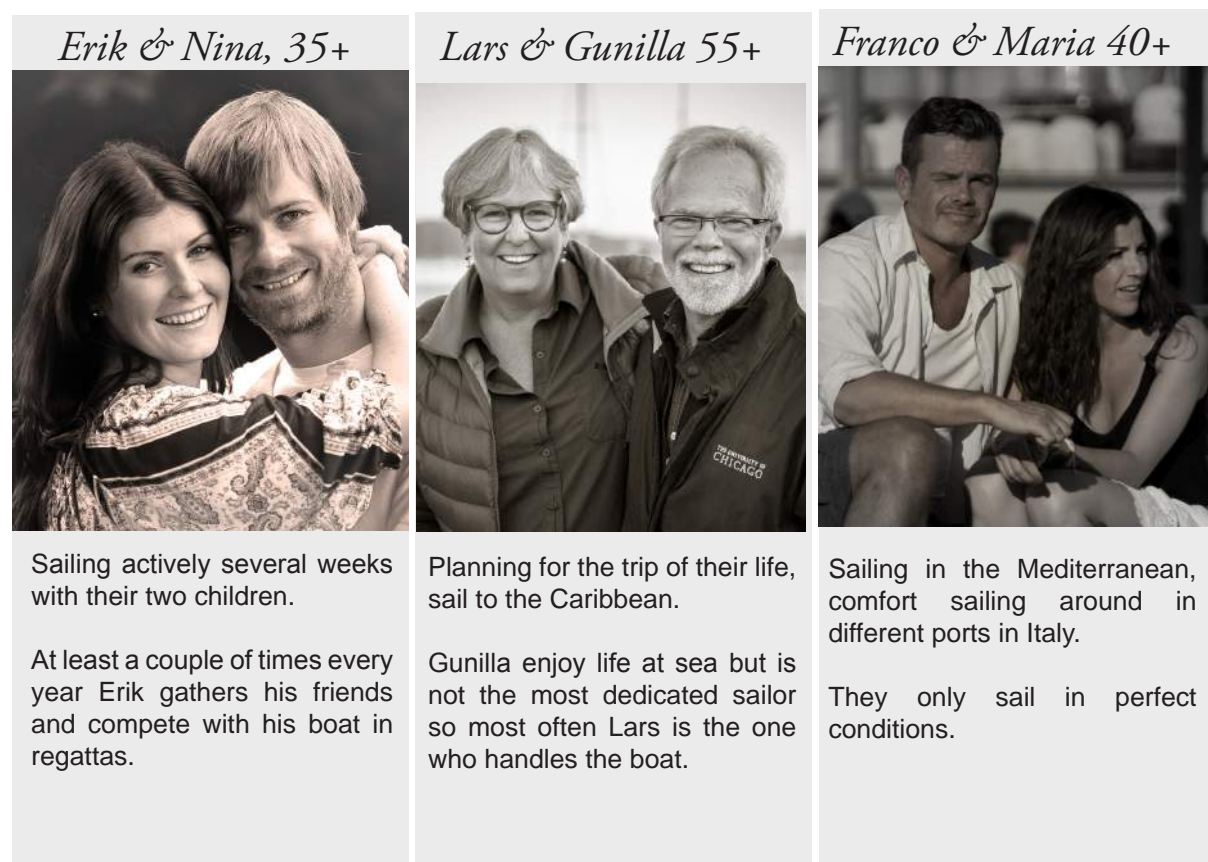


Figure 14: The three couple personas

4.2.5 BOWSPRIT

User needs

During the visit at the boat show "Allt för Sjön" users looking at bowsprits were interviewed and observed, for more information see section 4.1.1. The insights gained are listed down below. Note that these insights are not further examined in order to prove if they are correct statements/observations. They are solely insights gain during visiting boat shows.

- It is hard to get the bow ladder up if you are on the boat.
- It is hard to get the bow ladder out if you are on the boat.
- A bow ladder should have a wide angle to the bow, it makes it easier to climb it then.
- At times the ladder tends to slide up when walking on it.
- The bowsprit should be wide enough so it easy to put your foot on it.
- Handles on the side of the bowsprit make it much easier to climb it.
- Two steps on the ladder is usually enough.

List of requirements

The above mention demands were then listed in a more structured way using a list of requirements. Requirements occurring during meeting with the company are also a part of the list, the entire list of requirement can be seen in appendix 4.

Main parts

In order to get a holistic view over bowsprit design, the design were split up in the main parts, all essential for the bowsprit.

The main parts are:

1. Bow ladder
2. Anchor mount
3. Bow mount
4. Handle

In appendix 5 the split up bowsprit are represented in a sketch, note that this approach main were used to get a better understanding of what parts a bowsprit consist of.

List of Requirements Bowsprit

Facilitate	boarding and alighting
Counteract	unfolding of the bow ladder during boarding/alighting
Consent	easy folding/unfolding of the bow ladder
Provide	a wide footstep
Provide	handles for alighting
Enable	mounting on the Najad 370p and 415p
Enable	unleash and hauling of the anchor
Provide	mounting for a 16 kg Delta anchor

Figure 15: Withdraw from the list of requirement.

4.2.6 PORT LIGHT

In contact with port light manufacturers important limitations and opportunities regarding the design were derived. Focus were put on modern port lights (long port lights mainly made out of Plexiglas) see figure 16. More traditional port lights with metal frames are considered by the company to be a thing of the past. They want to incorporate this new, more modern, long port light in the Najad 415p. Therefore metal frame port lights were not examined in this project.



Figure 16: Modern port lights.

Modern port lights consists of two main parts, a frame and a window, see figure 16. The frame is mounted in the hull and the window is attached to the frame with a hinge. There is two different way of mounting the hinge, either the hinge is put on the inside which enables the window to open inwards, or on the outside making it possible to open the window outwards. Explorative sketching was carried out the fully understand how these different windows is constructed, see appendix 6.

Both alternatives have advantages and disadvantages. Opening the window inward does not intrude the space on the deck. The deck side is narrow and a window does occupy valuable space. Although, opening the window inwards does require splitting up the window, creating a gap in the glass. This gap needed to be properly sealed and sealing is hard in sea environment. Salt and sun often makes seals brittle and sooner or later they starts to leak. A major disadvantage for the inward design principle.

Opening the window outwards does intrude the deck space, but the design freedom is greater due to that the window do not need to be split up. The seal can be protected from salt and sun on the inside of the window. An open window does not let the rain in so the design is better from a

water protection point of view. During a meeting at Najad it was discussed what technical principle, inward- or outward opening, would be most favorable. The simplicity and reliability of the outward principle made it a solution that was considered to the most favorable and a decision to work further with that was made.

Today Ö-Metall manufactures the port light for Najad 440 AC, due to problems with leaking seals, it was considered to be interesting to investigate other potential manufacturers. Lewmar is a well-known manufacturer of traditional port lights, they have come a long way in the development phase of modern port lights but they had no drawings ready for examination. BSI marine is an other port light manufacturer that provides the Danish sailboat brand X-yachts with port lights. Via e-mail, drawings were sent of the one of their existing port lights. The drawings gave enough information about the modern type of port light to start the ideation process, which manufacturer that will be most suitable was put on hold as it was not necessary in order continue the developing process.

4.2.7 SUSTAINABILITY ANALYSIS

Optimize function/Minimize impact from usage

Najad boats are sailing in various conditions, from freezing climate in the artic to tropical climate in the Caribbean. Therefore is it not unusual with boats equipped with diesel heater or air condition system aboard. If the ventilation system and isolating in the boat would be designed in a more efficient way the need/usage of heater and air condition system could be kept to a lower level.

Minimize material usage

Boats are built using mainly two types of materials, wood and thermosetting polymers, e.g. polyester. The wooden materials used in Najad boats is mostly exclusive wooden materials, mainly teak and mahogany imported from South East Asia and South America, which requires long distance transportation. It takes approximately 25 years before such trees are ready for harvest, and the trees are in many places a part of the valuable rainforest. Therefore the minimizing the material usage or even use another more sustainable type of wood is desirable.

A more efficient way of using materials used building boats are not just valuable for the environment but also for the company, hard wood from the rainforest are expensive. There is great potential to minimize material usage if sustainability and efficiency is introduced early on in the design process. Here are some potential areas where the efficiency could be increased:

- Locker dimensions fitted to the standard dimension of wooden sheets.
- All CNC cut outs planned with efficiency in mind.
- Lipping and other details design to be suited within standard dimensions.

Optimize the material selection

Mahogany and teak are wooden materials most frequently used the boat industry, especially amongst boat brands in Sweden.

The world biggest exporter of teak is Burma. Burma has been accused for harvesting rainforest, in order to export teak (Winn, 2010).

Honduras mahogany is the only species of mahogany grown for commercial use today, the usage of mahogany is controversial due to the extensive illegal logging taking place. Therefore it is interesting to look into what other potential wooden material, with similar properties, that could be used with lower environmental impact.

The wooden materials used for boat building has special properties making the usage so widely spread in the business. The main property that makes teak so useful is the high oil content making it water resistant, perfect for use in environment with high humidity. Another wood spice with similar properties are Iroko (Sozo Copywriters, 2013)

Mahogany has excellent workability and is resistant to rot. Two properties that make it perfect for boat building, replacements spices could be Spanish cedar, Sapele, Utile. (J. Gibson McIlvain Company, 1999)

The following steps in the Ecostrategy wheel were considered to be very extensive and very hard to make an accurate analysis for them. Therefore they are not applicable for this project.

Optimize lifecycle length
N/A
Optimize production
N/A
Optimize waste material
N/A
Optimize distribution
N/A

Chapter

5. BRAND ANALYSIS

In this chapter the very core of the brand Najad will be examined. Especially the visual characteristics and details defining the brand will be thoroughly investigated. The company history and the brand heritage are also key factors in order to fully understand the foundation of the Najad brand and are therefore a part of the brand analysis chapter.

5.1 APPROACH AND IMPLEMENTATION

5.1.1 SURVEY

The survey questions used in the brand analysis were in the same survey described in the chapter 4 research and analysis, for more information regarding the survey, see section 4.1.6

5.1.2 DESIGN FORMAT ANALYSIS

The Design Format Analysis (DFA) was carried out using posters as meditating objects. The mediating objects used consisted of three A0 posters displaying the Najad's present boat portfolio together with five A3 posters displaying all the boat models built by Najad within 38-41 feet range, the posters can be seen in appendix 7.

For the first and second step in the DFA method was applied separately on the present boat portfolio and the past boat portfolio due to the major variations in the interior design between the two. In the fourth step, the format assessment, the results from the both were merged together.

After the completing the fourth step in the DFA, the visual elements with highest rating were suspected to not be characteristic for Najad boats but also characteristic for sailboat in general. If so, the high score visual elements would be useless in the work of creating an interior with a Najad feel to it.. In order to eliminate the visual elements common for sailboats in general a fifth step in the DFA were invented.

The new fifth step included applying the format assessment (fourth step) with the same visual elements on boat models from competitors (Hallberg-Rassy 412, Hanse 415, Bavaria 41, Arcona 430). The result from that was then subtracted from the Najad format assessment (fourth step), doing so eliminated the risk of arriving with visual elements that was common in sailboats in general and instead the result where solely characteristic for Najad.

5.1.3 HERITAGE ANALYSIS

The heritage analysis was carried out mainly by visiting Orust yards websites, Hallberg-Rassy and Malmö, and examine their boat models. Older Najad boats were also thoroughly examined and compared to boats from other Orust yards. To some extent the heritage analysis is based on the lecture "Orust boat building country" held by Torbjörn Andreasson during the boat show in Gothenburg.

The author/designer in this thesis project is born and raised on Orust and his father has been working at one of the Orust yards for over 30 years, which has given exclusive insight in the boat building heritage connected to the yards and the island.

5.2 RESULT

5.2.1 SURVEY

COB-web

The core values for the Najad brand are Quality, Comfort, Safety, and Performance. How well these values correspond to the brand was considered to be interesting to examine. In the survey the respondents were asked to grade how well the core values suited the Najad brand, the question can be seen in figure 17. Note that “innovative”, “traditional” and “modern” were added to the question in order to find out if the users relate to the older traditional Najad brand or the newer modern Najad brand. The core value Safety were not included in the survey as it was not a core value with a weak connection to visual appearance of the brand.

The result was presented using a COB-web, see figure 18. Analyzing the figure you can see that Quality, Comfort was shown to be core values with strong connection to the brand, whereas the core value Performance showed weaker connection.

Historically the Najad brand has had a strong connection to the Orust yards, these yards has a reputation of building strong and durable boats with high quality and comfort. Boats made for

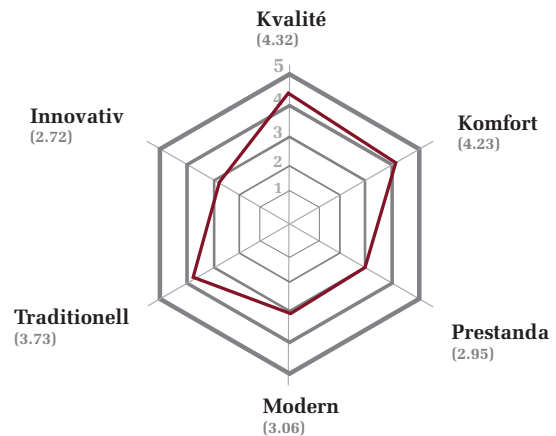


Figure 18: COB-WEB

sailing the big seas, more information regarding boat building heritage, see section 5.2.4.

The core values Quality and Comfort, should therefore be highly associated to the brand due to that is a part of the brand heritage, and the result from the survey reinforce that statement. Performance has not been a core value for the Najad brand for as long as Quality and Comfort, which is reflected in the COB-web. In order to incorporate Performance in into the brand, Najad needs to continue working deliberately with the performance feel of their model portfolio.

On a scale from 1 to 5, how well does the statements below describe the brand Najad?

1 means not at all, 5 means very well.

	Not at all.					Very well.	
	1	2	3	4	5		
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
Comfort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
Traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
Innovative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		

Figure 17: The question generating input for the COB-WEB

The COB-web does also reinforce the statement that there is a divergence between traditional and modern within Najad's past and present model portfolio, see DFA step 1 in section 5.1.2. Modern and Traditional are contradicting expressions and should therefore end up with results that differs from each other if the brand is coherent. Although the results are closely connected, 3.06 and 3.73 respectively. Brands should strive for a coherent product portfolio in order to be successful due to that costumers easier recognize the brand if it is coherent. (Hestad 2013)

Perceptual map

The Najad brand is a brand with a long history and is very well recognized amongst boat owners all over the world, probably one of the most well known boat brands in the world. Although, the bankruptcies occurred the last years has caused damaged to the brand. During the same period other newer sailboat brands has increased their market share. Therefore it was found interesting to look into how the Najad brand was perceived in relation to their competitors.

In figure 19 you can see the question that generated the results. Identical questions were asked for all the brands in the survey together with a picture displaying a boat within 40 feet from the brand in question.



Above you can see a picture of a Najad boat.

Down below there are two pair of words, they are counter words. Click where you find the brand fits best between the words.

Traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Modern
Basic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Luxerious

Figure 19: The question generated input for the Perceptual Map

The users were asked to fill in, on a scale from 1-5, how luxurious vs. price worthiness and traditional vs. modern the brand is perceived. The result was visualized in a perceptual map, see figure 20.

Analyzing the perceptual map gave an idea of how the different brands relate to each other and in return conclusions could be made. The Najad brand is perceived to be the most luxurious brand together with Hallberg-Rassy, it is also perceived to be more modern than Hallberg-Rassy.

In conversation with the company they expressed that this is in line with what they aim for. In fact, before presenting the map for them they were asked to point out where they want to end up on it. It turned out to be the very same spot the brand popped up in. The general conclusion is perception of the brand do correspond to the company's aim.

The intended customers/user varies from the different sailboat models in the Najad's boat portfolio. Intended usage and area of usage are examples of things that differs amongst the users, the most evident separation within the user group is the age. Therefore the perceptual map was split up the age of the respondents' into account, the result can be seen in figure 20.

Two conclusions could be made using this chart. It is rather evident that older users perceive sailboat brands as more modern than younger users. Brands that are perceived price worthy are considered to be more luxurious amongst older users.

The usage of modern and/or luxurious elements in the design should therefore be made with the intended users group and this result in mind.

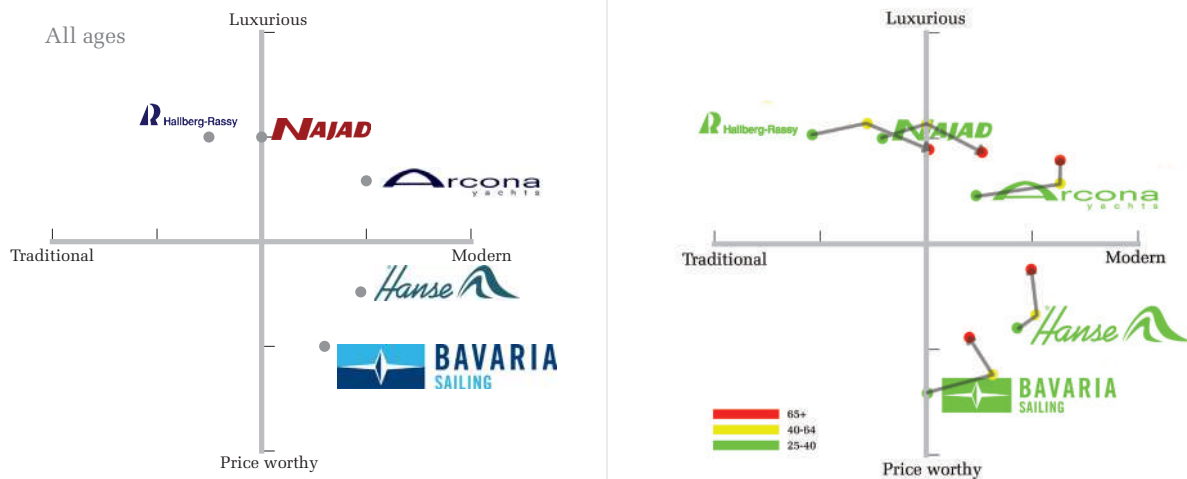


Figure 20: The perceptual map, to the left all ages, to the right ages are split up.

5.2.2 DESIGN FORMAT ANALYSIS

Step 1, Element identification

Identifying the commonly used elements in the Najad boats ended up with two bunches of papers with sketches of visual elements propositions, one with the older boat interiors in mind, the other with the present boat portfolio in mind. The propositions fitted in most boat models were then picked out and used in next step.

Step 2, Element Ranking

The element ranking were done separately for the two portfolios. Photos of the elements generated in the first step were put together in a matrix in order to carry out the ranking, see figure 21. In total there were seven older visual elements and eight newer elements. Ranking the elements gained insight of what element is most frequently used in Najad boats, top four from the two element rankings matrix were used in step 4.

Step 3, Element typicality

This step includes counting the “typicality” of the visual elements within a product family (Warell, 2006). The Najad product portfolio could be seen as a product family of boats, and the third step should include counting the occurrence visual elements within the product family. Although this step was not considered to generate more insight of which visual elements that defines the brand. Therefore, this step was skipped.

	Contrast Nav.station-Saloon	Bent stair steps	Handles in steel	Recess under lockers	Multiple angles in a row	Flush lipping	Well defined splitlines	Simple lipping
Contrast Nav.station-Saloon		-1	-1	-1	-1	-1	-1	-1
Bent stair steps	1		1	-1	1	-1	1	-1
Handles in steel	1	-1		-1	1	1	1	-1
Recess under lockers	1	1	1		1	1	1	-1
Multiple angles in a row	1	-1	-1	-1		-1	1	-1
Flush lipping	1	1	-1	-1	1		1	-1
Well defined splitlines	1	-1	-1	-1	-1	-1		-1
Simple lipping	1	1	1	1	1	1	1	
Sum	7	-1	-1	-5	3	-1	5	-7
Relative sum	14	6	6	1	9	5	12	0
Weight	1	0.43	0.43	0.07	0.64	0.36	0.86	0
Rank	1	4	4	7	3	6	2	8

Figure 21: The element ranking of newer Najad boats, note the ranking in the bottom of the picture

Step 4, Format Assessment

15 visual elements, and 9 Najad boats were used as input for this step, see figure 22. The boats used are all the Najad boats manufactured within the range of 37-41 feet plus all the boat in the present product portfolio. The appearance of each visual element for the different boat models were then analyzed, a weak appearance gave one point (represented with a ring) and a strong gave two points (represented with a filled ring), if the visual element was not present at all no points were distributed.

Three boats, the Najad 440 AC, 410 and 505 got the most points and therefore got the strongest connection to the brand. More interesting for this project were the outcome of what visual element defined the brand, as they

will be useful when entering the ideation phase of the project.

Six visual elements were distinguish and the ones that carries the brand visually:

- Stair with curved steps
- Multiple angles in a row
- Flush wooden lipping
- Veenér lipping
- Overhanged lipping
- Lipping variations

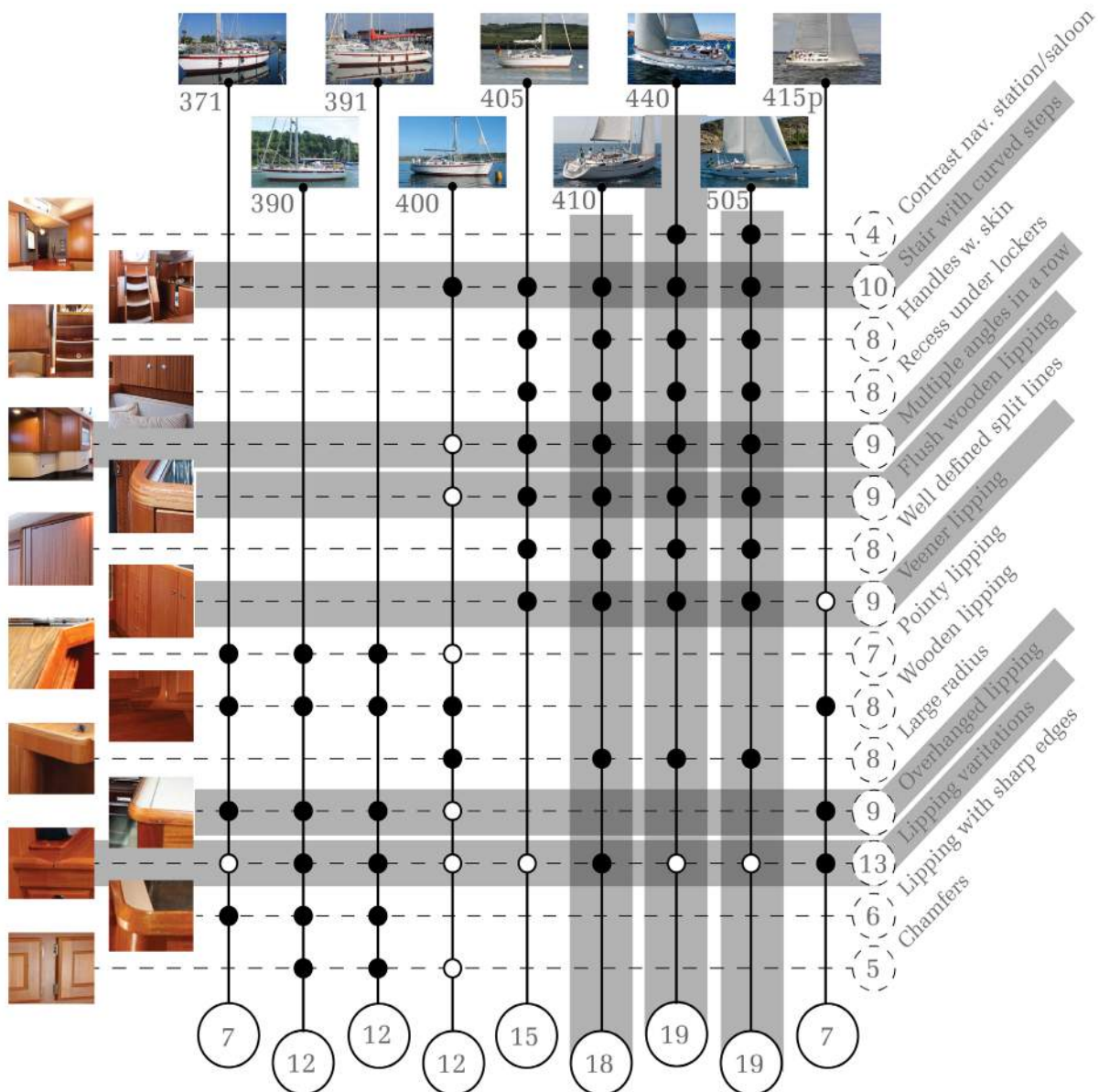


Figure 22: Step 4, the format assessment

Step 5, Format Assessment Competitors

The format assessment process was carried out once more to eliminate visual element sailboat interiors in general, see figure 23. From step 4 two of the visual elements were eliminated.

Finally these visual elements were considered to define the Najad brand:

- Stair with curved steps
- Recess under lockers
- Multiple angles in a row
- Flush wooden lipping
- Overhanged lipping
- Lipping variations

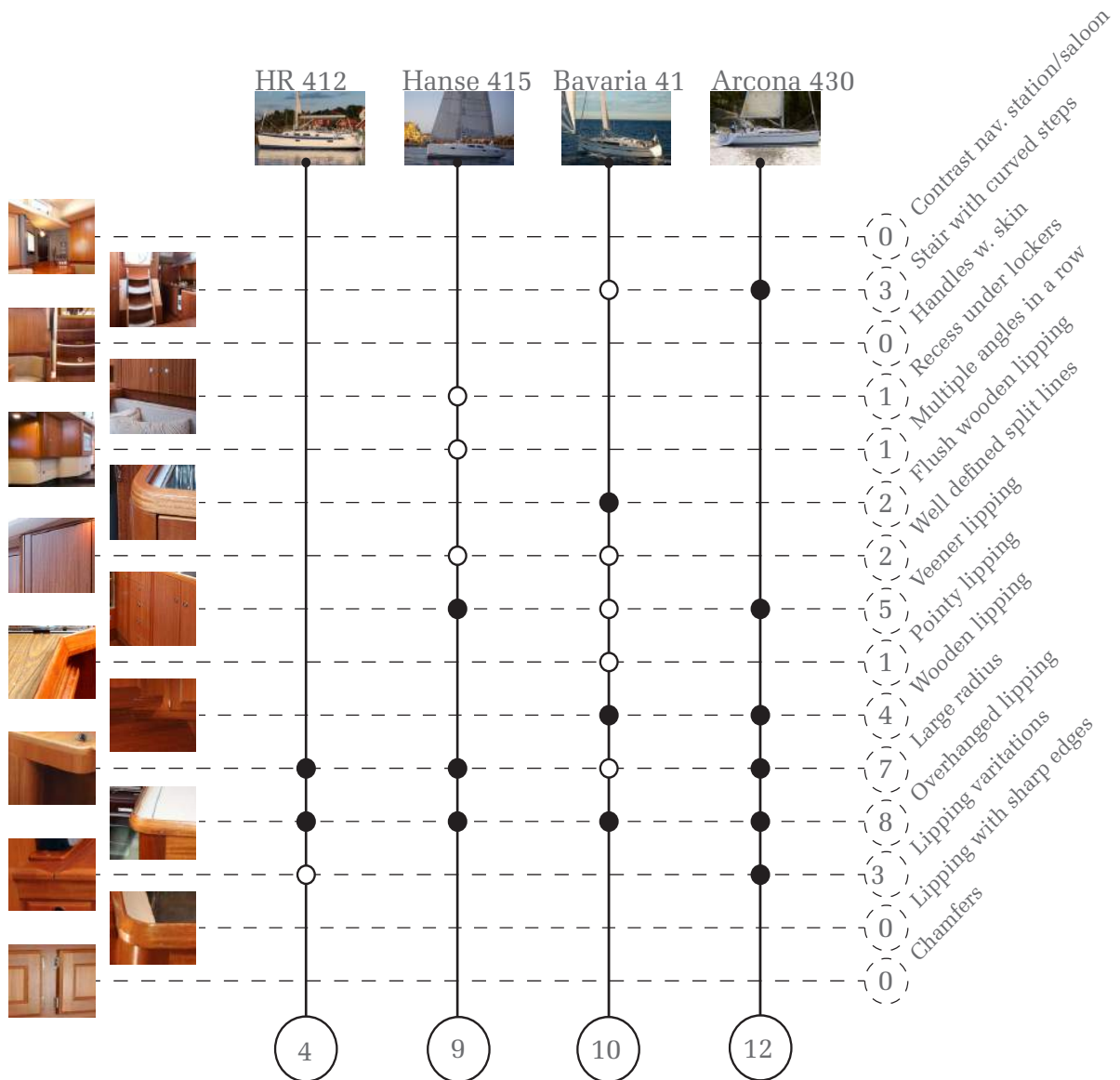


Figure 23: Step 5, format assessment using boat models from competitors

Styling History

Studying the format assessment outcome made it evident that the visual elements from the past and present boat portfolios varied extensively, see the cluster in the upper right corner and lower left corner in figure 22. In order to showcase the gap between the two, a styling history diagram were made, see figure 24. In the diagram there is a chasm between the past and present sailboat in the Najad family. Recognition is an important factor when building a strong brand (Warell, 2013). A chasm in the product portfolio makes it harder for the

users to recognize the brand and therefore they cannot relate to core values of the company. An important task in this project will be to fill the chasm and create a design that has stronger connection to the brand and the core values.

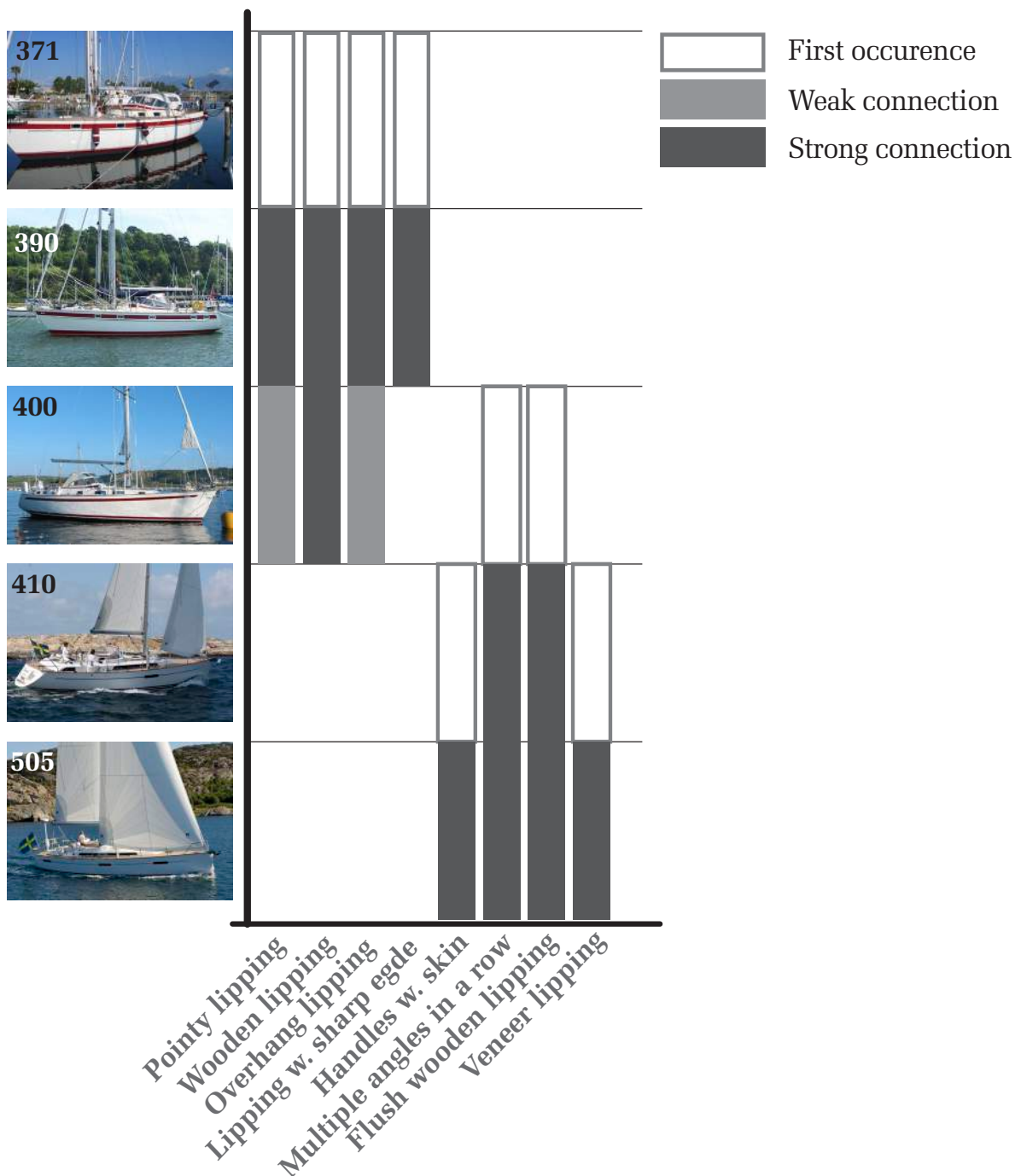


Figure 24: Displaying the styling history of Najad boats, note the chasm in the diagram.



Figure 25: Brochure from the launch of Najad 34 in 1978

5.2.3 HERITAGE STUDY

Boat building history on Orust can be tracked back to the 18th century, over the last 50 years the business has changed more rapidly than ever. In the 60's, the thermosetting polymer revolution started, more commonly known as the plastic revolution that enabled industrialization of the boat building process. At the time there were around 80 wooden boat building companies on the island, many of them were forced to shut down when the industrialization change the industry, others changed focus from boat building to building boat interiors.

Boat builders on Orust were reluctant to the new plastic material, they thought it was "dirty work" due to the harsh smell from solvents used. Therefore many companies outsourced the plastic work to companies around Smögen and Lysekil, specialized on plastic production, to keep the workers happy. The yards on Orust instead focused on building wooden interiors. Over time the interiors got more and more exclusive, creating a reputation, saying that Orust build boats are of the highest quality possible. (Melin, 2013)

Next major change in the boat business on Orust occurred in 2013. The effect from the economical crisis was extensive, in a couple of years half of the jobs in the industry had vanished. Although, the crisis affected the companies differently.

"It is probably no coincident that the companies owned by investors from outside Sweden got struck hardest. Najad went bankrupt, Malö are under reconstruction, at time same time as companies own by people with their roots in the boat building environment handled the crisis better."

Lars Nyström, industrial history researcher.

The reputation and boat building heritage is of great importance for the Orust yards, including the Najad brand. In 2007 Najad were bought by a Dutch investors, a lot of money where spent on new design. The new Najad boats had a much more modern look, both on the outside and on the inside. The design ideal was changed and it was hard to tell that the new Najad boat actually were Najad boats, for example, the classic red hull line that had been one main characteristics for many year were gone. On the inside, the lockers in the saloon and the galley were made simplistic, using only veenér lipping. Traditionally the interior of Najad boats had a feel of being crafted very carefully, that feel was now gone. Instead the interiors were made more simplistic and modern way, a feel that more connected to sailboats from the Mediterranean rather than sailboats from Orust.

During the same period of time, Najad's main competitor, Hallberg-Rassy, started to modernize their boats. Their approach although were different, instead of making the interior simplistic, they embraced the crafted feel in the new interiors. They did also abandon the classic "mirror" locker just as Najad did. The new locker design had a modern look but it kept the crafted feel.

The brands was hard to separate visually for a long time, as can be seen, figure 26 and 27, the lockers in the galley is almost identical. After the companies modernization process the separation between the interiors is evident, see figure 28 and 29.

Which one of these different designs strategies that were the best is impossible to tell, both strategies have their advantage. Potentially Najad would encounter bankruptcy even with the design strategy used by Hallberg-Rassy. Although, from a theoretical brand strategy point of view keeping the design close to the brand heritage, retaining recognition amongst the customers are the most favorable strategy. (Hestad 2013)



Figure 26: Traditional Najad interior



Figure 28: Modern Najad interior

5.2.4 CONCLUSION

During the rough years of bankruptcies the Najad brand were damaged, and the company has just starting rebuilding the brand. With the knowledge from the brand analysis and user study generated, the conclusion regarding the rebuilding of the brand is generally that the brand needs to find a way back to a coherent and substantial brand identity/story.

Inputs from different sources reinforce that statement.

User Study

The users said they like a genuine interiors with a crafted feel. The interior of the Najad 440 AC was denoted as hard to identify. See section 4.2.3

Survey

In the survey the users found the most traditional interior to be the most attractive one. See section 5.2.1

Brand Strategy Theory

The theoretical brand strategy studied states that keeping the design close to the heritage are an advantage. Keeping the brand coherent is also an important part of creating a successful brand. See section 2.3 and 2.4.



Figure 27: Traditional HR interior



Figure 29: Modern HR interior

Chapter

6. IDEATION

In this chapter the reader can follow the creative process of this thesis project, from loose sketches to more defined ideas. Finally, the discussion followed from the ideation presentation is described, in which the path for the project were pointed out.



Figure 30: Co-creation session using the 3-6-5 method.

6.1 APPROACH AND IMPLEMENTATION

6.1.1 MODELING

A Capaboard-model in scale 1:10 was built in order to get a feel of the volumes inside of the boat. Pictures of the model interior also made great underlays for ideation sketching.

6.1.2 CO-CREATION

In collaboration with other design students from the faculty a CO-creation session were carried out (see figure 30). Brain Drawing in combination the 3-6-5 method, were the creative tool used. In order to facilitate the creative process, mediating objects containing pictures of boat interiors and port lights were handed out.

6.1.3 SKETCHING

Sketching methods were used extensively in order to explore various technical solutions and potential designs. A range of different sketching techniques was carried out during the ideation process, the techniques used were; markers plus felt pen, monochrome pencil sketching and digital sketching on a Wacom companion using Photoshop and Sketchbook Pro.

6.2 RESULT

6.2.1 BOWSPRIT

The starting point for the ideation process was based on the insight that the bowsprit should consist of four main parts as stated in section 4.2.5. Different ways to combine the parts and potential materials were explored. Of course various shapes of the bowsprit also were in focus for the ideation phase.

The exploration sketching during the ideation phase ended up with two main ideas that was refined and presented for the company, see figure 31 and 32. Earlier sketches can be seen in appendix 8.

The first idea was to design a bowsprit with similar construction to the existing one but instead of using pipes as the main construction element, flat bars made out of stainless steel were used, see figure 31. The main idea behind this was to create a more simplistic and sleek design. The existing design is able to fit a range of different boats this solution were considered to fulfill that demand to.

Laminated polyester in combination with a steel plate were used as the main construction elements for the second idea presented. The idea was to design a steel plate fitted exactly to the bow of the different boats, then a plastic part should be slid on to the steelplate, see figure 32. There are two main plastic parts in this concept. The inner part is designed to fit the specific bow, and the outer part could be used for all boats.

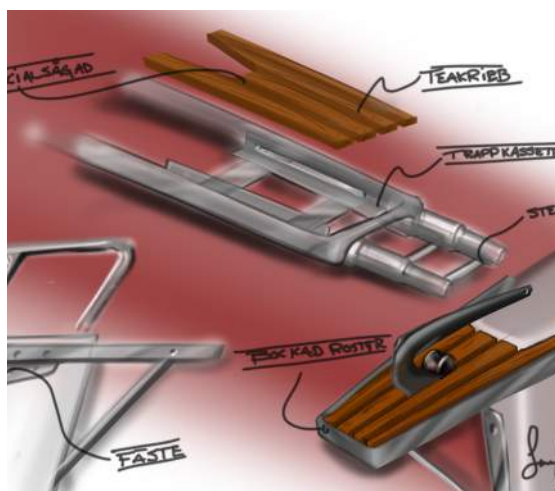


Figure 31: Bowsprit concept: flatplate

Presentation and feedback

A discussion followed the presentation of the two ideas, a misunderstanding were soon revealed. The ideation process was carried out with the assumption that the bow of the boat could not be changed, but that was not the case. An additional core, also called punch, could be added to the mold, which enables a design that are integrated in the shape of the hull. The company explicitly expressed that they do prefer a bowsprit that is well integrated in the hull, that knowledge were brought back to the drawing board and use in the concept generation process. Splitting the bowsprit in two separate parts was an appreciated idea and was kept in mind for further exploration.

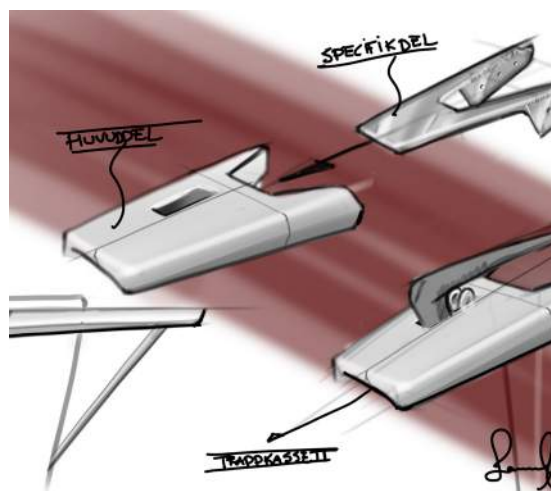


Figure 32: Bowsprit concept: plastic

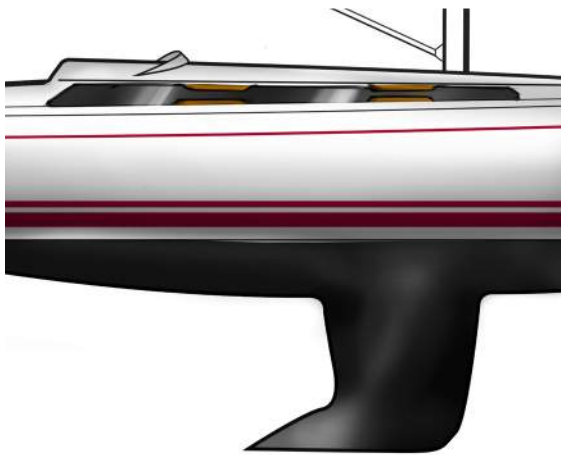


Figure 33: Bowsprit concept: flatplate

6.2.2 PORT LIGHT

The exploration and ideation process for the port lights mainly regarded the shape of the port light. Many sketches and iterations within potential shapes of the port lights were create, see appendix 9. Combinations of materials within the port light, were also a part of the ideation process. Combining different materials with Plexiglas, elaborating with for example teak or stainless steel in order to make the design more interesting was the main focus.



Figure 34: Metal concept

Presentation and feedback

Four different ideas with different material combinations where presented for the company. However, the ideas did not impress them, they though the problems with such a new construction would be to hard to overcome and demand to much work.

Instead they gave more attention to some simple ideas made early on in the project using illustrator, see figure 35. The idea of having long port lights covering a long distance of the hull did catch their attention.

The idea of combining materials were put in the trash, and the work to find the perfect shape of a long port light started.

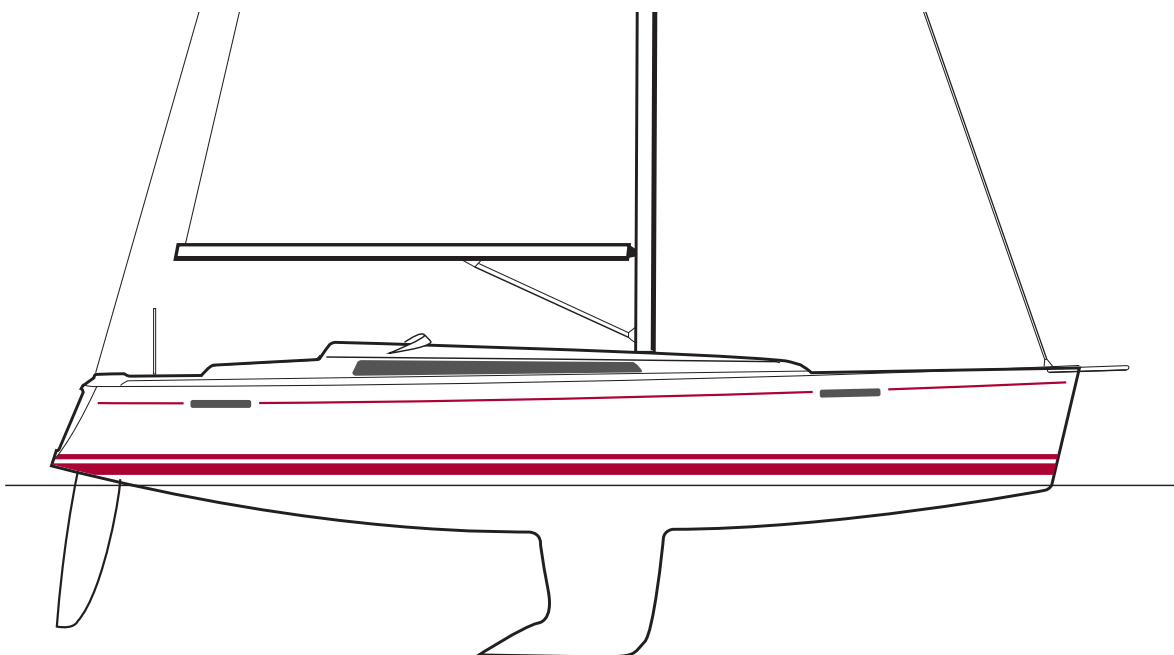


Figure 35: Long port light concept

6.2.3 INTERIOR

The ideation process for the interior part of the boat could be divided into three parts, first off, exploring with the visual elements generated from the Design Format Analysis (DFA), Co-creation session, and at last all the insights were summarized into presentation sketches.

From the DFA, eight visual elements defining the Najad brand were derived. Starting to

sketch with those elements on top of mind quickly generated a whole range of ideas, the ideas were summarized in three “galley concepts”, see figure 36, 37 and 38.

Carrying out the Co-Creation session resulted in 75 unique ideas, the best ideas were then summarized in two A4 pages, one page with locker design ideas and one with drawer front ideas, see appendix 10.

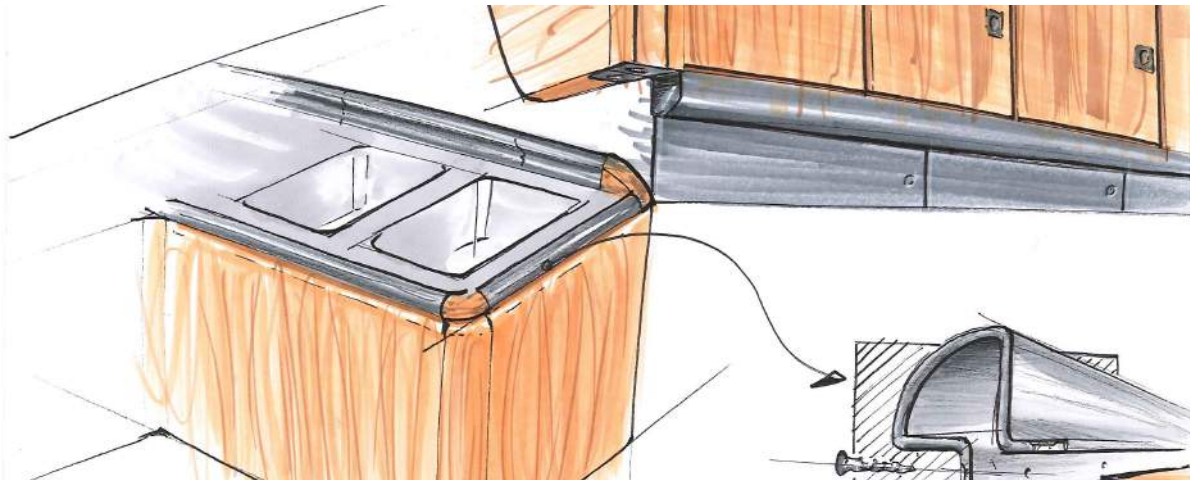


Figure 36: Concept Performance galley

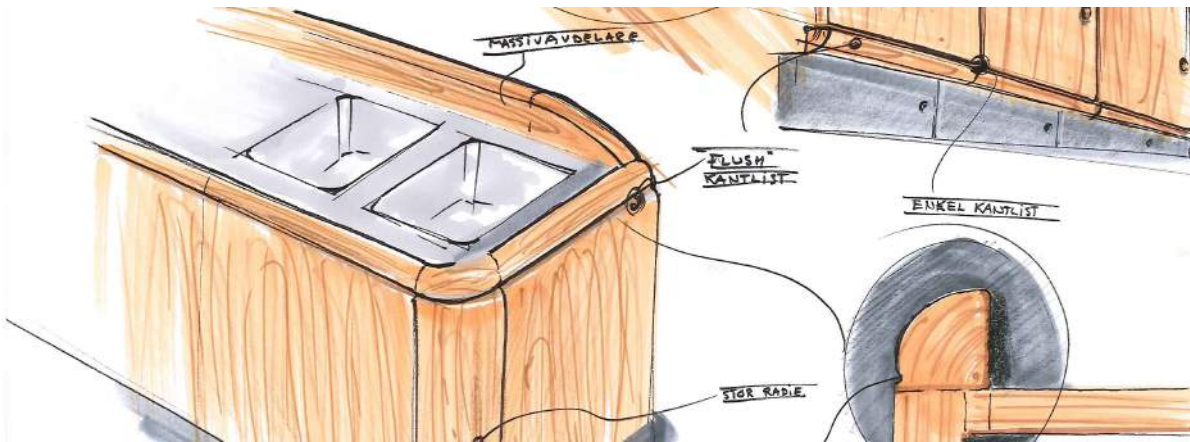


Figure 37: Concept Najad galley

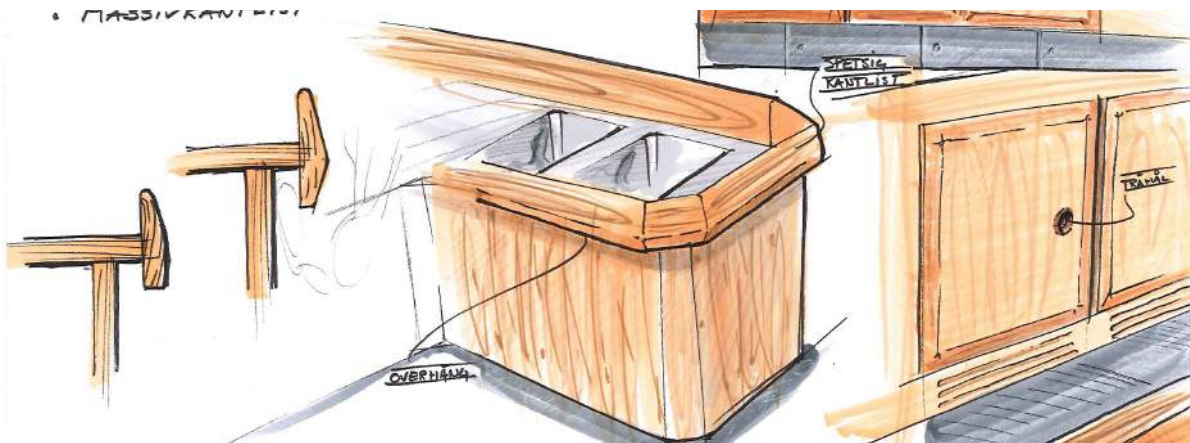


Figure 38: Concept Traditonal

Before the presentation for the company, the ideas from the co-creation session were sketched in different layers in a Photoshop document within the galley of the boat. By turning on and off different layers different generated various concept galleys.

All the layers within the Photoshop document were put in a morphological matrix, the rows in the matrix contained different ideas for a specific part. For example, the first row contained four different lipping ideas, see figure 39.

Presentation and feedback

The idea was to use the morphological matrix after presenting the ideas, so decisions regarding what ideas to go further with could be made using the matrix and finally end up with a number of concepts to continue working with.

Although, the discussion got stuck and the plan had to be changed rapidly, instead of creating new concepts using the morphological matrix it was used as a mediating object. Questions regarding the company’s opinion concerning specific ideas were discussed using the matrix instead of generating concepts. In the end the questions that was brought to the presentation were answered and gave important input for the design process.

The decision to only present the ideas within the galley were taken since it would be to much work to sketch all the new visual elements in all parts of the boat. At the same time, it was considered to be easier to grasp the ideas when presented within the same place in the boat. The plan was to use the input from the company to make decisions regarding what ideas to continue work could be made and then apply these to the rest of the interior.




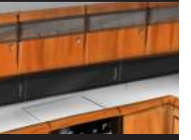












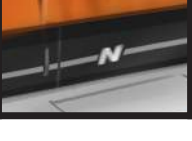
Lockers/Drawer fronts				
Knobs/Handles				
Bench Color				
Sliding doors				
Logo in interior				

Figure 39: Morphological Matrix

Chapter

7. CONCEPTS

After the ideation phase the feedback from the company was brought back to the office and the concept phase started. In this chapter the work during the concept phase is presented, initial sketching followed by CAD-modeling. Accurate renderings of the concepts generated the presentation material for the concept meeting, that material is also a part of this chapter.

7.1 APPROACH AND IMPLEMENTATION

7.1.1 SKETCHING

Sketching methods used in the concept phase were mainly used to further explore the ideas presented after the ideation. To some extent, new technical approaches and design proposals were also explored.

A range of different sketching techniques was carried out during the ideation process, the techniques used were; markers plus felt pen, monochrome pencil sketching and digital sketching on a Wacom companion using Photoshop and Sketchbook Pro.

7.1.2 CAD-MODELING

In the concept phase a CAD-model the boat interior and exterior were created using Rhino 5 for Windows.

Visualization

In order to be able to present the concepts in an efficient and accurate way visualization of the CAD-model were carried out using V-ray for Rhino.

7.2 RESULTS

7.2.1 BOWSPRIT

The design process of the bowsprit continued after the ideation presentation by sketching new concepts. Focus was put on designing bowsprits that were integrated in the hull. Explorative sketches initiated the concept phase, new shapes and form combinations were generated, see appendix 11.

Experience from earlier presentations at Najad had shown that more exact representations of the design ideas led to deeper discussions. Therefore the design process continued with CAD-modeling of two concepts bowsprits, and then rendering the result. The advantage of getting a more exact representation of the bowsprits together with the boat also made possible to evaluate how well the bowsprit concepts was integrated with the hull.

Two concept were generated:

Concept 1 Rounded, see figure 40.

Concept 2 Edgy, see figure 41.

Both of the concepts are quite similar when it comes to size and proportions, The difference between them are basically the shape. Concept 1, Rounded has a more organic shape with large radius, hence the name. Concept 2, Edgy has smaller radius and therefore got an more sharp appearance.

Presentation and feedback

The concept was evaluated in collaboration with the company and they appreciated both concepts, although the edge concept was found slightly more appealing.

During the meeting other important opinions regarding the design of the bowsprit was derived:

- the bowsprit should be as short as possible
- a bow ladder does not need to be integrated.

How to incorporate the mount for the Code 0 (see section 2.1) in the bowsprit were discussed. The discussion concluded that there is two different ways of integrate the Code 0 mount, either the mount is place where the bowsprit still is in contact with the hull or if the mount is moved forward it have to be connected to the hull via stainless stays. Which one of the solutions is most suitable will be examined in the finalization phase of the project.



Figure 40: Bowsprit concept: Round



Figure 41: Bowsprit concept: Edgy



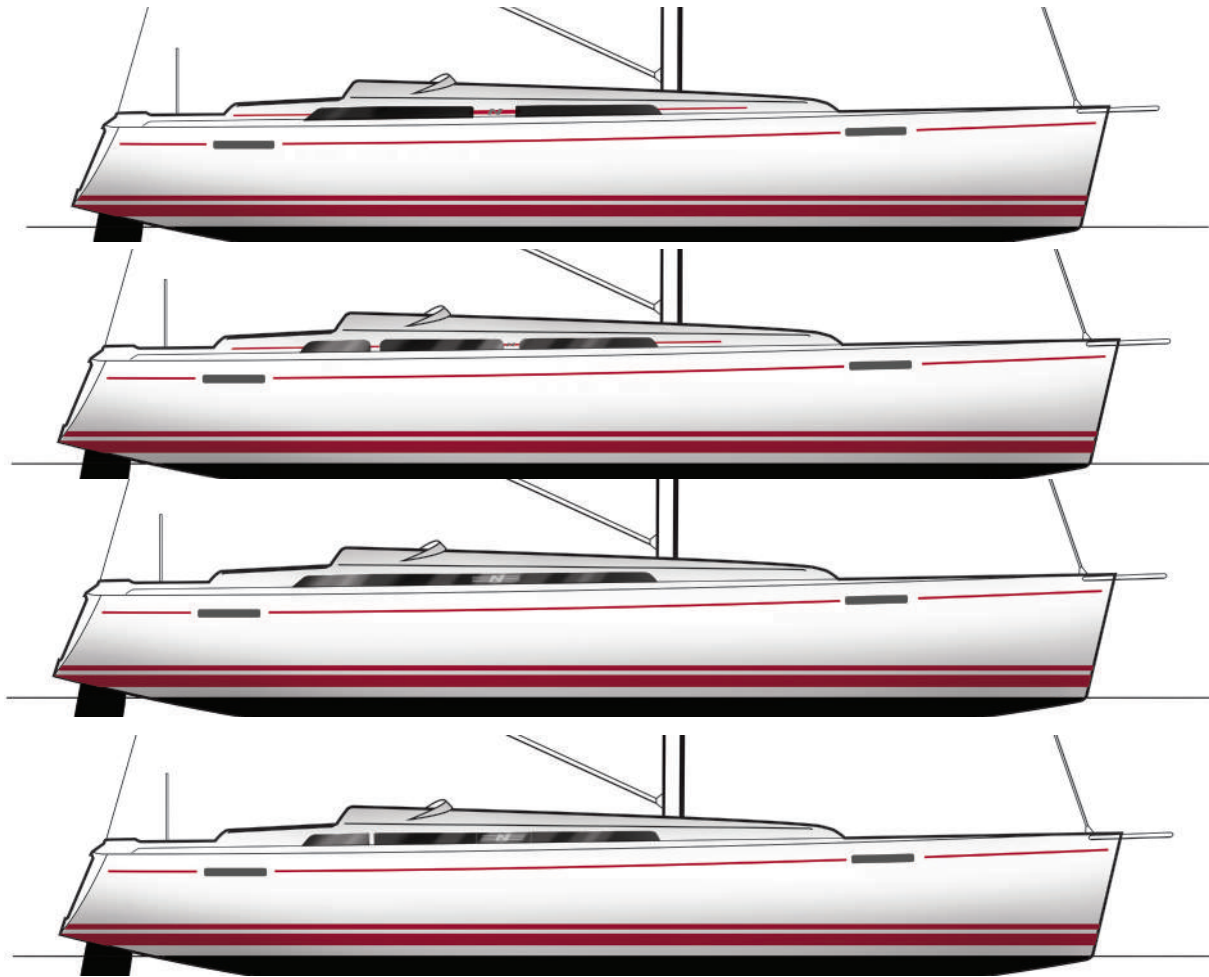


Figure 42: Port light concepts, concept no.1 and concept no. 2 second from the top and so on.

7.2.2 PORT LIGHT

With the input from the company, a sketching session with focus on long port lights, exploring different radius variations, angles and window distribution where carried out, see figure 42.

In order to present the concepts in an accurate way the sketches were turned into port lights in the CAD-model. The idea was to present two port light concepts; one inspired from the old Najad boat and another from the newer Najad boats. From the port light inspired from the older boats, three variations of the design were added to the initial concept due to that the shape felt to static and acquired more design features.

Four port light concepts were rendered and brought to the concept presentation at Najad.

Concept 1

Inspiration from the modern Najad boat led to the design of the first concept, mainly from the Najad 505.

Concept 2

Older, more traditional port lights with strong connection to the brand heritage have always been divided in several parts. Therefore a design with separation within the long port light was interesting to elaborate with.

Concept 3 and Concept 4 are rather similar to Concept 2 and therefore is not presented in the report but they can be seen in appendix 12.

Presentation and feedback

The evaluation of the concepts together with the company led to a definite answer, the first concept was the most appealing one. It does have a modern look, expressing more performance than the other concepts, which might appeal the intended personas (see section 4.2.3). Although, the other concepts were closer related to the brand heritage and therefore potentially more suitable for the brand.

Evaluation of the concepts via a survey was brought up as a suggestion to get more information and knowledge before making the final decision. The response to the suggestion was not very positive and therefore further no evaluation was carried out.

The first concept was used for the continuing design process.

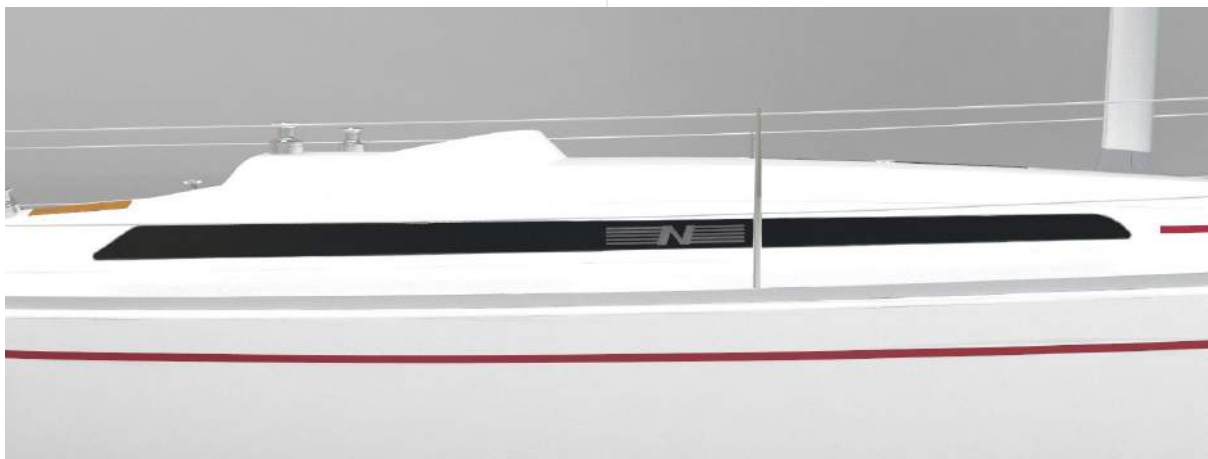


Figure 43: Port light Concept 1

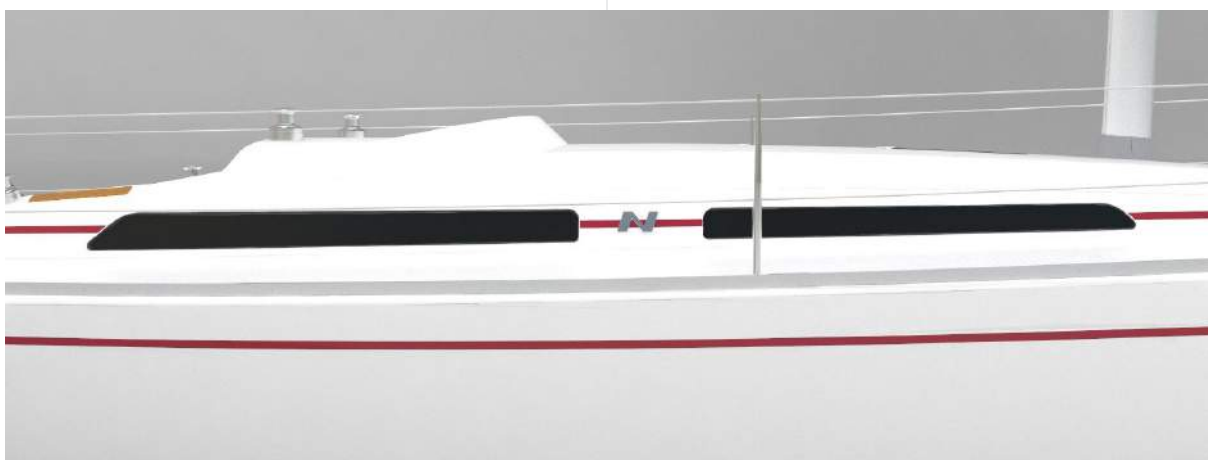


Figure 44: Port light Concept 2

7.2.3 INTERIOR

During the ideation presentation, the company suggested that four lockers and drawer front concepts should be generated and brought to the concept presentation. Exploration and sketching with inspiration from the co-creation session and all the brochures collected at boat fair were carried out. The session focused on creating ideas that would fit in to the visual elements generated from the Design Format Analysis, see section 5.2.2, the crafted feel connected to the brand heritage were also on mind, locker sketches can be seen in appendix 13.

From the sketches four concepts was developed.

Concept 1, Under lipping

Concept 2, Side lipping

Concept 3, Various lipping

Concept 4, Original lipping



Figure 45: Concept 1 Under lipping



Figure 46: Concept 2 Side lipping



Figure 47: Concept 3 Various lipping



Figure 48: Concept 4 Original

The concepts, 1, 2 and 3 express a crafted look, an important feature in order to fill in the gap with in the brand portfolio. Concept 4, original lipping, was not really a new concept, it is directly copied from the locker and drawer used in Najad interiors today. It was made a concept in order to use as a reference.

Presentation and feedback

The discussion with the company regarding the concepts new information regarding the lockers came up. A new sandwich material with foam core and 4 mm veneered plywood on each side was presented as a potential material to use in the 415p. The material is lighter than conventional plywood materials, and therefore suitable to use in a performance boat. There is one main issue though, for every thing needed to mounted on a locker or drawer, such as a knob or a hinge, the foam core needs to be replaced with massive wood.

Concept 2, side lipping, is a perfect construction to use together with the sandwich material as the knob and the hinge and be directly mounted on the lipping, see figure 45. The company also thought that the concept was visually appealing and therefore the concept was considered to be the foundation for the continued work with the interior.

Chapter

8. FINALIZATION

In this last chapter the whole project is wrapped up. The final design proposals and the intention behind them are explained and presented.

8.1 APPROACH AND IMPLEMENTATION

8.1.1 CAD-MODELING

The CAD-model used for creating the concepts was the starting point for the final CAD-model. New design features and details were added to the initial model and finally a whole model ready for rendering had been created.

8.1.2 VISUALIZATION

In the finalization phase, same visualization procedure as in the concept phase was used.

8.1.3 BROCHURE

In order to showcase the overall result from this thesis project a brochure displaying the new Najad 415p were created. The foundation for the brochure was taken from the existing Najad brochure and it was created using InDesign CC.

8.1.4 DESIGN GUIDELINES

A graphical guidelines document has already been created for the Najad brand. This document was updated with the findings from the brand analysis part of the project, two chapters were added to the existing document, materials and visual elements. InDesign CC was used to update the document.

8.2 RESULT

8.2.1 BOWSPRIT

The process of designing the final bowsprit concept started off from the concept edge presented in section 6.2.1. During the concept meeting at Najad implementation of a bow ladder was discussed, the company representatives suggested that a hook ladder from Båtsystem (see figure 49) would be the most suitable solution. The downside with a hook ladder is that it requires a lot of storage room when it is not used. If the bowsprit instead is designed with a casing ladder (see figure 49), no extra storage space is needed.

A decision to create not just one final bowsprit concept but two, were made. One concept fitted for a hook ladder and one fitted for a casing ladder.

Casing ladder

Measurements for the casing ladder BKT73T was found at Båtsystems website. The concept CAD-model were used as an starting point, although changes to the original model had to be done due to that the casing was higher and wider than the concept bowsprit. The final casing bowsprit concept can be seen in figure 50. Changing the initial proportions of the edge concept in combination with the smaller radius at the edges pointing down affected the appearance of the bowsprit evidently. The result was not satisfying as the bowsprit look a lot like a box, not a sleek, beautiful bowsprit.



Figure 50: Casing ladder bowsprit



Figure 49: Left, Casing ladder. Right, Hook ladder

Hook ladder

The hook ladder BU75P were considered to be the most suitable ladder Båtsystem could offer, mainly due to the width of the ladder, 220mm. A sleeker ladder made it possible to keep the initial width of the bowsprit concept and therefore no changes of the initial model were needed, except fitting two hook mounts on the top of the bowsprit.



Figure 51: Hook ladder bowsprit

Construction

In an early stage of this project the principle for the inner construction of the bowsprit were set. Metal steel plates welded together create the core of the bowsprit and brings structure and stiffness to the bowsprit, see figure 53. One of the main reasons for fitting a bowsprit on the Najad 415p is to enable a mounting a Code 0 on to the boat, such a mount is basically a ring. The forces acting on that ring are extensive and will break the bowsprit in two pieces if no extra support is added to the main structure. The common solution to that problem is to fit one or two stays on steel structure of the bowsprit. A solution widely used in the business and was therefore considered to be trustworthy and solid. Implementing stays on to the main structure directly connected to the Code 0 mount and the same time make room for the anchor required some iterations before a satisfying solution was met.

Assembly and Manufacturing

The final bowsprit concept are made out of five main parts.

1. Main structure, laser cut stainless steel plates welded together.
2. Inner plastic part, made out of reinforced glasfiber coated with gelcoat.
3. Outer plastic part, made out of reinforced glasfiber coated with gelcoat.
4. Code O mount, laser cut stainless steel bent into the proper shape.
5. Supportive stays, two stainless rod stays machined into the final shape in a lathe.

The assembly can be seen in figure 52. Important to note is that part 3-5 are not specific for any boat model but can be fitted to other Najad boat models. Only part 1 and 2 need to be specialized for each boat model which is a great advantage.

Further examination

Even if this concept might seem to be quite detailed and ready for manufacturing there are still thing need to be considered before creating the first prototype. Calculations are needed to make sure that the main structure and the stay has the proper dimension. The plastic parts are molded and there might be necessary to add more split lines in order make it possible to manufacture. Assembling and jointing the different parts together has not been considered at this stage and that will definitely be a necessity before taking the next step.

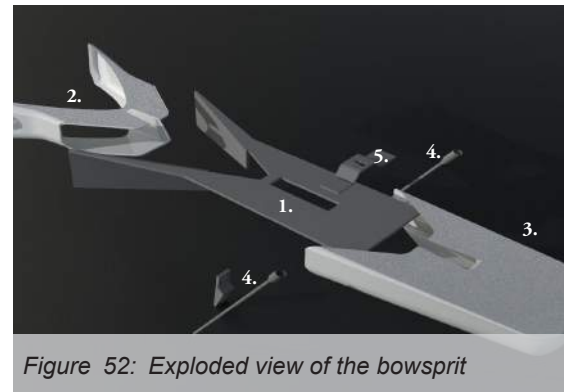


Figure 52: Exploded view of the bowsprit

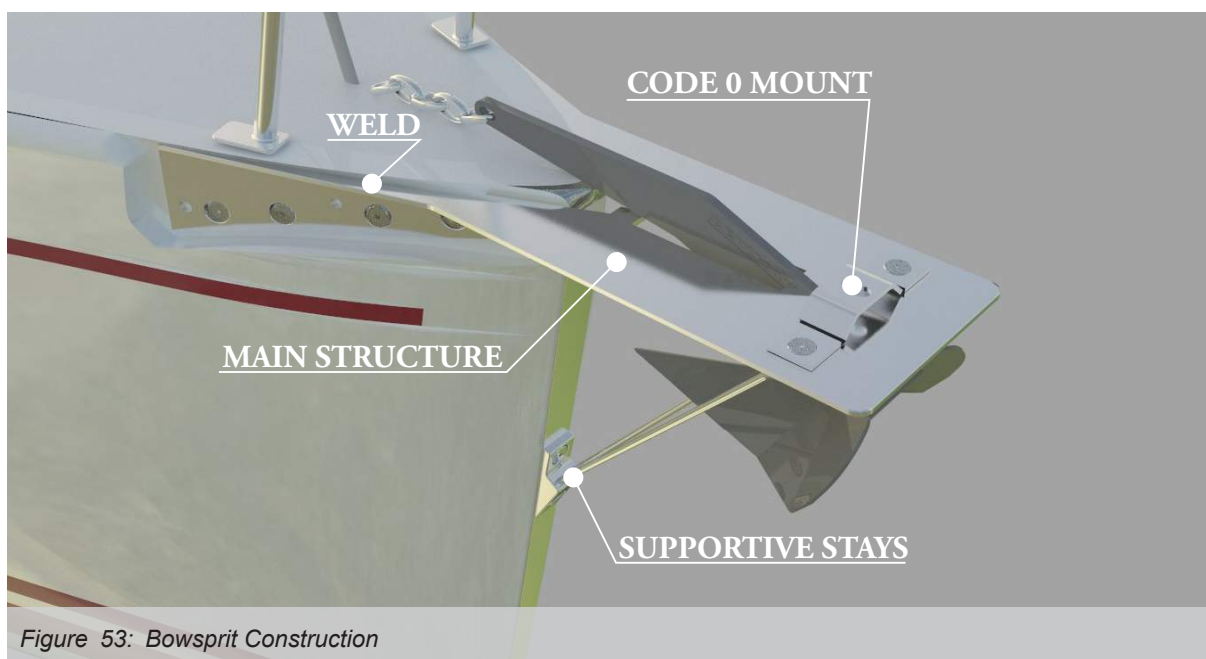


Figure 53: Bowsprit Construction

8.2.2 PORT LIGHT

At the concept presentation the company made it very clear what they were looking for in the new port light design. They wanted a long sleek port light with a Najad logo at the middle, displaying the model number.

From there it was a straight way to the final design proposal. Using the knowledge from speaking with the port light manufacturer BSI marine and the drawing they shared, the final design were created, see figure 54.

The port light covers almost the whole upper deck, which creates a sporty modern look. In the middle a Najad logo is fitted and it is made out of laser cut stainless steel. The plexiglas window is split into 4 parts, from the middle and back two separate parts in order to enable opening the windows independently. From the middle and to the front of the boat the is on esingle window that is not able to open due to that it would clash with the sheeting mechanism on the deck. This was not an easy decision to make, but it was the only way to do it because there was no other applicable solution to the problem. On the other hand, there are plenty of windows in the saloon and there are no need to being able to opening them all.



Figure 55: Najad logo on port light

Further examination

Next step in the process of incorporate this port light in the Najad 415p would be to establish a closer contact with the manufacturer to investigate if the design is possible to manufacture. A more accurate 3D-model is also a necessity to make sure that all the measurements are correct.



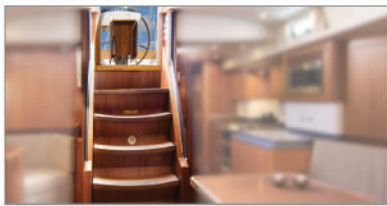
Figure 54: Sideview of the new port light, note the split lines at the back.

8.2.3 DESIGN GUIDELINES

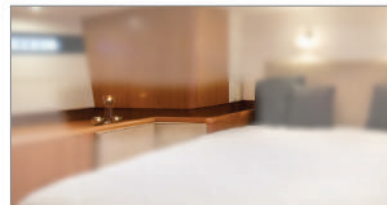
In the start of this project the company shared a Najad graphical guidelines document, this document was merged with the results from the Design Format Analysis and was renamed to Design Guidelines, see the whole document in appendix 14. The major change made consisted of the six visual elements that characterize the brand, see figure 56.

Visual Elements

Najad is a well-known and respected brand, fine carpentry and high quality has always defined the brand, detailing is in built in to the brand DNA. Visual elements with an extra strong connection to the brand are:



Stair
Stair with curved steps and generous stainless handles covered with skin.



Recess
Under lockers a elegant recess defines the locker shape. Often high contrast between the materials are used to emphasize the visual experience.

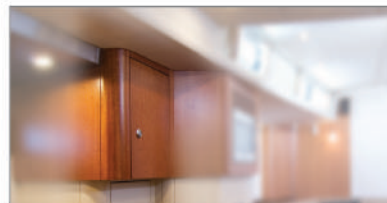
Skin handles
Skin handles placed in the interior where extra support is needed.



Flush lipping
Lipping perfectly align with the lower wooden part.



Multiple angles
Combinations of various angles connected to each other with a radius.



Splitline
Well defined splitlines separating the different wooden part in the interior.

Figure 56: Withdraw from the Design Guidelines document created.

8.2.4 INTERIOR

With feedback from the concept meeting in mind and the visual elements derived from the DFA the final interior was created. The process started with modeling the whole interior in 3D and every detail created was made with some sort of rationale stemming from earlier work. In order to explain the rationale behind these details the different parts of the new interior will be gone through one by one.

Galley

Corian bench

In the galley the material of the bench top does make an evident impact on the visual appearance. Therefore the material choice was made carefully. Corian is a modern material which is easy to shape, so even if the bench in the boat has a complex shape, the process of creating the bench is rather simple and the bench could be made in one single piece. Many of the modern Najad boat uses Corian in the galley, and the CEO Stefan very much pushed for using this material during the discussion using the morfological matrix (see section 6.2.3), the new interior and therefore it was finally designed with a Corian bench top.

Side lipping locker

One of the main objectives for the new interior was to create a more crafted feel, thus both the survey results and the interviews had shown that customers do prefer boat interiors with a crafted feeling, see section 4.2.2. and 4.2.3. Side lipping was considered the locker concept that was most suitable in the new interior. The concept visually attractive and together with the new foam core material it is a perfect match as it actually makes the manufacturing less complex compared to using veneer lipping, see section 7.2.3.

Upper lipping drawer

Using the same rationale as for the side lipping locker the drawer front were design with a upper massive lipping, with one exception. The only thing that is needed to be mounted is the knob on the upper part of the drawer and therefore the massive lipping is place on top instead of on the side as for the locker case.

Recess under locker

In the galley and the whole interior, recess under lockers is used as design feature. This feature is stemming from the DFA conducted, and is one of the design features that define the Najad brand.

Flush lipping

In the present Najad product portfolio, flush lipping is use to a large extent and therefore flush lipping is used not only in the galley, but through out the entire interior.

Traditional partial bulkhead

Analyzing the survey result and the interview conducted, a correlation between traditional and attractive could be drawn. The idea of using traditional design features, tweak them, and apply it to the new design was one of the foundations for the creative process. One of the main differences between modern Najad interiors and traditional boat interiors are the partial bulkhead splitting the galley and the saloon. In Najad boat the bulkhead is hidden and traditionally it is shown. A concept with a traditional partial bulkhead was created and it worked out very well and was kept for the final design proposal.



Figure 57: The galley of Najad 515p



Figure 58: Starboard Saloon

Starboard Saloon

Contrast Navigation station - Saloon

The main rationale for using different color in the navigation station and by that create contrast between rest of the saloon can be explain from the DFA. This contrast was one of the visual elements characterizing the Najad brand.

Skin Handle

In the galley and the saloon two leather handles are place on the partial bulkhead on both sides. During the user study and in the survey conducted, the need and appreciation for handles within range in the whole interior was evident. Handles with skin were also one of the visual characteristics derived during the DFA and therefore handles was considered a necessity in the interior.

Side window

At the boat shows visited one of the most obvious trends amongst the competitors was windows in the hull, almost every boat had

one of more hull windows. This trend was discussed together with the company, as there was potential to add more windows in the new interior. They liked the idea of adding a hull window, with their approval a hull window was added in the saloon area.

Soft side

Between the lockers the hull side is covered with a soft material, the idea of adding this detail came from both modern Najad interiors and it was also a trendy feature found in many other boat interiors. It does also bring a luxury feeling to the interior which suits the brand perfectly.



Figure 59: Portside Saloon



Figure 60: Aft Berth



Figure 61: Bow berth

Aft and Bow Berth Ventilation

The large lockers in the aft and bow berth has ventilation slots, adding this feature does brings a more crafted feel to the interior and therefore it was considered to be suitable.

Brochure

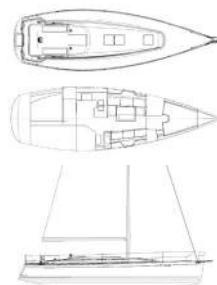
In order to full showcase the final result from this thesis project a brochure were created, display the new Najad 415p. The layout was copied from the newest Najad brochure and so were the text. Although, a change to the logo of the boat made. The in the old logo, the "P" for performance was just made with the font Adobe Garamond and it was considered that a special made p would increase the professional feel. The new p can you see in figure 62.



NAJAD 415_P YACHTS of SWEDEN

NYHET! Eleganta, moderna linjer kombinerar goda segelegenskaper med trygghet, säkerhet och funktion. Resultatet är ett brett användningsområde, som ägaren kan anpassa, allteftersom familjen, tiden och intressen förändras. Du bestämmer. Najad 415 Performance sätter inte gränserna. Du rör dig lätt och obehindrat ombord på ett rent däck, flushade skylights, dolda kontrollinor till sitrbrunn och breda skarndäck. Peke i fören och en öppning i aktern – som du lätt kan stänga till – gör att du kommer lätt av och på båten. Vindruta framför sitrbrunn kan fäs som tillval. Sitrbrunnen rymmer 6 personer runt sitrbrunnbordet. Sportig men trygg med förstklassiga segelegenskaper. Med samliga linor, skot och fall dragna till sitrbrunnen hanterar du henne enkelt själv med full kontroll. Styrningen med en stor ratt, rulllagrade roderlager och ett välbalanserat roder ger dig optimal fingertoppkänsla och respons. Dessutom är hon fin som en möbel, vilket syns i alla detaljer och allt träarbete. Samtliga kojor är dryga 2 meter långa med god bredd. Dynor och madrasser i högsta kvalité.

NEWS Sleek, modern lines combine good sailing qualities with security, safety and functionality. The result is a wide range of applications, which the owner can customise as family, time and interests change. You decide, there are no limits with the Najad 415 Performance. You can easily move unhindered aboard the clean deck with flushed skylights, hidden control lines to the cockpit and wide gunwales. The bowsprit in the bow and an opening in the stern - that you can easily close - make it easy to embark and disembark the boat. A windscreen for the front of the cockpit is available as an optional extra. The cockpit can accommodate six people around the cockpit table. It is sporty but safe with superior sailing qualities. With all the lines, sails and ropes accessible from the cockpit you can easily handle her with full control. The controls, with a large steering wheel, roller-bearing rudder stock and a well-balanced rudder, provide the ultimate intuitive fingertip control and responsiveness. She also boasts beautiful furnishings, visible in all details and woodwork. All the berths are over 2 metres long and of a good width. Cushions and mattresses are of the highest quality.



TECHNICAL INFORMATION

L.O.A	11.30 M
L.W.L	10.58 M
BEAM	3.43 M
DRAUGHT	1.85 M
MAST HEIGHT ABOVE WATER LINE	16.5 M
BALLAST	2.60 T
ENGINE	VOLVO PENTA D1-30, 29 HP SAILDRIVE
SAIL AREAS	
MAIN SAIL	44 M ²
SELF-TACKLING JIB	30 M ²
108% JIB	34 M ²
GENNAKER	115 M ²
SPINNAKER	104 M ²
CONSTRUCTION	HÅKAN SÖDERGREN
DESIGN	SAMUEL NILSSON

Figure 62: Najad 415p Brochure, note the new design of the "P".

Chapter

9. DISCUSSION

In this chapter the overall result and project process are discussed.

9.2.1 METHOD AND PROCESS

The design process taught at Chalmers does include thorough user studies, in order to understand the context and the user needs. The project aim given from the company was rather extensive and included several different design tasks. This made the project too extensive to carry out if thorough user studies should be included. Therefore a decision, to either narrow down the scope, or minimize the time spent on user studies, needed to be made. In discussion with the examiner and supervisor at Chalmers, a final decision to keep the scope broad was made.

This decision could be questioned, as the most of the final design results cannot be derived from user needs; which are the common way to justify design decisions. Obviously, this make is it hard build an extensive rationale for the final concepts, especially for the port light and bowsprit. Port lights and bowsprits have been around for a long time and therefore the need for a extensive rationale did not seem to be that important. In addition to that, the task given from Najad was to use existing solutions already on the market, and then implement them on the Najad 415p. Altogether it made sense to mainly focus on quantity.

If the project had been narrowed down, the final concept would probably turned out to be innovative and novel, e.i. the quality would been higher. However, the final result would only been one concept, not three. It is a question of quality versus quantity. For this project, with the company request for quantity, I personally think that the decision to keep the project broad was the appropriate approach.

One could also argue that the broader scope limited the level of finalization of the concepts, e.i. how close to manufacturing they are. The issue was that the drawings Håkan Södergren shared did not included a 3D-model, only 2D-drawings. In the work of turning the 2D-drawing in to a 3D-model, some accuracy were lost. Therefore, creating concepts ready for manufacturing were made impossible. A more accurate 3D-model or access to the actual boat would have been needed to enable the development of concepts ready for manufacturing. In other words, the project aim did not affect the level of finalization of the concepts, the drawings did.

9.2.2 DATA COLLECTION

In the initial part of the project three boat shows were visited, the insights and knowledge from the two first exhibitions were limited due to that the final scope for the project was not yet set. Therefore, no interviews or structured observations were carried out at these first two exhibitions. If more interviews and observations had been carried out, more data would have been generated and the analysis would then been more solid. Although, the first exhibition was still fruitful as it gave a good insights of the present sailboat market.

In general it was hard to find places to meet and talk to sailors, as it was winter in Sweden at the time the project started and the sailors tends to stay at home during this period. Instead it had to rely on internet forums, the online survey generated a lot of answers, although the 98% of the participants was males. No conclusions regarding how females, or the public in general perceive the Najad brand could therefore been made, which is a weakness in the data collection phase that did affect the project negatively.

In the online survey, the question regarding the how different boat brands are perceived, see figure 19 section 5.2.1. The contradicting words, price worthy-luxurious used, can be argued to affect the result in a negative way. As they do not belong to the same semantic family, a boat could be perceived as both luxurious and prices worthy. It would been more suitable to use luxurious-budget.

9.2.3 BRAND ANALYSIS

During the first step of the DFA, which includes finding characteristic elements from the existing product portfolio, one can argue that carrying out this step on your own will limit the outcome. If this step was conducted with more participants, more ideas of characteristic elements would probably have been generated.

When preparing the collages used for the DFA, it was evident that there was an extensive difference in the interior of Najad boats built today and older Najad boat models. Due to this difference a decision was made to split up and analyze of the visual elements from the past and the present product portfolio. The elements generated from the analysis were then merged in step 3, this decision was made with the idea of making use of the older elements in the new interior design. Although, in conversation with the company after presenting the first ideation sketches it was clear that they aimed for a design that suits today's product portfolio, without any new design features at all. The chase for new design elements to implement was therefore unnecessary. If that would have been stated before conducting the DFA, it would have been more effective to solely analyze the present product portfolio.

9.2.4 IDEATION

As stated many times before, designing a boat interior is a complex and extensive process. The ideation process was therefore carefully planned to avoid getting stuck in the complex creative process. Sketching ideas of the new interior was mainly focused on the galley and the lockers in the saloon, as it was hard to grasp and ideate on the entire interior. This approach enabled the ideation phase but did also restrict it. A better way of approaching the ideation sessions could have been to select smaller parts in the interior and then ideate on each and every one of them, instead of the whole galley. For example, ideate on the partial bulkheads, the berth locker, the navigation station and so on.

To some extent this approach was used during the co-creation session, the participants were ideating within certain themes, lipping, port light shapes, locker- and drawer fronts. The approach was effective for all themes except the port light shape, it was too hard for the participants to grasp. Using a template of displaying the side view of the boat without a port light and let the participants draw directly on the template would have been a better approach.

9.2.5 DECISION MAKING

All decisions made in this project were formed during meetings with the company. No user evaluation or methods for making decisions were carried out. Intuition, gut feeling and experience formed the base for the decisions. Approaching the decision making in such a way is of course effective, but one can argue that a decision made with more information is more accurate than one made with less or no information. User evaluation was brought up as a suggestion at one time and it was received without any interest, therefore it was not carried out. It might have been so that the company's opinion in this case should have been overlooked.

9.2.6 GENERAL

A general issue regarding this project is connected to communication with the company. When this project was planned, many meetings with the company were considered a key factor for success. During the project six meetings took place, which are more meetings than usual for student projects at the faculty. Sitting down and talking with the company leaders was beneficial and kept the project on track, still there were a few times where miscommunication led to that some of the work carried out was useless. The lesson learnt is that communication is the key for effective projects.

Chapter

10. CONCLUSION

Finally, the conclusion of the whole project are summerized in this chapter.

This project has shown that by deliberately studying a brand using predefined methods, such as the Design Format Analysis used in this project, in combination with user studies can generate the understanding and knowledge needed to both define a brand identity and make use of it in a design process. The final interior concept does fit the existing portfolio and the result from the brand analysis summarized in the brand identity book will facilitate future cooperation between design consultants and Najad.

The bowsprit and port light design are mainly aesthetic add-ons to the existing boat, the work carried out does showcase how such future features will change the appearance of the boat. From being a moderate boat, these aesthetic features really make an evident change to the appearance and bring a much more modern feel to the boat.

Boats are complex products and the aim for this project was therefore extensively limited in order to make sure that focus was put to the most important design tasks. Time consumed carrying out user studies was minimized instead of cut down on the initial aims. If more time had been spent on user studies the results would probably have been very different, especially the interior layout and the bowsprit design would have been affected.

The decision to focus more on tangible design with a broad scope instead of user studies was made together with the company. They requested and embraced design proposals over user studies and that was delivered in the end of this project.

Najad could definitely implement the result from this project and re-launch the Najad 415p with a more modern look and stronger brand connection than the old version of the boat. The company does also have a new tool in the design guidelines book made during this project to use in cooperation with design consultants, which will facilitate future design projects. All and all, the deliverables and aims for this project have been achieved.

Chapter

11. REFERENCES

11.1 BOOKS:

Brezet, H and Van Hemel, C, (1999) Eco Design: A promising Approach to sustainable production and Consumption, Paris: United Nations Pubns.

Boeijen, A., Daalhuizen, J., Zijlstra, J. and Schoor, R. (2013). Delft design guide.

Hestad, M. (2013). Branding and product design. Surrey, England: Gower.

Larsson, L. and Eliasson, R. (1994). Principles of yacht design. Camden, Me.: International Marine.

11.2 WEBSITES

Preinerger, MP. (2015) boot Düsseldorf – entering the year 2015 with wind in its sails, www.boat-duesseldorf.com/pressrelease. (2015-05-26)

Wallin, BW. (2015) Årets Båtmässa i Göteborg den mest innehållsrika på 2000-talet. Båtmässan. www.båtmässan.se/press. (2015-05-26)

Torslund, HT. (2015) Snart tjuvstartar sommaren med Allt för sjön. Allt för Sjön. www.alltforsjön.se/press. (2015-05-26)

Winn, PW. (2010) Burma: Is that conflict timber on your patio?, The Global Post <http://www.globalpost.com/dispatch/thailand/091214/thailand-conflict-timber-burmese-teak?page=0,1XX> (2015-05-26)

Sozo Copywriters (2013) Finding a Teak Alternative for Your Next Project, Sozo Copywriters, <http://www.sozocopywriting.com/finding-a-teak-alternative-for-your-next-project/> (2015-05-26)

J. Gibson McIlvain Company (1999) Mahogany: Its Variations & Its Alternatives. Mahoganyoutlet. <http://www.mahoganyoutlet.com/wood/> (2015-05-26)

Melin, TM. (2013) Orustvarven under 300 år - från småskaligt snickeri till yachtindustri. Göteborgs Univeristet <http://hum.gu.se/aktuellt/Nyheter/fulltext/orustvarven-under-300-ar---fran-smaskaligt-snickeri-till-yachtindustri.cid1147988>

Chapter

12. APPENDIX

APPENDIX 1 SURVEY QUESTIONS

Default Question Block



This survey is a part of a Master Thesis at Chalmers, Industrial Design Engineering and is carried out in collaboration with Najad Yachts. The survey aims to investigate how the brand Najad and other boat brands is perceived, and to some extent look into users opinions regarding interior of sailboats.

The survey contains 10 questions and will take approximately 6-8 min to finish.

*The answers are anonymous and can therefore not be traced to a specific person. The result generated will only be used as a part of this Master Thesis.

APPENDIX 1 SURVEY QUESTIONS

How old are you?

0-25

26-40

41-50

51-64

65+

Where are you from?

USA

Canada

Australia

Germany

Great Britain

Spain

France

Italy

The Netherlands

Belgium

Danmark

Sweden

Norway

Finland

Croatia

Greece

Portugal

New Zeeland

Other? Please write here.

APPENDIX 1 SURVEY QUESTIONS

Gender?

Male

Female

Don't want to define.

Which statement describes you the most?

I'm a sailboat owner.

I'm a former sailboat owner.

I'm not a sailboat owner but I'm thinking of buying one.

I'm not a sailboat owner and I will not buy one.



How well do you recognize the brand Najad?

	Not at all.					Very well.
	1	2	3	4	5	
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Comfort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Innovative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

APPENDIX 1 SURVEY QUESTIONS



Above you can see a picture of a Arcona boat.

Down below there are two pair of words, they are counter words. Click where you find the brand fits best between the words.

Traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Modern
Basic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Luxurious



Above you can see a picture of a Hanse boat.

Down below there are two pair of words, they are counter words. Click where you find the brand fits best between the words.

Traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Modern
Basic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Luxurious

APPENDIX 1 SURVEY QUESTIONS



Above you can see a picture of a Bavaria boat.

Down below there are two pair of words, they are counter words. Click where you find the brand fits best between the words.

Traditional Modern

Basic Luxurious



Above you can see a picture of a Hallberg-Rassy boat.

Down below there are two pair of words, they are counter words. Click where you find the brand fits best between the words.

Traditional Modern

Basic Luxurious

APPENDIX 1 SURVEY QUESTIONS



Above you can see a picture of a Najad boat.

Down below there are two pair of words, they are counter words. Click where you find the brand fits best between the words.

Traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Modern
Basic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Luxerious

APPENDIX 1 SURVEY QUESTIONS



Above you see three boat interiors. Which one of these interiors is...

	1	2	3
Most attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most modern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most beautiful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most cozy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Of the highest quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most traditional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Click at the spot in the picture that corresponds to your favorite place in the saloon of a sailboat.



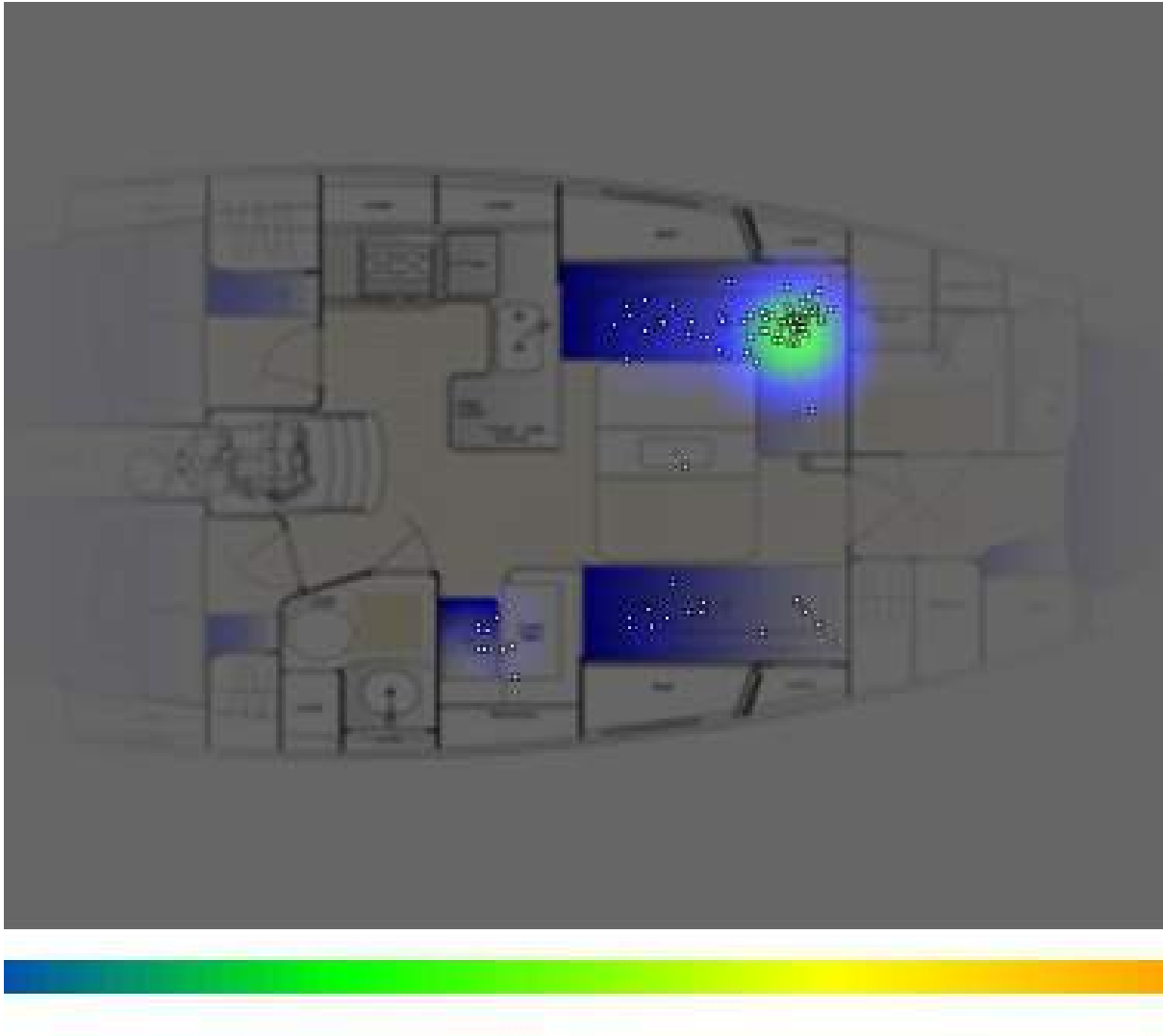
APPENDIX 1 SURVEY QUESTIONS

Items	I would not buy a boat without it.	Good to have.
Navigation station with separate seat.		
Shower cabin in the bathroom.		
TV or multimedia station.		
Handle with in reach throughout the entire saloon.		
Hull windows in the saloon.		
A place that is dedicated for wet sail gear.		
A bowsprit.		
	Unecassary.	

Is there any other function or property you find important when it comes to sailboat interior. Here is your chance to influence manufacturers, please write down your thoughts here.



APPENDIX 2 SURVEY RESULTS



APPENDIX 3 STATEMENTCARDS

“när det regnar måste man kunna hänga av sig sjöstället utan att väta ner hela salongen”

Användarna ser ett stort behov att kunna bli av med sjöstället utan massa problem.

“det finns ytterst få båtar med plats för sjöställ på toan, det gäller även större båtar.”

Utrymme för att torka kläder och andra textilier finner seglare att även större båtar saknar.

“en del båtar har sjöställgarderob från sittbrunnsluckan, linjettvarianten”

Att nå avhänging av våta kläder från sittbrunnen gillar seglare, linjettbåtarna har en sådan lösning som kommer bli intressant att granska.

“i norden har vi regn och grov sjö vad ska jag göra av sjöstället?”

Den kontext som svenska seglare brukar i sina båtar ställer speciella krav på båtarna och skiljer sig ifrån t.ex. från chartersegling i medelhavet.

APPENDIX 3 STATEMENTCARDS

“de flesta båtarna här (allt för sjön mässan) är gjorda för charter”

Många av båtarna som visar på svenska mässor är inte riktigt anpassade för nordiskt klimat och detta har användarna uppmärksammat.

“när man kom ner i båten fanns där lejdare, det är jättrebra”

Användare gillar att hålla i sig, vare sig det gäller matlagning eller vanlig förflyttning runt i båten.

“de här matta materialen ser ju lyxiga ut...och skönare”

Materialval är viktigt för att få fram önskat uttryck, matta material verkar vara inne just nu och känns lyxigare än glatta material.

“den tycker jag ser lyxig ut, den är så ljus. Med mycket trä känns det mer som fjällen”

Ljust och fräscht letar sig även in i båtvärlden? Användare associerar ljus känsla och lyxighet, burrig och träigt känns omodernt.

APPENDIX 3 STATEMENTCARDS

“den är liksom inte lika mycket båt längre”

ang köket i Najad 440

Segelbåtar verkar vara synonymt med hantverk. Kantlister och arbetade detaljer ger användare associationer till havet.

“jag gillar denna mest (HR412), den har en gedigen känsla som jag känner mig hemma i”

Ursprung och igenkänningsfaktorn är viktig för äldre användare/köpare. Finns där ingen igenkänning så känns om det inte är för dom.

*“det kan vara vad som helst det där”**ang. köket i Najad 440*

Najad's mer moderna inredning får användare att få det svårt att koppla produkten till varumärket, vilket försvagar varumärket. Varumärke=Identifiering.

“sådana soffor som man inte kan sitta i”

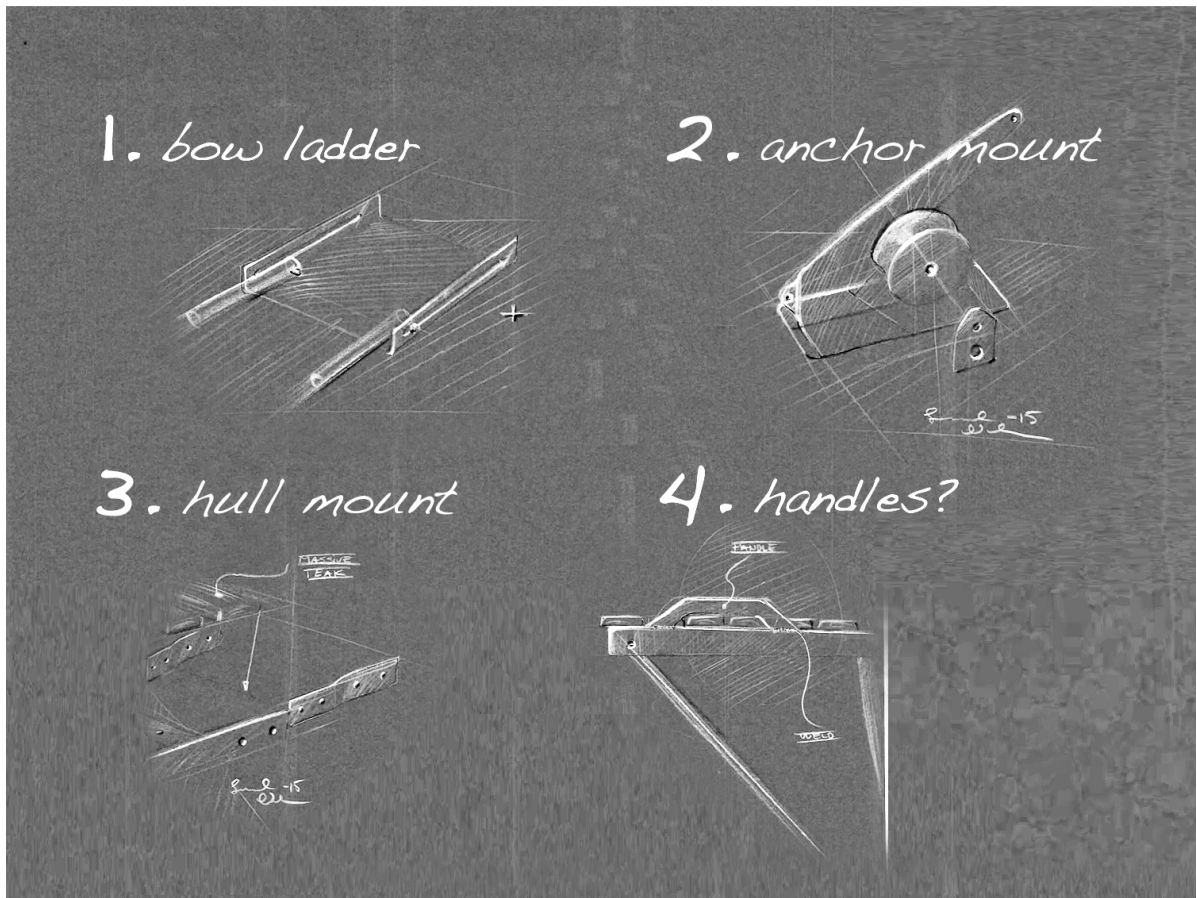
Soffor som ser hårda ut är inget som verkar locka användarna. Det ska se mjuka och fluffiga ut.

APPENDIX 4 LIST OF REQUIREMENT

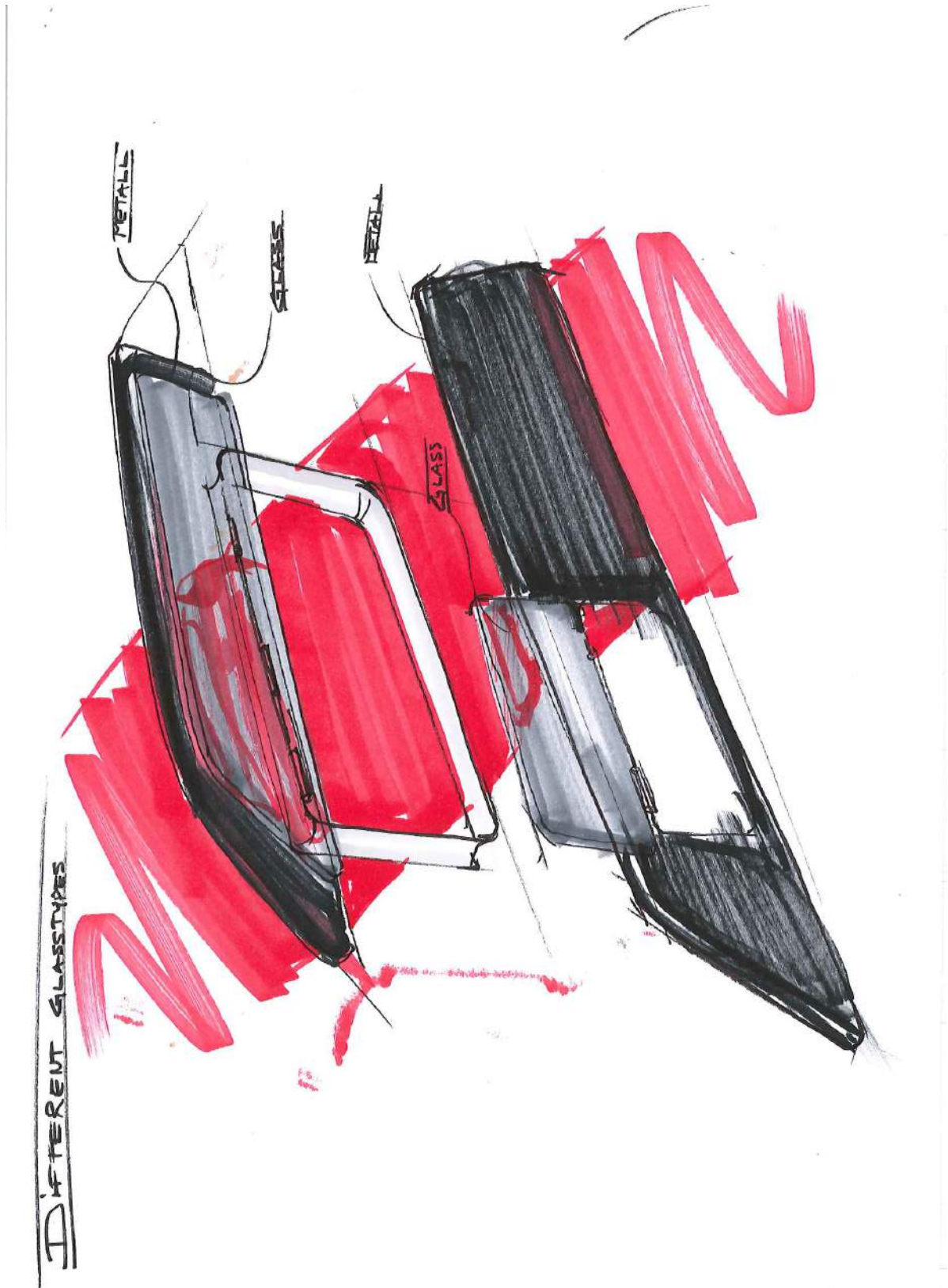
List of Requirements Bowsprit

Facilitate	boarding and alighting
Counteract	unfolding of the bow ladder during boarding/alighting
Consent	easy folding/unfolding of the bow ladder
Provide	a wide footstep
Provide	handles for alighting
Enable	mounting on the Najad 370p and 415p
Enable	unleash and hauling of the anchor
Provide	mounting for a 16 kg Delta anchor
Stay stable	during a dynamic load generated from a human being.
Provide	a mount for a Code 0
Sustain	the load from a Code 0

APPENDIX 5 BOWSPRIT PARTS SKETCH



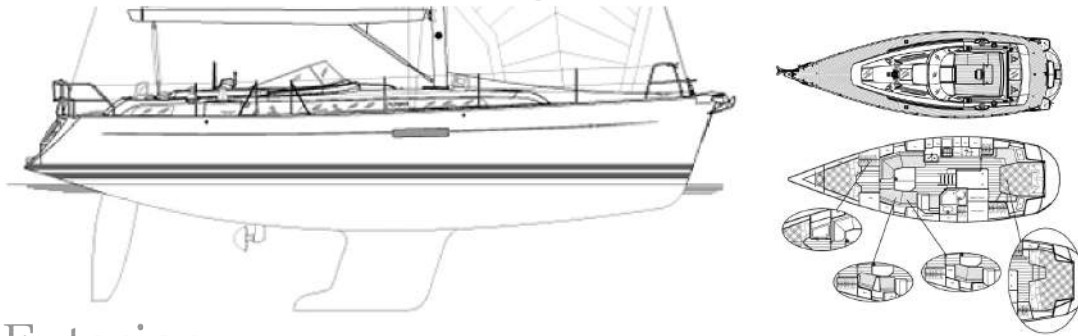
APPENDIX 6 PORT LIGHT SKETCH



APPENDIX 7 *BOAT POSTERS*

NAJAD 410

YACHTS *of* SWEDEN



Exterior



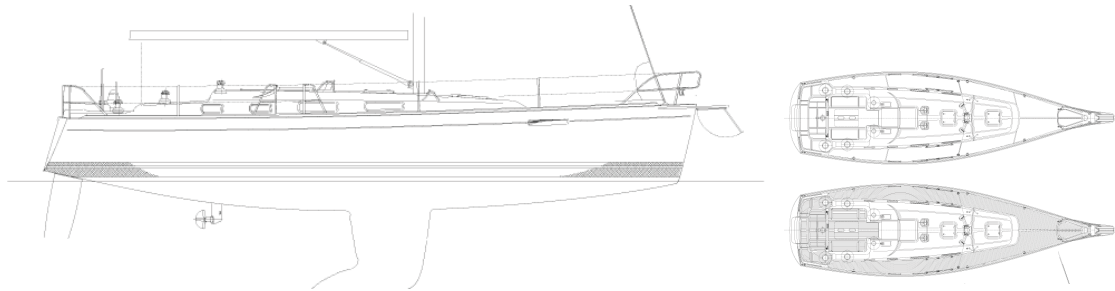
Interior



APPENDIX 7 *BOAT POSTERS*

NAJAD 415p

YACHTS *of* SWEDEN



Exterior



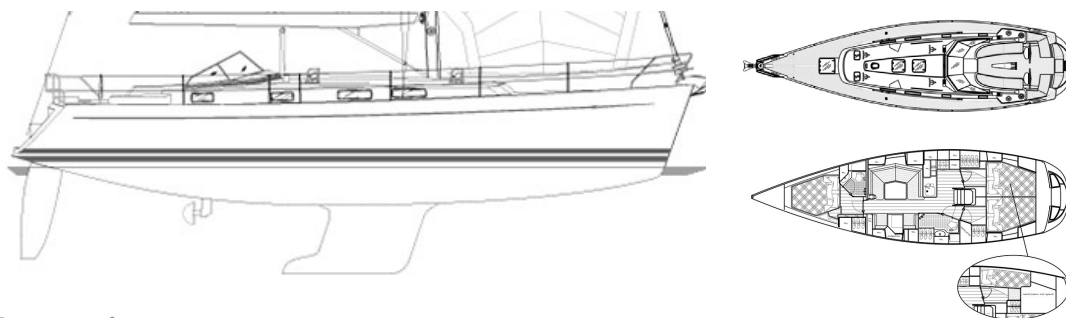
Interior



APPENDIX 7 BOAT POSTERS

NAJAD 410

YACHTS *of* SWEDEN



Exterior



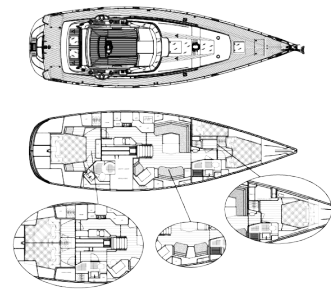
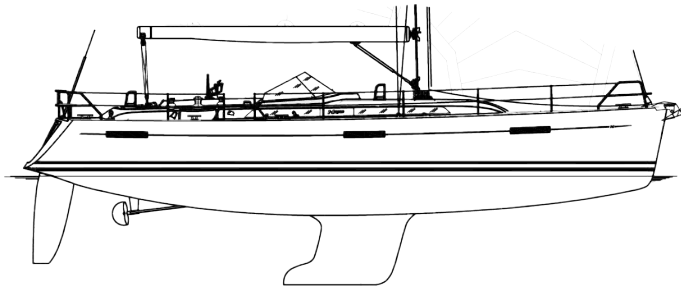
Interior



APPENDIX 7 BOAT POSTERS

NAJAD 505

YACHTS *of* SWEDEN



Exterior



Interior



APPENDIX 7 BOAT POSTERS

NAJAD
YACHTS of SWEDEN

371
1983-1985



APPENDIX 7 BOAT POSTERS

NAJAD
YACHTS of SWEDEN

390
1984-1995



APPENDIX 7 BOAT POSTERS

NAJAD

YACHTS of SWEDEN

391

1995-2002



APPENDIX 7 BOAT POSTERS

NAJAD
YACHTS of SWEDEN

400
2001-2005



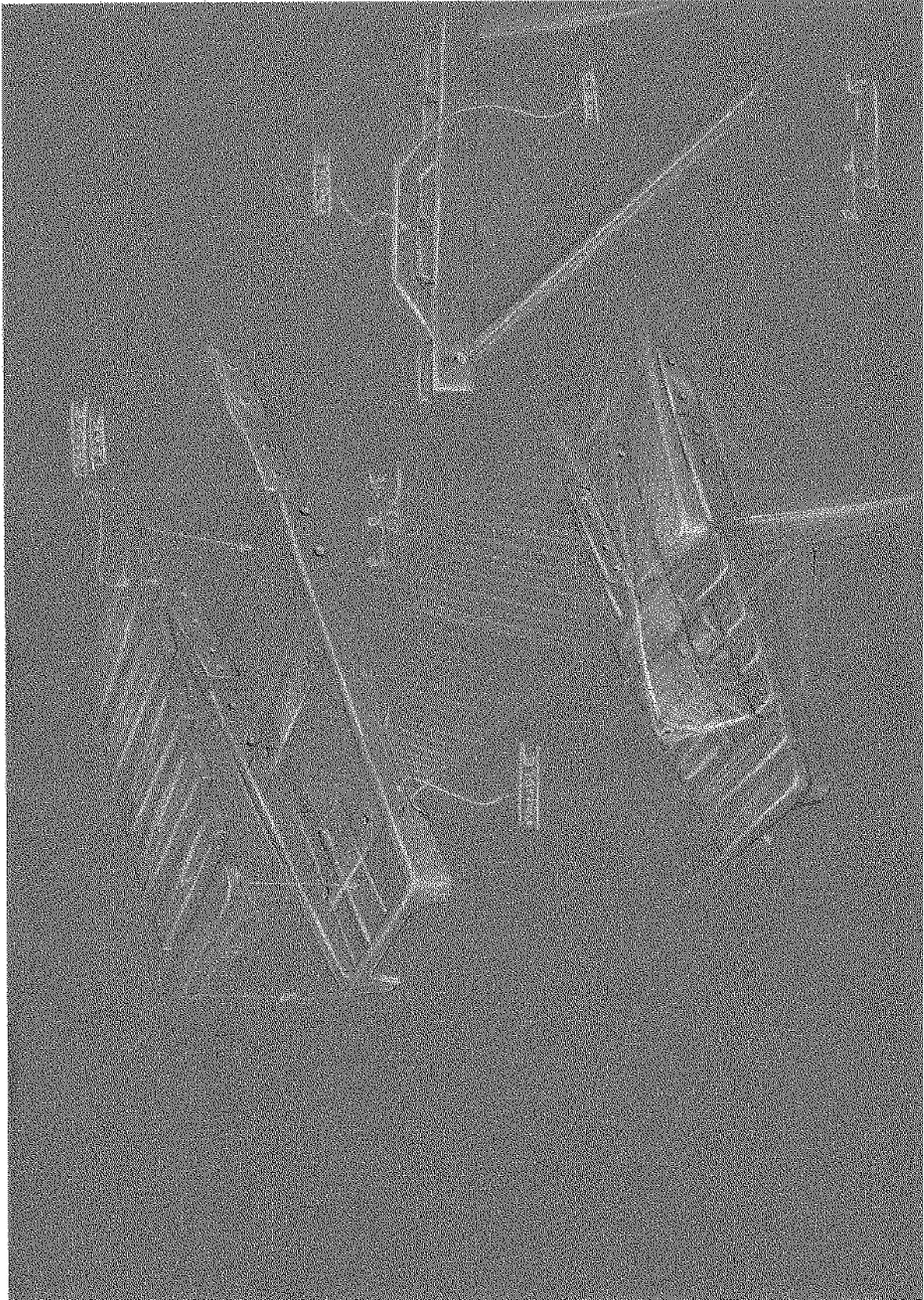
APPENDIX 7 BOAT POSTERS

NAJAD
YACHTS of SWEDEN

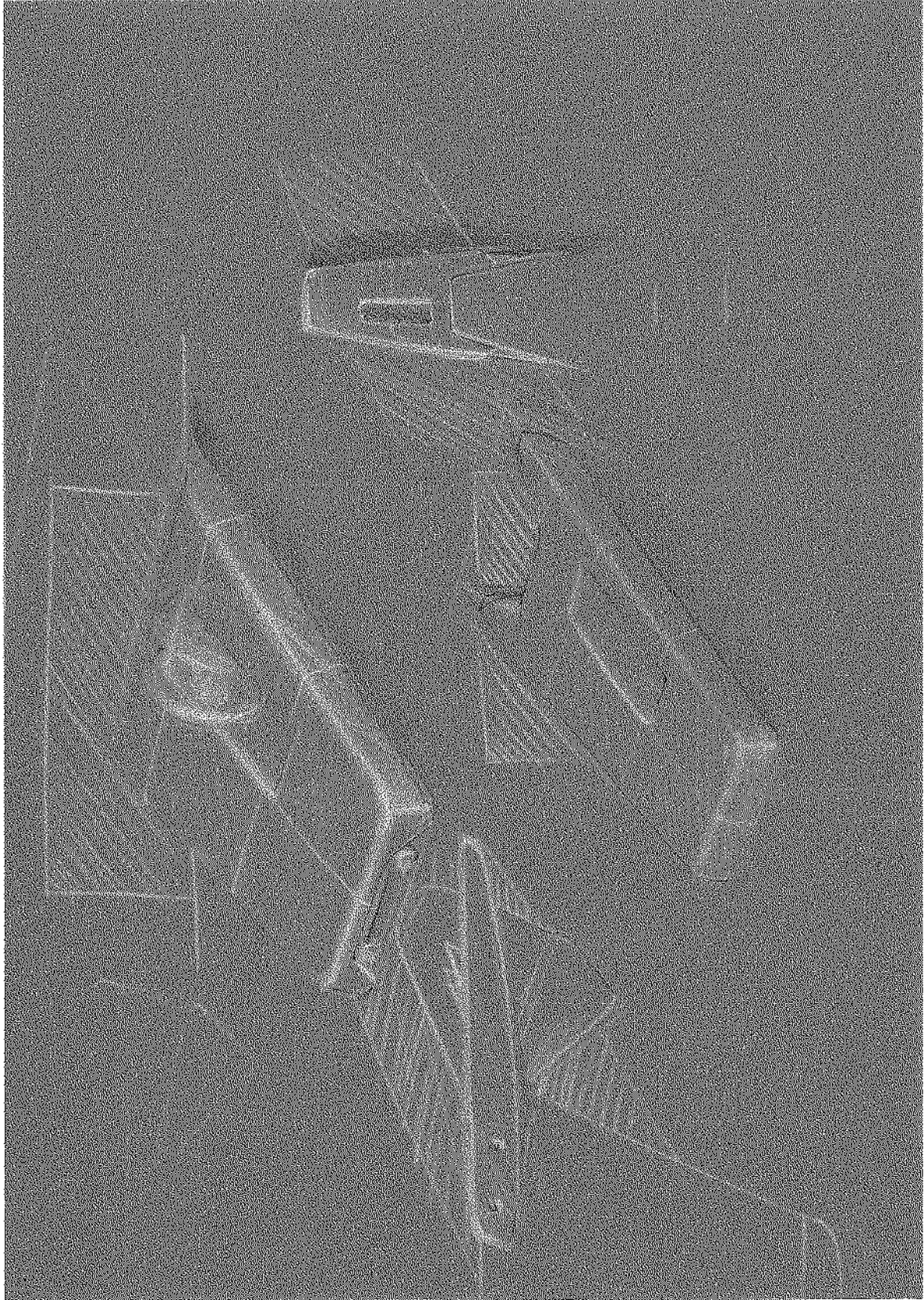
405
2006-2009



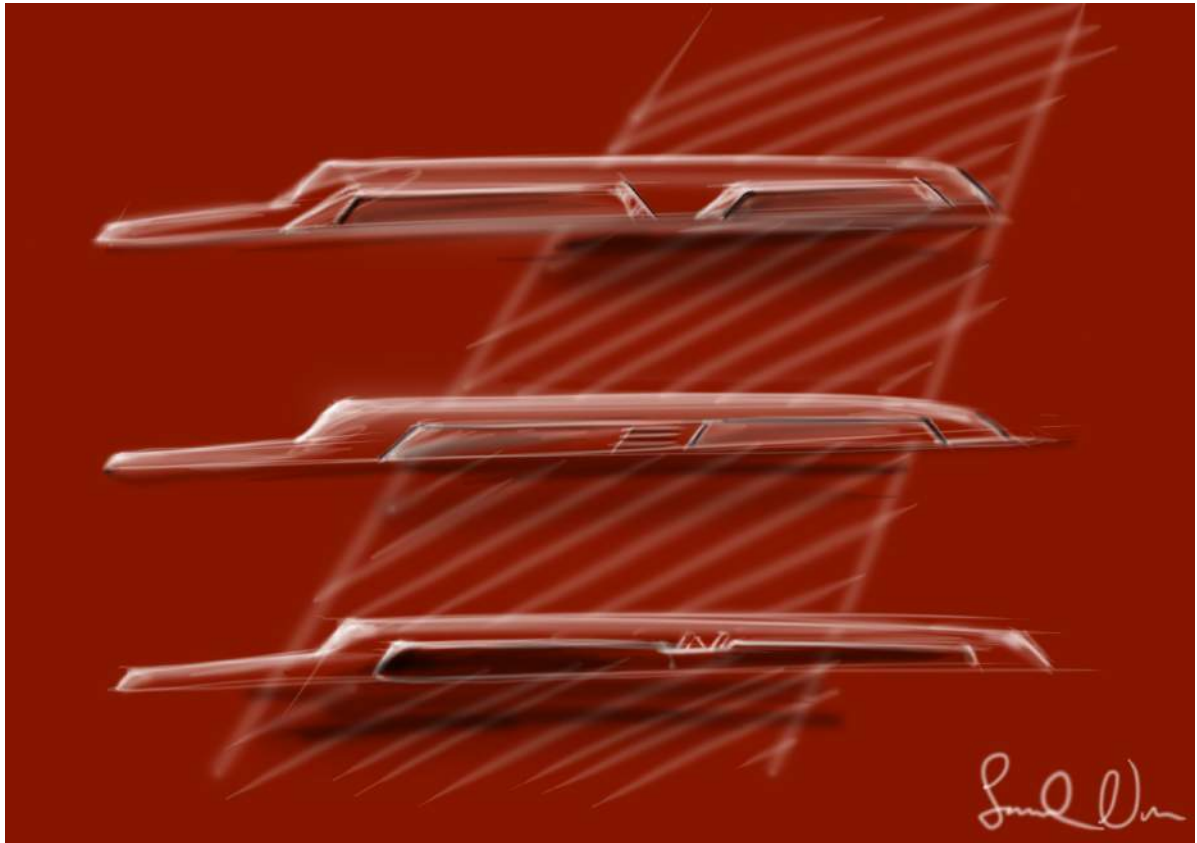
APPENDIX 8 EARLY BOWSPRIT SKETCHES



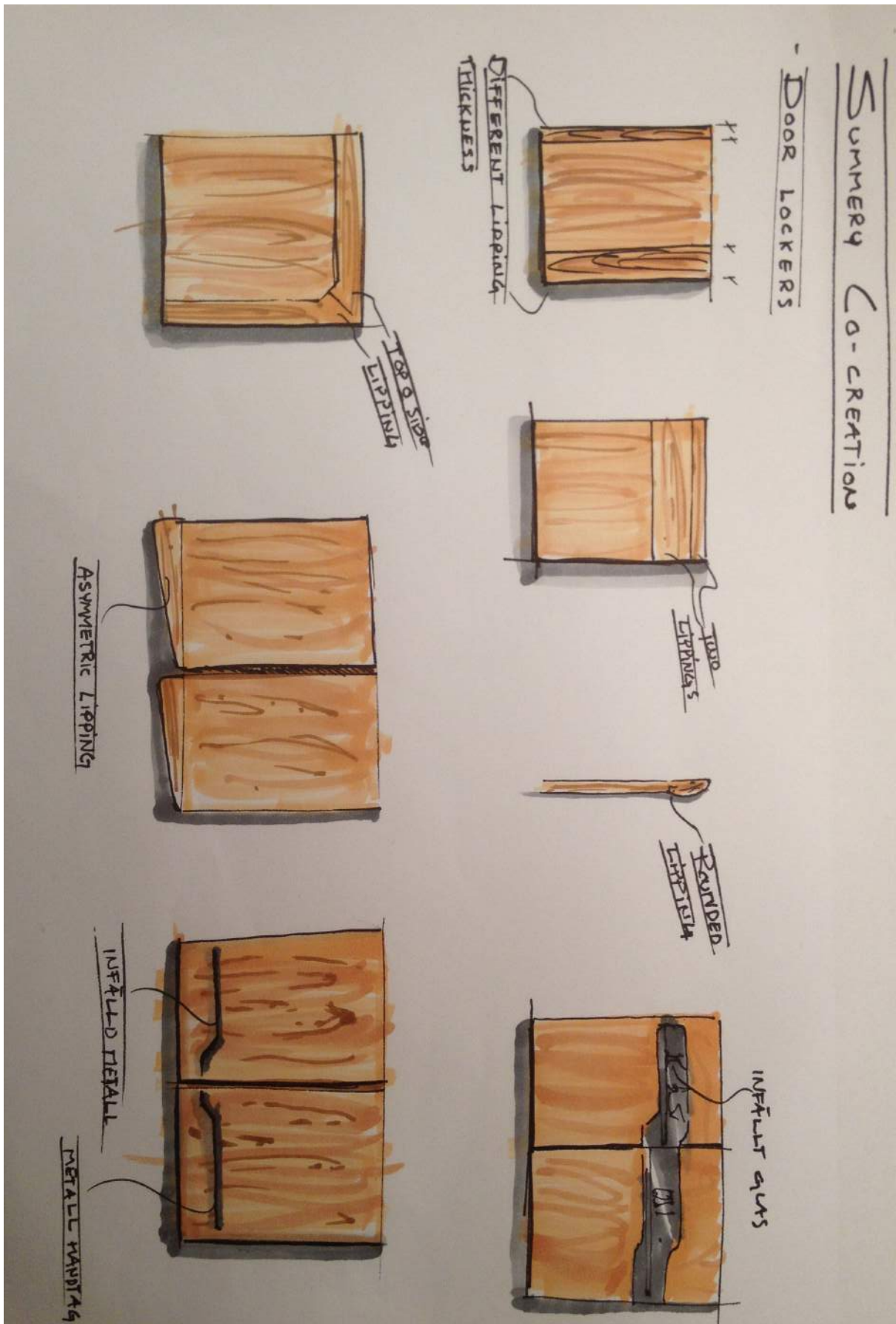
APPENDIX 8 EARLY BOWSPRIT SKETCHES



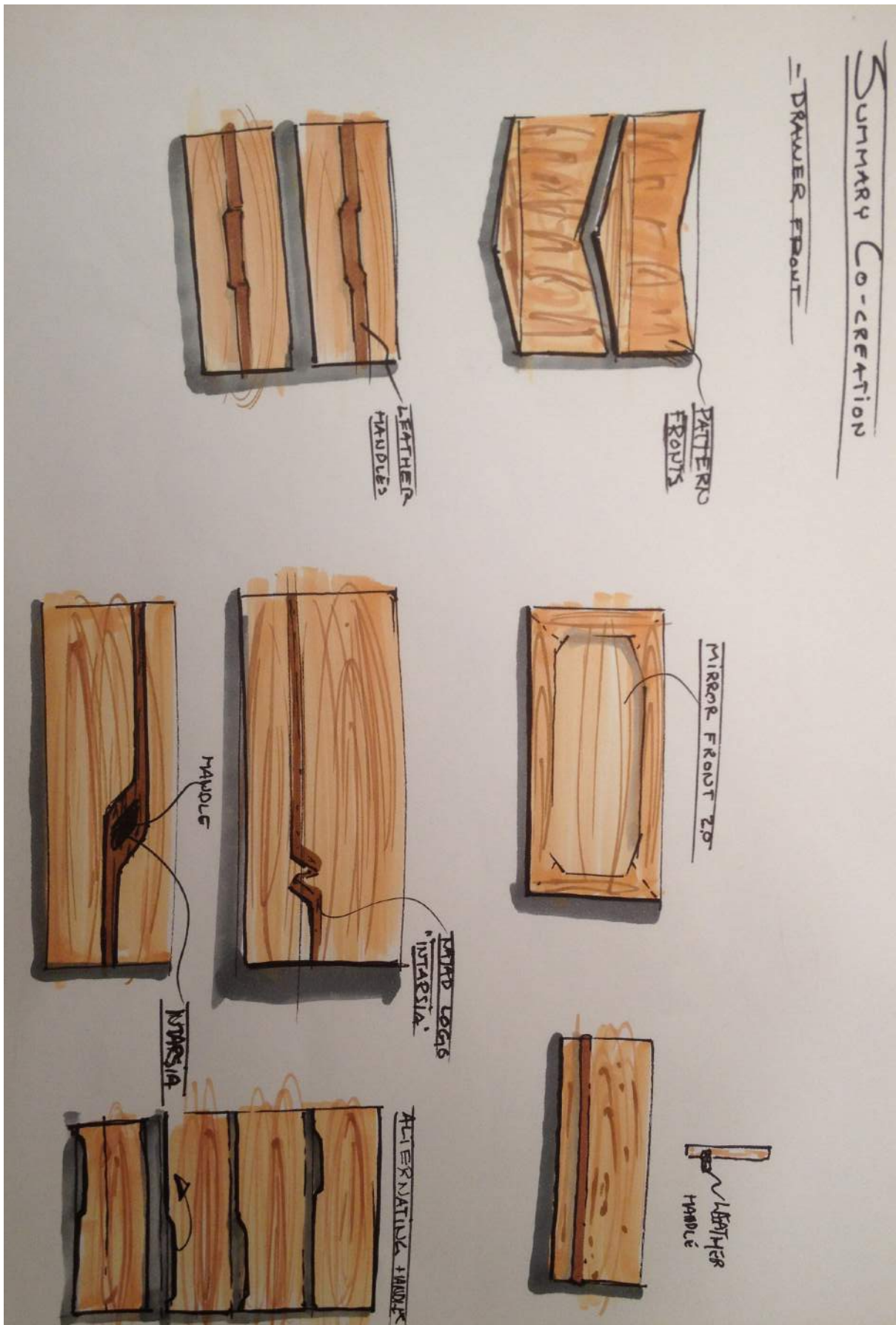
APPENDIX 9 PORT LIGHT SKETCHES



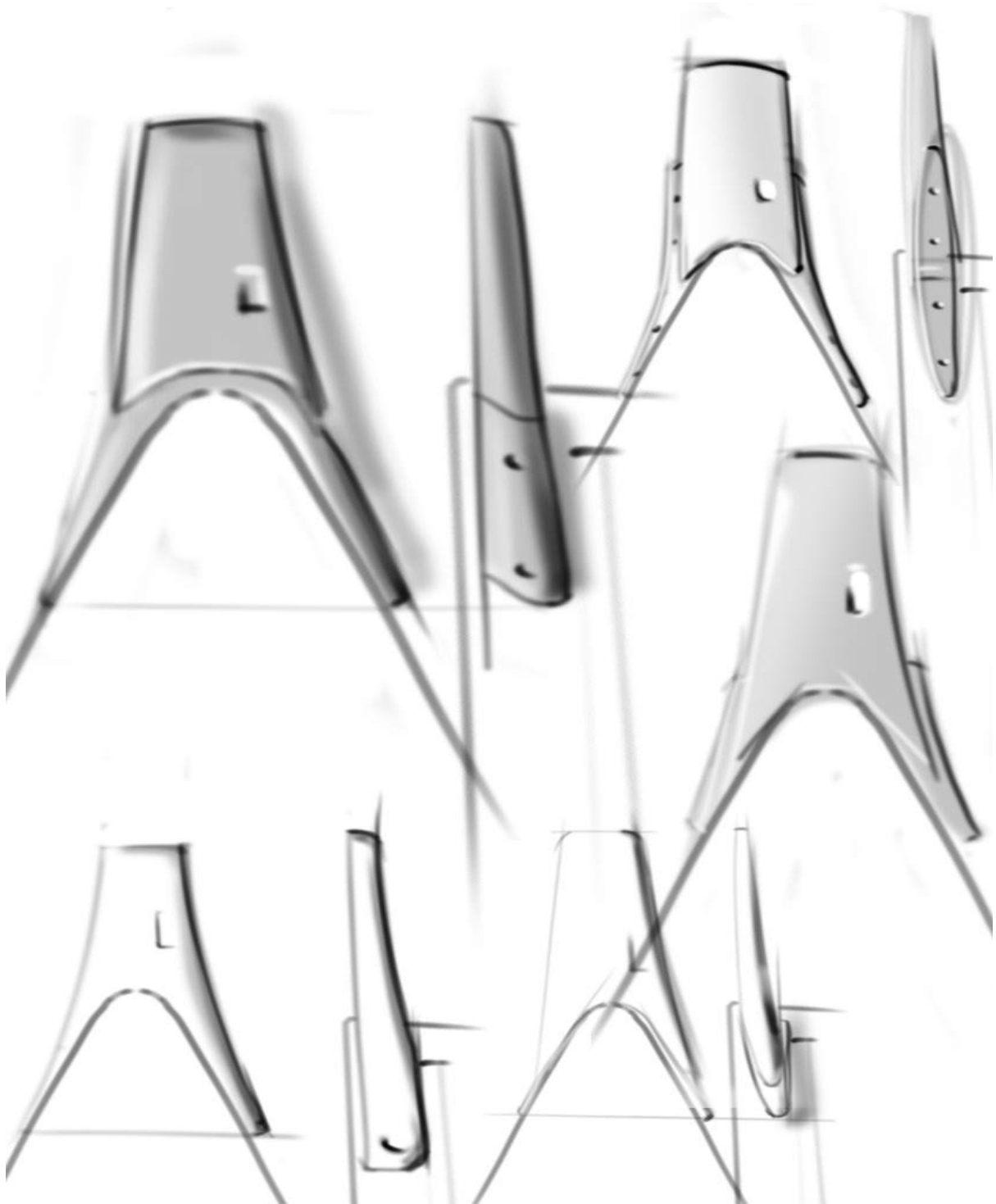
APPENDIX 10 CO-CREATION RESULTS



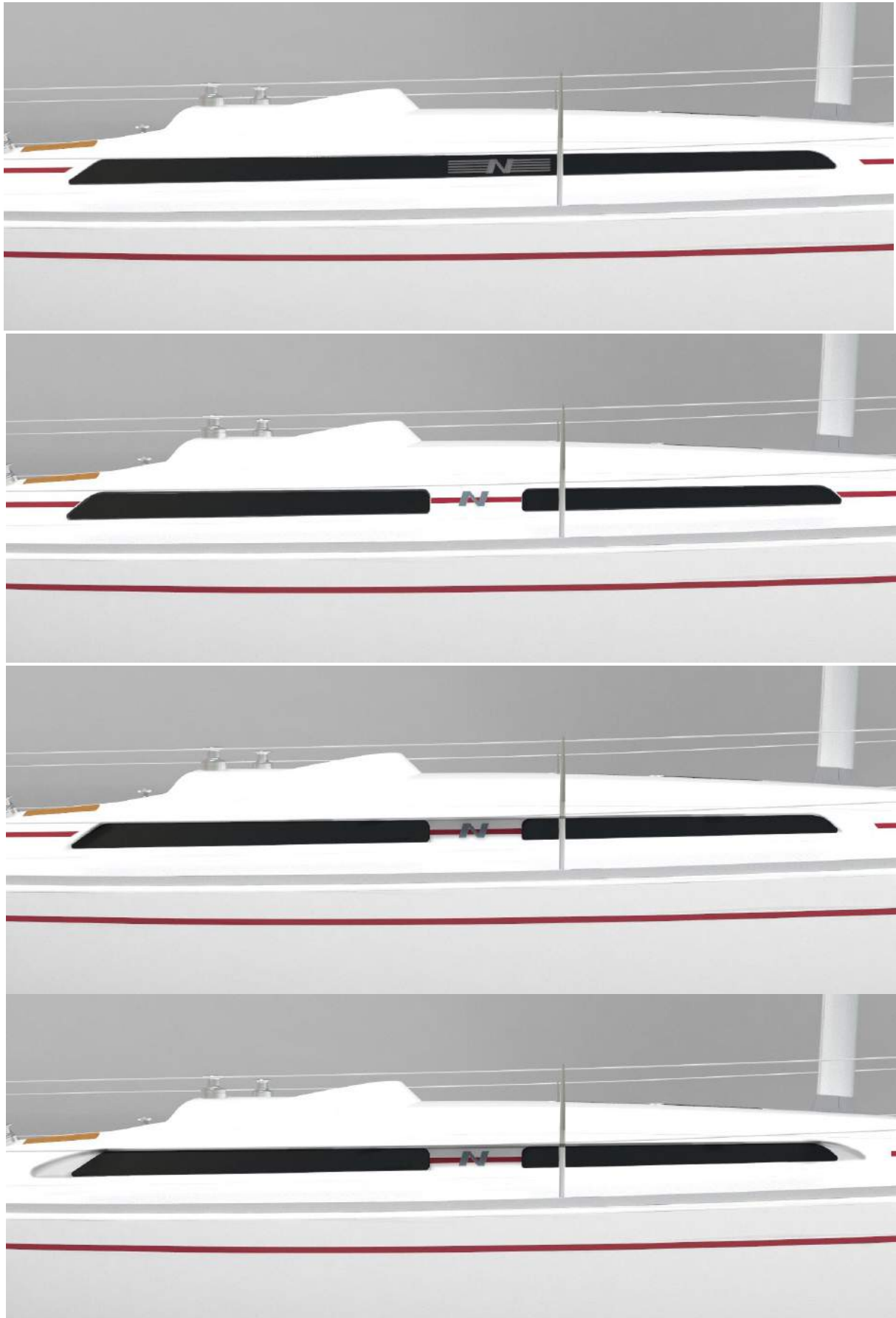
APPENDIX 10 CO-CREATION RESULTS



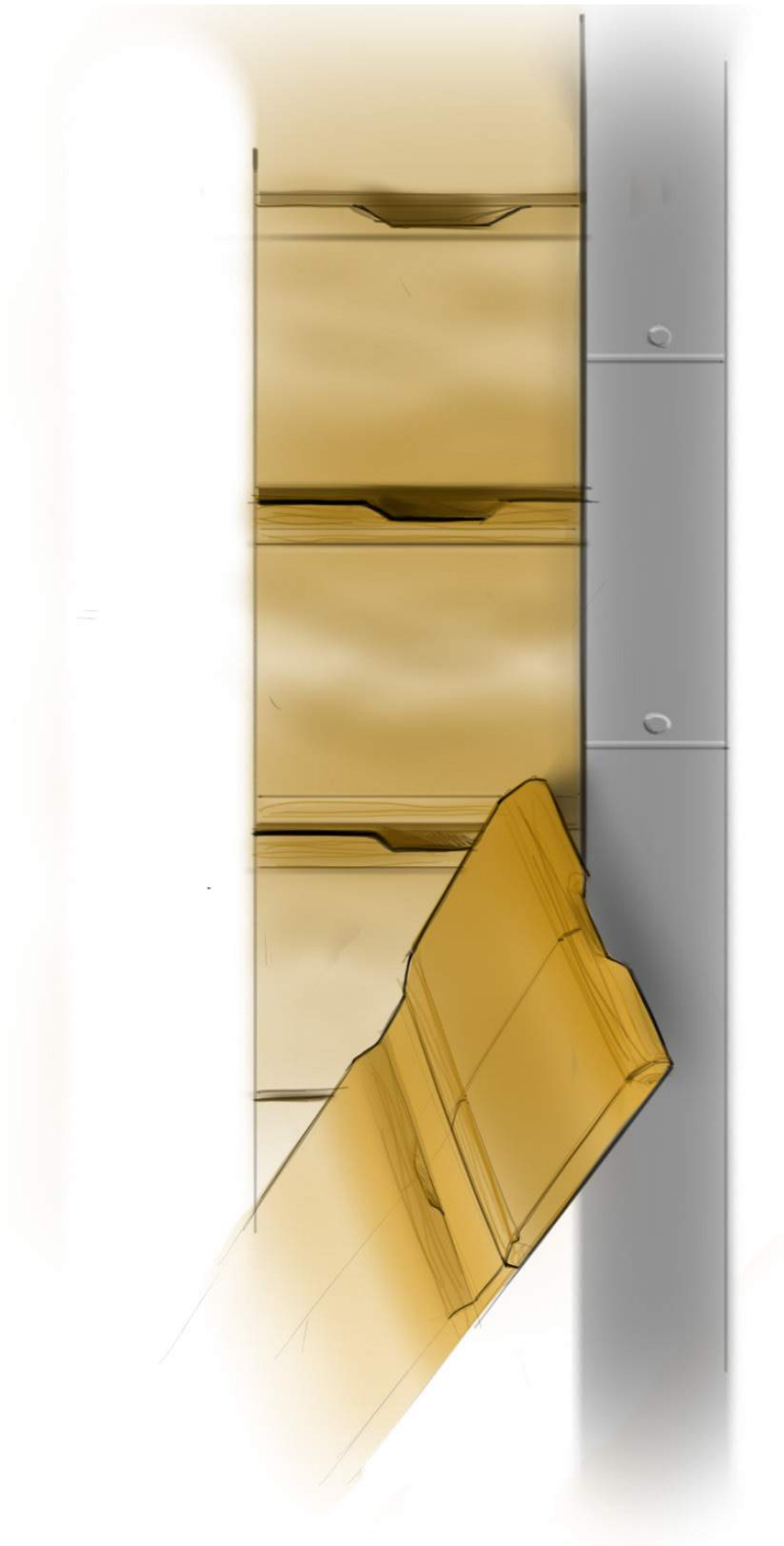
APPENDIX 11 *BOWSPRIT CONCEPTS SKETCHES*



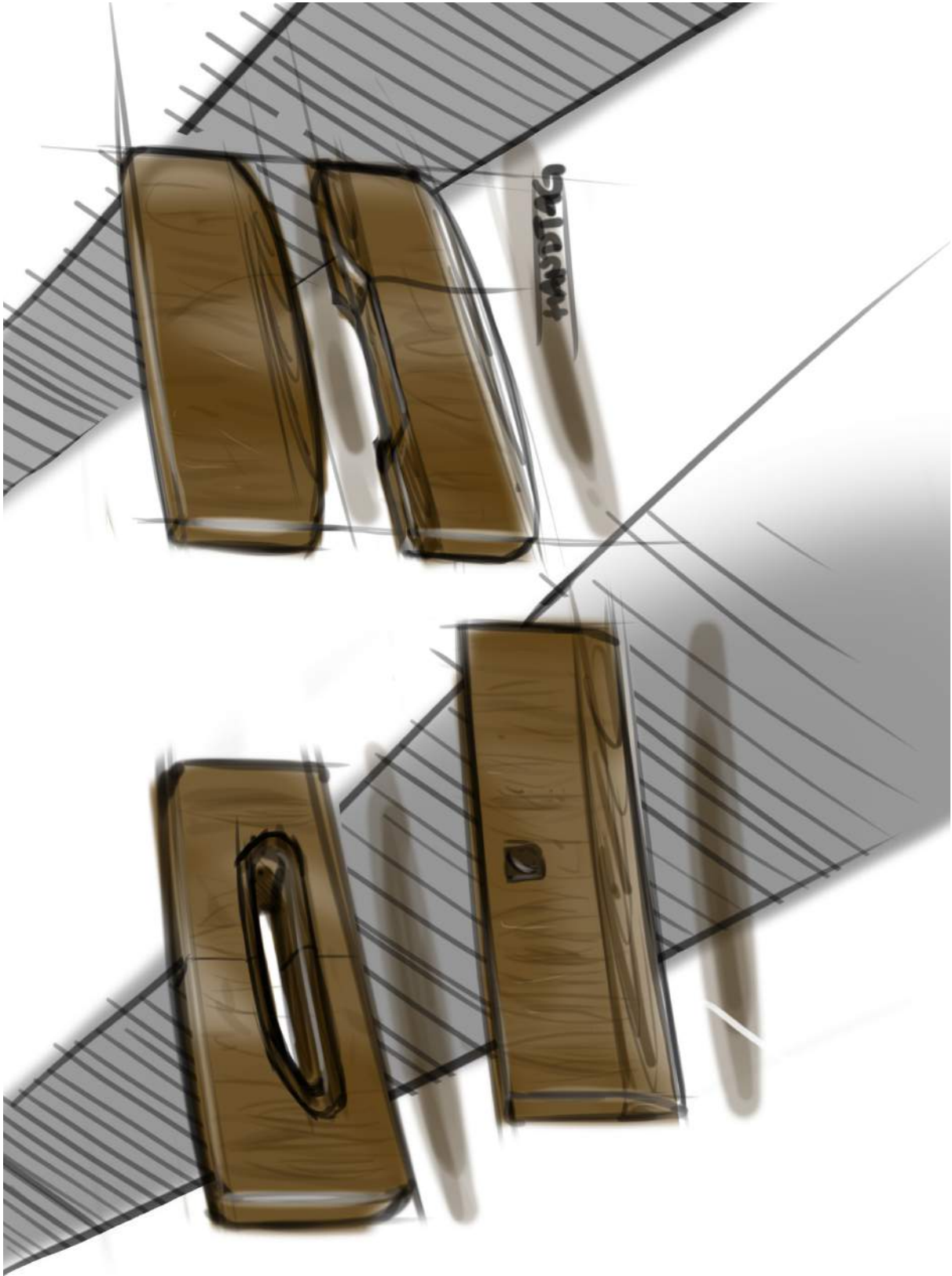
APPENDIX 12 PORT LIGHT CONCEPT 1-4



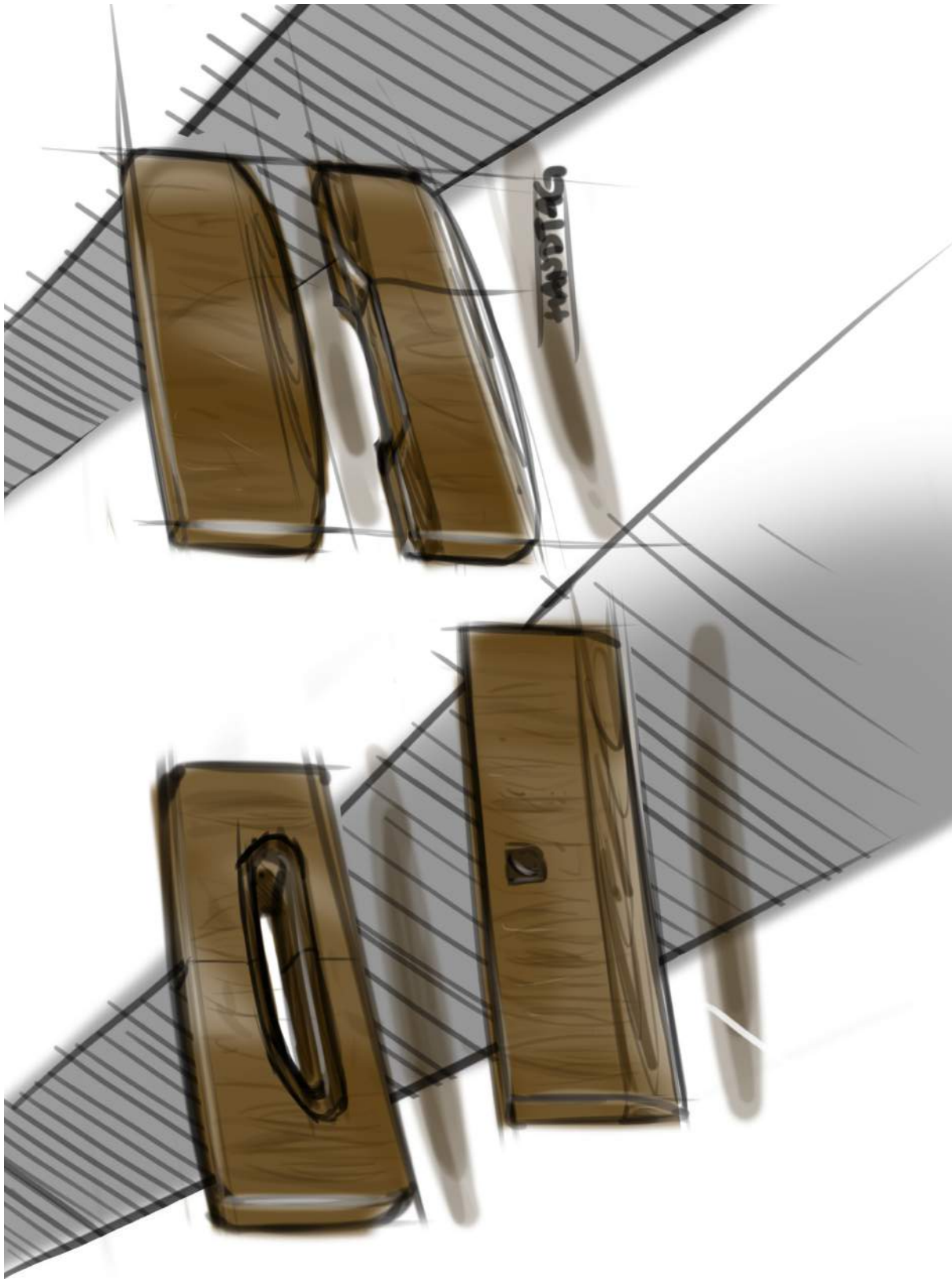
APPENDIX 13 LOCKER CONCEPT SKETCHES



APPENDIX 13 *LOCKER CONCEPT SKETCHES*



APPENDIX 12 *LOCKER CONCEPT SKETCHES*



APPENDIX 14 DESIGN GUIDELINES

NAJAD

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— Design guidelines —

APPENDIX 14 DESIGN GUIDELINES



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APPENDIX 14 DESIGN GUIDELINES

Our Story

Båtbyggartraditionen på Orust kan spåras ända tillbaka till 1100-talet. Vikingarna använde den naturliga hamnen i Kungsviken och de omgivande tall- och ekskogarna för att bygga sina båtar. Båtbyggandet fortsatte genom århundradena, och i början av 1900-talet började små båtbyggare använda naturresurserna i området för att bygga båtar av alla storlekar och modeller. Just en sådan byggare, Oscar Arvidsson, jobbade tillsammans med sin son Berndt för att ta fram segelbåtar av god kvalitet.

I slutet av 1960-talet bestämde sig Berndt och hans kollega Thorwald Karlsson för att anlita designern Olle Enderlein till att skissa fram en stabil "33–34-fotskryssare av förträfflig kvalitet, med en rymlig interiör, tillräckligt med segelutrymme och djup som räckte till en stor motor, och så snygg förstås!" Slutresultatet, att förbättra manövrerbarheten och hanteringen genom att överge fullängdskölen och erbjuda ett separat roder, var på den tiden ett radikalt koncept, men det fungerade.

På Orust är båtbyggartraditionen mycket stark. Vår närhet till havet har skapat båtar med säkerhet, komfort, kvalitet och exklusivitet i åtanke. Tidlös design med känsla för hantverk ger våra båtar ett unikt värde

APPENDIX 14 DESIGN GUIDELINES



— Design Principles —

APPENDIX 14 DESIGN GUIDELINES

Core Values

*Quality, Comfort, Safety and
Performance*



Najad Brand Identity | 5

APPENDIX 14 DESIGN GUIDELINES

Logotype

The Najad logotype should always be used together with the pay of "Yachts of Sweden".

Preferred version

Always use this red/grey logotype on a white background

Other versions

Black/white logotype for one color applications. White (negative) logotype together with images.

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APPENDIX 14 DESIGN GUIDELINES

Colors



Najad Red

PMS: 194C
CMYK: 0,100,64,33
RGB: 153,33, 53
HEX: #992135
#992233(websafe)
RAL: 3004



Najad Grey

PMS:
CMYK: 0,0,0,61
RGB: 99,99,99
HEX: #636363
#666666 (websafe)
RAL:



Najad Black

PMS:
CMYK: 0,0,0,100
RGB: 0,0,0
HEX: #000000
#000000 (websafe)
RAL:

Use color swatches to ensure that the colors are correctly reproduced. Always include color swatches when collaborating with subcontractors

Pantone PMS: Color blend according to the Pantone Matching System. For printing.

CMYK: For-color blend. For printing

RGB. Three-color blend. For displays.

HEX: A six-digit code. For webpages.

RAL: For varnish.

APPENDIX 14 DESIGN GUIDELINES

Typography

Use for body text:

Frutiger - roman

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Sample text: Lorem ipsum dolor sit amet, hinc fierent oportere ius

Use for headlines and subheadings:

Adobe Garamond Pro – regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Sample text: Lorem ipsum dolor sit amet, hinc fierent oportere ius

APPENDIX 14 DESIGN GUIDELINES

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———— Industrial Design ————

APPENDIX 14 DESIGN GUIDELINES

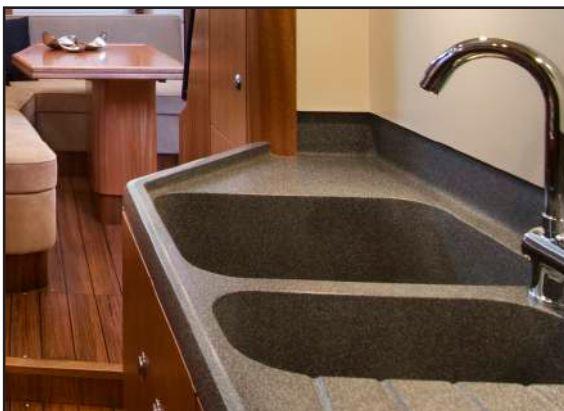
Materials



Varnished Teak



Caulk Teak Deck



Corian Galley

APPENDIX 14 DESIGN GUIDELINES



Luxurious Textiles



Leather covered walls



Grey Detailing

APPENDIX 14 DESIGN GUIDELINES

Visual Elements

Najad is a well-known and respected brand, fine carpentry and high quality has always defined the brand, detailing is built in to the brand DNA. Visual elements with an extra strong connection to the brand are:

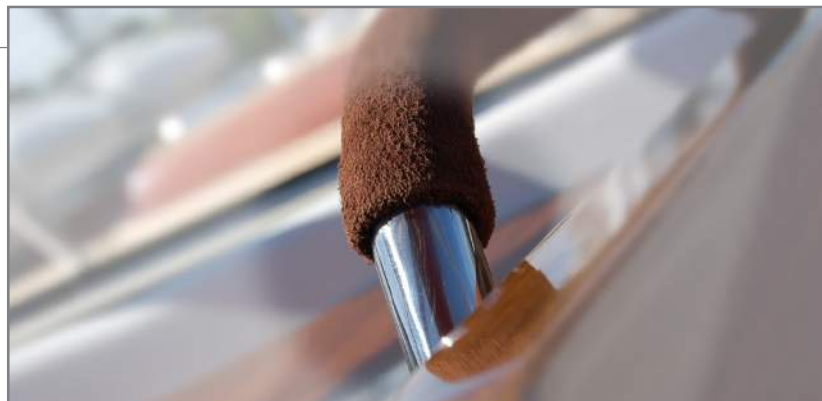


Stair

Stair with curved steps and generous stainless handles covered with skin.

Skin handles

Skin handles placed in the interior where extra support is needed.



Multiple angles

Combinations of various angles connected to each other with a radius.

APPENDIX 14 DESIGN GUIDELINES



Recess

Under lockers a elegant recess defines the locker shape. Often high contrast between the materials are used to emphasise the visual experience.

Flush lipping

Lipping perfectly align with the lower wooden part.



Splitline

Well defined splitlines separating the different wooden part in the interior.

APPENDIX 14 DESIGN GUIDELINES

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— Graphical Guidelines —

APPENDIX 14 DESIGN GUIDELINES

Stationery

Examples: Letterhead & business card.



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VD

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Najad AB | Varvsvägen 1 | 473 31 Henån | 0304 30 800 | www.najad.se



Najad 370p Najad 410 Najad 415p Najad 440 AC/440 CC Najad 505 Najad 570

Najad AB, Varvsvägen 1, SE-473 31 Henån, Sweden. +46(0)304 30800. info@najad.se. www.najad.se
Sales office Stockholm: Duvnäs vikens Marina, Strandpromenaden SE-131 50 Saltjö Duvnäs, Sweden. +46(0)723 342250.



APPENDIX 14 DESIGN GUIDELINES

Representation and Advertisement

RollUps:

A Passion
for Perfection

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Advertising:

NAJAD 570

A passion for perfection

At Najad we understand your passion for sailing - and that understanding is evident in every detail of every yacht we produce.

Sophisticated design is matched with exceptional craftsmanship to offer unparalleled quality, reliability and ease of handling. Hand-crafted at our boatyard on the island of Orust, every Najad we produce carries forward our proud heritage of quality without compromise.

This passion for perfection ensures that whatever the conditions and wherever you sail, your Najad will work with you to offer an outstanding sailing experience.

Najad 370 Najad 415p Najad 410 Najad 440 AC Najad 440 CC Najad 505 Najad 570
NAJAD
 YACHTS of SWEDEN
Najad AB, Norrvidjagen 1, SE-471 11 Brändö, Sweden. +46(0)304 30300. info@najad.se www.najad.se

A passion for perfection

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APPENDIX 14 DESIGN GUIDELINES

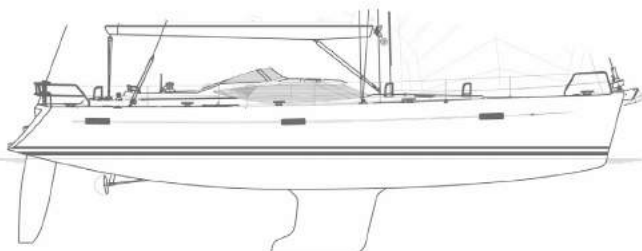
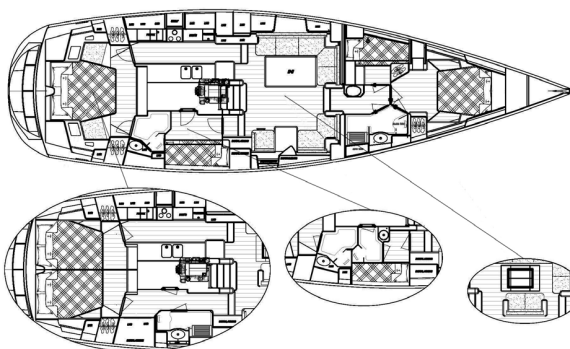
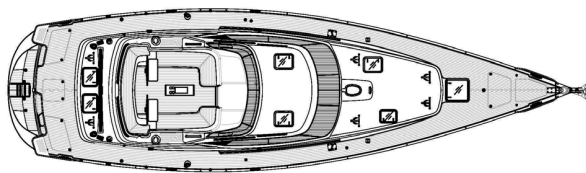
Website material

Examples of how material available for customers at the website Najad.se should look like.

Photos:



Drawings:



APPENDIX 14 DESIGN GUIDELINES



Refined by Samuel Nilsson, 2015-06-11

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APPENDIX 15 *MEDIATING OBJECT*

