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FACULDADE DE ARQUITETURA
UNIVERSIDADE DE LISBOA

Product Design applied in a recreational aquatic platform

. Conceptualization of a multifunctional platform ideal for closed waters

Internship in Snorkel Dive Innovations
17th February to 8th August 2017

Final project developed to obtain the degree of Master in Product Design
Final Document

Projecto final para obtenção de grau de mestre do curso Design de Produto
Documento Final

Alexandra Salomé Costa Silva
Supervisor: Paulo Dinis, Ph. D

February

Date	Start	Finish	Hours	Activities
17/02/2017	9.00	17.30	8,00	Introduction, team meeting, activity 2, etc…
20/02/2017	9.00	17.30	8,00	Moodboard for the Step dive Details and Harness
21/02/2017	08.30	1.007	8,00	Moodboard for the Step dive and research and colection of images and info
22/02/2017	9.00	16.30	7,30	Moodboard for the Step dive, Sketching and discussion in team, research and colection of images and info
23/02/2017	08.30	17.00	8,00	Rearrengement of the Moodboard with details and object in use & 1st sketches
24/02/2017	08.30	16.30	8,00	Reasearch of details for the harness ,sketches and rearrengement of the boat´s moodboards
27/02/2017	08.40	15.30	7,00	Moodboard for the boats\platforms for backpack
28/02/2017	09.00	16.30	7,30	Moodboard for the boats\platforms for backpack, discution about the theses & starting of the next moodboard

March

Date	Start	Finish	Hours	Activities
01/03/2017	13.00	15.30	2,30	Moodboard for solutions for storing in a car, verification of solutions for the harness & research on body measurements
02/03/2017	11.00	18.00	7,00	Trip to Wien: Certification of the step dive
03/03/2017	10.00	18.00	8,00	Tulln Boot Messe
04/03/2017	09.00	20.00	11,00	Start Up Live
05/03/2017	09.00	17.00	8,00	Start Up Live
06/03/2017	09.00	16.30	7,30	Moodboard for solutions for storing in a car
07/03/2017	08.40	16.30	8,00	End of the moodboard for solutions for storing in a car and pre- prototype of the harness
08/03/2017	09.00	16.30	7,30	Sketches and prototyping of the harness , research of solutions for the weights, sketching and organization of the last moodboard
09/03/2017	09.00	16.30	7,30	Moodboard for solutions to store in a trailer and discution and keyfacts for the theses project
10/03/2017	08.50	16.30	7,40	Considerations and discution about the harness, prototyping and sketches of the views
13/03/2017	08.40	16.30	8,10	Drawings ,prototyping and discution about the main shape and research about the body & clothes dimensions
14/03/2017	08.50	15.30	6,40	Discution about the dimensions of the product and sketches
15/03/2017	08.50	16.30	7,40	Learning how to use the sewing machine, sketching and verification of the drawings
16/03/2017	08.40	17.50	9,00	Sketches of the back and front view of the porduct and details
17/03/2017	08.30	16.30	8,00	Prototype of the harness with diferent materials
20/03/2017	08.45	16.50	8,00	Prototype of the harness with diferent materials & shoulder pad
21/03/2017	08.45	17.00	7,20	Prototype of the harness with diferent materials,shoulder pad & buckles
22/03/2017	08.50	17.00	7,00	Ending of the prototype, attempt to meet with a supplier and considerations for the poache
23/03/2017	08.50	17.00	7,00	Prototype of the Poach for the weights
24/03/2017	10.00	17.00	6,00	End of the prototyping and considerations on the final design
27/03/2017	08.50	17.00	8,00	Prototype with the step dive logo on Photoshop and planification of the prototype
28/03/2017	10.00	17.00	6,00	Planification of the prototype with neopren of the exterior raft and harness
29/03/2017	09.00	17.00	8,00	Drawing for the shoulder patch, poach and raft with logo and details included
30/03/2017	09.00	17.00	8,00	Checking of measurements and details & finalization of the drawings with printing
31/03/2017	10.00	16.30	5,30	Cuting and steaching in the neoprene . Documenting in picutres and sketches the measurements

July

Date	Start	Finish	Hours	Activities
03/07/2017	10.00	16.30	6,30	Sketching and researching on the diferent use cases
04/07/2017	09.00	17.00	8,00	Sketching and researching on the diferent use cases| Brainstorming
05/07/2017	09.00	17.00	8,00	Sketching on the diferent use cases
06/07/2017	10.00	18.00	8,00	Sketching on the diferent use cases
07/07/2017	09.30	13.00	4,00	Sketching on the diferent use cases
10/07/2017	13.00	17.00	4,00	Sketching on the the diferent use cases
11/07/2017	09.00	17.00	8,00	Translation of documents for the grant| Sketches on the diferent use cases
12/07/2017	09.00	17.00	8,00	Sketching on the use cases
13/07/2017	09.00	13.00	4,00	Sketching on the use case of packing
14/07/2017	10.00	18.00	8,00	Sketching of the use cases
17/07/2017	13.00	16.30	3,30	Sketching of the use cases
18/07/2017	10.00	16.30	7,30	Sketching of the use cases| Conclusion on the structure
19/07/2017	09.00	17.00	8,00	Development of the choosen structure
20/07/2017	09.00	17.00	8,00	Development of the choosen structure
21/07/2017	09.00	17.00	8,00	Development of the choosen structure
24/07/2017	09.00	17.00	8,00	Development of the choosen structure| brainstorming and discussion
25/07/2017	10.00	18.00	8,00	Development of the choosen structure and research
26/07/2017	09.00	17.00	8,00	Development of the choosen structure and research| Brainstorming and discution
27/07/2017	09.00	17.00	8,00	Development of the sub- concept
28/07/2017	13.00	17.00	4,00	Discussion on the concepts and creative process
31/07/2017	10.30	16.30	6,00	Sketching on the final concept| views

August

Date	Start	Finish	Hours	Activities
01/08/2017	9.30	19.00	9,3	Sketching views of the second conceptl 3D modeling on the structure
02/08/2017	9.30	17.00	7,3	3D modeling on the structurel Decision n the conceptl Perspective Drawing
03/08/2017	9.30	18.00	8,3	Drawing of the perspective
04/05/2017	10.00	17.00	7	Drawing of the perspectives on the diferent uses cases
07/05/2017	9.30	16.30	7	Scanning of the sketches and collecting data

April

Date	Start	Finish	Hours	Activities
03/04/2017	8.00	17.00	8,00	Final details on pieces to print and beginning of the document with photos and mesaurements for production
04/04/2017	8.00	17.00	8,00	End of the document for the production of the textil
05/04/2017	10.00	17.30	7,00	End of the document of step dive and discussion on the thieses
06/04/2017	09.00	16.00	6,00	Meet and Match in the FH Kärntern
07/04/2017	08.50	17.00	8,00	Modifications on the raft and writting of the proposal for the theises
18/04/2017	13.00	16.30	4,30	Saved the logo file with better quality and research of the water rafts
19/04/2017	09.00	17.00	8,00	Research on the thesis
20/04/2017	09.00	18.00	9,00	Change on the shoulder Patch\ Writting the argument\ research for the state of art
21/04/2017	09.00	16.30	7,30	Organization of the thesis proposal\ brainstorming
22/04/2017	09.00	17.00	8,00	Writting of the thesis\ reading of the Patent\ brief sketching
23/04/2017	09.00	17.00	8,00	Thesis: goals, argument and research questions\sketching of concepts

May

Date	Start	Finish	Hours	Activities
03/05/2017	09.00	17.00	8,00	Thesis: Critic factores of sucess, investigation topic, dissemination
04/05/2017	09.00	17.00	8,00	Brainstorming and Sketches of concepts
05/05/2017	09.00	17.00	8,00	Thesis: research topic/ Brainstorming & sketching
08/05/2017	09.00	17.00	8,00	Thesis : Introduction & sketching and annotations/ Setting up of a folder in google drive
09/05/2017	09.00	17.00	8,00	Thesis: Introduction & key words, Resume
10/05/2017	09.00	17.00	8,00	Thesis: Resume , previsional calendar, glossary, references/ Sketching /new 2D drawing of the harness
11/05/2017	09.00	17.00	8,00	Thesis: Resume and Introduction\ Sketching
12/05/2017	09.00	17.00	8,00	Thesis: objectives\ Discussion about Dissemination, critic factors of sucess, company and sketches
15/05/2017	09.00	16.30	7,30	Thesis: Company I Research on DIY kayaks
16/05/2017	09.00	17.00	8,00	Thesis: Company and structure of the state o artl Skecthing and research
17/05/2017	09.00	17.00	8,00	Thesis: Dissemination and State of art
18/05/2017	09.00	17.00	8,00	Thesis: State of art - Product Design and Marine industries| Update on harness 2D with the stiching lines
19/05/2017	09.00	17.00	8,00	Thesis: State of art- Multihulls and main designers| Buissness model canvas
22/05/2017	09.00	17.00	8,00	Thesis: Captions for images and refernces| Brainstorming
23/05/2017	09.00	17.00	8,00	Thesis: Vessels classifications and main structures| Research and development of the concept
24/05/2017	09.00	17.00	8,00	Thesis: Types of vessels and organization of the document
29/05/2017	09.oo	17.00	8,00	Thesis: captions for images and state of art|Proposal of the thesis sent| Reasearch and skething
30/05/2017	10.00	17.30	7,30	Thesis: Bibliography and references| Research and sketching
31/05/2017	09.00	17.00	8,00	Thesis: Taxes and responsabilities| Sketching and prototyping

June

Date	Start	Finish	Hours	Activities
01\06\2017	09.00	17.00	8,00	Brainstorming| Thesis: taxes and responsabilities
02/07/2017	10.00	17.00	7,00	Thesis: Recreational Boating| sketching
06/07/2017	14.00	17.00	5,00	Research| sent of the ticket for the deadline´s extension
07/06/2017	09.00	17.00	8,00	Thesis: Changes from the feedback obtained| Sketching
08/06/2017	09.00	17.00	8,00	Thesis: Argument and research questions | Reunion with Jans| Sketching
09/06/2017	10.00	17.00	7,00	Thesis: state of art- Recreational Boating | Research and sketching
12/06/2017	10.00	17.00	7,00	Prototyping and sketching
13/06/2017	09.00	17.00	8,00	Thesis: Organization of the document| Research and sketching
14/06/2017	10.00	17.00	7,00	Research, sketching and prototyping in 1.20 scale| Decision on the general structure
19/06/2017	09.00	17.00	8,00	Sketching for the swath boat
20/06/2017	10.00	17.00	7,00	Sketching for the swath boat| Discussion with Tiemen
21/06/2017	09.00	17.00	8,00	Sketching of the structure and prototyping
22/06/2017	09.00	17.00	8,00	Prototyping the structure
23/06/2017	09.00	17.00	8,00	Prototyping of the structure and thecnical drawing of the raft
26/06/2017	10.00	17.00	7,00	Prototyping the structure 3rd concept
27/06/2017	09.00	17.00	8,00	Finalization of the prototype of the structure| drawings on the other elements
28/06/2017	09.00	16.30	7,30	Sketching , prototyping and Brainstorming\discution on the plus and minus of the structure
29/06/2017	10.00	17.00	7,00	Prototyping scale 1.20 | sketching and researching
30/06/2017	09.00	17.00	8,00	Sketching and researching on the diferent use cases

Components to consider

Hose Attachments


With tank


With compressor

Weight belts


Softs


Rigid

Scuba vest (might be optional)

Waistbelt

Other alternative products

Harness

Moodboard
Step dive
Solutions for the harnes

Full body vest

Other alternative products

Alexandra Silva
10 th January 2017

Moodboard
Step dive- Solutions for the Harnes

Kanu structure










Boats









II- Moodboard
Solution for storing in a car

Catamaran Structure





Sailing Boat



Catamaran+ Sailing Boat


Other structures Boats





Trimaran structure




Floating platforms inflatable



Sailing boats inflatable



Kanus






Back-packs

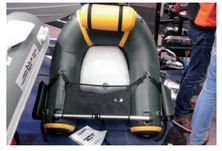




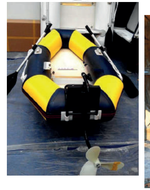


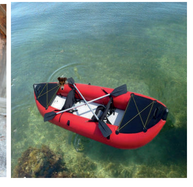


Small boats inflatable



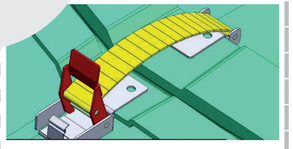


I- Moodboard
Solutions to store in a backpack

Details



Small inflatable Boats & Boats with tubular structures








III- Moodboard
Solution for a trailer

Boat structure type



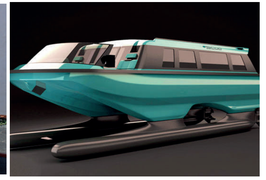




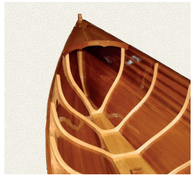








Details



Boat structure type II



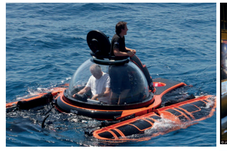


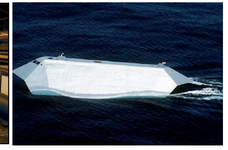


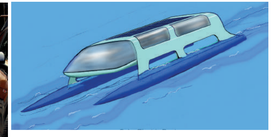





Other configurations







Katamaran\ Trimaran







Product Design applied to a recreational aquatic platform			
Component	Pictures of the prototype		
Phase	Technical Drawings - 1st Deliever	Date	30/3/2017

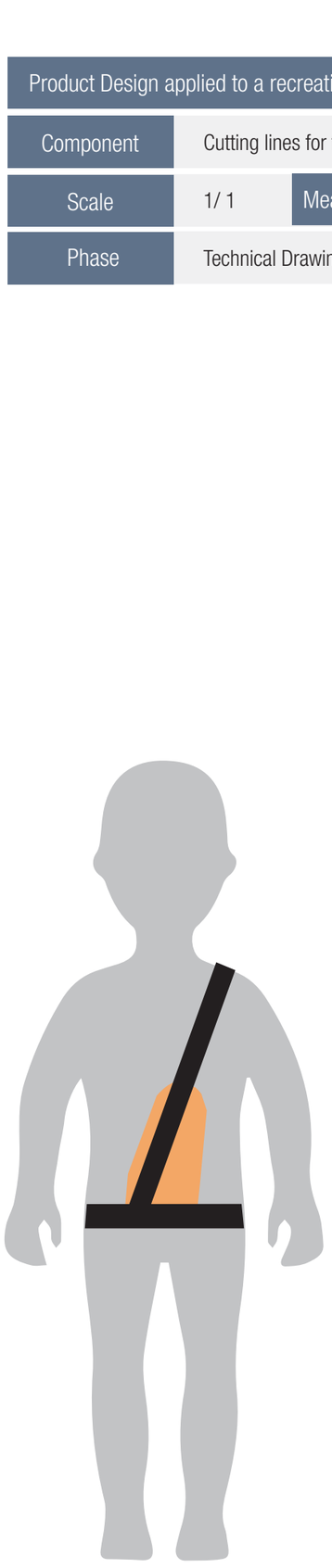
1 Shoulder Patch

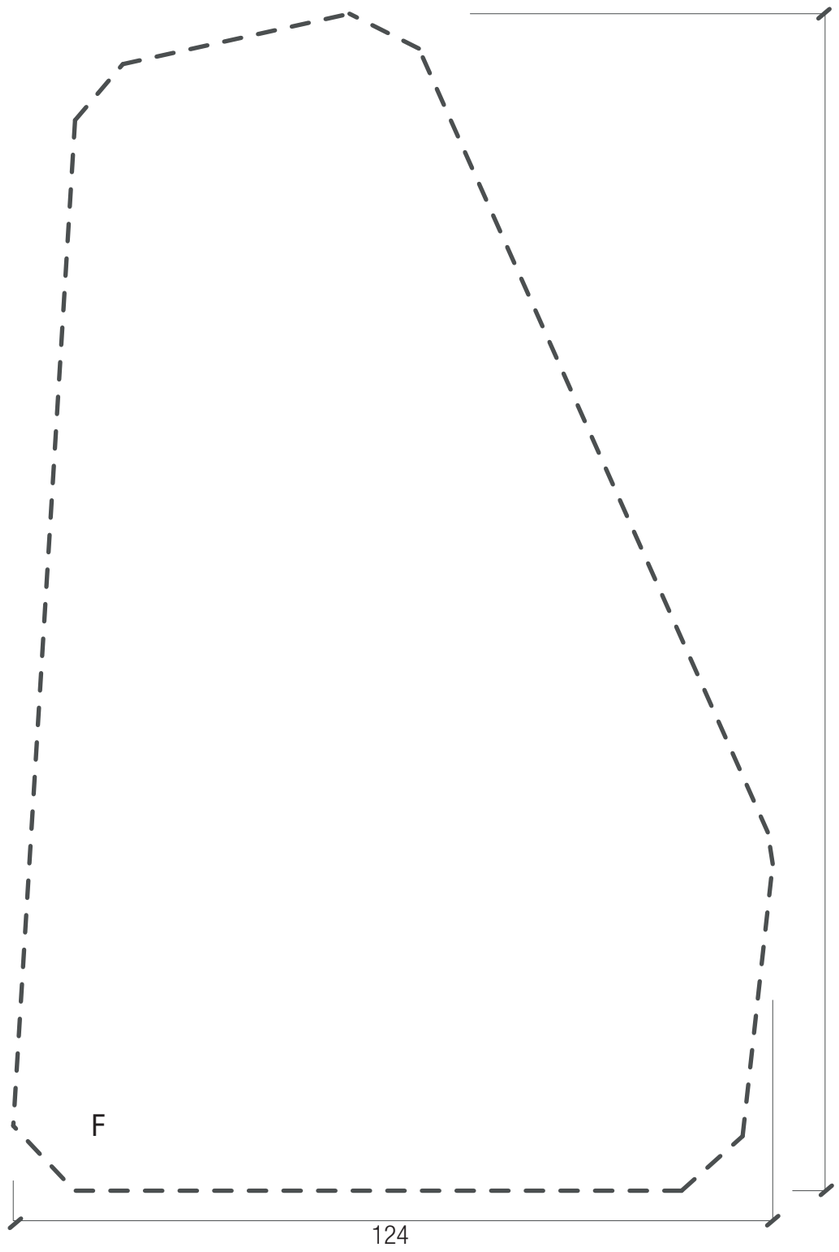
2 Neoprene piece- back piece

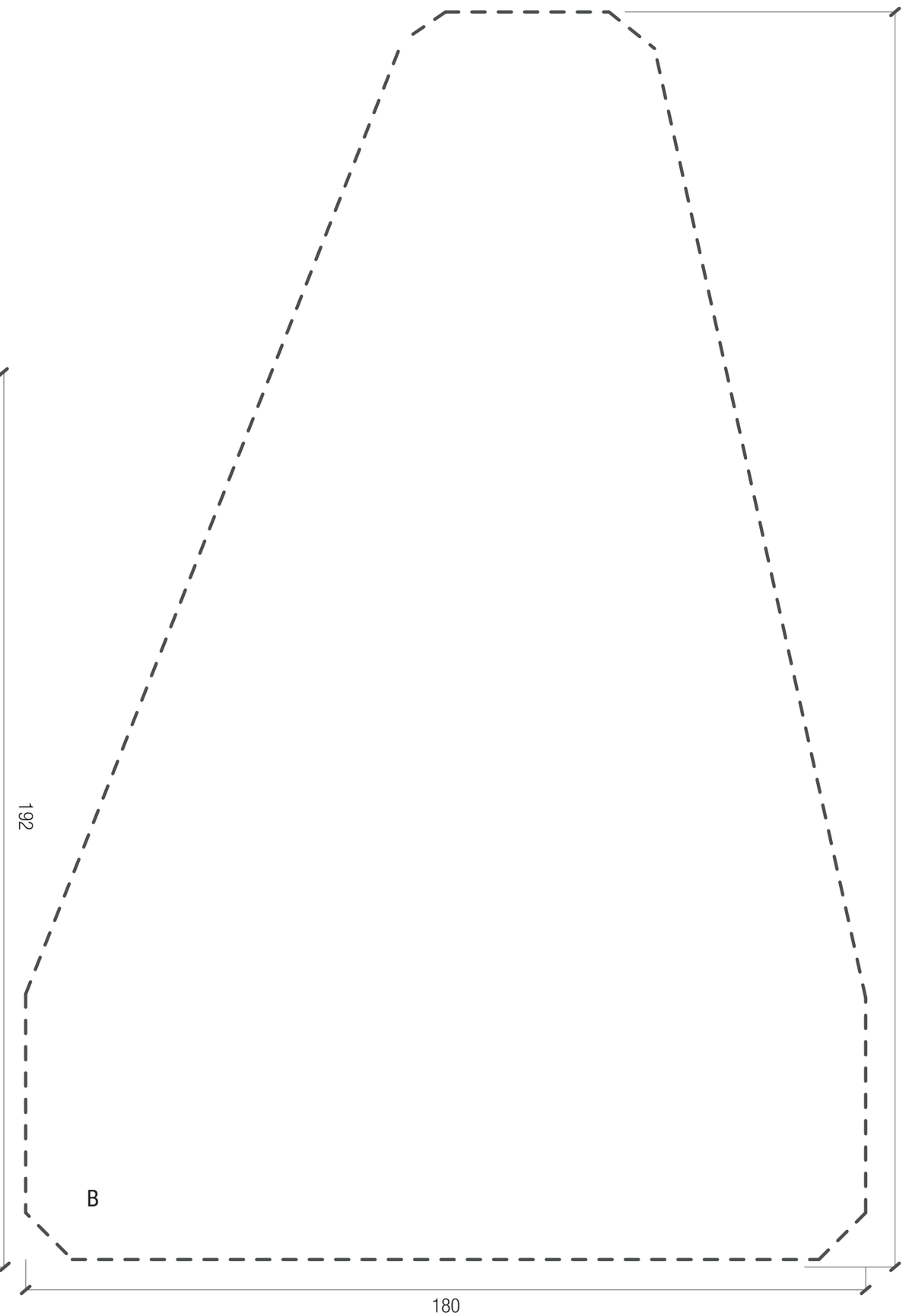
3 Neoprene piece- front piece

4 Weight´s bag

Product Design applied to a recreational aquatic platform					
Component	Cutting lines for the neoprene pieces- Front and Back				
Scale	1/ 1	Measurement units	mm	Drawing	A
Phase	Technical Drawings - 1st Deliever			Date	30/3/2017

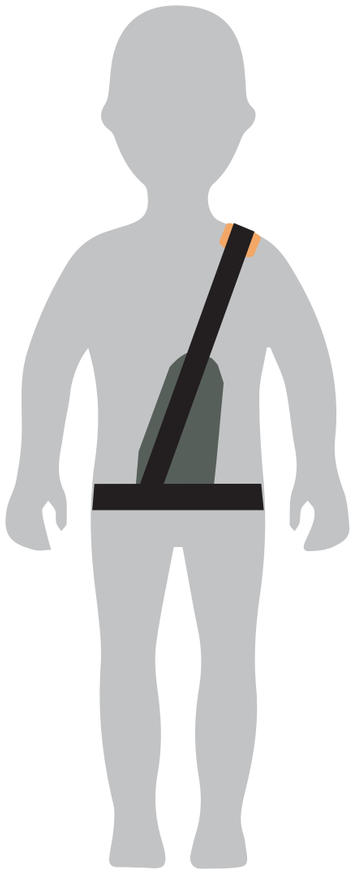


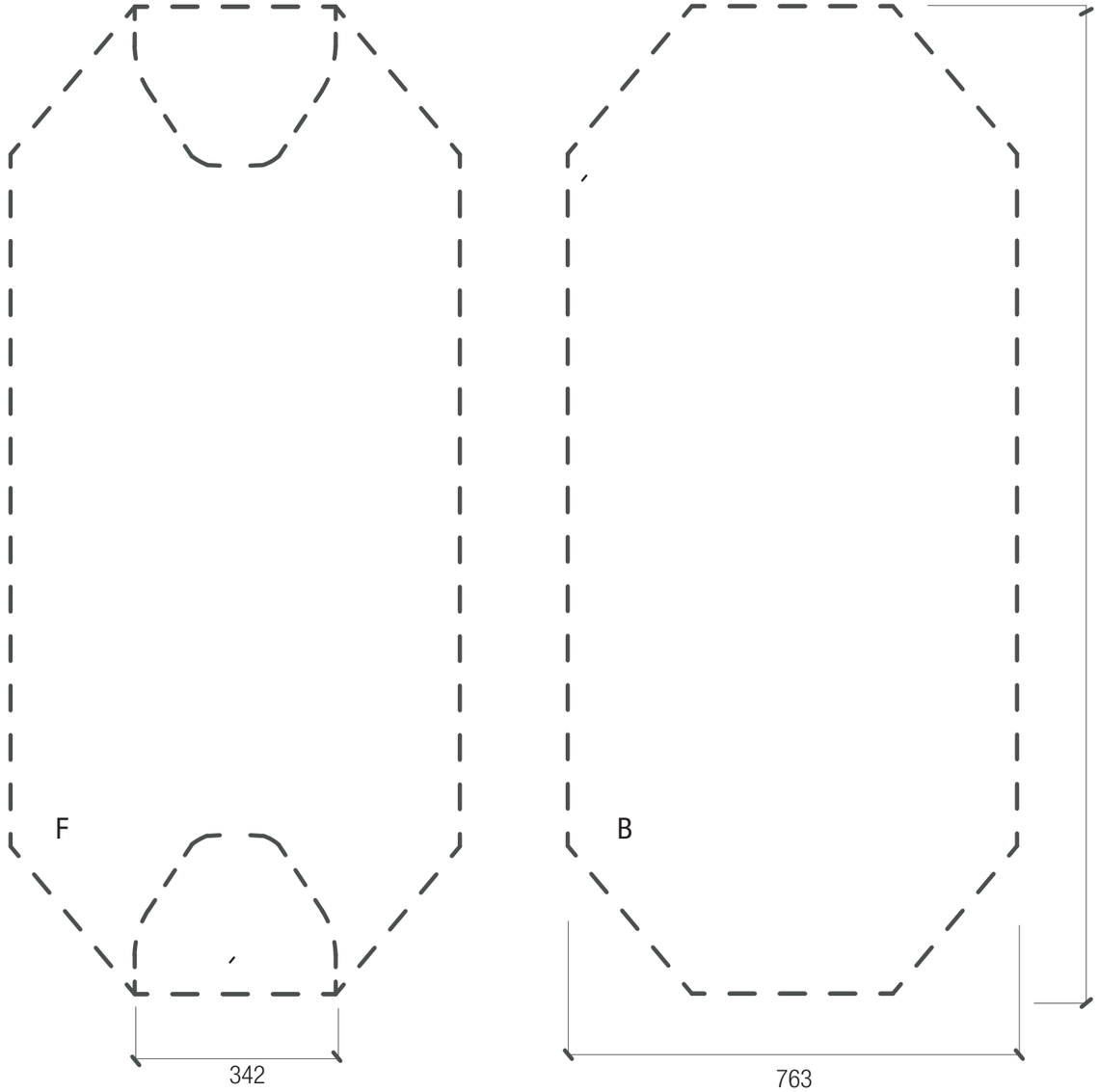




Children´s silhouete for a 10 years old aprox. 140 cm | scale: 1/10

Product Design applied to a recreational aquatic platform					
Component	Cutting lines for the shoulder Patch - Front and Back				
Scale	1/ 1	Measurement units	mm	Drawing	B
Phase	Technical Drawings - 1st Deliever			Date	30/3/2017

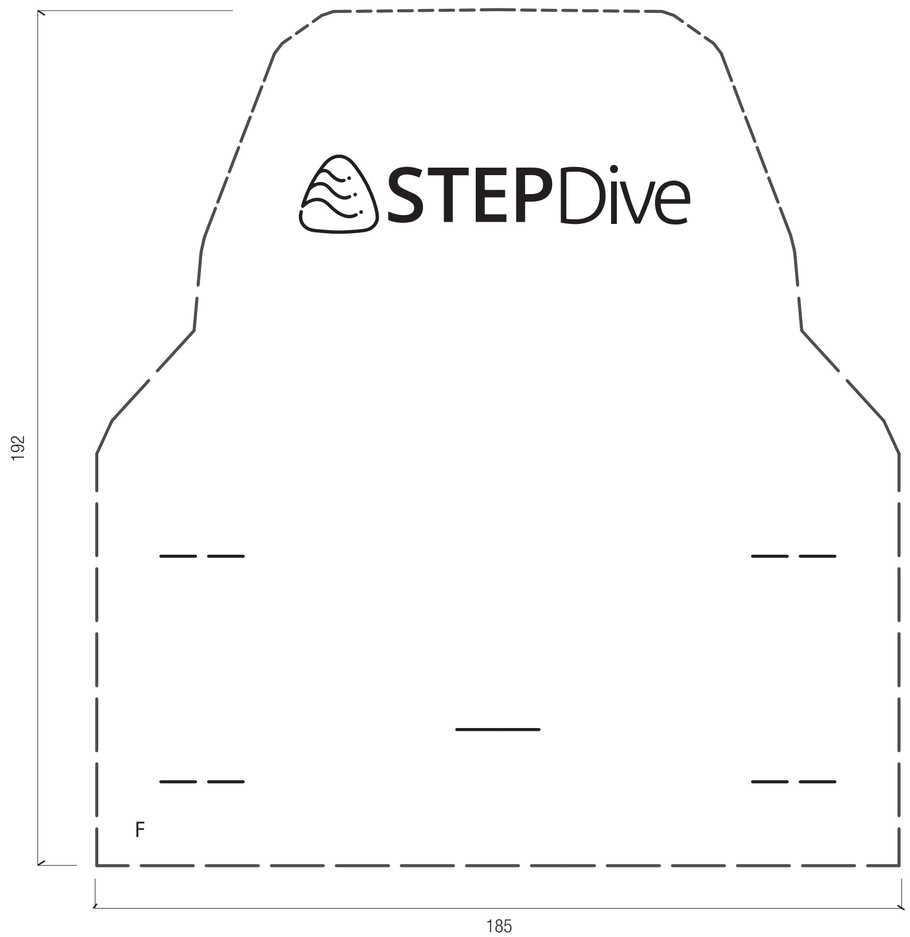


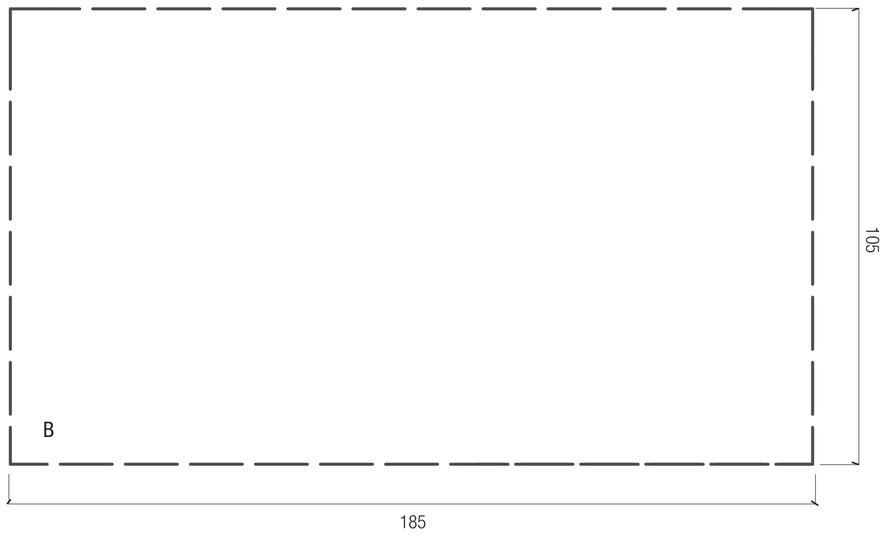


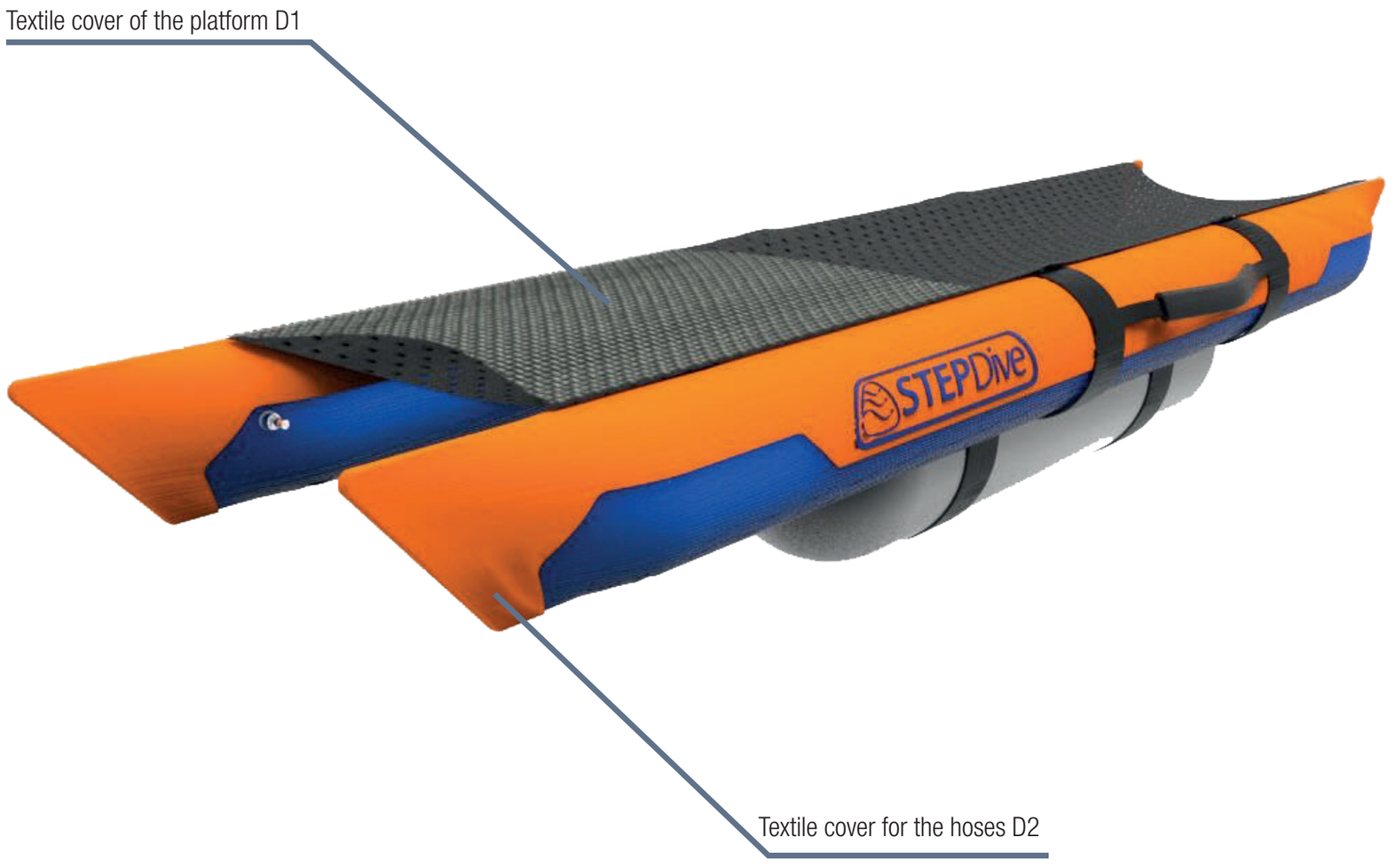
Children´s silhouete for a 10 years old aprox. 140 cm | scale: 1/10

Product Design applied to a recreational aquatic platform					
Component	Cutting lines for the Weight´s bag - Front and Back				
Scale	1/ 1	Measurement units	mm	Drawing	C
Phase	Technical Drawings - 1st Deliever			Date	30/3/2017

Children´s silhouete for a 10 years old aprox. 140 cm | scale: 1/10



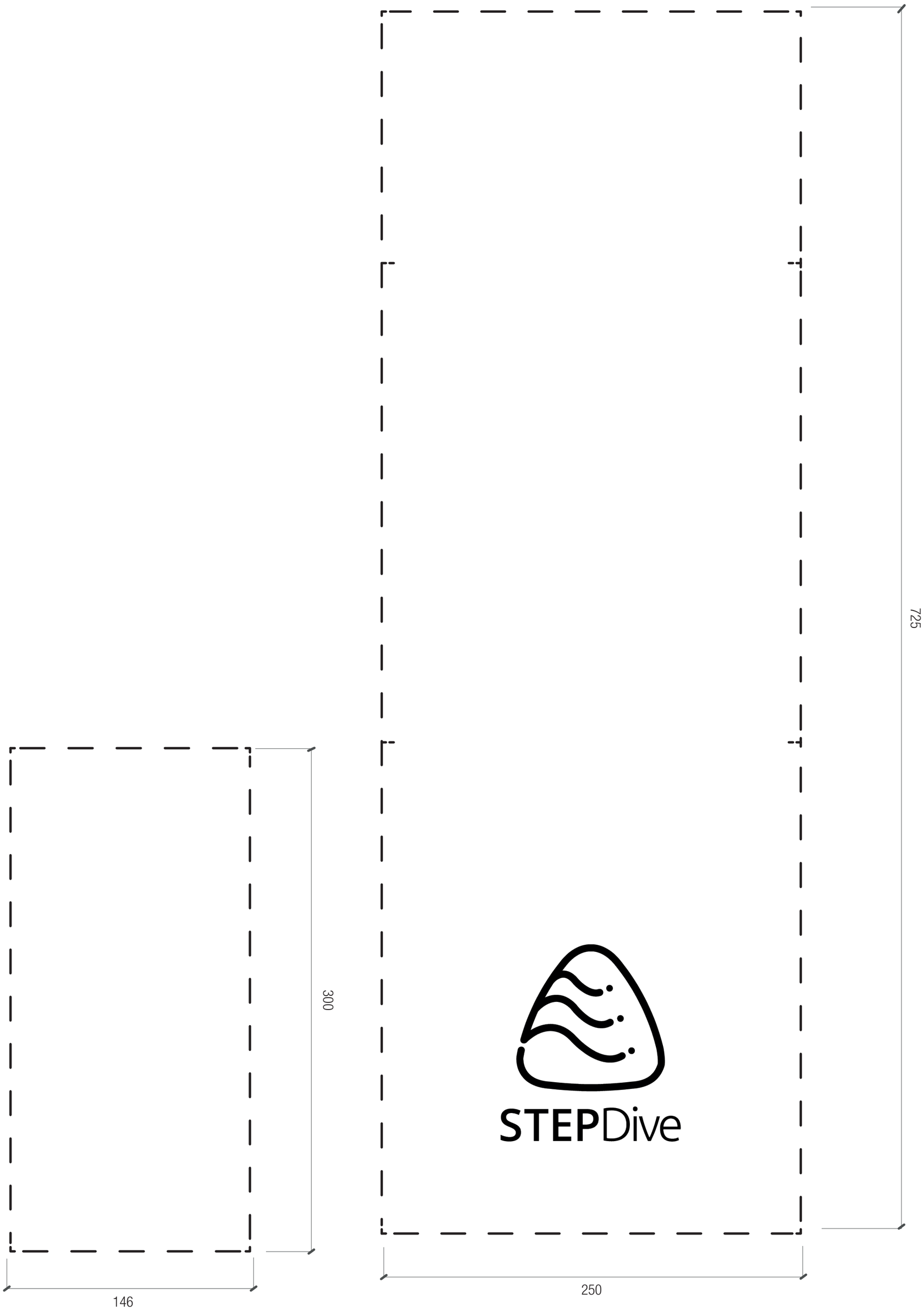




Drawing of the 3D model of the Step Dive´s raft

Drawing of the 3D model of the Step Dive without the cover o the platform

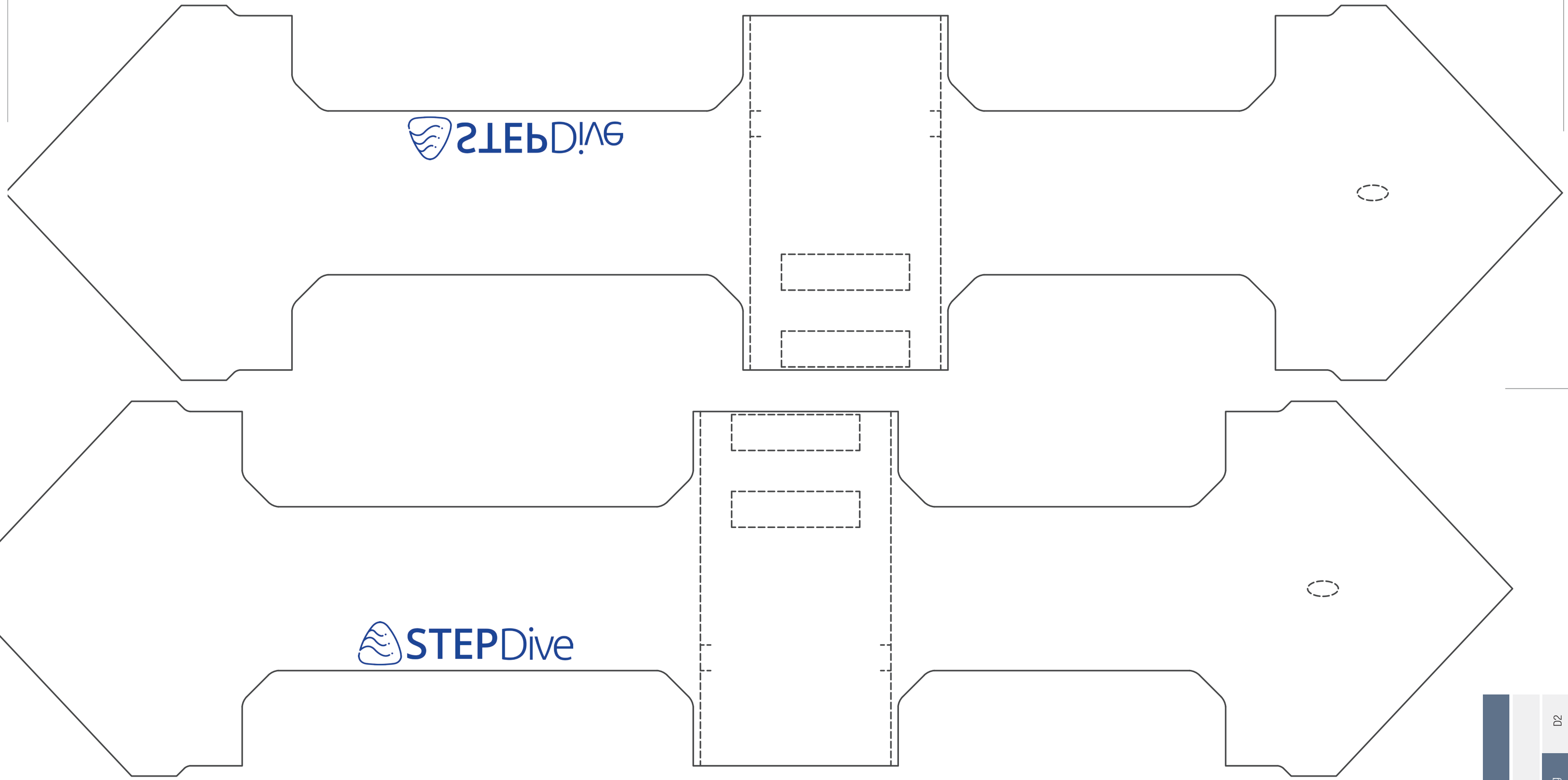
Product Design applied to a recreational aquatic platform	
Component	Step Dive Raft- 3d Model
Phase	Technical Drawing



Product Design applied to a recreational aquatic platform					
Component	Cutting lines for textile on the raft for the platform				
Scale	1/ 2	Measurement units	mm	Drawing	D1
Phase	Technical Drawings - 1st Deliever			Date	30/3/2017

1000

260



Product Design applied to a recreational aquatic platform	
Component	Cutting lines for textile on the raft for the hoses
Scale	1/ 2
Measurement units	mm
Drawing	D2
Phase	Technical Drawings - 1st Deliever
Date	30/3/2017

Product Design applied to a recreational aquatic platform			
Component	Pictures of the prototype		
Phase	Technical Drawings - Final	Date	14/6/2017

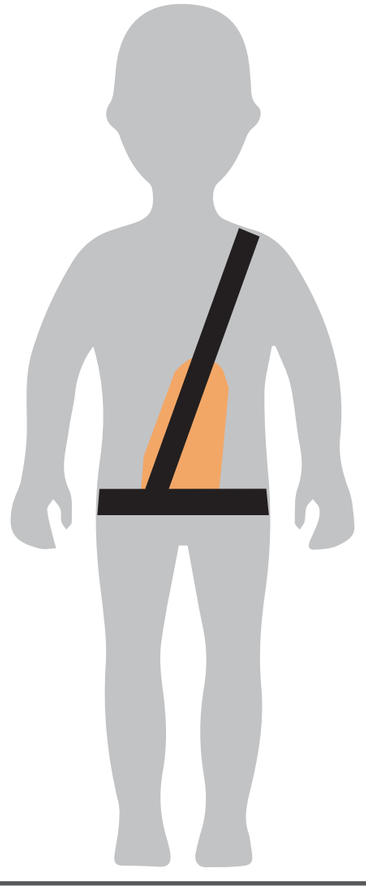
1 Neoprene piece- front piece

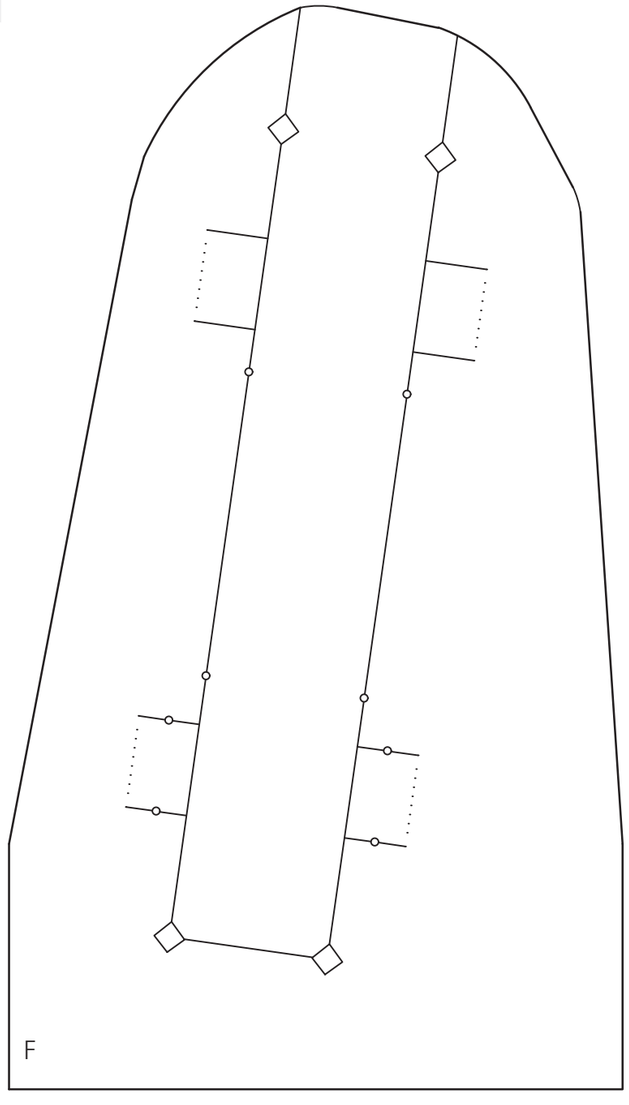
2 Weight´s bag

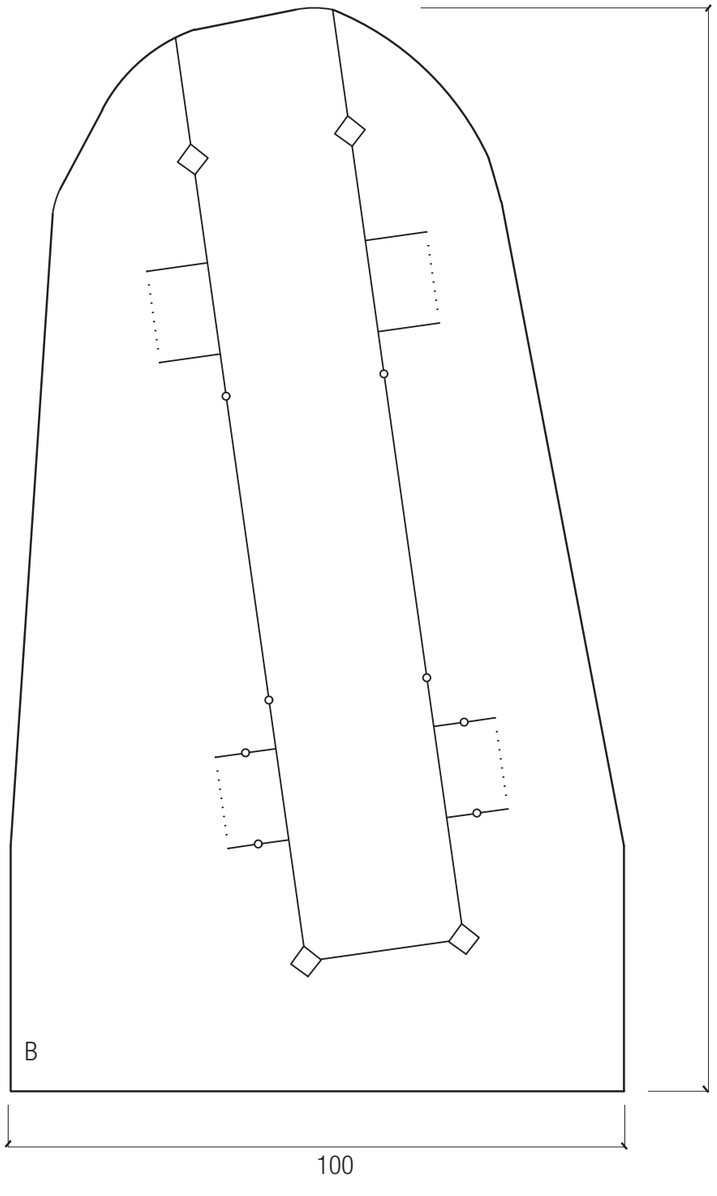
3 Shoulder Patch

4 Neoprene piece- back piece

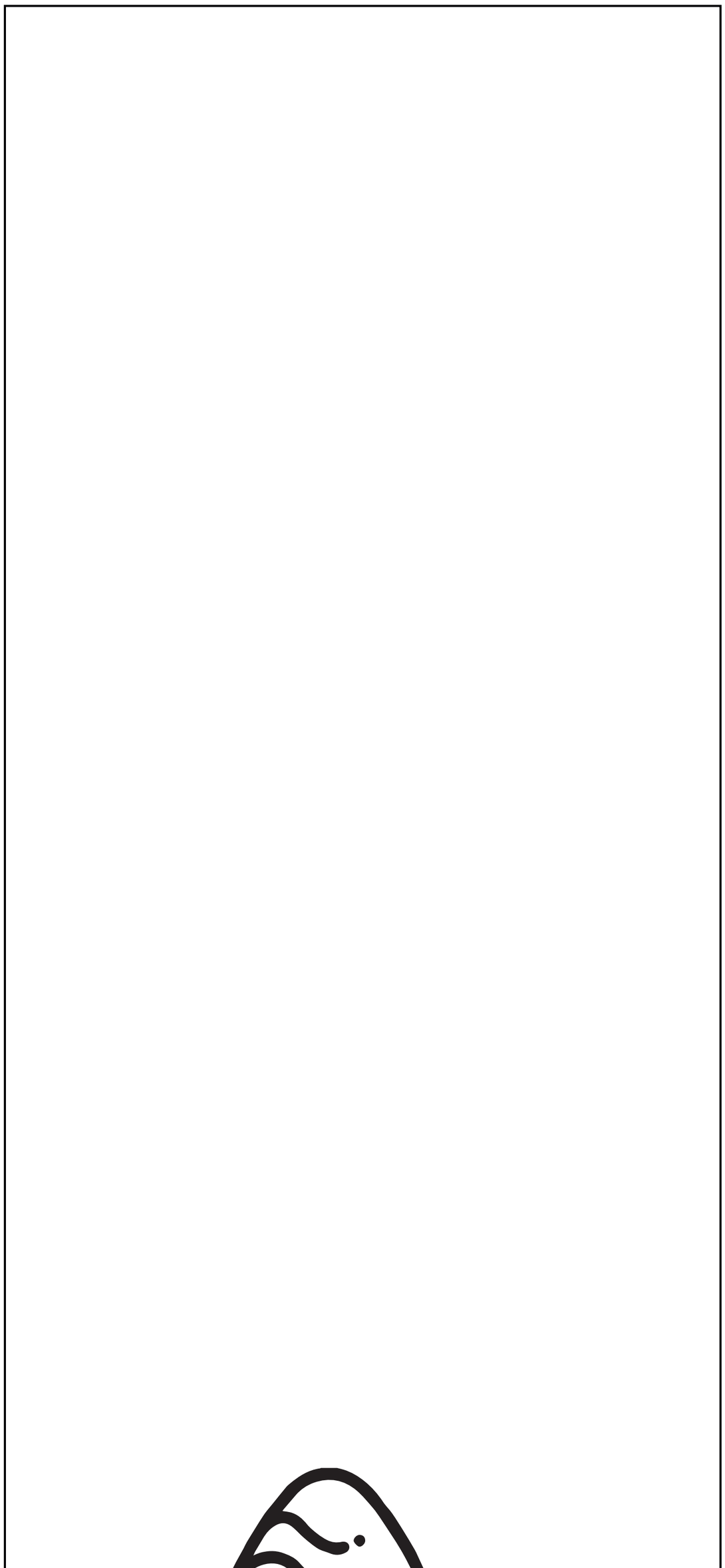
Product Design applied to a recreational aquatic platform					
Component	Cutting lines for the neoprene pieces- Front and Back				
Scale	1/ 1	Measurement units	mm	Drawing	A
Phase	Technical Drawings - Final			Date	14/6/2017





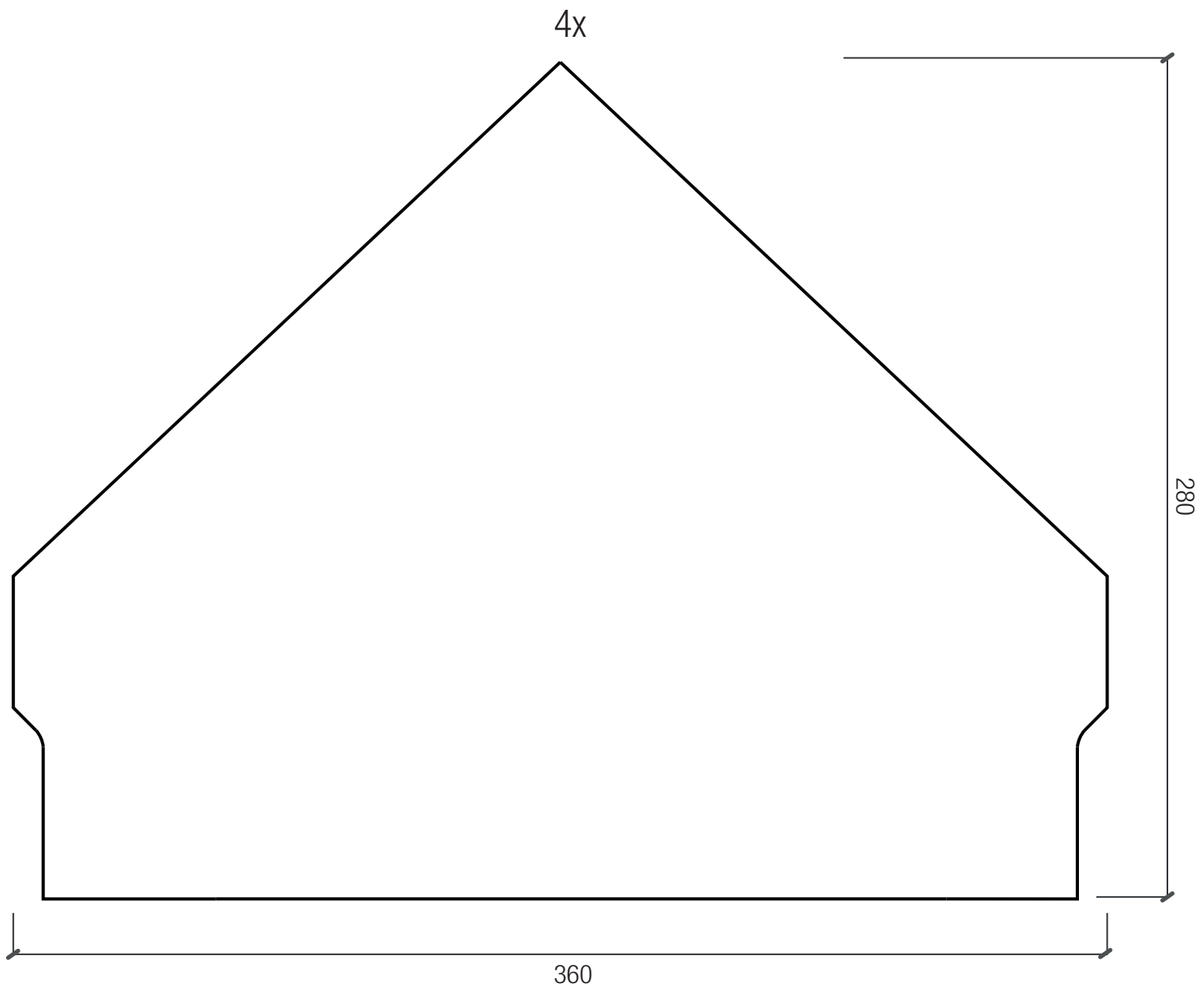


Children´s silhouete for a 10 years old aprox. 140 cm | scale: 1/10



355

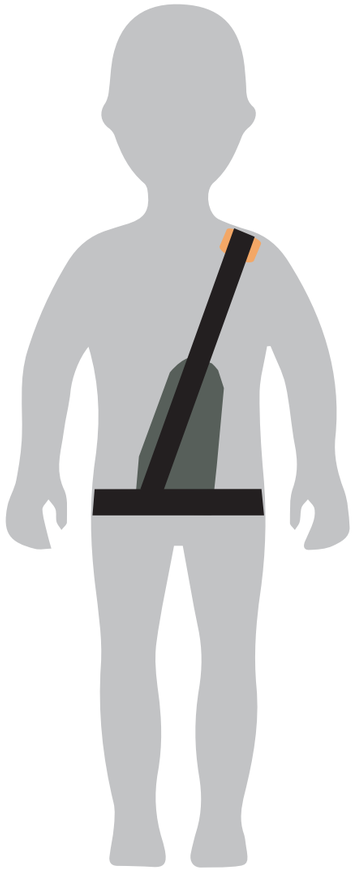
1400

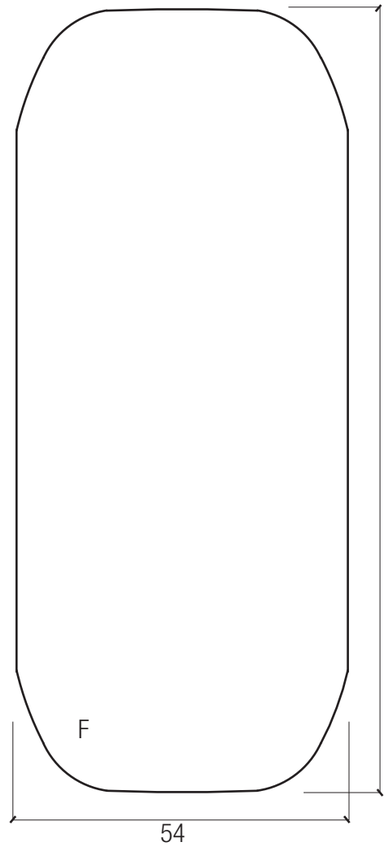


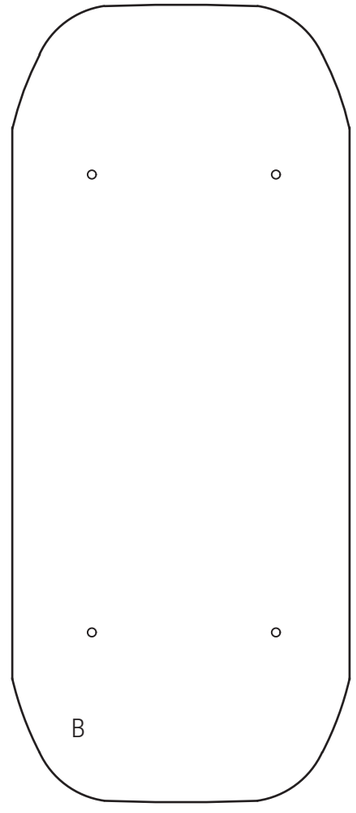
Product Design applied to a recreational aquatic platform					
Component	Cutting lines for textile on the raft for the hoses D2 and platform D1*				
Scale	1/ 2	Measurement units	mm	Drawing	D1 & D2
Phase	Technical Drawings - Final drawing			Date	19/4/2017

(* Note: I do not have a picture of the last update of this two components because the prototyping continued after my internship ended)

Product Design applied to a recreational aquatic platform					
Component	Cutting lines for the shoulder Patch - Front and Back				
Scale	1/ 1	Measurement units	mm	Drawing	B
Phase	Technical Drawings - Final			Date	19/6/2017

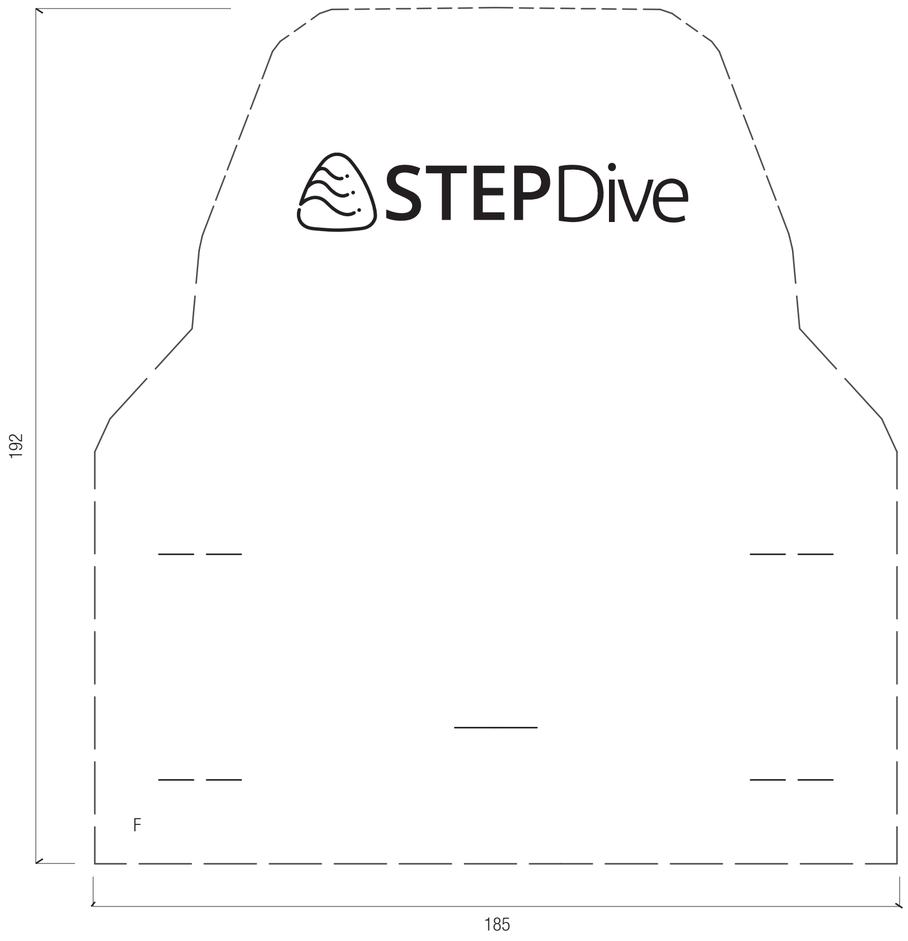


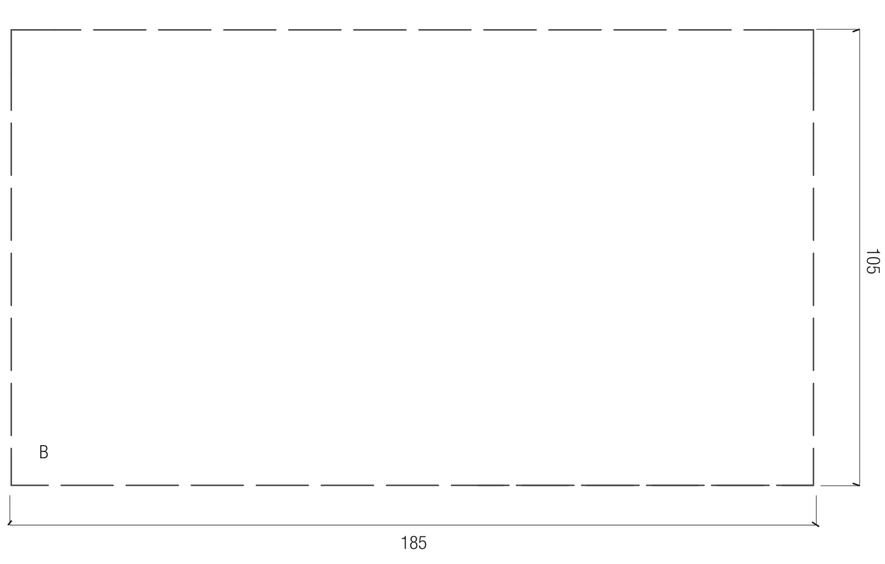




Children´s silhouete for a 10 years old aprox. 140 cm | scale: 1/10

Product Design applied to a recreational aquatic platform					
Component	Weighta´s bag Front and Back				
Scale	1/ 1	Measurement units	mm	Drawing	C
Phase	Technical Drawings - Final			Date	19/4/2017

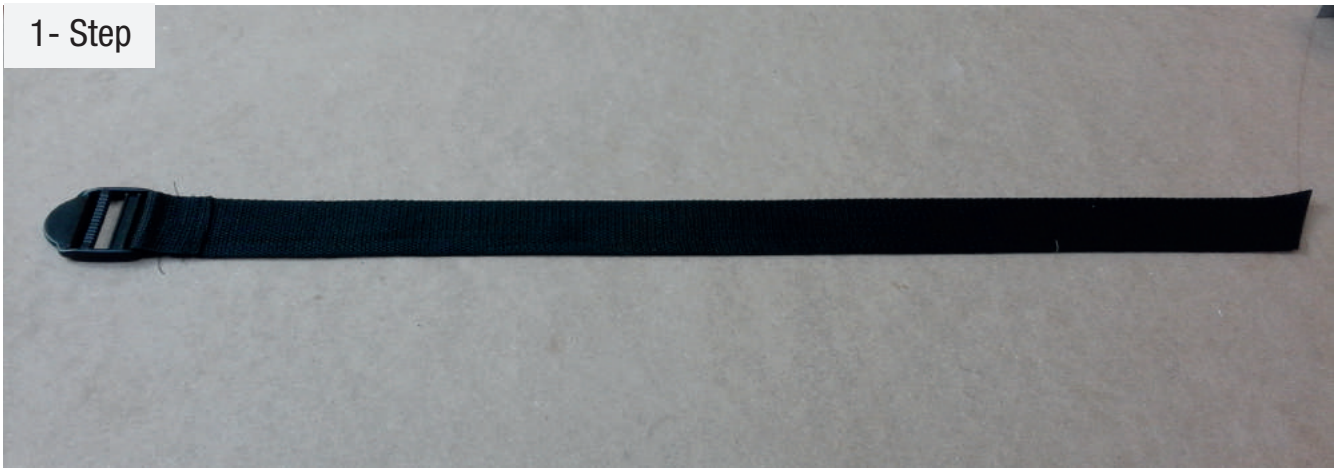




Children´s silhouete for a 10 years old aprox. 140 cm | scale: 1/10

Front pieces

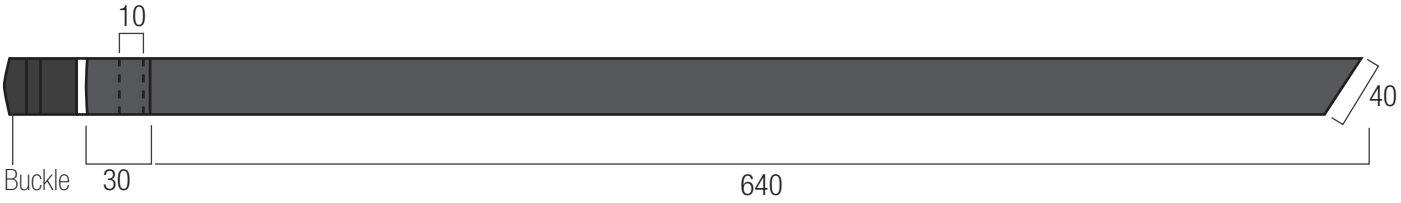
1- Step



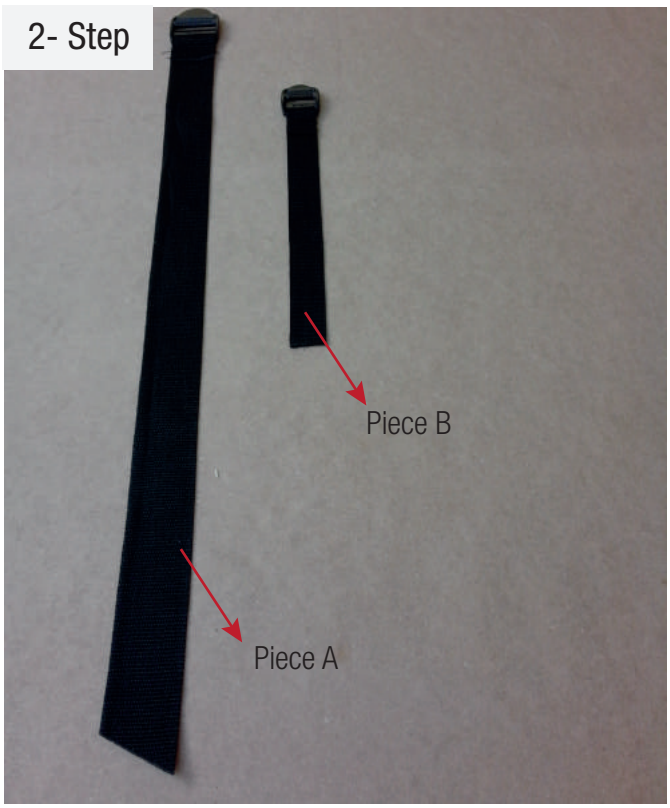
a) Cut one stripe of black nylon (piece A) and add a buckle in one end with a 3 cm space by folding and stiching;
b) Stich 2 times with 10 mm distance from the twoo;

I) 1- Step

. Piece A (670x 40x 2mm)
. No scale I mm

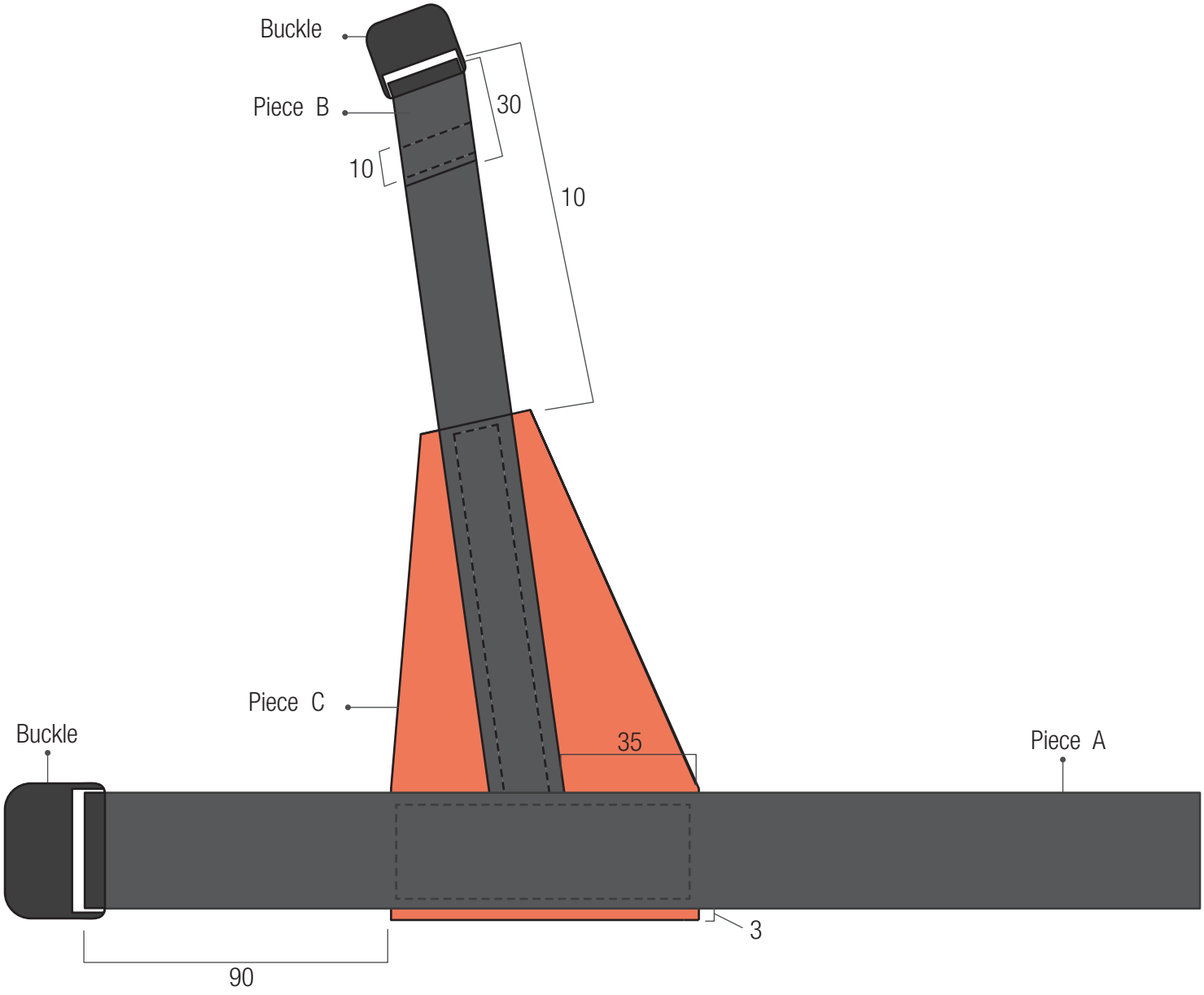


2- Step

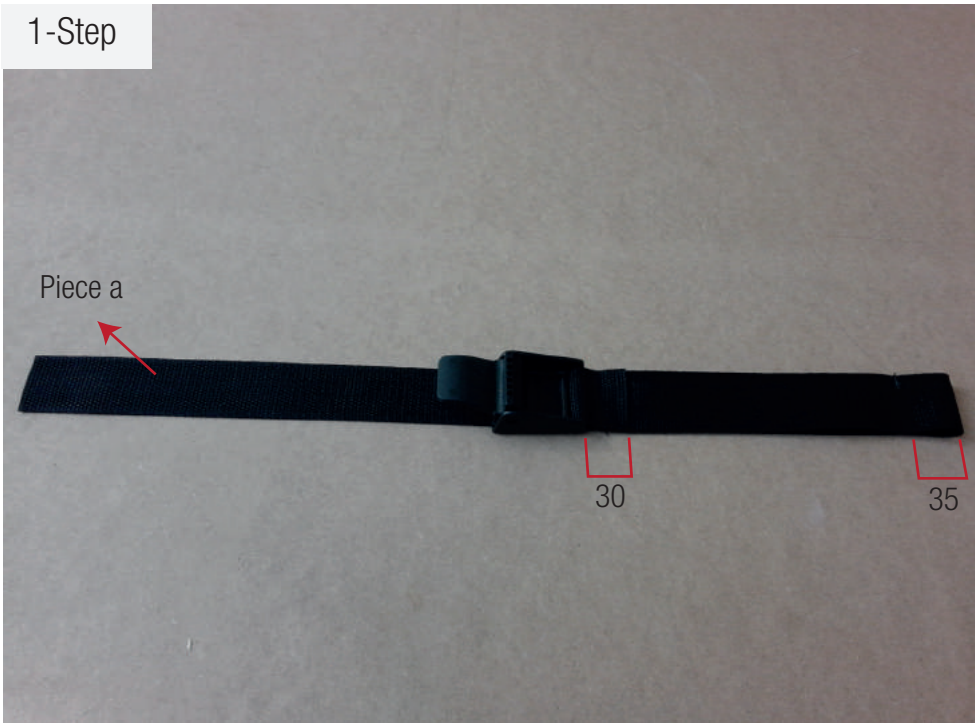


a) Cut and stich the piece B with the same material as piece A

III) 3- Step and 4- Step



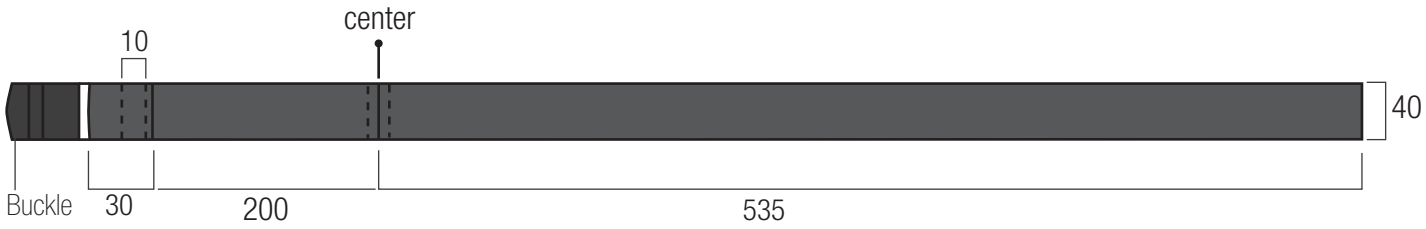
Back pieces

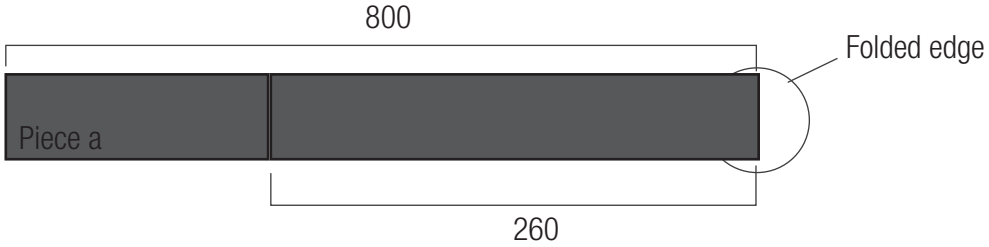


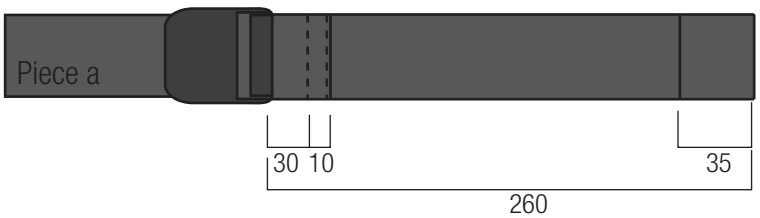
a) Cut a piece of nylon (piece a) with 800 mm of length and fold it from a 260 mm distance from the tip;
b) Stich at 35 mm from the folded edge and 30 from the other tip;
c) Adding the buckle on the last one;
d) Add another stitching with 10 mm distance.

I) 1- Step

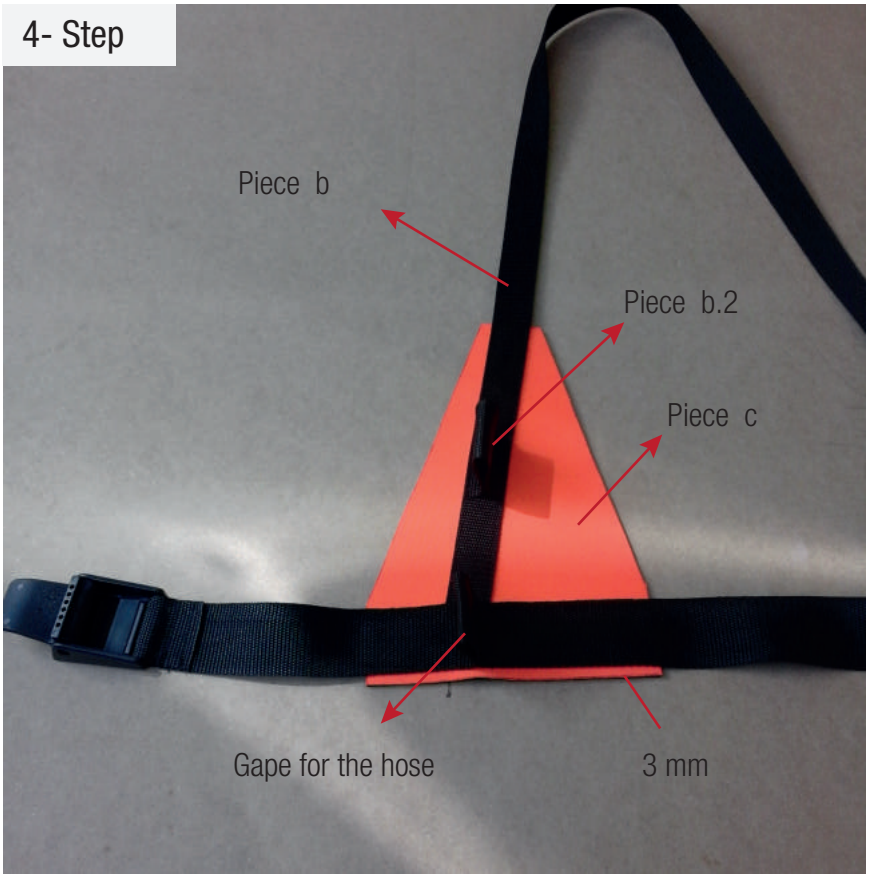
. Piece a (800 x 40x 2mm)
. No scale I mm



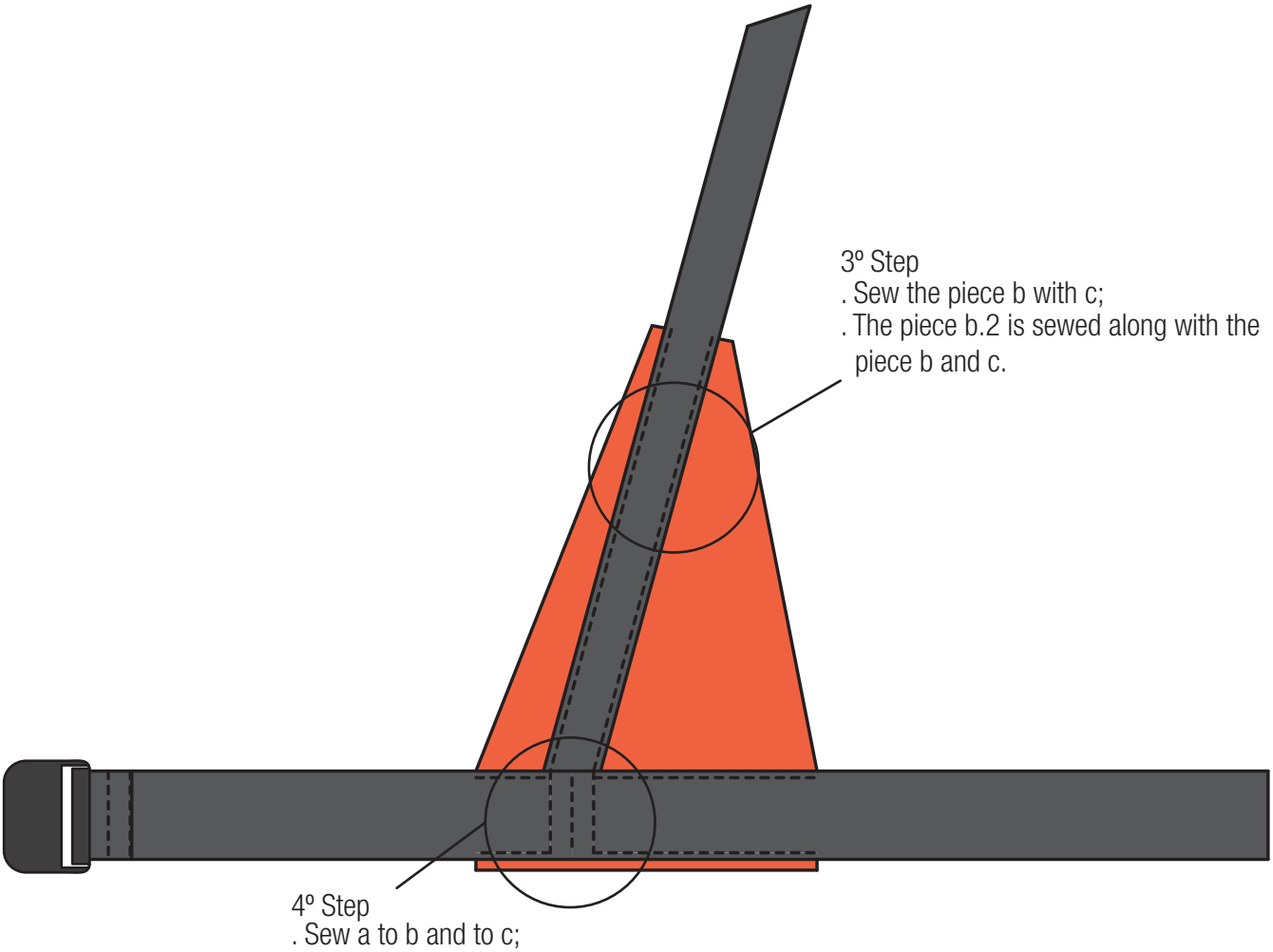




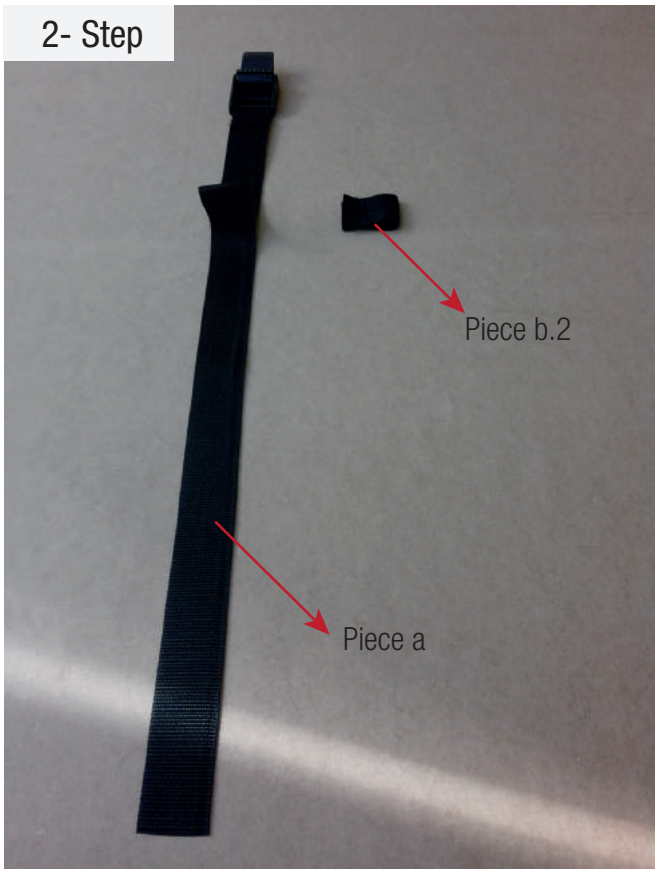
4- Step



a) Sew the piece a with 3 mm distance from the piece c and aligning the gape with the piece b.2;
b) First the horizontal sewing then the vertical around the gape.

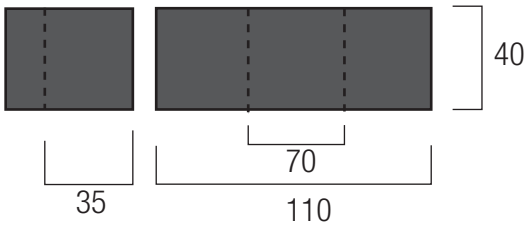


2- Step



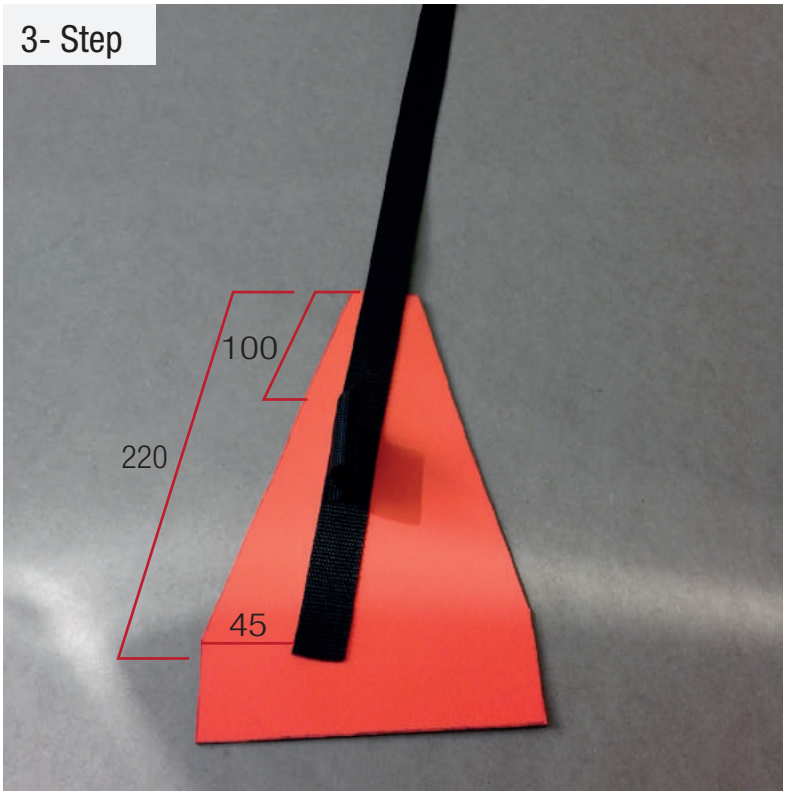
II) 2- Step

. Piece a (110 x 40x 2mm)
. No scale I mm



a) Create the piece b.2 by folding a 110 mm piece in half and sewing the 2 halves with 35 mm from the center.

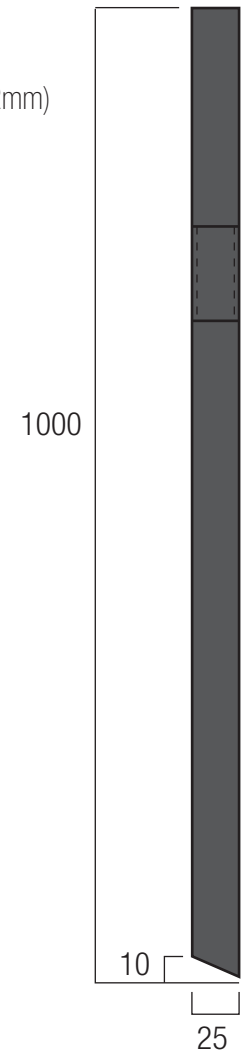
3- Step



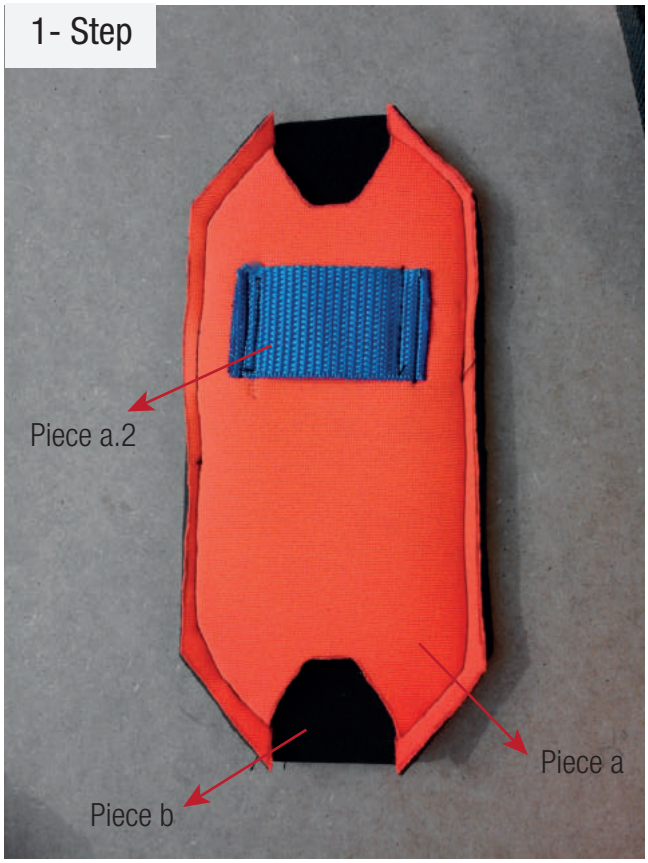
a) Sew the piece b with c.

II) 2- Step

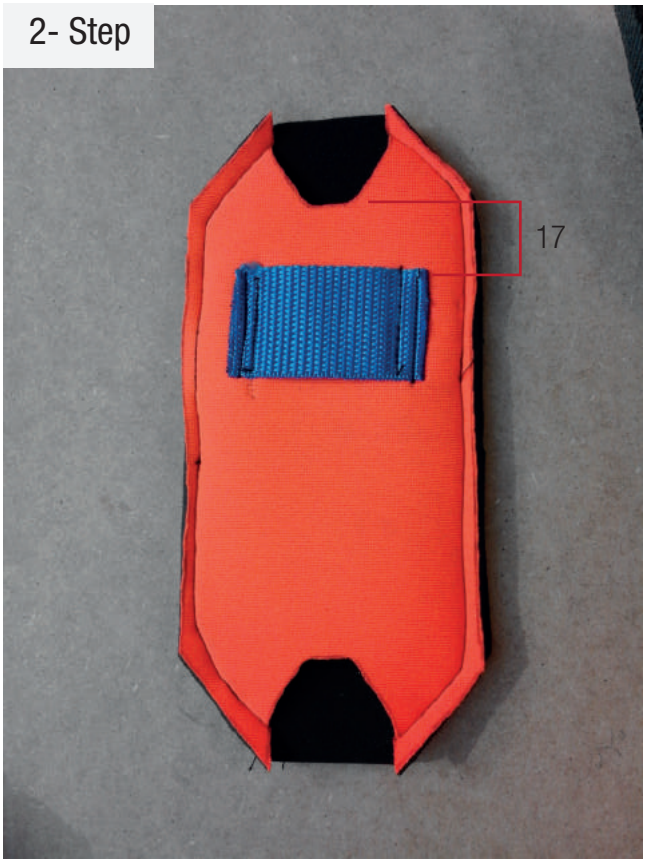
. Piece b (1000 x 25x 2mm)
. No scale I mm



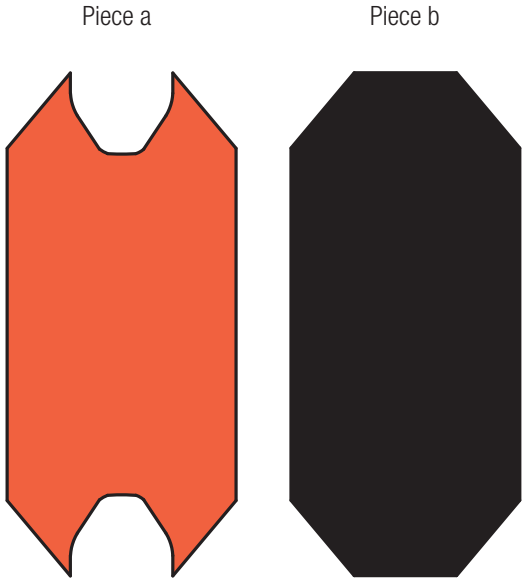
Shoulder piece



a) Sew the piece a with b all around the edges.
b) The sewing intended is more external than the prototype.



a) Add the a.2 piece on the top of piece a and centered



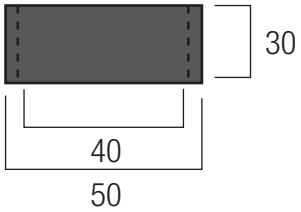
Note: If the edges are to be stitched, the color used should be orange

I) 1- Step

. Piece a (127x 55 x 2mm);
. Piece b (127x55 x2 mm);
. No scale I mm.

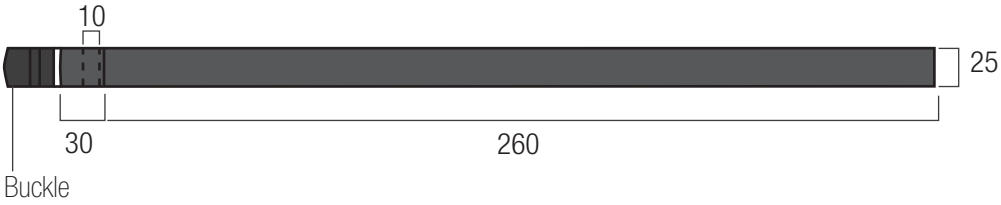
II) 2- Step

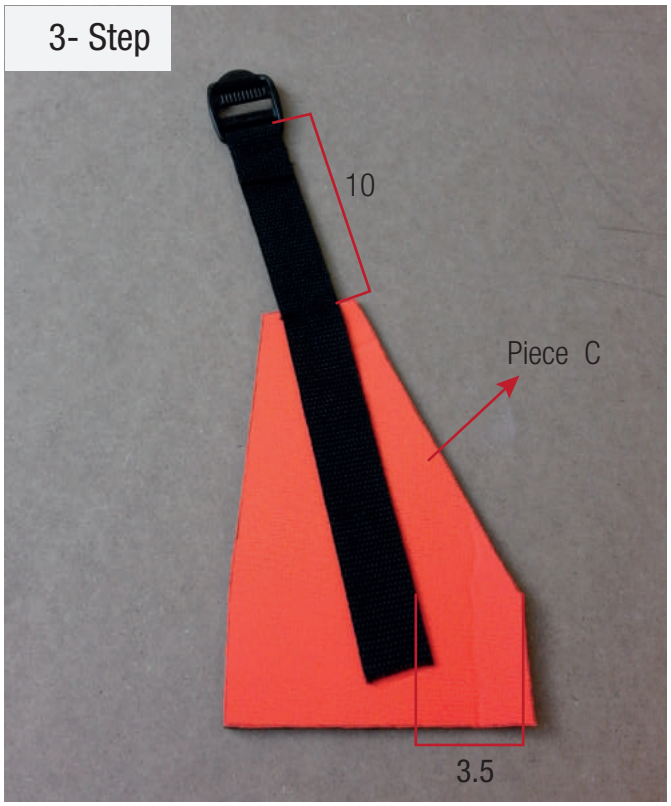
. Piece a.2 (50x 30x 2mm);
. No scale I mm.



II) 2- Step

. Piece B (290x 25x 1.5mm)
. No scale I mm





a) Join the piece C with piece B with stitching all over the piece B;

a) Joining the piece A with C and B;
b) The piece A should be placed with a distance of 90 mm from the edge of the webbing that has the buckle and placed 3 mm away from the piece C.

The Pontoon Boat concept

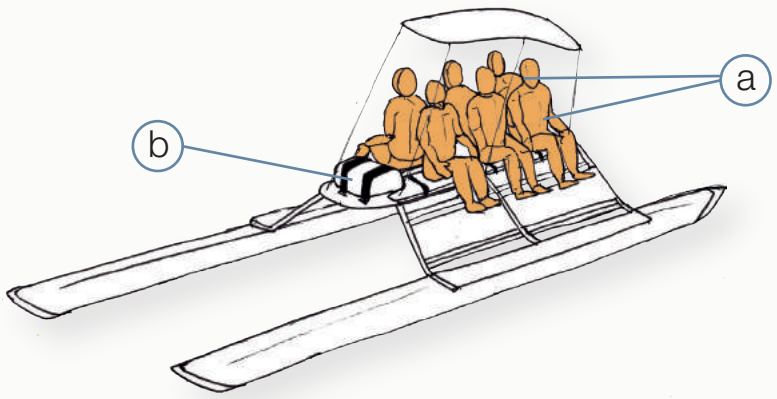
The boat presented is composed mainly with:

- 2 Pontoons made with inflatable hoses (500 cm length);
- A aluminum structure;
- A main wood structure that is divided in 2 halves (150x150 cm length);
- 4 side wooden structures;
- 4 cushions;
- A cover made with a textile;
- Stirring and engine on the back;
- Other accessories: exit ramp, storing boxes...

The main selling propositions are the multifuctionality that provides its users and the simplicity in storing, using and assembling\ disassembling.

Its general dimensions are 500 x215 x60 cm (without cover).

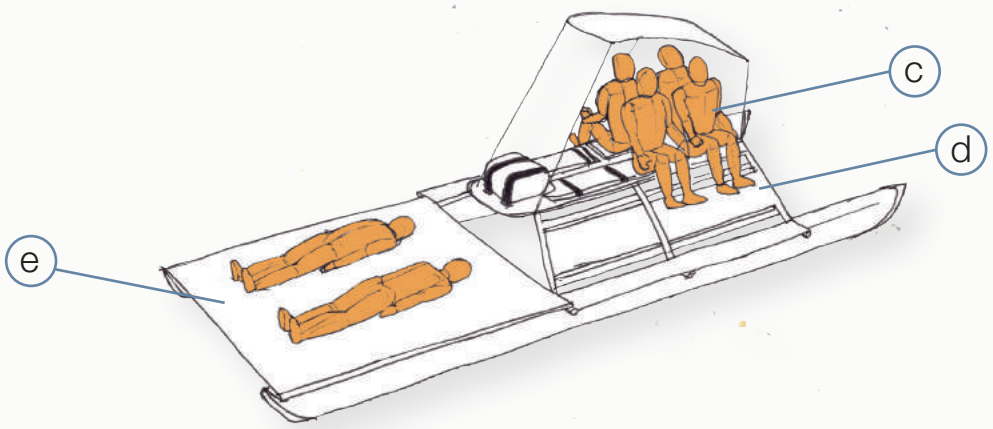
1 Navigation Option



The maximum occupation of the vessel is circa 6 people, when the users are navigating they all sit in the cushions located in the main structure.

a - The users that seat on the edges are responsible for stirring the boat;
b - Extra box for storing the components after packing.

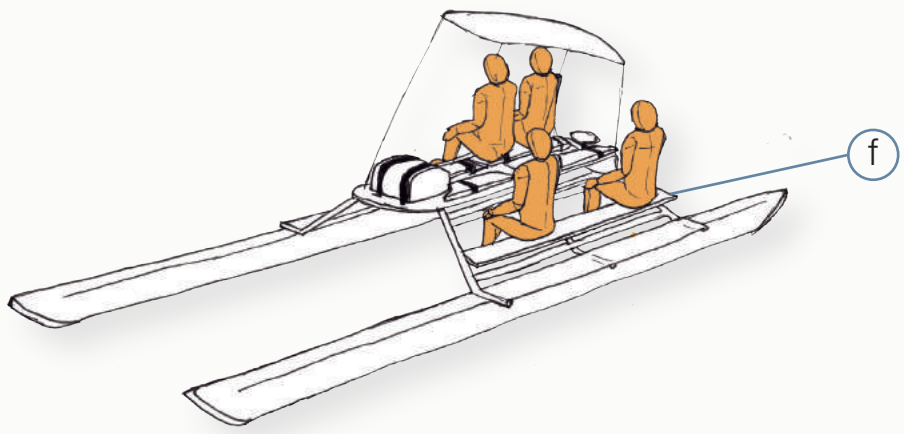
2 Sunbathing Option



If the users wanna stop in a nice area they have the option to stand seated or lied down.

c - Main seating position;
d - Users can also use this structure to seat or even the pontoons;
e - Extra fabric to create the sunbathing area.

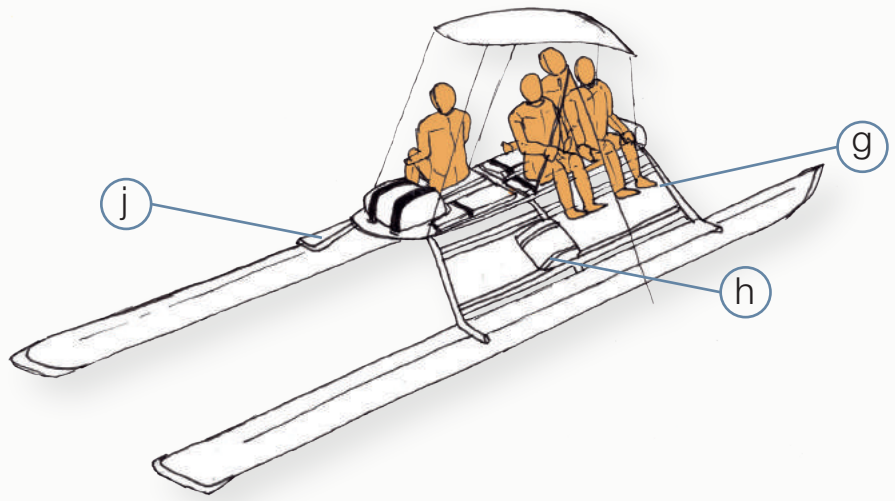
3 Meal Option



If the users wanna enjoy a meal, the ideal position would be using the seating structure from the navigation as a table removing the cushions.

f - Rotating structure hinges.

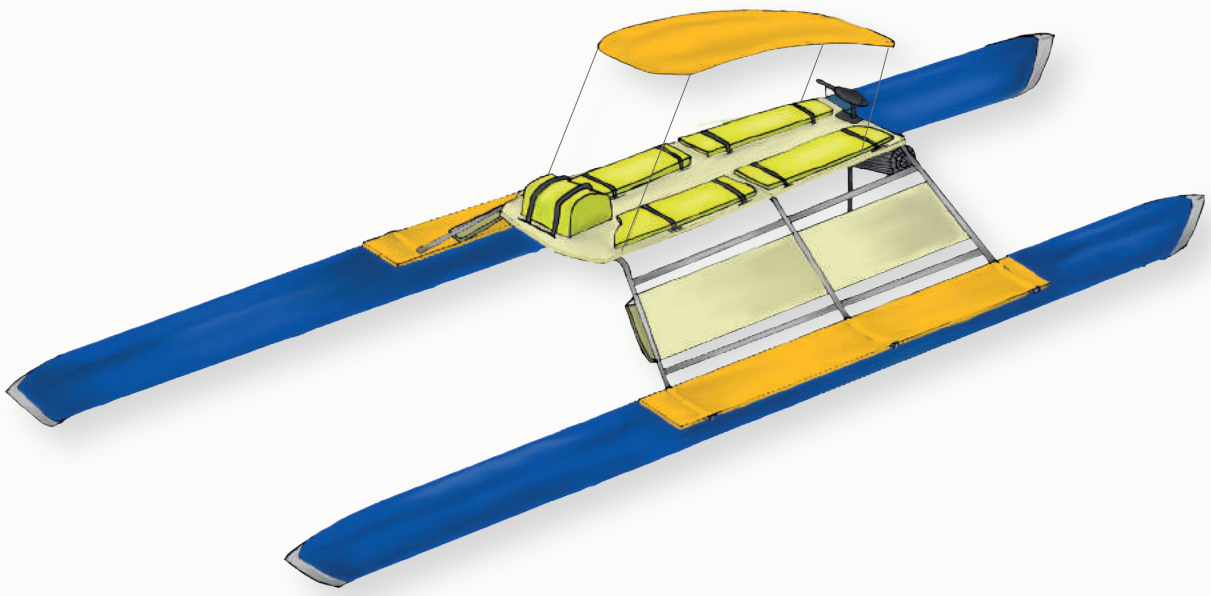
4 Fishing Option



For fishing, the users have tree different seating positions

g - Structure that can be used for seating\ leaning;
h - An extra storing box can be added;
j - Pontoons can also be used for seating.

The Pontoon Boat concept



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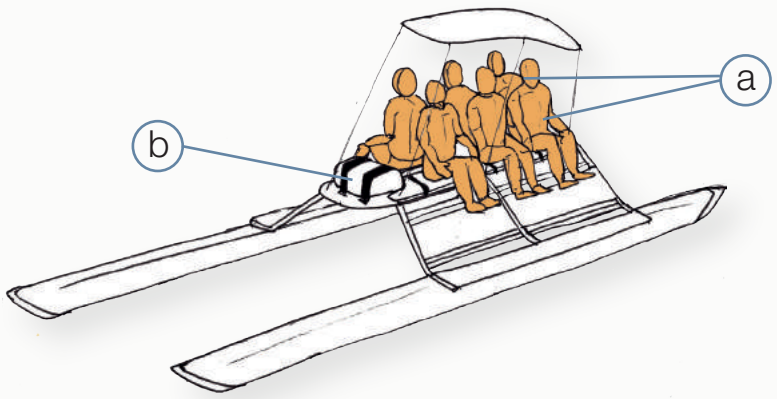

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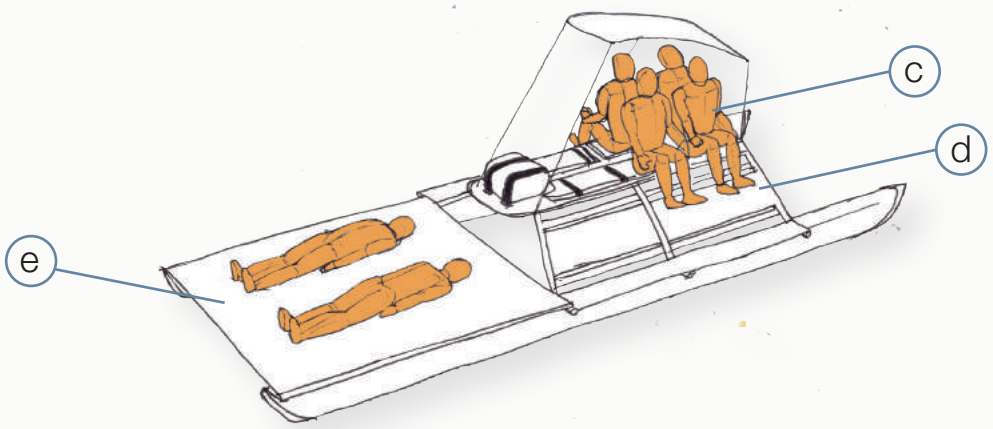

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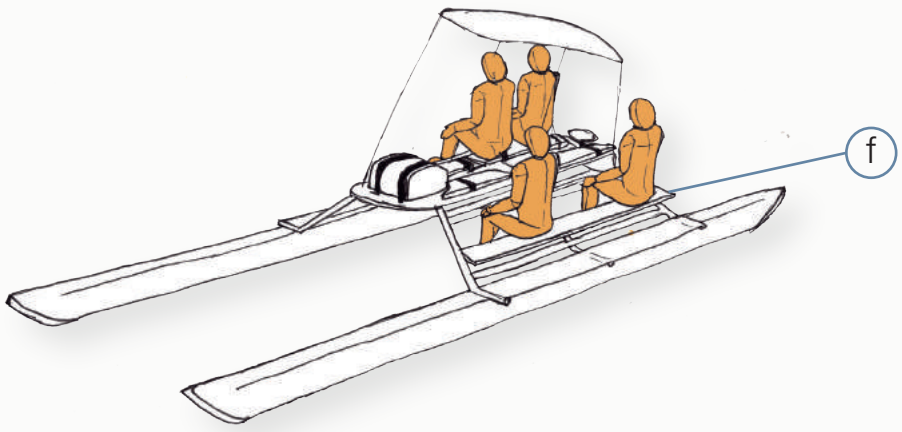

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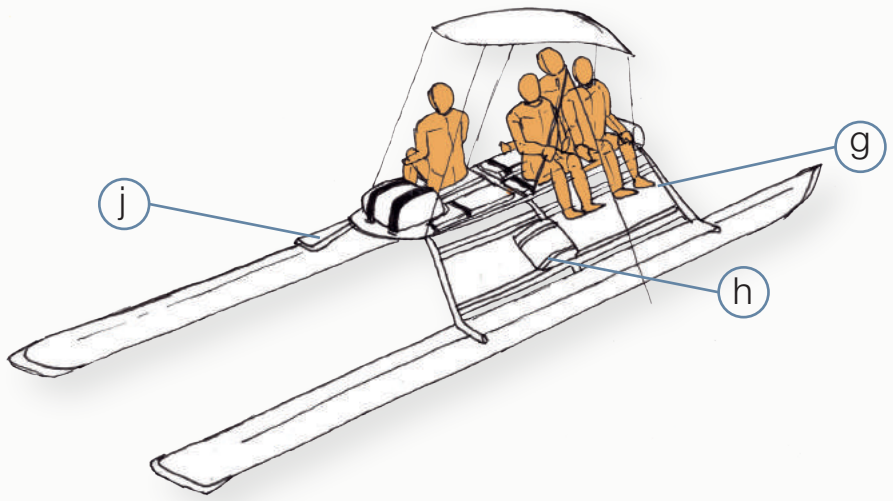
f - Rotating structure hinges.

4 Fishing Option



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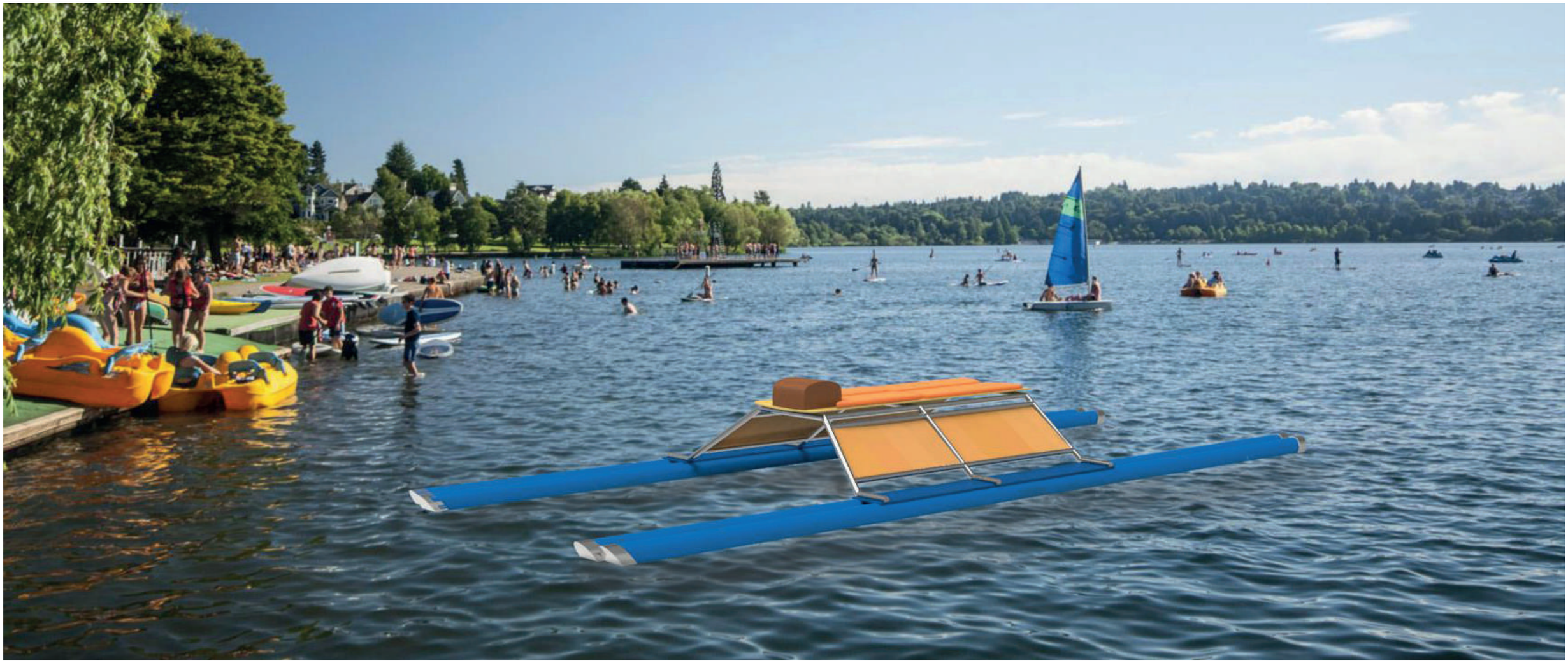
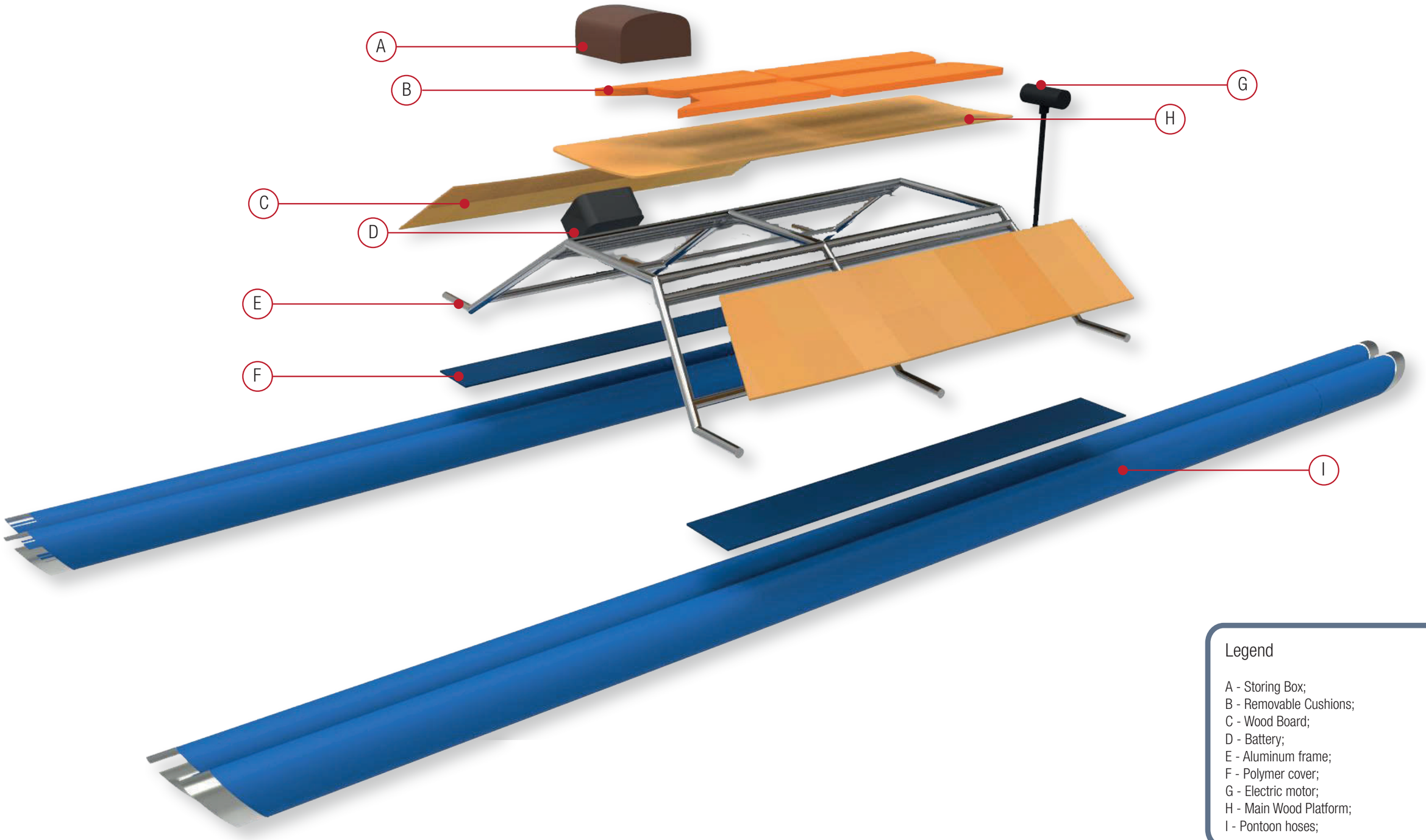
Product Design applied to a recreational aquatic platform			
Drawing	Rendered CAD drawing with photomontage		
Number	0	Date	02/01/2018



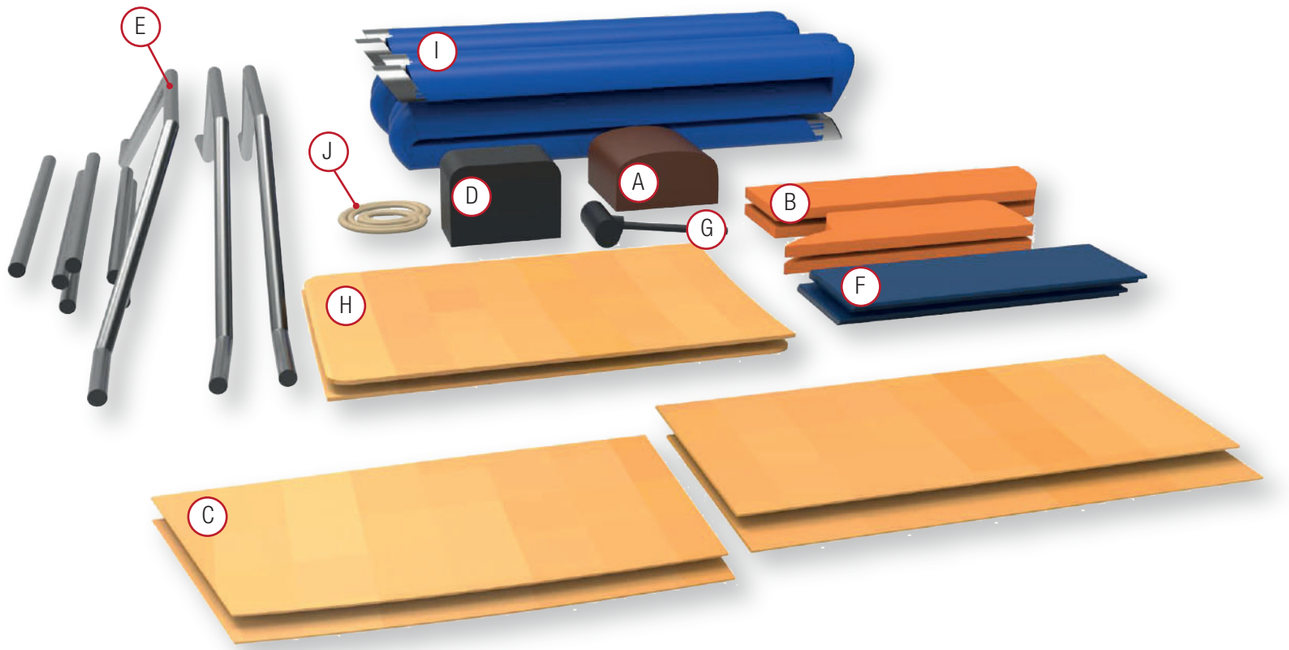
Product Design applied to a recreational aquatic platform			
Drawing	Exploded view		
Number	1	Date	02/01/2018



Legend

A - Storing Box;
B - Removable Cushions;
C - Wood Board;
D - Battery;
E - Aluminum frame;
F - Polymer cover;
G - Electric motor;
H - Main Wood Platform;
I - Pontoon hoses;

Product Design applied to a recreational aquatic platform			
Drawing	Assemblage and storing		
Number	2	Date	02/01/2018



The components are meant to be stored inside the trunk of a conventional family car. The biggest width is the 215 cm and the biggest height is 65 cm both in the aluminum frames, in terms of length, the biggest is the main wood halves with 150 cm The standtart trunk as the volume capacity of W 133 x H 46.5 x L 178 cm, because all the components can be arranged freely and sdperalty , there is a high number of possibilities to store the product.

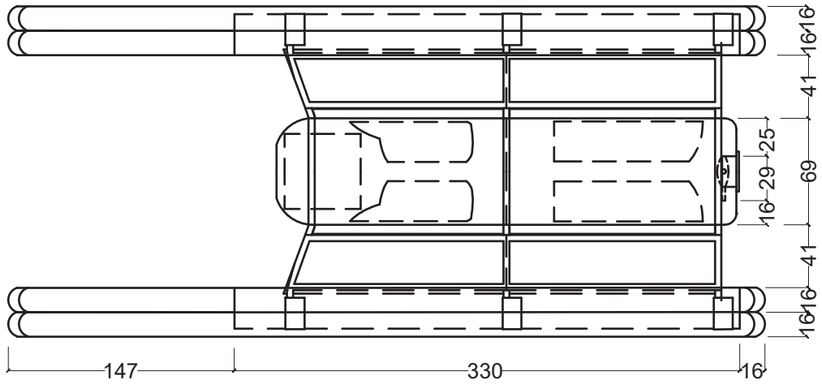
The disassembly of the different components are meant to be arranged as the costumer desires. All of the components are either foldable or are divided in halves, their dimensions are (W x H x L cm):

Legend

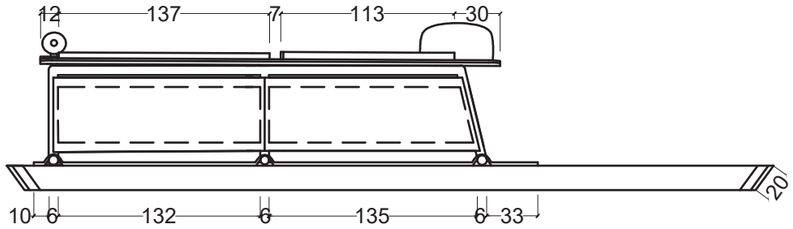
A - Storing Box (50 x 24 x 50);
B - 4 Removable Cushions (26 x 5 x 80);
C - 4 Wood Boards (47 x 1 x 100);
D - Battery (25 x 155 x 8);
E - 3 Aluminum frame pieces (215 x 65 x 19);
4 top aluminum tubes (4 x 4 x 126);
4 bottom aluminum tubes (4 x 4 x 135);
F - 2 Polymer covers (27 x 2.2 x 330);
G - Electric motor (29 x 100 x 7.5);
H - 2 Main Wood Platforms (70 x 3.6 x 150);
I - 2 Pontoon hoses (16 x 16 x 500);
J - Electric wire to connect the battery with the motor (0.5 x 0.5 x 170).

Product Design applied to a recreational aquatic platform					
Drawing	European method views				
Scale	1/ 40	Measurement units	cm	Number	3
Phase	Technical Drawings - Final			Date	02/01/2018

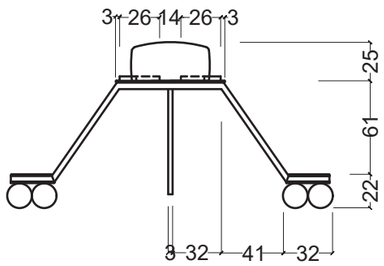
Bottom view



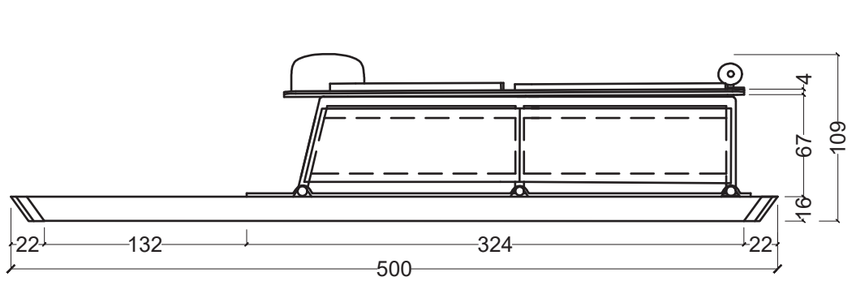
Rear view



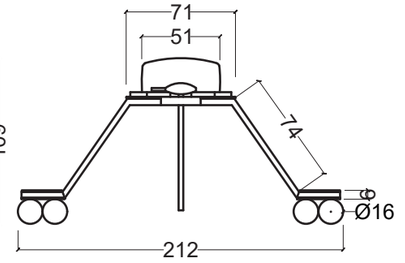
Right view



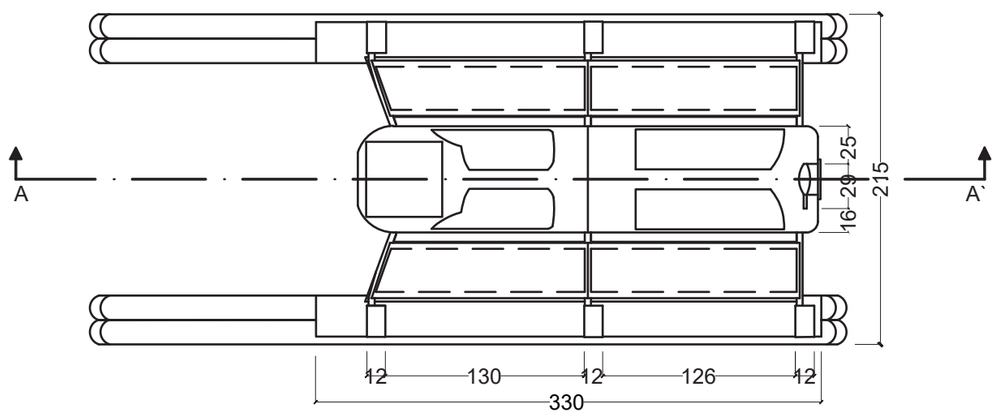
Front view



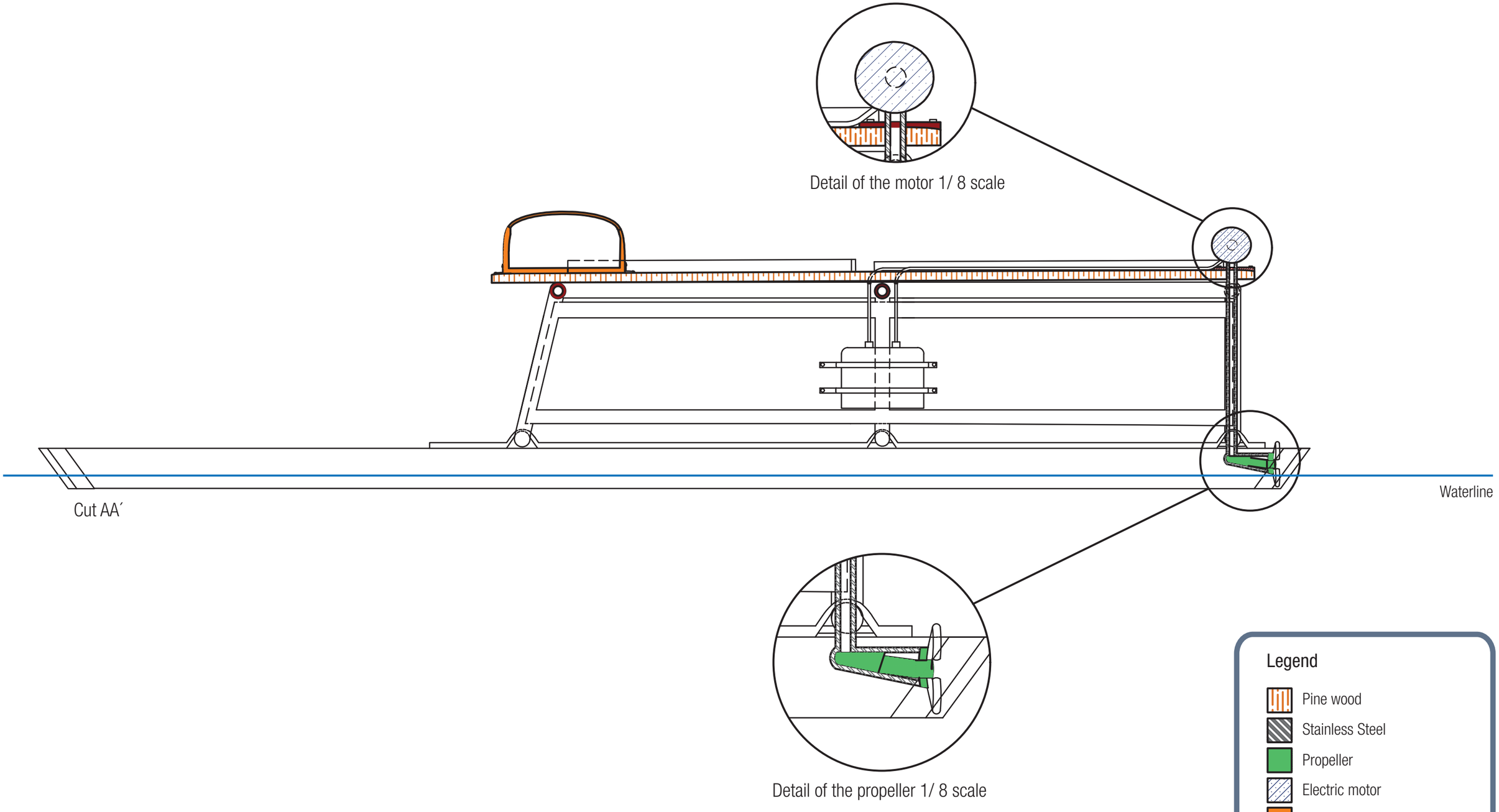
Left view



Top view



Product Design applied to a recreational aquatic platform					
Drawing	Vertical Cut AA´				
Scale	1/ 15	Measurement units	cm	Number	4
Phase	Technical Drawings - Final			Date	02/01/2018



Step Dive

Step Dive is a diving system designed specially for children and inexperienced users that want to learn how to dive. This system has an easier approach to start this sport by separating the complex equipment from the user, providing a variable shallow depth limiter for the new diver and the possibility of diving with a partner.

The product consists of:

. Harnesses;
. Main user hose with mouth regulator;
. Oxygen´s tank;
. Buddy´s hose with mouth regulator;
. Raft that stays afloat;
. Flag;
. Buoy;
. Oxygen´s tube;

This product will be on the market this fall with three different versions of commercialization according to the different added components.

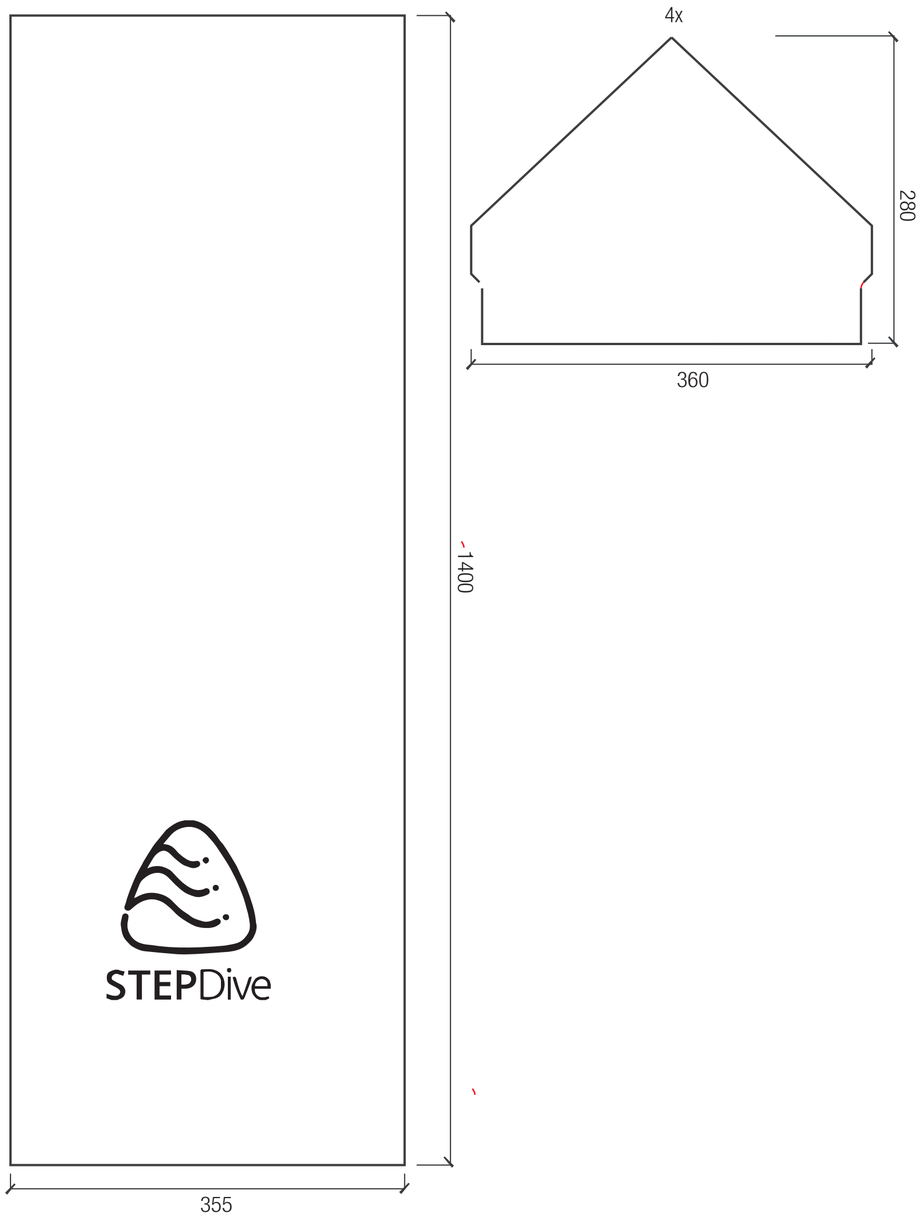
1 Components

Step Dive: Raft components

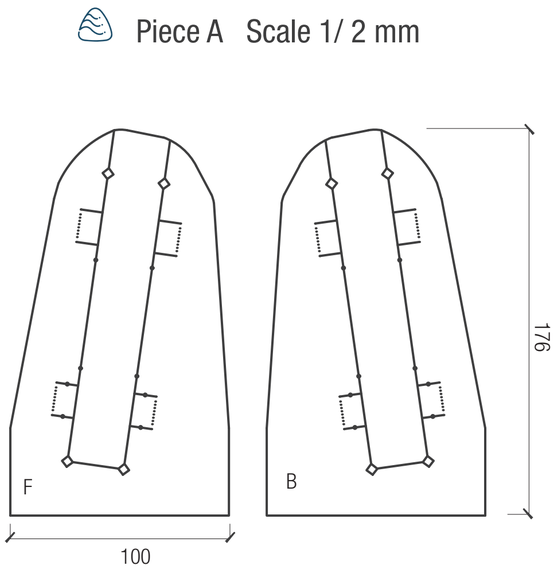
Step Dive: Harness components

2 Technical drawing- Cut outs

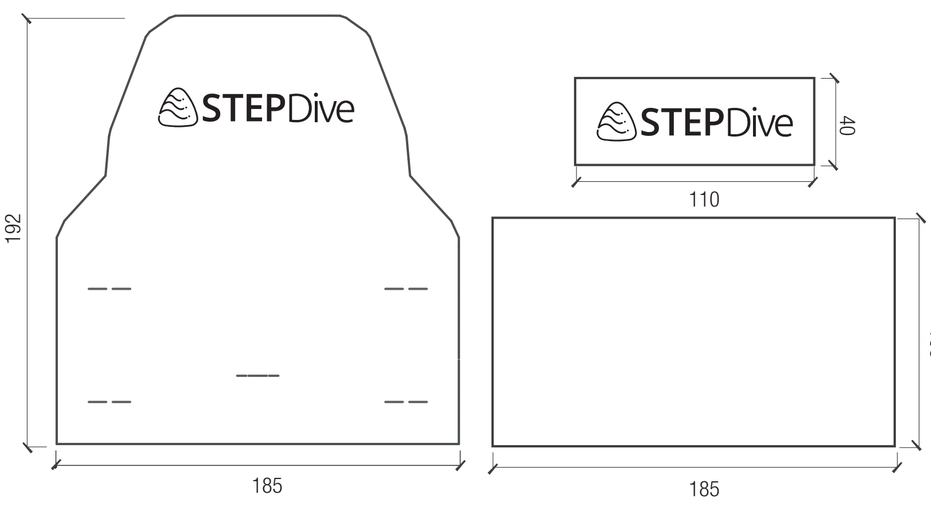
Raft pieces D1 & D2 Scale 1/ 4 mm



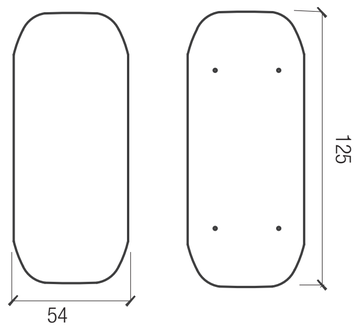
Piece A Scale 1/ 2 mm

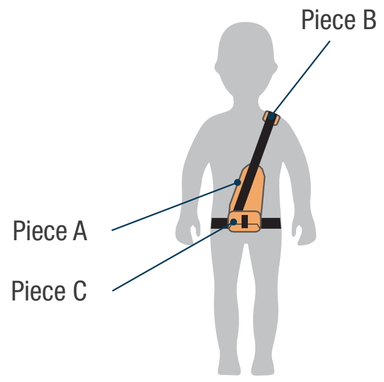


`Piece C Scale 1/ 2 mm



Piece B Scale 1/ 2 mm





Children´s silhouete for a 10 years old aprox. I Scale 1/ 10 mm

Swathoon
Product Design applied in an recreational aquatic platform
Conceptualization of a multifunctional platform ideal for closed waters

Internship in Snorkel Dive Innovations
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Provisional Document

Alexandra Silva nº 20152022
Supervisor: Paulo Dinis, Ph.D
November 2017

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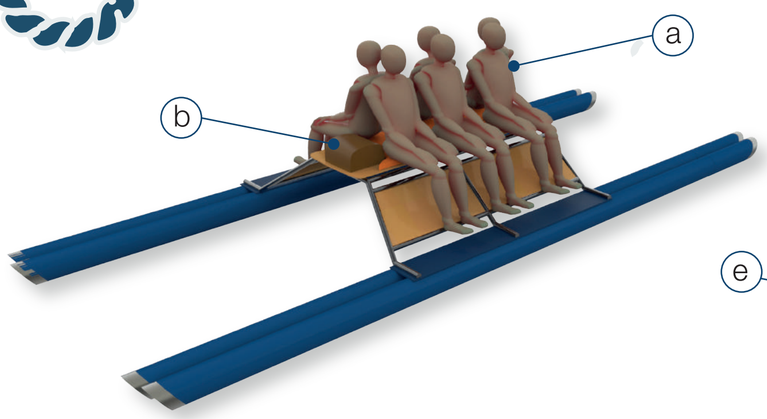
Swathoon

The platform presented is composed mainly with:

- 2 Pontoons made with inflatable hoses (500 cm length);
- An aluminum structure;
- A main wood structure that is divided in 2 halves (150x150 cm length);
- 4 side wooden structures;
- 4 cushions;
- A cover made with a textile;
- Stirring and engine on the back;
- Other accessories: exit ramp, storing boxes...

The main selling propositions are the multi functionality that provides its users and the simplicity in storing/using and assembling/ disassembling.

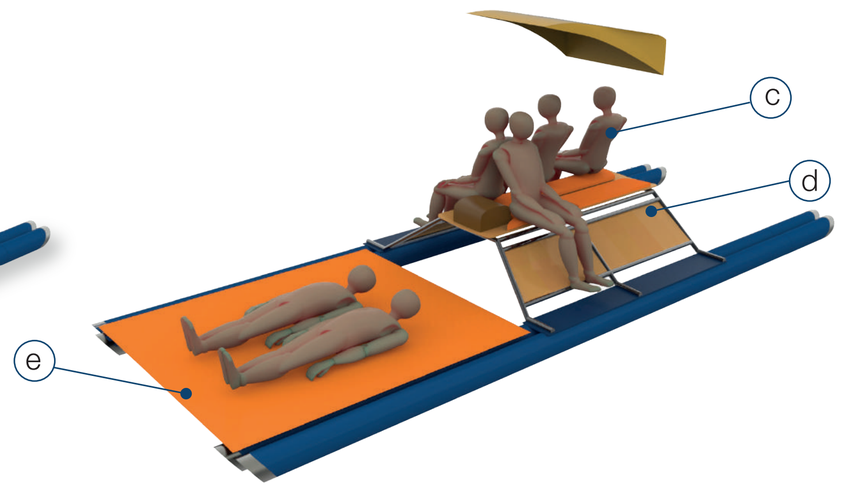
1 Use Cases



Navigation Option

The maximum occupation of the vessel is circa 6 people, when the users are navigating they all sit in the cushions located in the main structure.

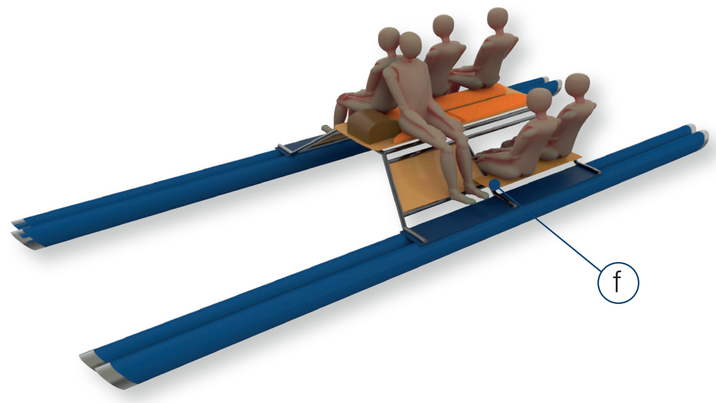
a - The users that seat on the edges are responsible for stirring the boat;
b - Extra box for storing the components after packing.



Sunbathing Option

If the users want to stop in a nice area they have the option to stand seated or lied down.

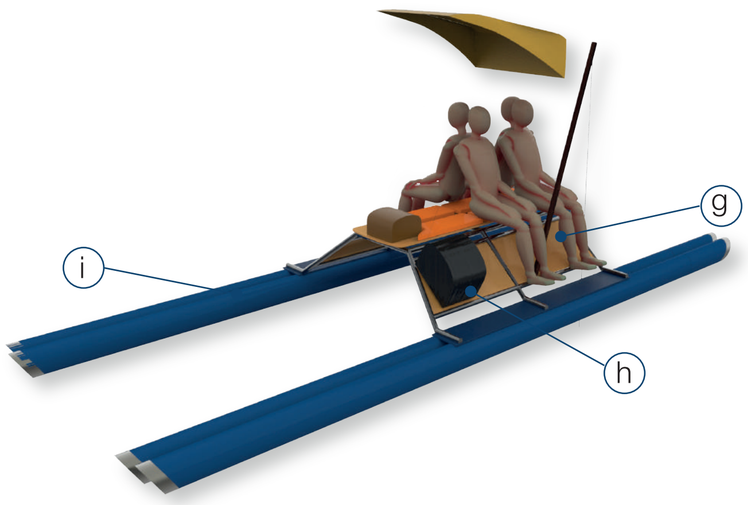
c - Main seating position;
d - Users can also use this structure to seat or even the pontoons;
e - Extra fabric to create the sunbathing area.



Meal Option

If the users wanna enjoy a meal, the ideal position would be using the seating structure from the navigation as a table removing the cushions.

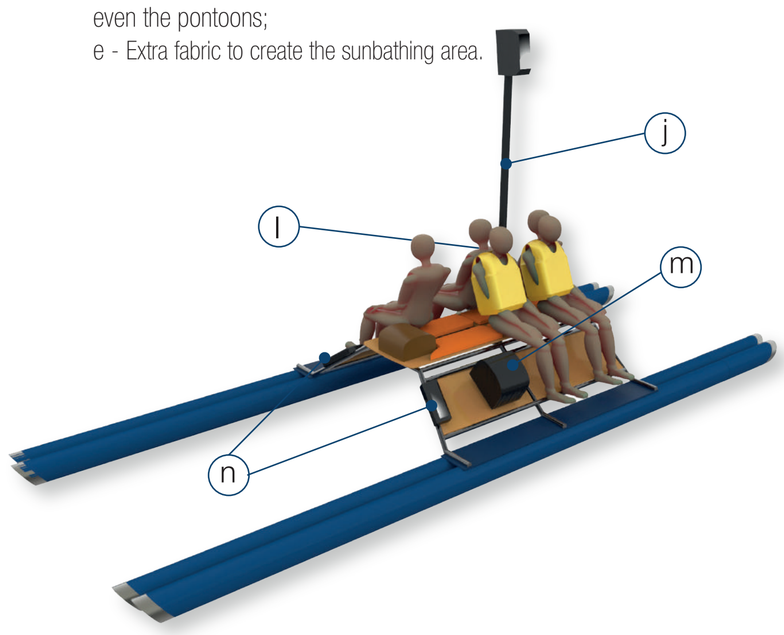
f - Rotating structure hinges.



Fishing Option

For fishing, the users have three different seating positions

g - Structure that can be used for seating\ leaning;
h - An extra storing box can be added;
i - Pontoons can also be used for seating.



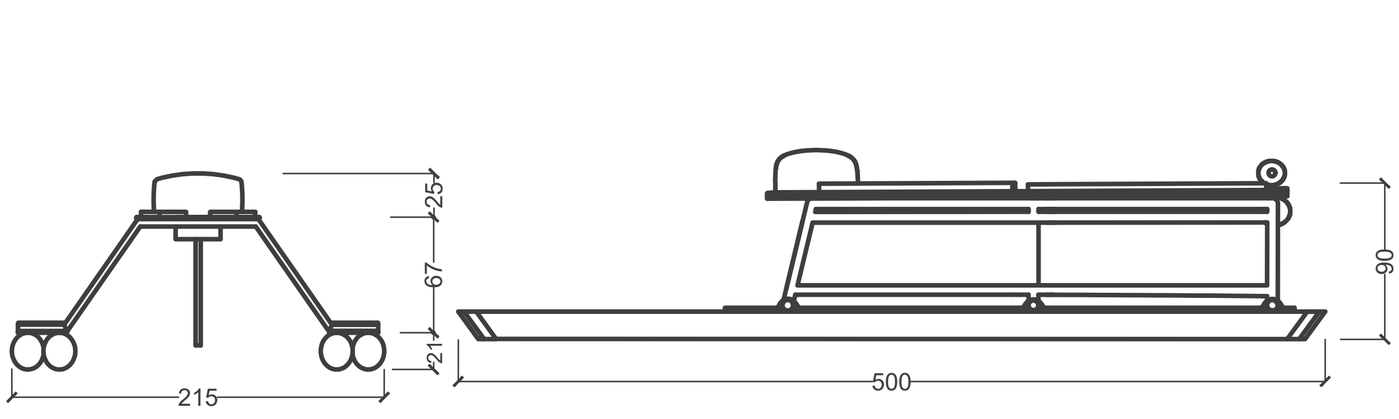
Usage of the emergency devices

The emergency equipment are external boxes that can be added to the platform when not at use:

j - Portable and adjustable masthead light;
l - Individual security vests;
m - External storing box;
n - Sidelights.

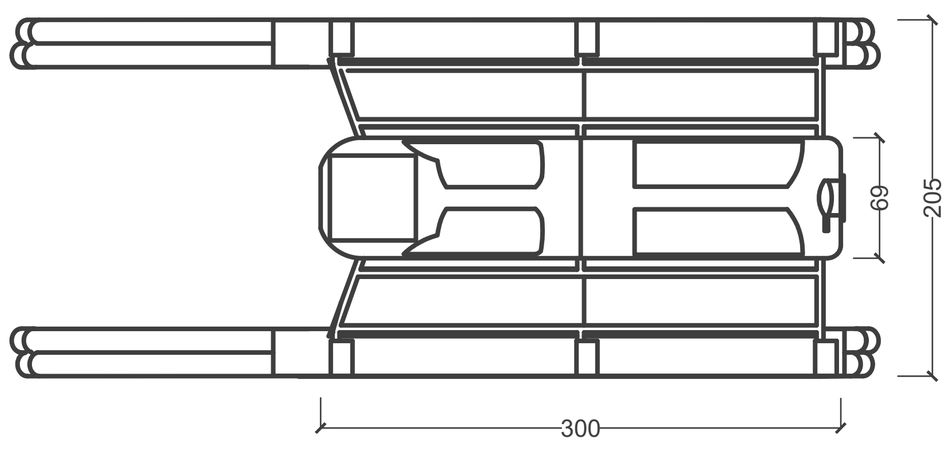
Technical drawing 2

Scale 1/ 25 mm



Front View

Side View



Top View

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