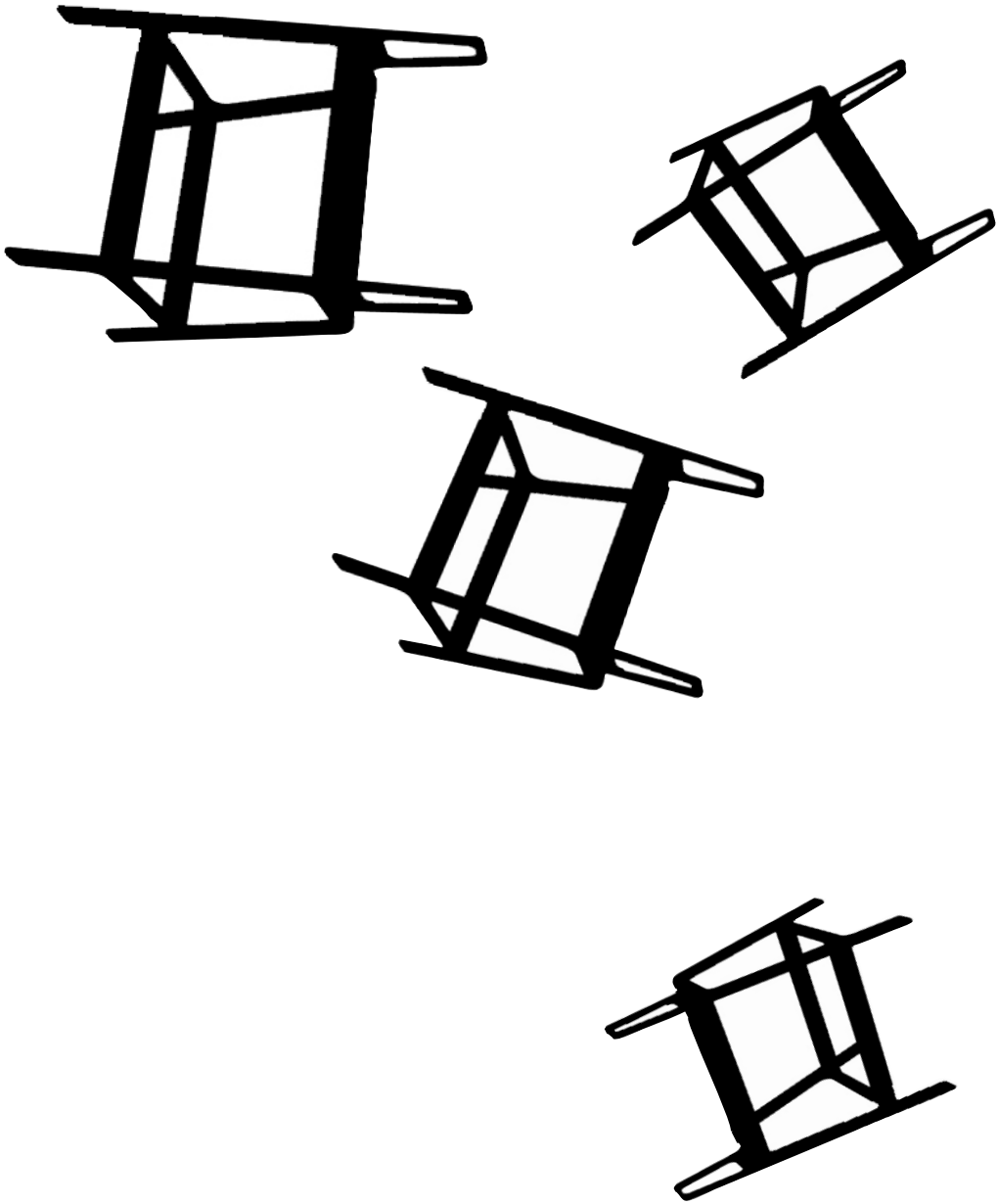


AJJA

process guide

step

shower chair concept > lumex

A result of a collaboration between Pratt Institute New York and Graham Field healt products. A group project between Anna Alriksson and Jenny Jernström. Fall 2008.

Design Philosophy

"All of our products have been designed with a single objective - to enhance the quality of life of the people that use our products and their caregivers" GF Healt Products Inc.

When we design we generally think of two things form and function, but also the character, movement, proportions and last but not leas, the space around it. Creating a product with these elements is the heart in our design.
We make things that you want to keep forever and this is for us, sustainable design for the future.
/ A.Alriksson J.Jernström

state board








Dull
Disabled
Stagnated
Unstable

GF Background

Headquartered in Atlanta, GA, GF Health Products, Inc. ("Graham-Field") is one of the world's leading manufacturers and distributors of medical products in the health care industry, offering approximately 4,000 medical, rehabilitation, long-term care and homecare products.

In addition to our headquarters in Atlanta, Graham-Field has distribution centers in Atlanta, GA; St. Louis, MO; East Rutherford, NJ; Los Angeles, CA; and Fond du Lac, WI. Our manufacturing facilities are located in various locations such as Fond du Lac, WI; and Central Falls, RI.

Brief:

To redesign the shower chair for GFs Lumex line. Improve the safety and resolv support for how to get in and up from the seat. The new design should work in shower and tub. Find a solution for how to wash yourself easiest while sitting down and simplify the cleaning process.

Our vision:

To redesign the shower chair for GFs lumex home care line so that it appeals to the whole family. To transform a product and object that have a dissable stamp on it, and replace it with a comforting helpfull visual language that says -for everyone.

future board









Safe
Clean
Neutral
Elegant

position board

Evolved/ Updated

Disabled

For everyone

Stagnated

For everyone:

It is a difficult task to design for everyone, although we feel very strong about trying to find a expression that stands for this message and not only handicaped. We wanted to design a shower chair that was not going to be in anyones way, because it would appeal and be helpful , enjoyable and useful for everyone.

market research

Hospital
Institutional
Grey
Metal frames
Uninviting

What can be improved:

Handel bars - for avoiding the "falling " into the chair , makes it easier to get up when you have handels at two levels and this stabilises the support when getting into standing possition. Somewhere to place the hands while being washed.

Footrest - making it easier for caretakers, elderly and handikapped to wash the lower part of the body legs and feet.

Backrest - to be optional in a product extension, to give support.

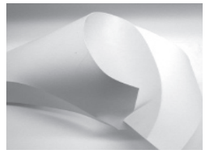
The beginning

We started sketching in 3D before we knew the design brief. The abstract way of looking at form was for us a new visual training that took us out of the box before the actual project started. This is a selection of our early sketches and investigation of form.

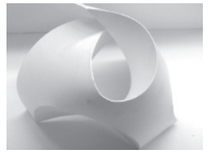
Plaster > organic shape

Bristol > hollow to volume closeup

Bristol > hollow to volume



Bristol > hollow to volume

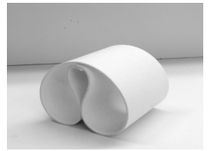


Bristol > hollow to volume

Sketch models

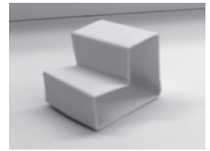
After we got selected for the Lumex project and got the brief we continued sketching abstract and developed diferent ideas for seating. This is a selection of different ideas we worked on in the process of visualizing a strong idea for further development.

Neoprene & wire > hollow to volume



Neoprene > folding exploratory

Neoprene > foldning with wire frame



Paper > hollow to volume

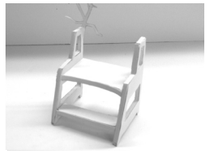
Paper > hollow to volume

Final sketch models

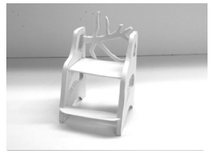
After presenting a collection of sketchmodels to Graham Field and professors at Pratt we got positive response on our favourite idea -the step stool, which we further developed into the sketches below. We presented four configurations of our step stool idea and developed a twig pattern that were used on seating and backrest as a contemporary element in our design.

Collection of sketch models>

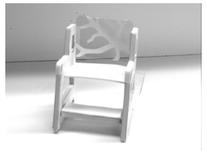
Mock up model of bathroom >



Foam core model >



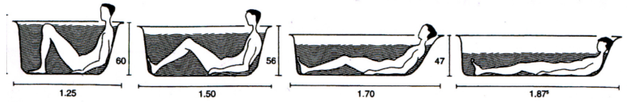
Foam core model > pattern backrest

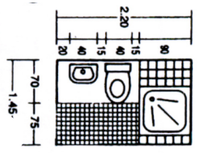


Foam core model > with transparent backrest

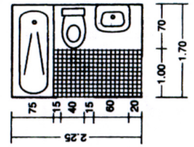
Bathroom fittings

These are standard sizes for different layouted bathrooms and standard measurements for thubs. We chose to use the measurements from a toilet as the lowest possible seating hight and increase it on our shower chair for a high seating level. This makes it easier sitting down and getting up when the legs never bend below 90 degrees.



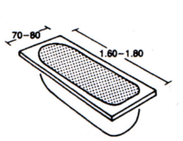


Measurements for shower>

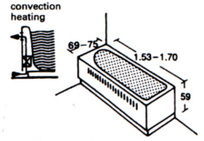


Measurements for bath tub >

Seat hight for standard toilet > no lower than 40cm

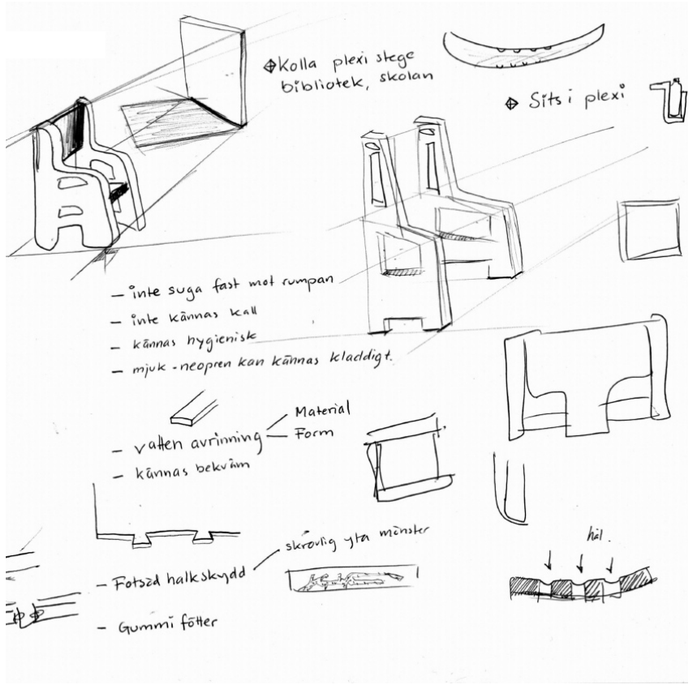


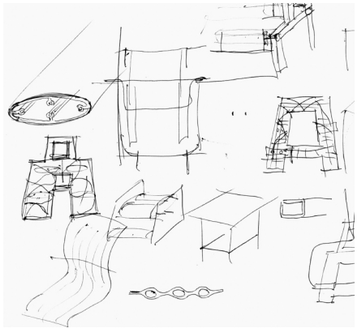
Standard tub measurements >



Standard built in tub-measurements >

drawings

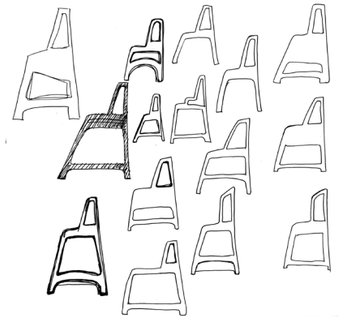


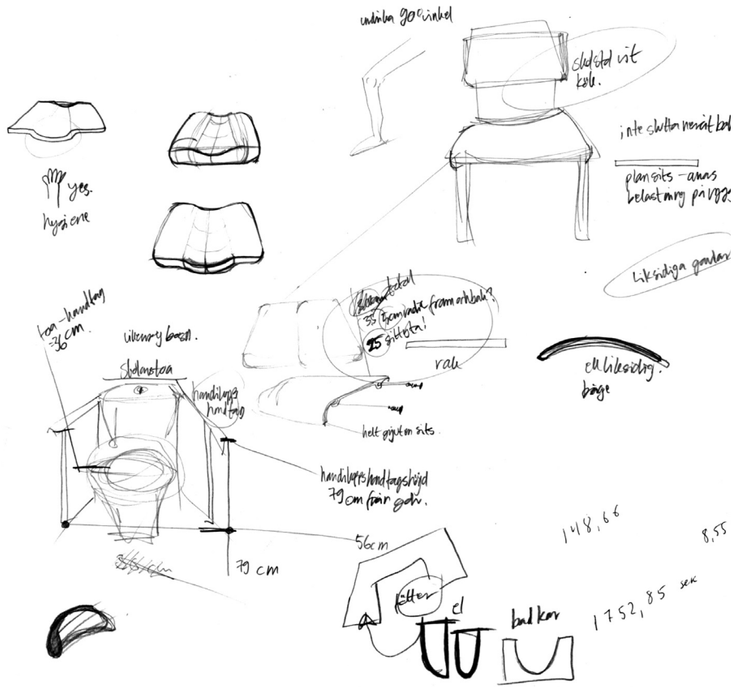


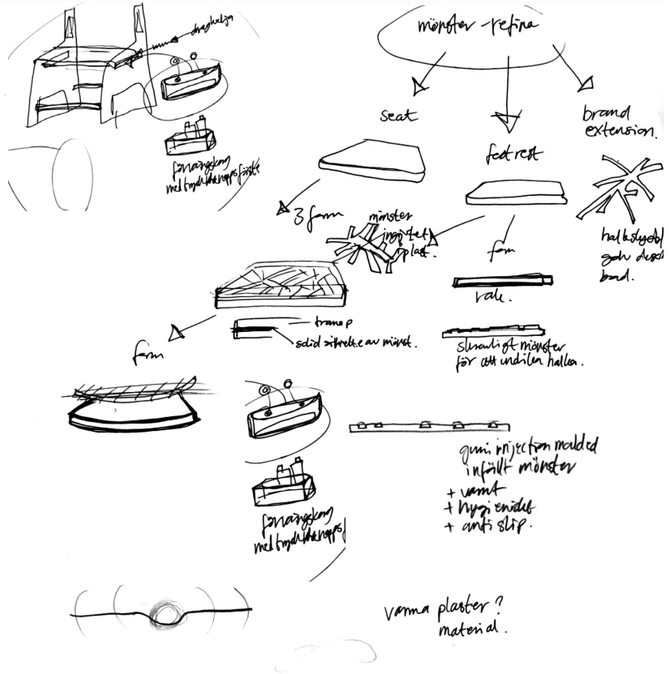
Seating and footsteps with a core of extruded aluminium for assembly. This allows the shower chair to be produced cheaper using the same moulds for the sides and same technique for the seat and footrests but cuting them in different lenghts for three evetual different sizes, or end purposes.

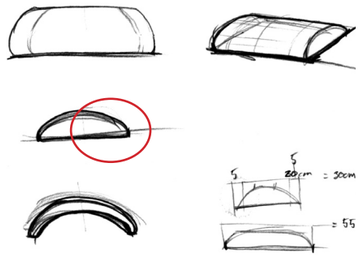
drawings

Sketches on form for the sides and back contour. Hollow moulded plastic for light weigt, good for transportation, handling the product and moving it around.



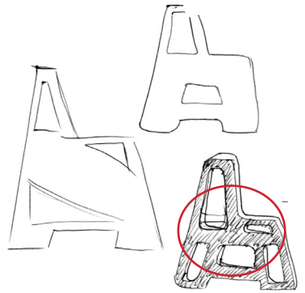


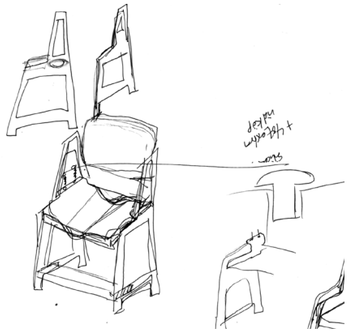




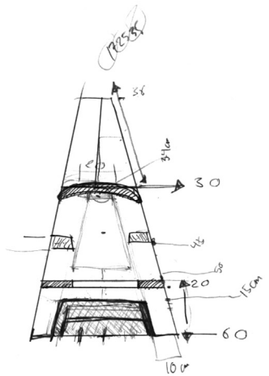
Seating, integrated pattern, to avoid slipping and to get a better grip on seat and footsteps.

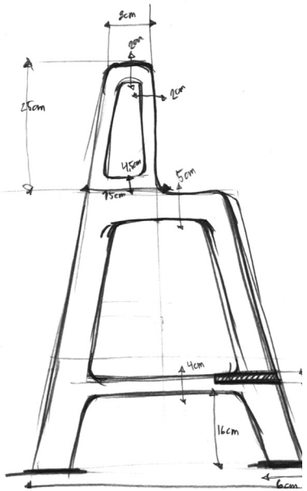
Pocket idea, for easy access storage that can be applyed easily and hanged on the handels. Easy to clean, change and most important acess to your products while showering, to have them in near reach, since running to grab something behinmd you is difficult and walkning to the end of the tub could be dangerous or to hard.





Opening up the sides, for lighter weight and visually opened .....





observations

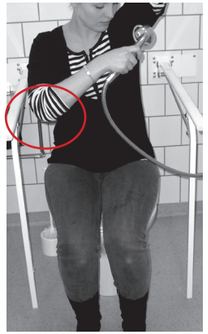
Support & Handle Test

Using a handicap adjusted bathroom we tested diemensions and simulated showering

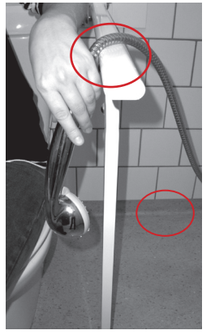
This grip> takes less strentght on your arms getting into standing position.

Handles> at two levels would avoid the break-down and feeling of falling into the chair.

Standing position > level of handles?



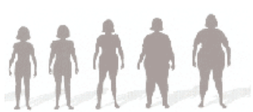
Having handles on your sides while showering, does it get in your way?



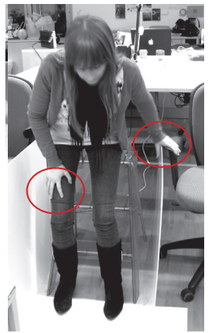
Could the shower head rest on the handles?

Test dimension

We asked different sized people lenght - weight - age to test with us and feedback on proportions and handles.

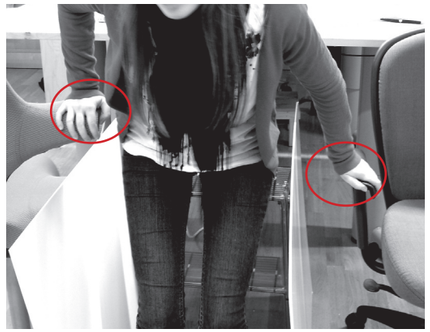


Using shower chair as step stool.



Using one hand grip

Dimensions of handles test

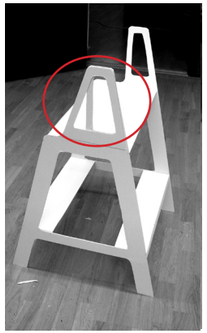


Handles with two levels increased the stability when it alowed you to get up slow and with more support on the way up.

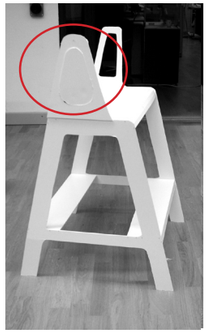
full scale

Handle bar shape

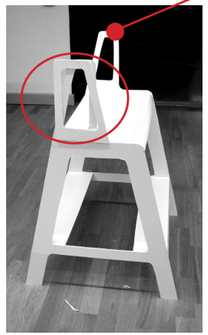
We tried a couple of different handles that were made out of foam core in scale 1:1. We found balance in the one leaning with the shape but with a straight vertical contour line meating the middle of the seat width most efficent and appealing.



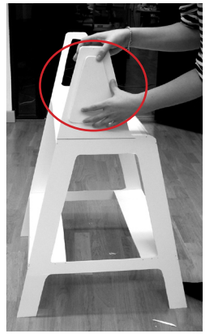
Scale 1:1 > to large, cover to much of the seat area and space on the sides.



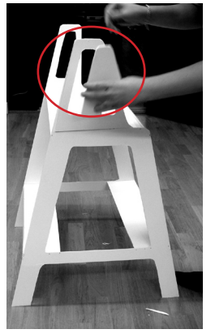
Scale 1:1 > to pointy, leaves not enough space for a comfortable grip from above.



Scale 1:1 > to squary, less stable with straight back contour.



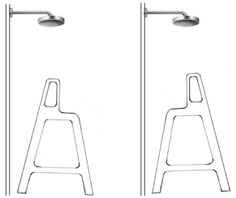
Scale 1:1 > with the handle closed the purpose of it being a guide got lost.



Scale 1:1 > half closed made no sense and the stabile balance were interupted.

1:1 in environment

While making the mock up model in scale 1:1 and trying different configurations for the handles we found that our favourite one had good qualities. It could be turned either back or to front depending on how the handles were needed for best support. Handles at the front alows the user to slide in to the chair using the handles as a guide with a grip as around a pole.



environment

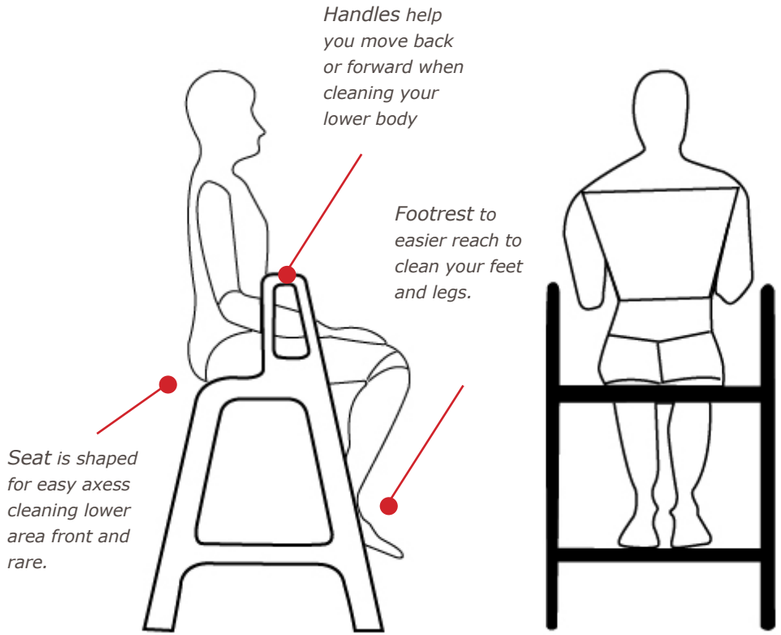
Scale 1:1 model > placed in shower to simulise the proportion in its environment.

Scale 1:1 > close up with handels at the back

Scale 1:1 > turned close up with handels at the front.

Scale 1:1 > We tried simulating showering and different seating positions.

showering position



configurations

3 sizes>

Step can be manufactured in three sizes by adjusting the lenght of the seating and fotrest. The side parts will be the same in all three sizes.

Step >

Shower chair with two levels handles and foot rest.

Step Generous>

Wider seat than Step for those who prefer or need extra space. Is designed for shower.

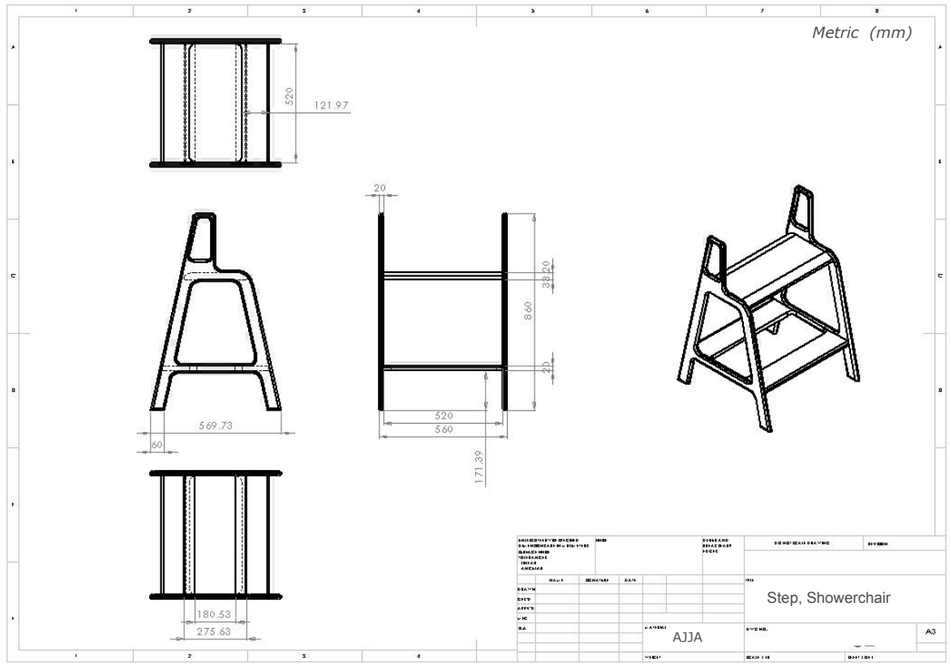
Step Kids >

Seat level is adjusted to the care takers working positions.

Why you chose Step >

The footrest simplifyes getting up and down from sitting position, because of the higher seating standard on all Step chairs the user wont feel like him or her are faling into sitting position. The handles have two levels. From our research we found that you are more stable getting up if you place only one hand first on the higher handle and push with help from the lower untill you feel stable. When getting into the chair the handles guide you down as you slide your hands and get support. If your eyesight is reduced the handles gives you a guiding function into sitting position.

CAD drawing



manufacturing techniques

Gas-assisted injectionmoulding > polypropylen with glass-fiber reinforcement.

+ light weight
+ superior finish
+ low unit cost
+ consumes 15% less energy than standard injection moulding

Silicone coating. Soft to touch, and gives a good grip when wet.

Antimicrobial coating with KYDEX
Kydex has antimicrobial coatings, wich is good from a hygiene perspective. Metal inserts can be used with kydex. Kydex can be coated with most silicone and similar materials for ani slipp parts.
www.kydex.com

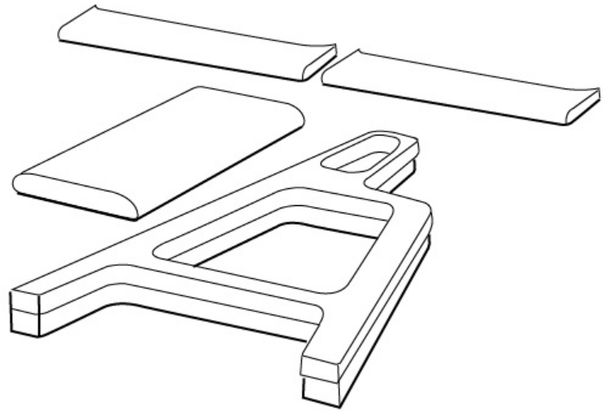
putting it together

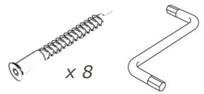
Aluminium profile inside seating and footrest

+ light weight
+ can be cut to different lengths for optional size in production.

Anti slip end parts for security. Ackurat also have a broad selection of special designed ergonomic parts. www.accurat.se

flat pack & packaging design

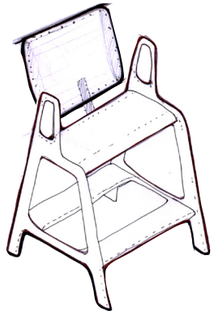




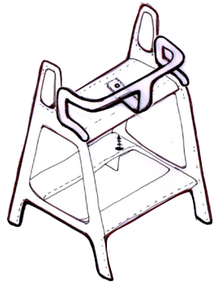
LUMEX®

For The Quality Of Life!

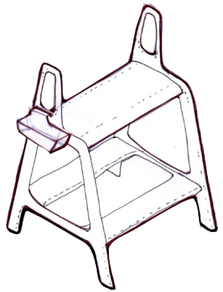
product extension



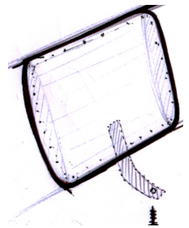
Backrest > attach under seat

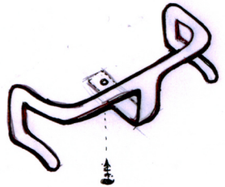


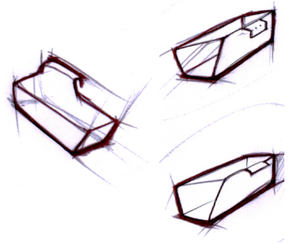
Kids > attach under seat



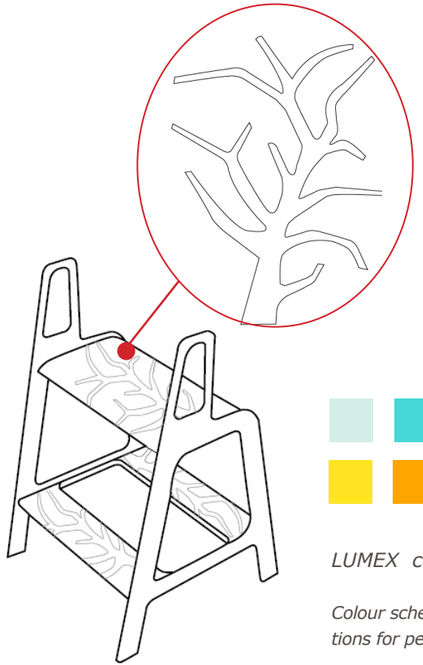
Basket > "hang on handle", for soap and shampoo.

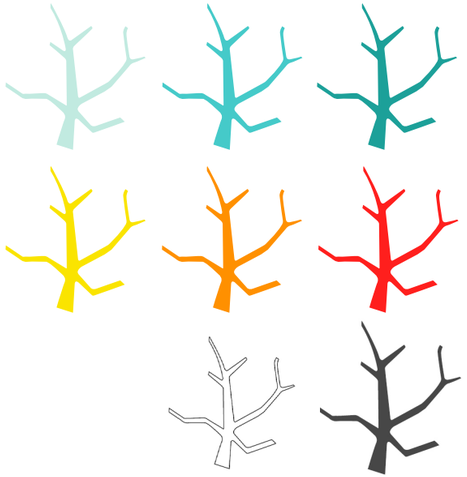






product extension





LUMEX colour line

Colour scheme as extra options for personalalizing Step.

LUMEX kids & anti slip decoration

Soft anti slip material for seating and footrest. Anti slip pattern for shower/ tub as functional decoration.

in context

in other contexts

Our vision is, if you need it it can go anywere..

GF Health Products, Inc.

Pratt

AJ
JA