



ABRACE

PRODUCT REPORT
MASTER THESIS PROJECT, GR. 1
AALBORG UNIVERSITY, SUMMER 2017



Endurance & Comfort



Kristine Kronborg Sørensen

Maya Maria Gulbæk

Simon Freundlich Jensen

REPORT

This report is addressed to the staff and head of departments in the psychiatry, who are the ones deciding which new interior and equipment that needs to be purchased. The report is communicated as a sells folder that contains information about the product, function, purpose, values and service and price.

CONTENT

ABRACE	4
FUNCTIONS AND FEATURES	6
STIMULATION	6
PREVENTIVE	8
INDEPENDENCE	9
BLANKETS	10
SWING	12
COMBINING MATERIEALS	14
CUSTOMIZING	16
BUY FOR DEMAND	19
REPERATION	20
PRICE	23
MATERIALS	24
CHAIR	24
MATERIALS	25
BLANKETS	25

ABSTRACT

Dette projekt omhandler udviklingen af et møbel til psykiatrien, af tre studerende fra Industrielt Design på Aalborg Universitet. Produktet er rettet mod psykiatrien med fokus på sikkerhed, atmosfære og sansestimulering og er primært tiltænkt de indlagte patienter på lukkede afdelinger. Igennem projektet har der været adskillelige interview og møder med både personale og patienter i Aalborg og Randers psykiatriske afdelinger, som har dannet retningslinjer for produktet. Dette har været i sammenspil mellem teoretisk materiale og selvudførte tests.

Resultat er en lænestol, med fokus på at berolige patienten for at forhindre aggressiv adfærd, ved hjælp af stimuli til at afstresse sind og krop. Dette selvstændiggøre patienten ved ikke længere at skulle spørge om lov, til lån af sansestimulerende redskaber.

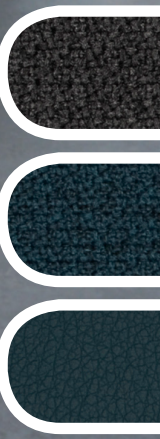
ABRACE

FEEL THE COMFORT

Abrace are developed in collaboration with several patients, occupational therapists, and nurses of the Danish psychiatric departments. The idiom, colours and mix of materials are specifically chosen to ensure the possibility of using Abrace in forming a cosy and homelike environment within public health facilities. The surfaces of the chair is easy to clean with the carefully chosen, easy cleanable and extremely durable fabrics. The composition of materials is strategically placed to prevent the wear on the product, and ensure it can withstand the occasionally harsh treatment it may be exposed to. Abrace can be ordered with multiple unique features, to help stimulate the users in an coming way. Heavy blankets for both thighs and chest helps provide a grounding and relaxing feeling. There is also the possibility of an integrated swing, which can be adjusted to fit both tall and short users. The swing provides comfortable support for the feet, and allows a swaying movement to help resolve restlessness in legs.

Abrace is made to create a comfortable homely feeling, by providing comfort and calm surroundings, and can also give a distraction from the role of being a patient with an illness.





STIMULATION

FUNCTIONS AND FEATURES

ABRACE contains multiple functions and features to stimulate the user in different ways. The different functions are optional, so the user can choose stimulus after desire and need.





FORECLOSURE

ABRACE has foreclosure to block out surrounding disturbance and create a private space for the user.



SHOULDER BLANKETS

Blankets with weight for the shoulders to provide grounding and ease distress in the body.



LEG BLANKETS

Blankets with weight for the legs to provide grounding and ease distress in the body.



SWING

Incorporated swing for the feet and legs to stimulate and treat restlessness.



RUB-NUBS

Nubs to rub feet against for tactile stimulation.

PREVENTIVE

RELAXING MIND AND BODY

The different functions and features calmes the user by easing distress in the body and mind to prevent aggressive and externalizing from happening.



WHEN TO USE ABRACE DISTRESSED

REDUCES SENSE

Reduces or damage sensory function, where the patient don't have optimal body awareness, can lead to critical episodes where the patient can show different ways of externalizing behavior due to panic and paranoia.

FOREIGN PLACE

Being forced into unfamiliar and foreign environment, are extra uncomfortable for a citizen with a mental illness. It can make the person scared, insecure and worsen their mental state.

DISTRESS IN BODY

Having a mental disorder often creates distress in the body, which can lead to internal and external frustration.

RESTLESSNESS

The medicine for mental disorders often have side effect that gives restlessness in the body – especially restless legs syndrome. The restlessness in the many hours that needs to be passed, can result in distress in the body, making the citizen walk up and down the hallway.

TINGLING

The medicine can also give a tingling feeling in the body which can lead to distress.



AFFECT OF ABRACE CALM

BODY-AWARENESS

The heavy blankets puts pressure on the body, giving the user grounding to achieve body awareness which has a calming effect.

SAFE PLACE

ABRACE is a feasible and recognizable furniture that provides the user with a private and embracing space to relax.

WELL-BEING

The heavy blankets embrace and ease the body and gives a feeling of well-being.

STIMULATE

ABRACE's swing provides the user with a monotone and calming movement and stimulation to ease the restlessness.

CALMING

-The nubs on the swing enables the user to rub the feet's against, which gives a calming tactile stimulation



INDEPENDENCE

LESS SUPERVISION, MORE SELF-HELP

ABRACE is a helping aid designed to be an everyday piece of furniture. The chair and its' tools for the daily hours should be available at all times, meaning that it can be used without supervision. ABRACE is designed with safety precautions that enables the user to be independent and at the same time ensure a safe environment for user and the surroundings.

SAFETY PRECAUTIONS CHAIR

The chair weighs 50 kilo, making it nearly impossible lift up and throw.

BLANKETS

The thickness of the blankets makes it unmanageable to use for strangulation.

ARMREST & LEG-SUPPORT

Big as well as small parts are all connected to the inner construction and assembled with bolts that only can be loosened by special tools.

LEG-FRAME

The leg-frame consist of one big part, that can't be broken off to made weapons.

SWING

No tubes can be pulled out.



BLANKETS

GETTING COMFORTABLE

The purpose of the blankets is to give the user grounding, make them relaxed by embracing them with heavy blankets that gives them body awareness. The blankets can be applied for the individuals need.

Besides that, the blankets can also be used to get comfortable in multiple positions, where it can be used as headrest or pillow for leaning to the side.





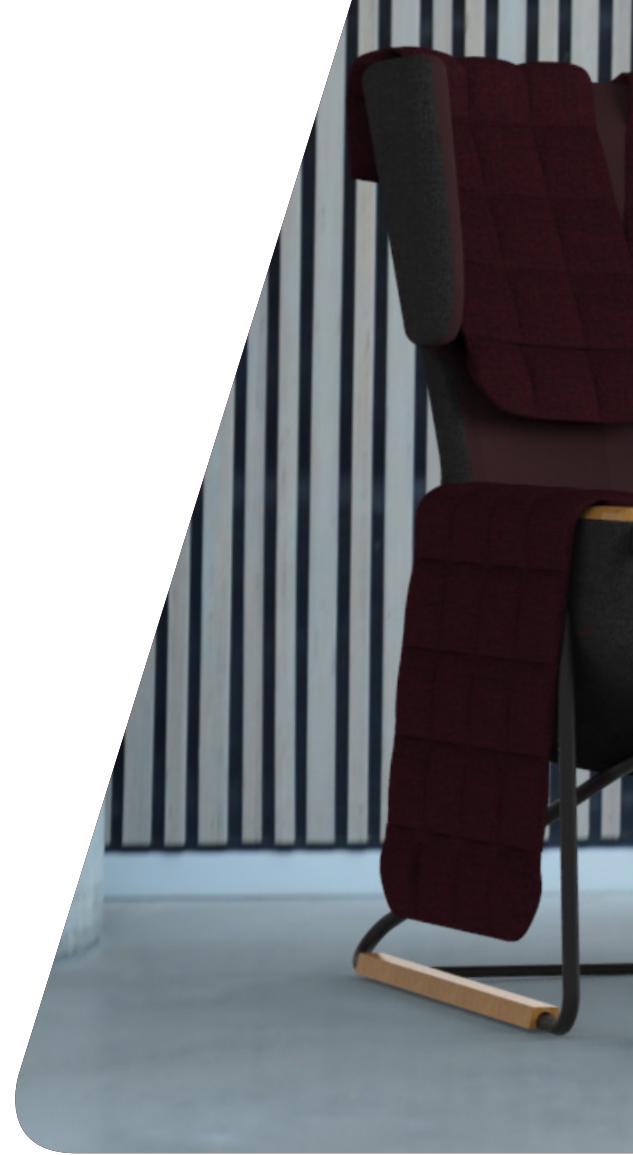
SWING

EASE DISTRESS

All stimulation elements in ABRACE chair are designed towards being optional. In connection to that, it is important that the swing is put away when it is not in use, so it isn't in the way if user sits in the chair without using the swing.

ADJUSTABLE

For the best experience the swing can be adjusted forward and backwards to accommodate the different length of legs each individual has. With a telescope pole it can stretch up till 20 cm, which is suitable for a person with a height of 200 cm. A friction lock prevent the swing from stretching while in motion.



PULL OUT SWING

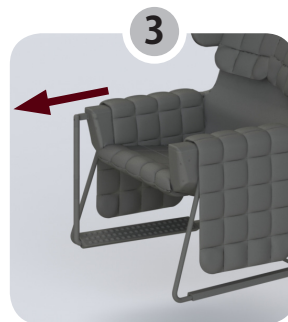
How to pull out the swing and put it back.



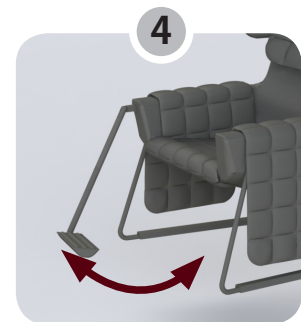
Rotate swing underneath the chair in position.



Swing-lock
(locked in use)



Adjust to length of leg with telescopic pole.



Swing.



Push back to put in back in place.

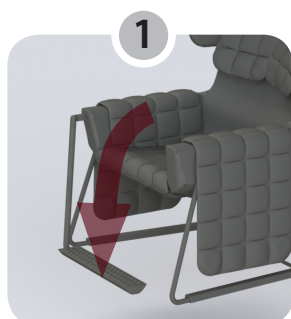


Put away when not in use.

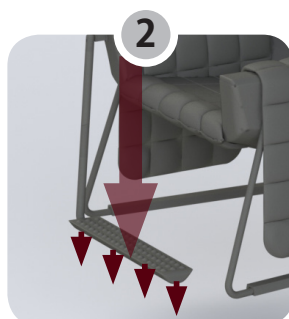


NONE-TRIP FUNKTION

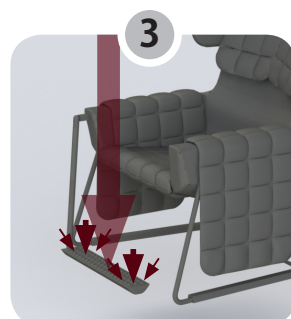
To ensure that the user won't trip and fall if they forget to move their feet from the swing before standing up.



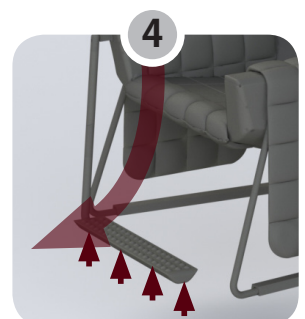
1
The user gets up on the swing.



2
The force releases a snap-function which causes the swing to fall to the floor.



3
Prevent the swing from slipping away, so the user won't trip or fall.



4
Snaps back off when there's no force applied.

SNAP-FUNKTION

The legs embody 17% of the body weight. The snap-function releases at 40 kg, that will ensure that it will work on a person weighing 45 kg (weight on swing = 7,5 kg) and at the same time a person weighing 200 kg (weight on swing = 34 kg) will not release the function while using the swing. The snap-function consists of a biased spring.

COMBINING MATERIEALS

COZY & WARM, YET HYGIENIC

ABRACE combines different materials to create a cozy look and feeling, while meeting the special requirement for cleaning. The material is carefully chosen for the different surfaces on the chair to give the user the best comfortable experience and still remain a good hygienic condition for the multiple users.

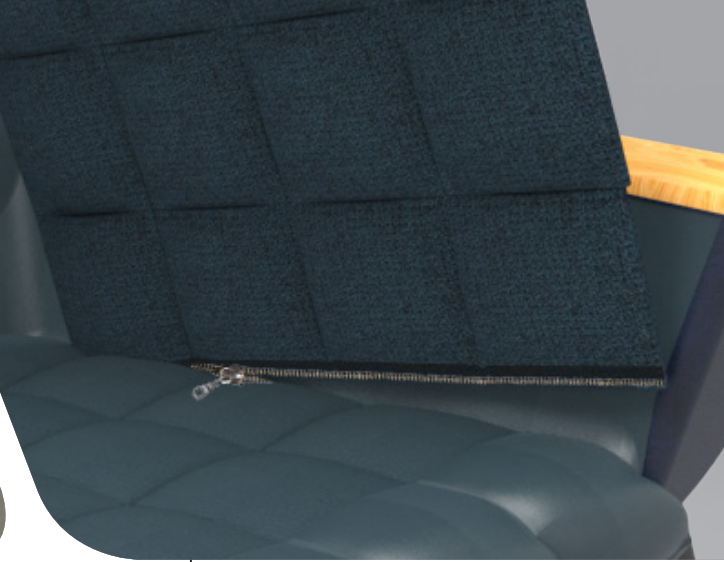
PRACTICAL

The inner side and bottom consist of a wipeable material, so it is easy and fast to clean if needed.

COMFORTABLE

The outer surface of the chair, leg- and shoulder blankets are made of fabric to give a cozy and warm look, as well as giving a more comfortable experience of the blankets. The fabric is mottled so staining will be less visible. To ensure that an optimal hygiene the blankets can be taken off to be washed.





WASH OF BLANKETS

The blankets are mounted to the chair with zippers, making it easy to put them on and take them off, when they need to be washed.

SHOULDER BLANKET

The blanket is mounted on the back of the chair.

LEG BLANKETS

Each leg-blanket is mounted on the inner side in the bottom.



CUSTOMIZING

FIT INTO THE ENVIRONMENT

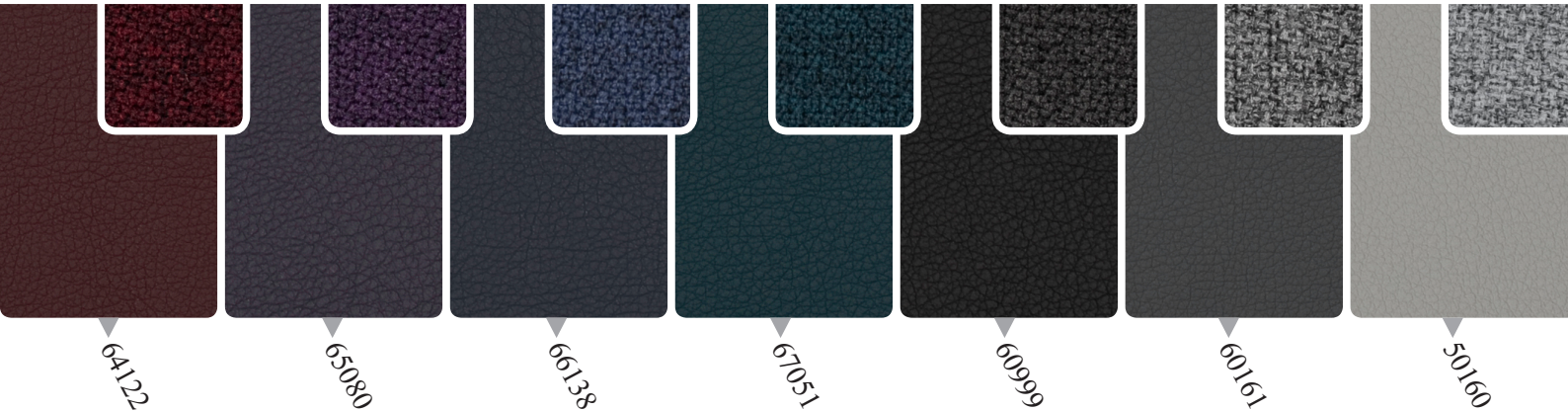
TEXTILE OUTER SIDE

The outer side can be chosen in a complimentary or cotrast color to the inner side.

INNER SIDE

The inner side of ABRACE consist fabric and faux leather with complimentary colors to create a united expression.





DURABLE MATERIAL

The textiles are developed for furniture in hospitals, which means it has high strength and meets the requirements for hygiene in form being washable and can be wiped off with detergents used for public institutions.

OBIKA LEATHER+ by Gabriel

Material	66% polyurethan / 24% polyester / 10% cotton
Abrasion resistance:	250.000 martindale (rubs)
Colour fastness to light:	5-7 (scale 1-8)
Colour fastness to rubbing:	4-5 (scale 1-5)
Maintenance – wiped:	Actichlor Plus, Prime Source ren-93 or Ethanol (70-85%)
Flammability:	Retardant

Labelling:



COLOR

The variety of colors to choose between are low keyed in dark and subtle shades, to create a pleasant environment.

STEP MELANGE by Gabriel

Material	100% Trevira cs
Abrasion resistance:	100.000 martindale (rubs)
Colour fastness to light:	5-7 (scale 1-8)
Colour fastness to rubbing:	4-5 (scale 1-5)
Maintenance – wiped:	Actichlor Plus, Prime Source ren-93 or Ethanol (70-85%)
Maintenance – wash:	60°C shrinkage max. 3% 74° shrinkage max. 5%

Flammability:

Retardant

Labelling:





Matt Gray



Matt Charcoal



Matt Black

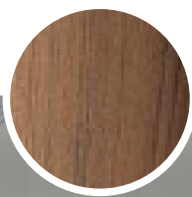
LEG-FRAME

The lag-frame comes in three standard finishes, to accommodate the choice of textile the best possible way. The colors can be customized after desire.

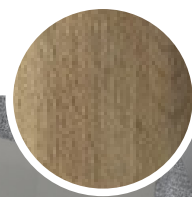
WOOD - ARMREST AND LEG-SUPPORT

The wood for armrest and leg-support comes in three different varieties to match desired color on the chair and environment.

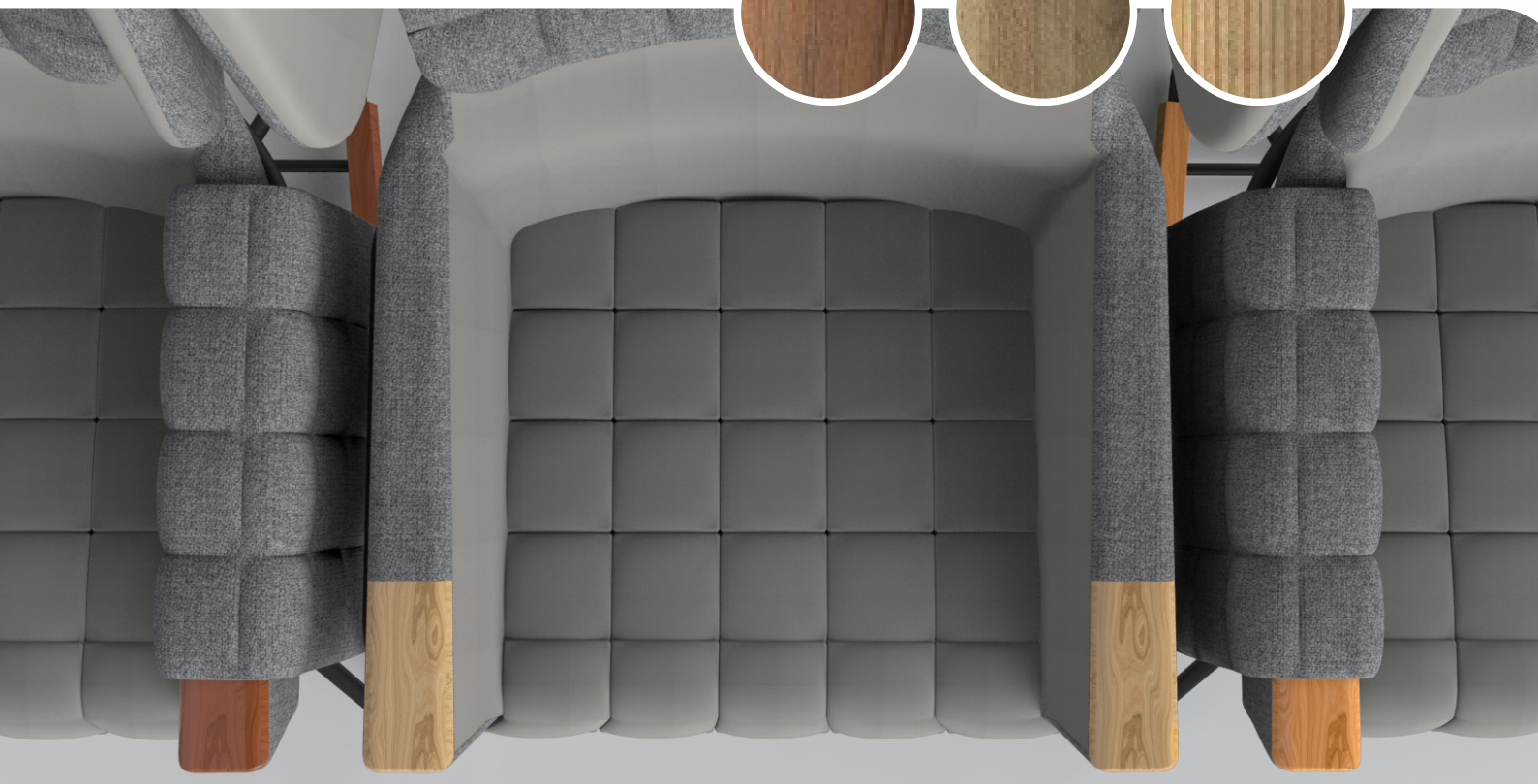
Cherry



Ash



Oak



BUY FOR DEMAND

MORE OR LESS - FIT THE NEED

AMBRACE is a furniture that are customizable after each need. The furniture comes as a whole solution or each feature and function can be added or deselection depending on the purpose on the furniture.

BLANKETS

The chair can be purchased with, without or with more blankets. Having more blankets ensure that the chair always is full functioning while used blankets are being cleaned.

SWING

The chair can also be delivered without swing, if this function is not needed in the given environment.



REPERATION

REPAIR INSTEAD OF REPLACING

ABRACE offers new parts instead of buying a new chair. The parts that are replaceable are the swing, the

leg-frame and blankets.

REPLACEMENT

The replacement of broken parts can easily be completed at the given place. ABRACE chair are easy to assemble and disassemble and only require few steps. All assembly point for the replaceable parts, except the leg support, is found in the leg-frame, which consists of nine bolts that only require one tool to disassemble.

The replacement of broken parts can easily be completed at the given place. ABRACE chair are easy to assemble and disassemble and only require few steps. All assembly point for the replaceable parts, except the leg support, is found in the leg-frame, which consists of nine bolts that only require one tool to disassemble.

To replace the armrest and swing only the outer bolt in the leg-frame needs to be screwed out, to pull up and replace the armrest. Pulling up the armrest allows replacing the swing, as a rod from the armrest are the locking mechanism for the swing, preventing it from being pulled out.

ABRACE
Full solution



PRICE

TOTAL AND PARTS

Price list for total ABRACE solution and each purchasable part, for reparation or having more on storage.

CHAIR ABRACE

22.750,00 kr.

PARTS SHOULDER BLANKETS

280, 00 kr.

ABRACE LIGHT

18.850,00 kr.

LEG BLANKETS

350, 00 kr.

ARMREST

300,00 kr.

LEG-SUPPORT

330,00 kr.

SWING

2680,00 kr.

ABRACE LIGHT Armchair



DURABILITY

DURABLE MATERIAL

ABRACE consist of durable material, to resist the harsh environment and accommodate the hygienic requirements.

FIBERGLASS

The fiberglass shell, is made as a composite of a hard fiberglass surfaces with a high density of foam in-between. This provides a very strong inner construction for the chair, which can withstand a harsh treatment. The shell has fixture moulded within the layers, making the connected features, very well fastened to the base of the chair.

FOAM

ARBACE consist of flame retardant foam. The foam has a high density to ensure long lifespan and good comfort.

PLASTIC GRANULATE

To give the shoulder and leg blankets weight, plastic granulate will be used as stuffing. The granulate can be washed in machine at 60 degrease and can tolerate detergent.

