

solidity

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A great design story is always about its journey. A journey towards the gratifying point in which the designer tries to achieve a conclusion. Similarly, I see myself trying to find a surprise and fun elements by exploring hard and soft materials.

The unfolding of my journey will be as follows:

concept

main ideas and inspiration: the physical of hard vs. soft

observation

research of everyday objects

development

sketches, experiments, design opportunities

surprise

discovery: design refinements, finalize concept

'Hard vs. soft' is the inspiration of this project because I am interested in the tactility of objects.

Through experience and /or knowledge, we associate stone as hard(er) material and sand as soft(er) material.



we are intrigued to the idea of **'unexpected'**



creating
solid blocks out of sand
(soft material)



creating
soft plush that resembles stone
(hard material)

Hard/soft: in nature

Hard and soft elements are often found side by side in nature because each element has its own unique function. Therefore the entity will fail if the elements were the other way around.



soft lips – hard teeth



hard shell – soft yolk



soft meat – hard seed



hard house – soft creature



soft flesh – hard bone



hard beak – soft mouth



dough & bread



caramel & sugar



tofu & soybeans



milk & cheese

Hard/soft: through process

Some natural materials will transform from hard to soft or the other way around when a certain process is applied.

The transformation is typically irreversible; once the material reaches a different state, it will become a new material. Thus, each form of the entity, hard or soft, has its own essentiality.

Hard/soft: cycle

Many objects in our life are formed when the material is at a soft(er) state. Both natural and manmade processes are typically reversible, which means that the physical state does not change the attribute of the material. These materials become more useful when manipulated and transformed into purposeful objects.

metal



rock



clay



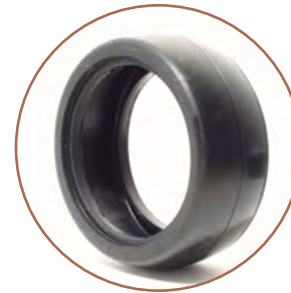
plastic



water



rubber





soft cushion



soft grip



soft case



soft rug



hard ball



hard cup



hard helmet



hard board

Hard/soft: on products

People create an opposing element to balance and to enjoy the entirety of an object or activity. A cutter needs to be hard but we add a soft grip to it; we put a rug in our living room so that the floor is cozy; a bowling ball needs to be hard but designed to fit on our soft hand; we can enjoy the ocean wave by standing on a stiff surfboard; and so on.

We enjoy being in an environment that is the contrast of a routine. One of the reasons people love walking on wet sand is because the soft wet sand feels completely different than the hard ground under our feet.

We enjoy new experience by discovering new look, new scent, new taste, new sound, and new feel.

my intention:

is to create a product that emphasizes the contrast between the hard and soft characteristics.



people are **happy** when their senses are intact



Object Inspiration 1: Zipper

Zipper is a way to joint hard and soft material, a system of temporary closure, and also an instant mechanism.



Trial 1: sewing zipper onto hardened clay.



Trial 2: attaching zipper to combine two identical forms.

Combining Hard and Soft

Using zipper as a soft join on hard(er) surfaces as well as to introduce new systems.



Zipper Chopstick



Zipper Frame



Zipper Dimmer

Object Inspiration 2: Gelatin

Gelatin is an everyday material which transforms from liquid to solid; yet is still pliant.



Trial 1: cast gelatin in one step.



Trial 2: cast gelatin in three steps; gelatin **does not stick to itself** when cast one step at a time.

Casting Hard / Soft

Inspired by gelatin, I created ordinary objects using gel candle to retain the resilience of gelatin.



Gel Planter



Gel Table Light

Object Inspiration 3: Oobleck

Oobleck is a *Non-Newtonian* fluid; a fluid whose viscosity is variable based on applied stress. Oobleck is a mixture of corn starch + water.

Oobleck becomes hard
when hit



Oobleck becomes soft
when handled gently



A balloon stress-ball filled with oobleck

Hard / Soft Transition

Concrete surface and dyed oobleck makes an interesting combination because the entire surface is hard when hit but the oobleck part is soft when pushed softly.



Concrete surface and dyed oobleck.

Inspiration



Bookshelf Table
by Josefin Hellstrom



Plug
by Thomas Kral



Concrete Fire Pit
by Atelier B



Illusion Table
by Essey

Table as the next step

Table is one of the most essential objects to define a living space, thus I want to conclude my experiments with a series of end tables.

The series will include hard(er) materials such as steel, concrete, wood and acrylic, and soft(er) materials such as grass, zipper, rubber, and gel candle.

Concrete vs. Grass – represents hard/soft in nature.

Acrylic vs. Gel Candle – represents hard/soft cycle.

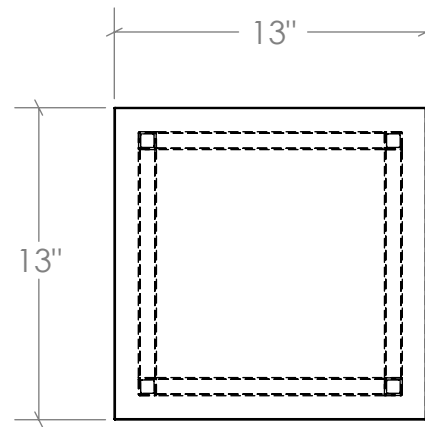
Concrete vs. Rubber – represents hard/soft through process.

Wood vs. Zipper – represents hard/soft on product.

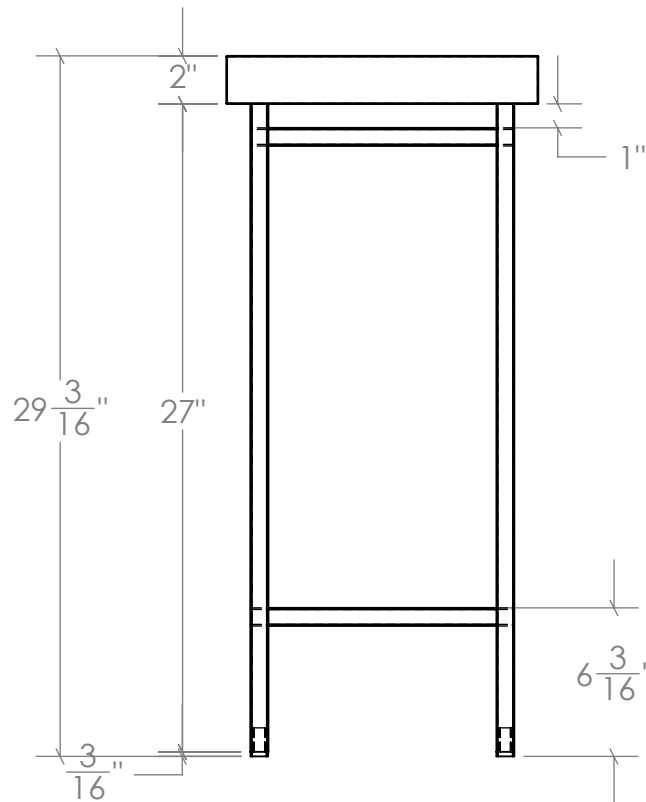


Solidworks Model

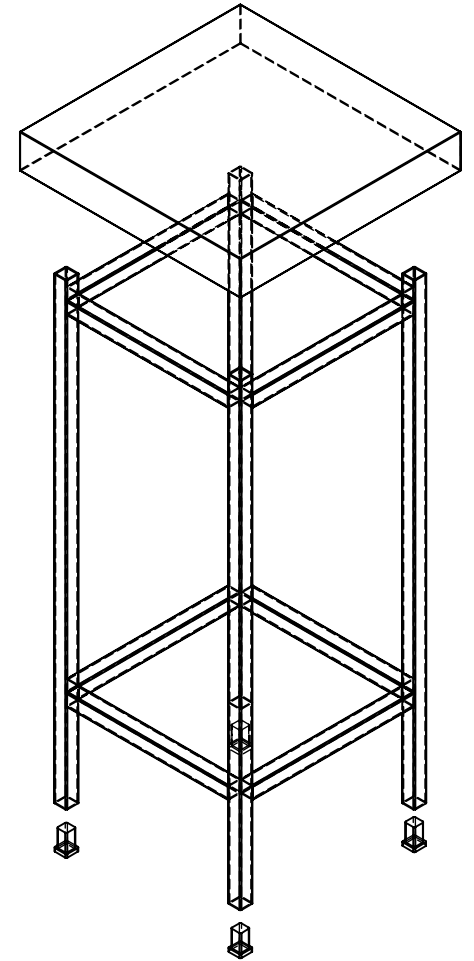
The Making of



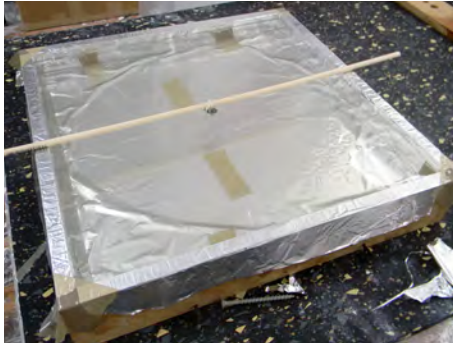
Top View



Front View



Exploded View



SATU

Concrete and grass



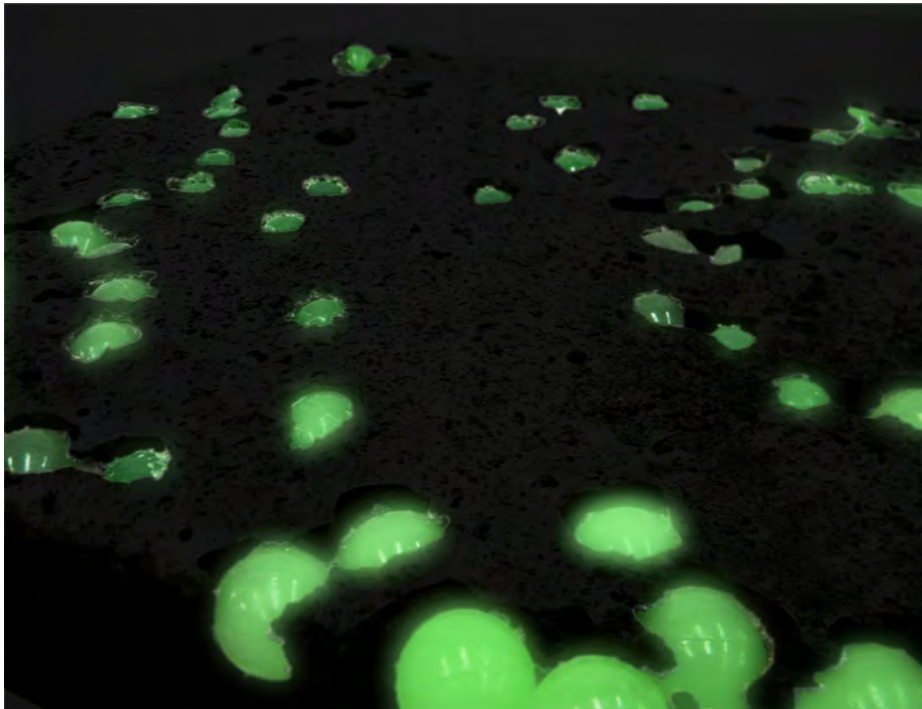
DUA

Gel candle and acrylic



TIGA

Concrete and glow-in-the-dark rubber



EMPAT

Wood and zipper





Satu, Dua, Tiga, Empat

The end table series that embrace the human senses.

Thank you!