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Pattern Research Project: An Investigation of The Pattern And Printing Process - Cusp

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Cusp



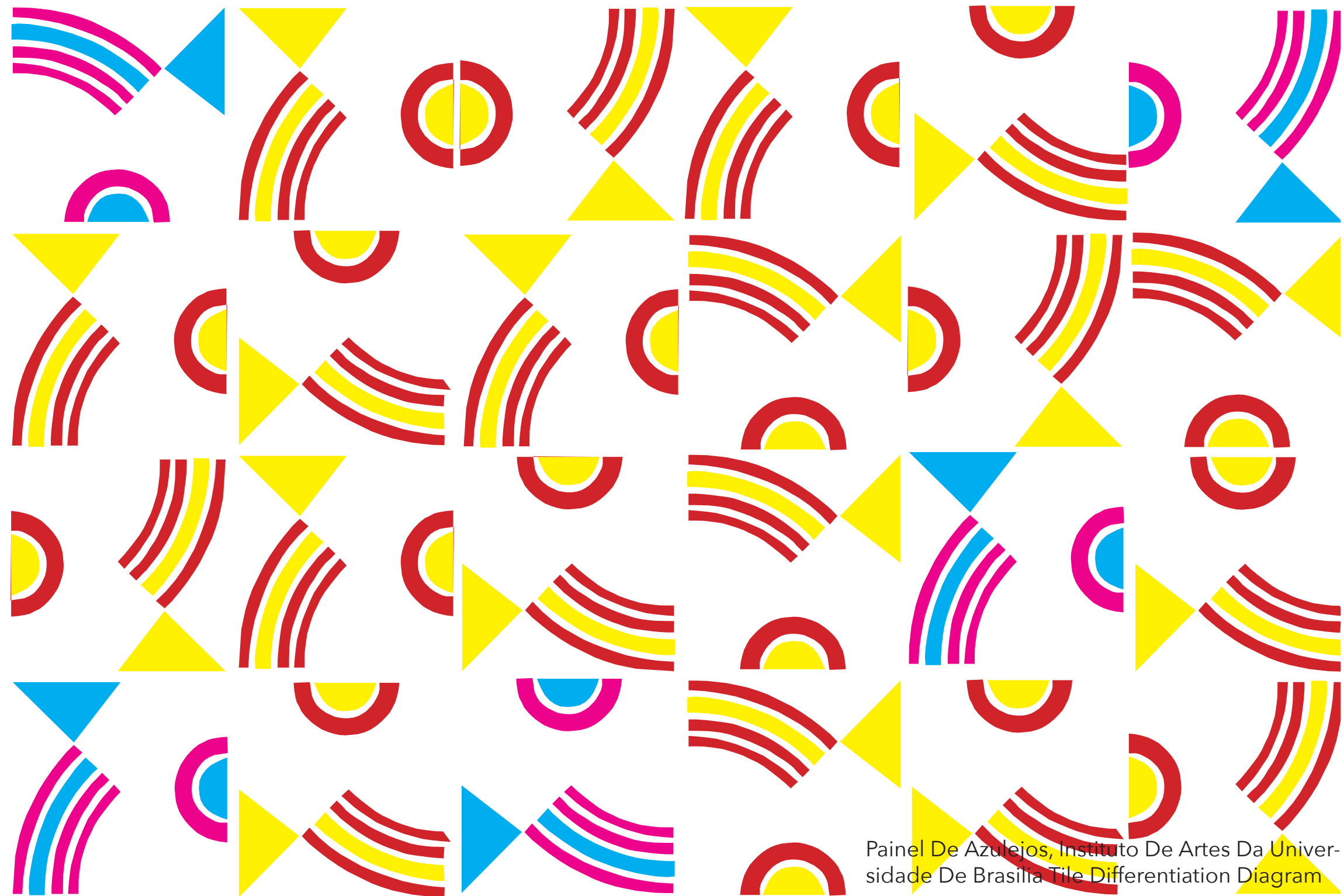
Cultural Influence

The main shapes used in Athos Bulcao's work are circle and square forms. This is extremely significant because the traditional art of the Indians of Brazil features among other forms, the circle and the square. Also within his work there is "admiration for different phases of Western art, particularly Byzantine art (form, color, texture)" (Teodoro, 2000). Most of Bulcao's work was created right after the switch of the new capital city to Brasilia and "a radical change for Brazil - a new charismatic president." (Gibbons, 2015) Bulcao's friend Oscar Niemeyer planned and developed the city, so working together they "littered the city with their public buildings and decorations" (Gibbons, 2015). Athos Bulcao's work in general contributed to Brazilians cultural identity. By boycotting the art market, (and putting his art in public spaces) his art could not bear a price tag. It was seen by people from all walks of life. "This is a significant reflection of the social status of the artist and his work: fully integrated and seen by the most attentive viewers. His work completes the architectural harmony into which it is placed, without, however, diverting it into just any direction. Bulcao conjures up a utopian country in which people may peaceably appreciate art." (Teodoro, 2000). Currently Athos Bulcao's mosaic designs are featured all around Brazil, from bus stops to extremely influential pieces of architecture. His field of design is considered to be "surface design," consisting of curvilinear and technical activity that days with the creation and development of aesthetic, functional and structural features, designed specifically for the constitution and/or surface treatments." (Prado, 2017)

Design

Athos does not believe in inspiration. For him, there is talent and hard work. "Arte é coisa mental," he says, quoting Leonardo da Vinci (Semanal, 2018). While Athos Bulcao provided the modular units, he was unconcerned with how they would be arranged "preferring to have his collaborators arrange them themselves, following no preconceived order." (Prado, 2017). Most of the time, there would be only one to two tile options in his works that were then randomly applied. Also, depending if the tile had a rotational axis of 2 or 4, there are only a certain amount of combinations in which they can be applied (Graciano, 2017). "The result is an array of organic, shifting designs, consistently lively for their absence of repeats" (Gibbons, 2015)

Maharam features a similar looking product on their website called Cusp. Its modular, and seemingly random placement of the digital "tiles" mimics the design of Athos Bulcao's tile art. The current pattern designed by Maharam has large influences from Athos Bulcao. The randomness of the tiles placement and large repeat reflect his work. Both patterns are flat and have a white background. Bulcao only uses two colors, Maharam uses two shades of a color; a bold and a light shade.. Cusp comes in 14 different colors. The motifs in both these patterns are geometric shapes such as squares, circles and triangles which is characteristic of Brazilian art. The rhythm of the pattern is very erratic in both patterns, Cusp has such a large regular repeat 18" V, 52"Hof that it very hard to distinguish.



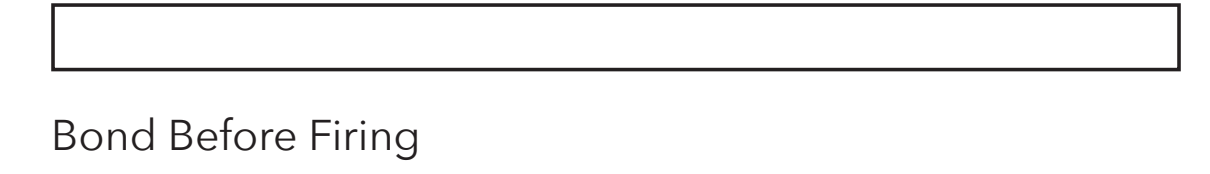
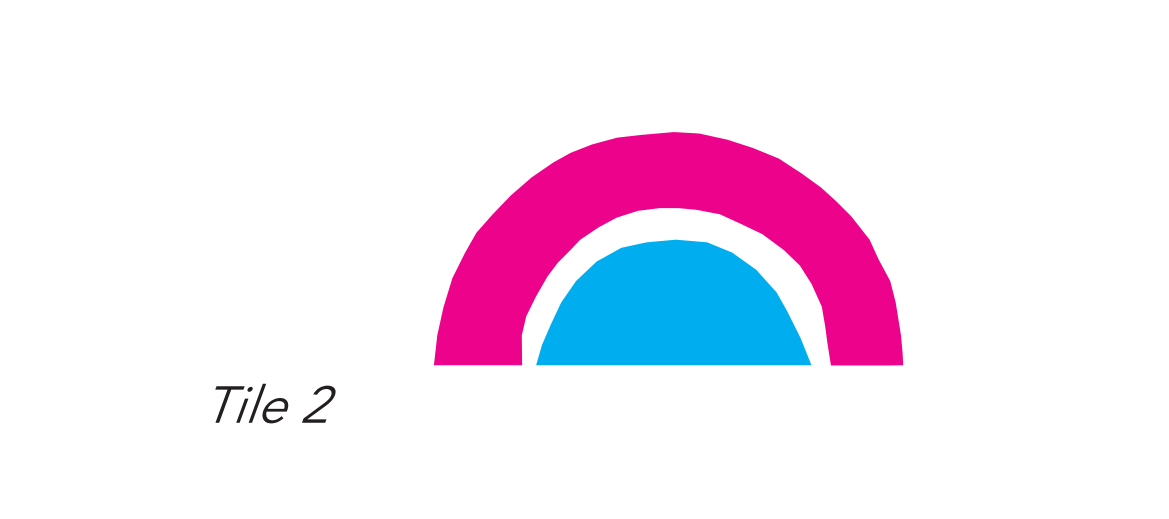
Painel De Azulejos Instituto De Artes Da Universidade De Brasilia The Differentiation Diagram



Tile 1



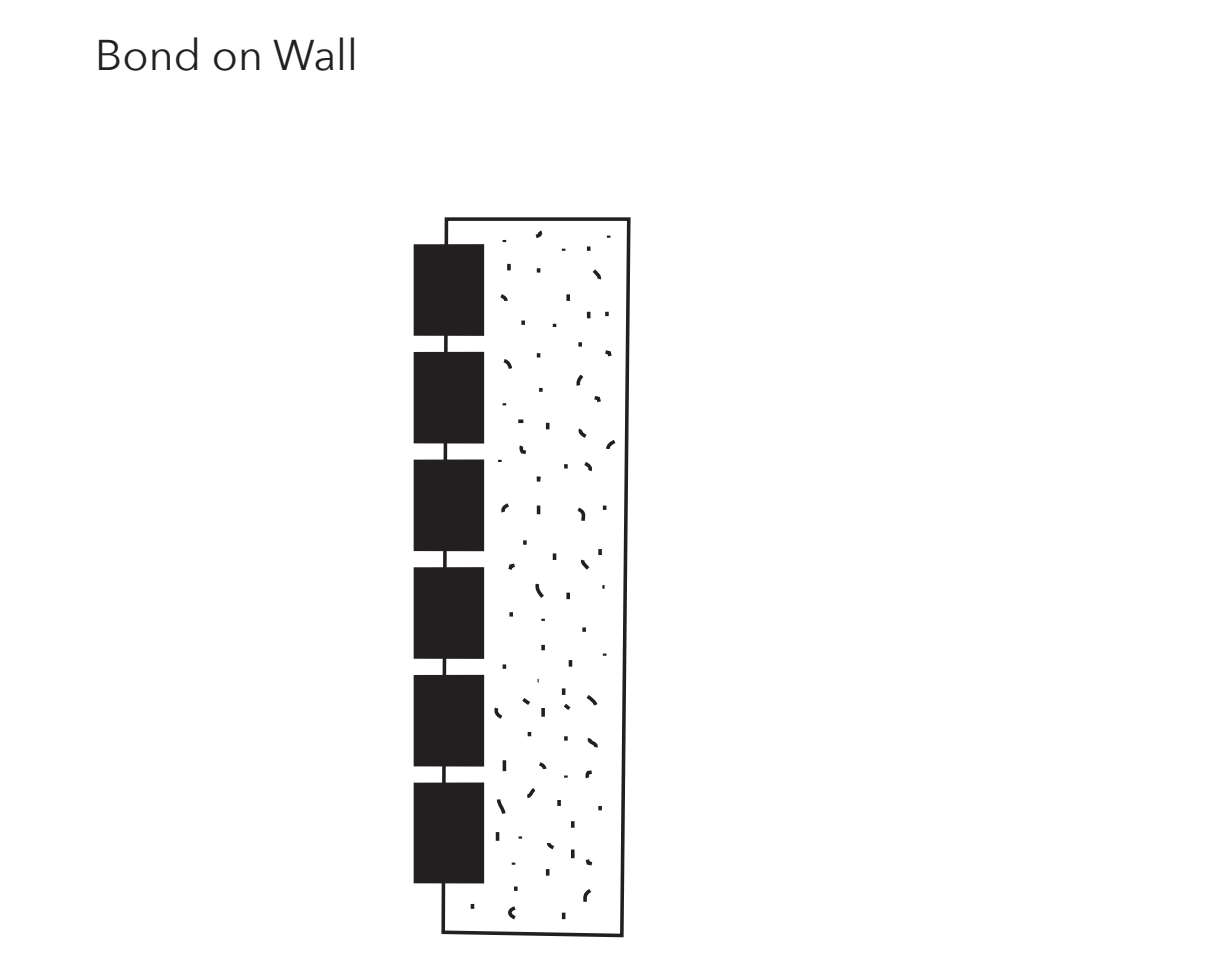
Tile 2



Bond Before Firing

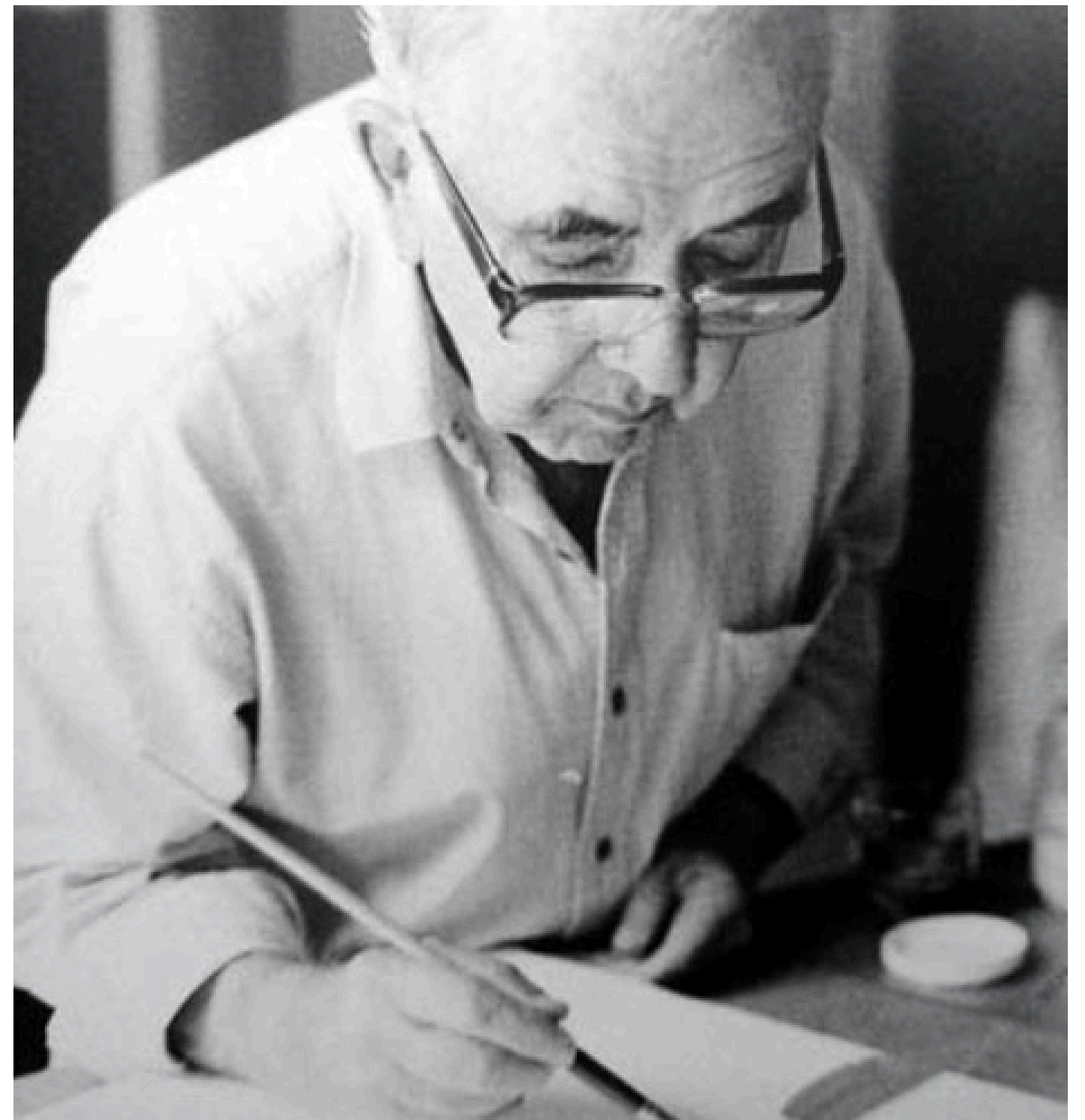


Bond After Firing

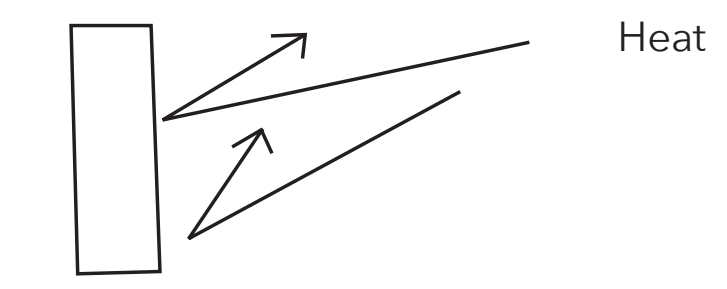
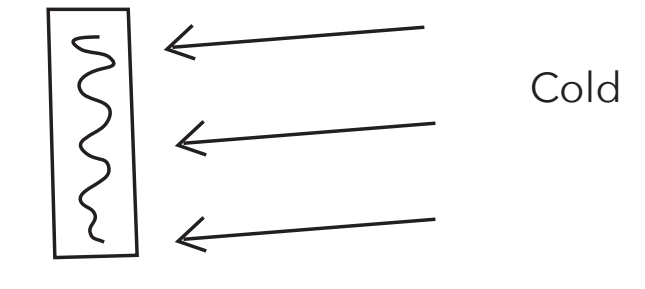


Bond on Wall

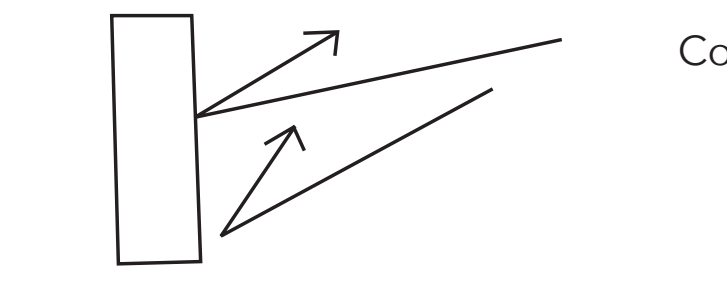
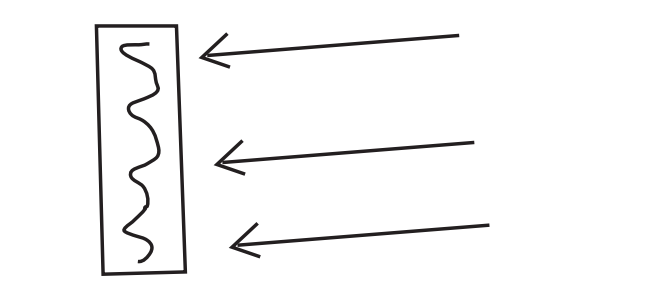
Athos Bulcao



Thermal Mass: Summer



Thermal Mass: Winter



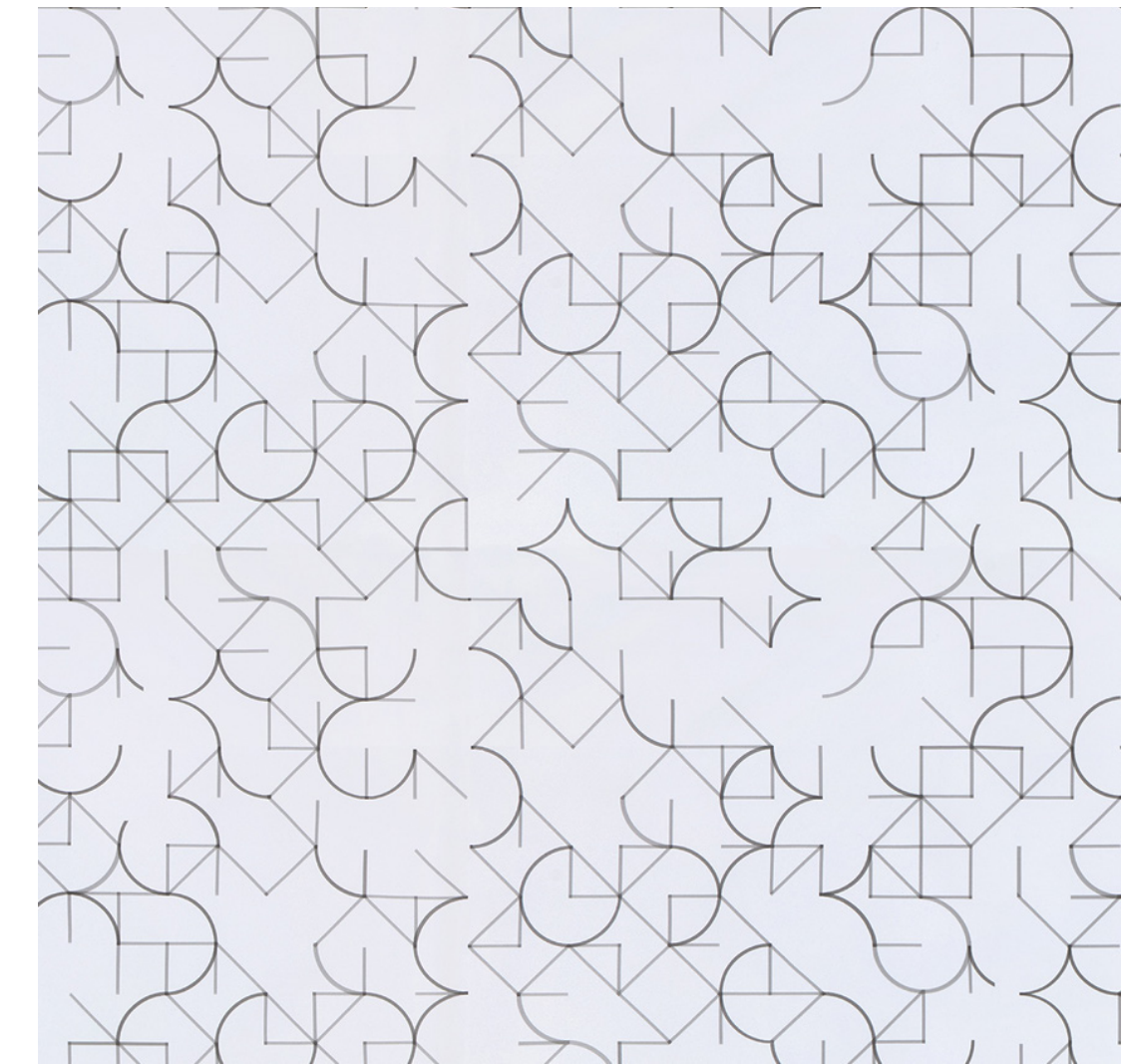
History & Process

When ceramic tiles were first made they were originally shaped by hand and set out to dry in the sun. But presently they are made from a process called "Dry Pressing or Dust Pressing" (Edmonds, 2008). This is where the 'Body Slip' is dried out and pressed into its desired shape by a machine that exerts 100,000 pounds per square inch. A finished tile that is not glazed is called a bisque. "Glaze comes from the Old English word for glass" (Edmonds, 2008). There are a variety of glazes and methods application, but Bulcao always used a higher gloss glaze so that the sun would catch on the tiles. This was important because his work can be "found on the outside of public buildings all over Brasilia" (Graciano, 2017). The materials of these ceramic tile patterns consist of earthenware clay and glaze. Clay can be divided into three categories: earthenware clay bodies, mid-fire stoneware clay bodies, and high-fire stoneware clay bodies. (Peterson, 2018). These types of clay can be found anywhere just under the topsoil, but what differentiates them is how much and what type of minerals are in them. The mining of clay is normally carried out by excavators and large trucks that collect the clay from the ground and bring it back to a facility to be aged so the moisture content can decrease (França). Then it is put through scalper screens to remove all the dirt and organic material that is not desired.

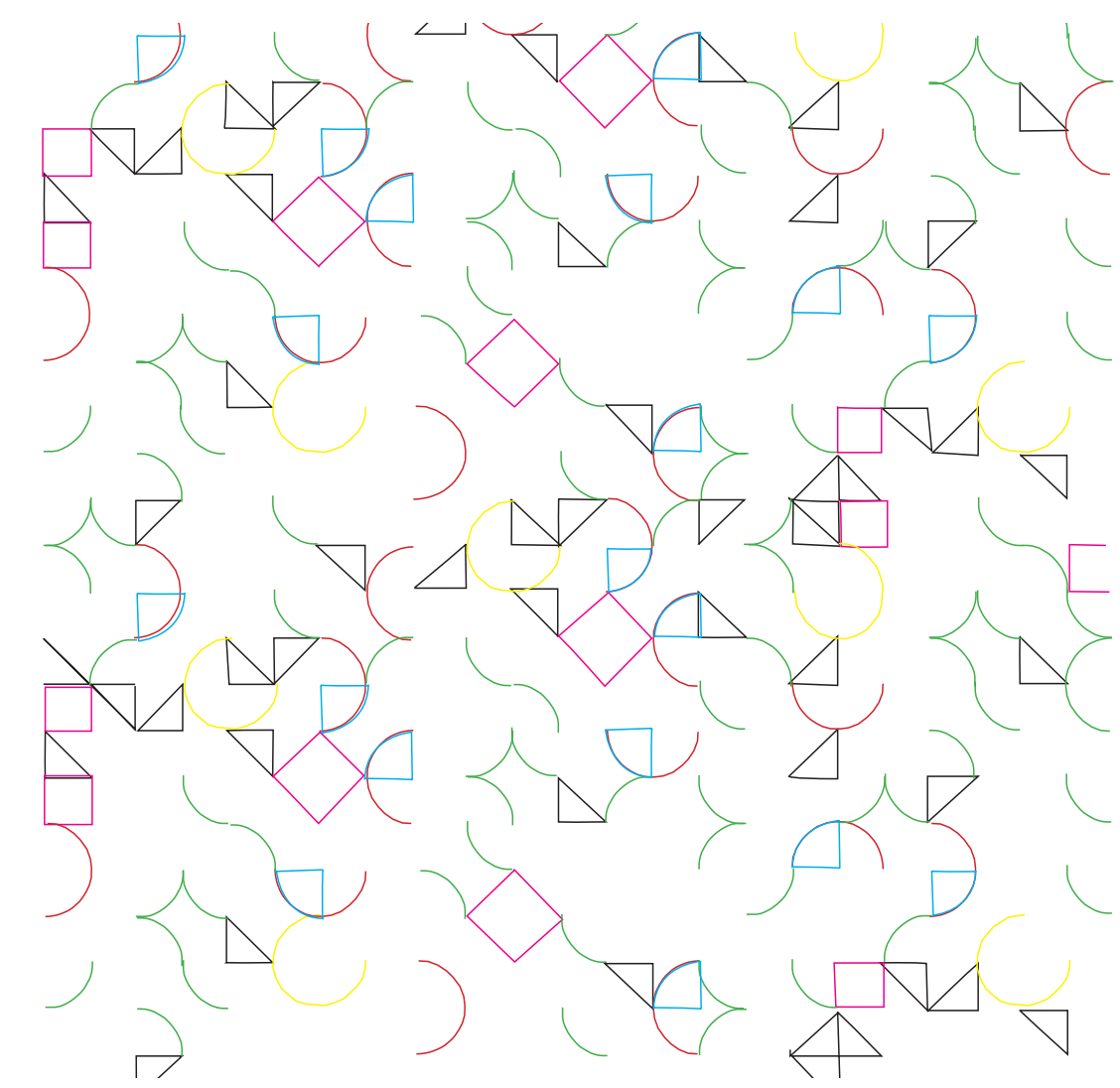
Currently most tiles are made in a factory where they can be made stronger and faster by machines as opposed to making them by hand. Some artisans still choose to paint them by hand but in general most tiles are glazed by machines as well, allowing for a more even precise glaze. The current Pattern that relates directly to Bulcao is printed on 100% Non-Phthalate Vinyl with a backing of Polyester/Cellulose.

Use

Athos Bulcao's work was such a success because not only were his patterns visually interesting, the tiles performed well in Brazil's hot climate. The tiles served as a thermal barrier and a visual barrier, covering up what was a hasty construction job since all of Brasilia was redesigned in the matter of a few years. Ceramic tiles are impermeable, thus protecting from humidity, are easy to wash and also the pieces reflect the sun providing good thermal environment when used on the facades. According to Prof. Agnaldo Farias, Ph.D. Curator and professor at the Architecture and Urbanism Program of the University of São Paulo's School of Engineering, it was more suitable for tropical climates than painting because of its refractory and weather-resistant properties, tile provided a pictorial support that "disguises" the wall on which it was applied, in such a way as to make it look like an enclosing element rather than part of the building structure.



Cusp



Cusp Shape Diagram

Citations

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