Brief description about functioning of thermochromic pigments

The termochromic pigment we choose reacts to temperature, working in the following period: 24ºC-33ºC. As shown in figure 1 with temperatures below 24ºC the pigment maintain its original colour magenta. In the range 24ºC-33ºC the pigment reacts and its colour suffers a complete discolouring and at 33ºC the color desapear.

Figure 1: Thermochromic pigment.

Brief description about functioning of photochromic pigments

The photochromic pigment shows a colour that maintains while the incidence of ultraviolet rays (UV rays) is continuous. As soon as the exposure ceases, the chemical structure returns to its original shape. In figure 2 we can see the work line of this pigment. Without UV rays radiation we have no color. With the incidence of UV radiation, it appears and show the blue colour.

Figure 2: Photochromic pigment.

Design of the message

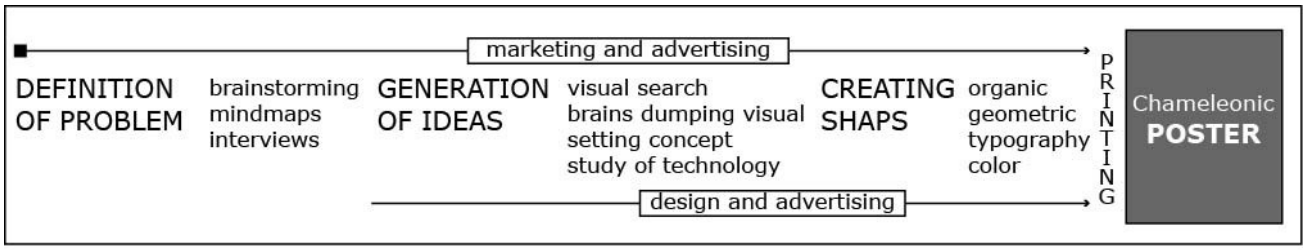

Figure 3: Design process

According to the figure 3 the construction process of preparing the poster starts with an approach to Marketing and Advertising. The definition of the problem applying various techniques is the first step. It follows the phase "Design and Marketing" characterized by the definition of “What say?”. In other words, what

better way to convey this concept, according to the target audience (How to tell?). Finally, the study of technology used. As mentioned above, these pigments allow the poster convey multiple messages over a time period. This characteristic allows the poster has the component "temporal", missing in the printed media when using conventional inks.

The design of the poster implies that the designer knows answer the following questions:

- How does the technology of selected pigments function?
- What are the weather conditions at the place where the poster will be placed

Possible scenarios for the types of pigments studied

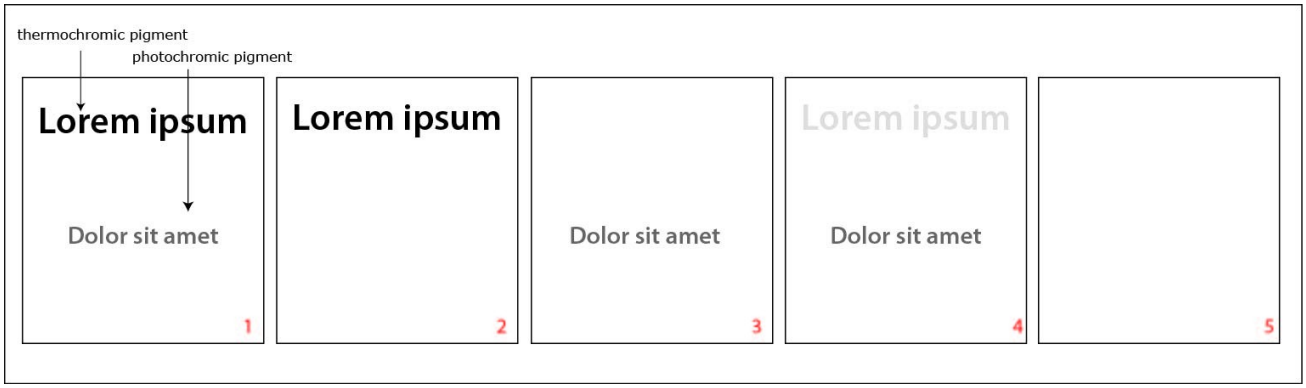

Figure 4: scenarios

1. Sunny day (UV) with a temperature ≤24ºc.
   1.1. All elements printed with both types of pigments are visible.
2. Temperature ≤24ºC and not UV rays.
   2.1. The elements printed with pigment thermochromic are visible, as in the previous situation. However, the photochromic pigment is virtually invisible because there is no UV rays.
3. Sunny day (UV rays) with a temperature ≥33ºc.
   3.1. The elements printed with pigment thermochromic disappeared because the temperature is equal or above 33°C. However, the photochromic printed pigments elements are visible due UV rays.
4. Sunny day (UVrays) with a temperature between 24ºc and 33ºc.
   4.1. This situation is similar at first situation. All elements printed with both types of pigments are visible. However, the pigment thermochromic suffered a discoloration process because the average air temperature is in the range 24ºC - 33ºC.
5. Temperature ≥33ºc and no UV rays.

5.1. Once the temperature is over 33°C the elements printed with pigment thermochromic totally disappear. The items printed with photochromatic pigments are not sensitized (no color), because there is no UV rays.

Findings

To exemplify our main goal "innovation in graphic communication" we draw two poster we showed in the video.