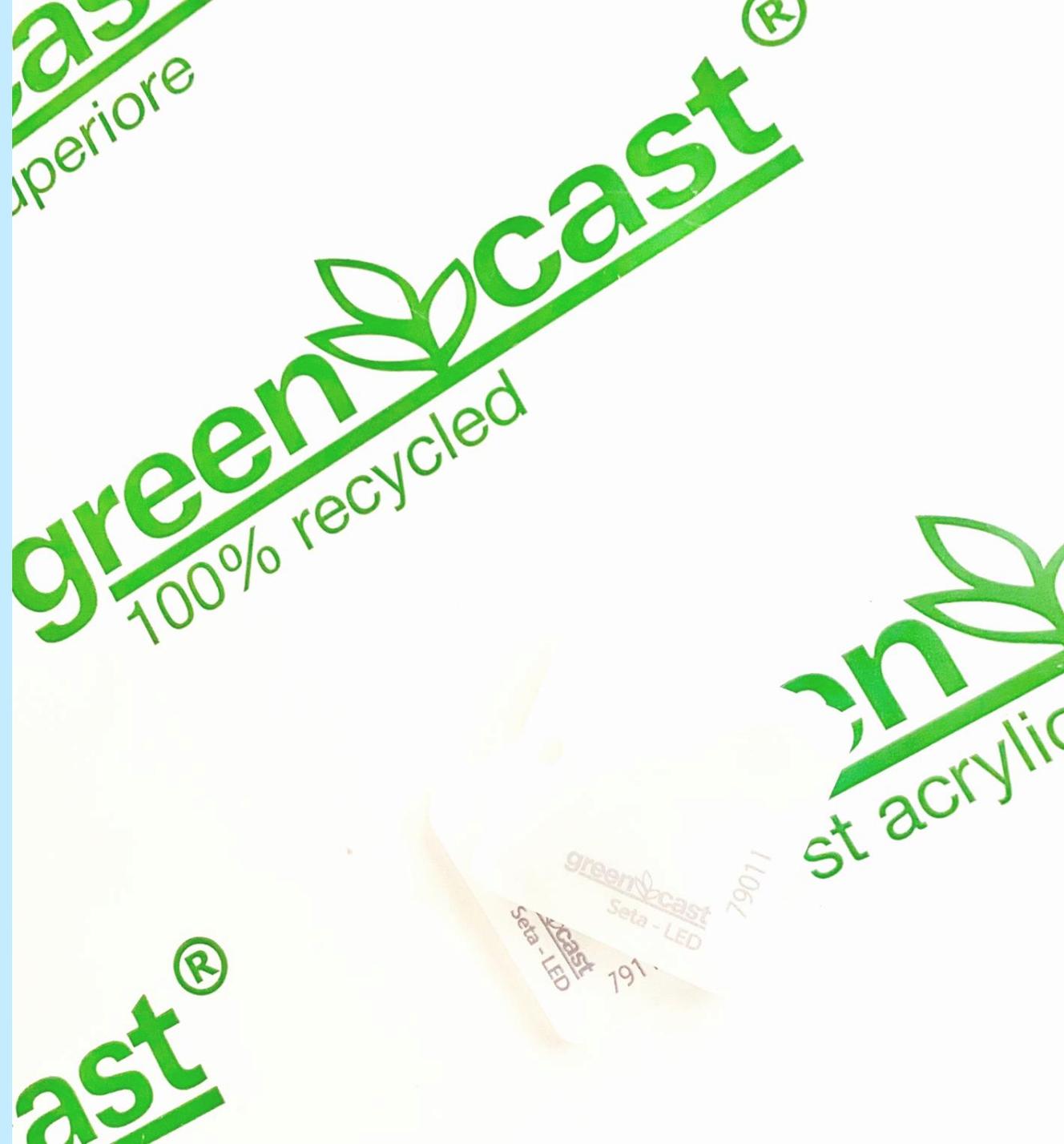




Green Cast Seta - LED®



AIM OF AN ACRYLIC SCREEN



PROTECT

Protect the sign from atmospheric agents



DIFFUSE

Diffuse and homogenize the light emitted by the light source



LIMIT

Limit the waste of energy, to ensure the best light transmission.

We have to remember that LED is a concentrated light source, therefore the material shall maximize diffusion, avoiding to loose much in terms of LT of the light itself

PMMA'S LIGHT TRANSMISSION

In order to assure an ideal lighting, the Light Transmission (LT) of PMMA (acrylic) should be between 40% and 70%.

- If LT is $< 40\%$, more LED module are necessary to grant enough luminosity
- If LT is $> 70\%$, more LED modules are necessary to grant light homogeneity

The light transmission of PMMA colors is:

- Green - between 10 - 20%
- Blue - between 10 - 20%
- Red - between 20 - 40%
- Yellow - between 20 - 40%



CHARACTERISTICS

NEON VS LED

NEON

The “white” light, generated by a Neon lamp, is a “warm” one, tending to yellow

LED

The “white” light generated by LED is usually “cold”, tending to light blue.

The relative wavelengths are therefore different, and this could lead to different problems. PMMA sheets developed to be backlit by NEON lighting, could not be suitable to perform when backlit by LED lighting. In fact, the following may arise:

- spot effect
- change of color

Let's see an example on the next page

EXAMPLE

PROBLEMS RELATED TO THE USE OF PMMA SHEETS DESIGNED FOR NEON, BACKLIT BY LED



We have two Setacryl colors, developed to be used with NEON lighting.



In this case we can notice that once the LED is on, the light source is visible through the sheet → spot effect

In this case once backlit our sheets shows a change in color and a loss of brilliance.

CHARACTERISTICS

GREEN CAST SETA – LED®

To have the best yield in terms of aesthetic effect and energy saving it's important to choose the right product.

Madreperla S.p.A has developed specifically for LED backlighting the Green Cast Seta – LED® range.

The material contains microspheres that diffuse the light inside the material itself, favoring the homogeneity of light and limiting the transparency, avoiding showing the spot effect. Everything without losing brilliance.

Green Cast Seta-LED allows to:

- have an optimal light diffusion
- it eliminates the spot effect
- the color remains brilliant

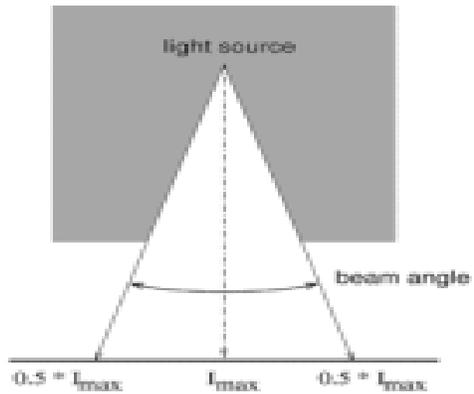
Let's see an example with Seta – LED 17500 (which is part of the non recycled range, but is of course producible in Green Cast version 100% recycled), a green that compared to the case shown in the slide before, does not change in color, remaining very brilliant. Furthermore, the spot effect is eliminated.

Note: the tests on these colors were performed with a single instrument, so with the same type of LED and the same distance (distance LED / sheet).



DISTANCE BETWEEN LIGHT SOURCE AND ACRYLIC SHEET

The answer at this question can not be unique, in fact the results depends on different factors. We always suggest to our clients to perform a test before the actual production.



ANGLE OF EMISSION
The greater the emission angle, the closer you can get to the sheet



POWER OF THE LED
LIGHT SOURCE



DIFFUSION capacity of
the acrylic sheet

INFORMATION

GREEN CAST SETA – LED®



Customization is part of Madreperla S.p.A DNA, so in our lab at we can study different solutions to meet the needs of our clients.

For more information, please contact us through the form on www.greencastus.com.