Technical Information

PLEXIGLAS® LED

For backlighting, color-changing (previously PLEXIGLAS® Dual Color)

Product

These translucent cast sheets were specially developed for backlighting with LEDs. PLEXIGLAS® LED (color-changing) is black or grey in daylight. When the lighting is switched on at night, the sign glows brightly in the color of the LEDs and changes color from black to white, for instance.

Particularly in illuminated signs, store fixtures and exhibition booths, the combination of LEDs with PLEXIGLAS® LED offers maximum efficiency and superior lighting technology.

Advertising messages often glow 24 hours a day, which is why energy-saving construction is becoming increasingly important. Illuminated signs with PLEXIGLAS® LED, backlit with modern LED technology, consume less energy than conventional fluorescent and neon tubes and also require much less maintenance. The full potential of LEDs can only be harnessed using the right material. PLEXIGLAS® LED for backlighting is specially designed for use in illuminated signs with LEDs.

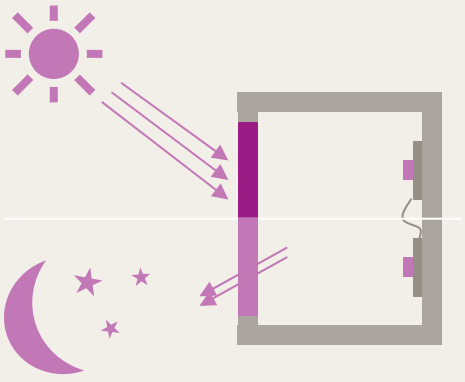

Fig. 1: Outline of color change principle

Properties

In addition to the well-known and proven properties of PLEXIGLAS®, such as:

- extremely high weather resistance,
- ease of fabrication,
- 100% recyclability,

PLEXIGLAS® LED offers the following special features:

- it changes color when backlit: grade 9H04 SC, for example, is black in daylight and glows in the color of the LEDs at night (usually white)(see Fig. 1)
- Black & White III was developed for the latest LEDs with high luminous intensity, and provides uniform illumination. Its special coextruded reflective layer improves overall luminous efficiency. This reflective layer is installed facing the inside of the light box.

Applications

These properties make PLEXIGLAS® LED specially suitable for:

- Illuminated signs:
  especially when the chosen corporate colors are black or grey, companies want their signs to change to a brilliant white that stands out against the dark night sky (see Fig. 2).
- Exhibition booths, store fixtures:
  printing on the reverse adds further eye-catching and fade-out effects, depending on the backlighting.

- Special-effect luminous walls in architecture

Fig. 2: Daytime and nighttime effect

Machining

PLEXIGLAS® LED can be machined just like standard PLEXIGLAS® GS. The following Guidelines for Workshop Practice are available for PLEXIGLAS®:

- Machining PLEXIGLAS® (Ref. No. 311-1)
- Forming PLEXIGLAS® (Ref. No. 311-2)
- Joining PLEXIGLAS® (Ref. No. 311-3)
- Fabricating Tips for PLEXIGLAS® Solid Sheet (Ref. No. 311-5)

"SC" products have a satin surface on one side and promote light diffusion. The satin side is usually installed facing inwards.

Physical forms

PLEXIGLAS® LED is available in the following colors:

PLEXIGLAS® LED

Color	Grade	Color	Transmission τ_{D65}
Black&White III	9M500 SC		15%
Black&White II	9H04 SC		18%
Black&White I	7H25		13%
Grey&White	7H01 SC		21%

You can find the available sizes and thicknesses in the PLEXIGLAS® Sales Handbook.

Evonik Industries AG
Acrylic Polymers
Kirschenallee, 64293 Darmstadt, Germany
info@plexiglas.net www.plexiglas.net www.evonik.com

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