

Technical Information

PLEXIGLAS® LED Black & White 9H001



PRODUCT

The translucent extruded sheets have been specially developed for backlighting with LEDs in, for example, illuminated signs. PLEXIGLAS® LED (for backlighting, color-changing) appears neutral black in daylight and when not illuminated. In darkness, and when backlighting is on, illuminated signs using PLEXIGLAS® LED Black & White 9H001 shine powerfully in the color of the LEDs and thus change color, for example from black to white.

Particularly in signage and in shop-fitting and trade show booth construction, the combination of LEDs with PLEXIGLAS® LED scores with extremely high efficiency and excellent lighting technology. Advertising is often illuminated around the clock, so that energy-saving designs are becoming increasingly important. PLEXIGLAS® LED, backlit with advanced LED technology, consumes less energy than conventional fluorescent or neon lamps, and is also low-maintenance. Only with the right choice of material can the potential of LEDs be fully exploited.

PLEXIGLAS® LED Black & White 9H001 is distinguished by improved diffusion, thanks to special diffusing pigments. The need to use additional diffusing films or backprinting is thus avoided. Improved diffusion properties usually result in brighter and more uniformly illuminated light boxes.

In addition, PLEXIGLAS® LED Black & White 9H001 is produced by the extrusion process and is therefore distinguished by low thickness tolerances. This positively impacts the uniformity of the backlighting.



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 Black & White 9H001 has the following special characteristics:

- It changes its color with backlit: PLEXIGLAS® Black & White is black by day (without backlit) and shines at night in the color of the LEDs, usually white. (see Fig. 1)
- It reduces the occurrence of hot spots thanks to the use of special diffusing pigments. (see Fig. 2)

APPLICATIONS

These properties make PLEXIGLAS® LED especially suitable for:

- illuminated signs
- exhibition booth
- store fixture / retail display
- special-effect light walls in architecture

PROCESSING


PLEXIGLAS® LED can be machined just like standard PLEXIGLAS®. 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)

PHYSICAL FORMS

PLEXIGLAS® LED for backlighting, color-changing, extruded, can be supplied ex stock in the following color:

PLEXIGLAS® LED

Color	Grade	Transmission τ_{D65}
Black & White 	9H001	17%

Formats and thicknesses are available in the PLEXIGLAS® sales handbook or from your contacts.

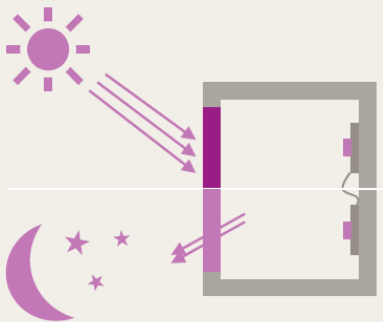


Fig. 1: The principle of the color-change effect

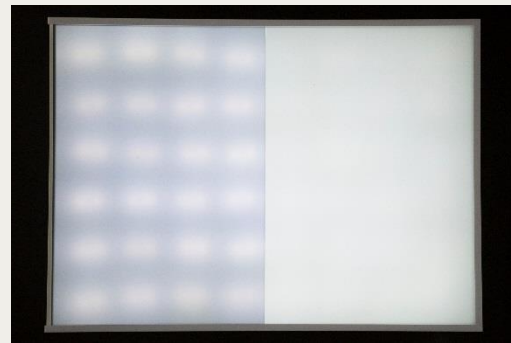


Fig. 2: Comparison of inadequate scattering with visible LED light-spots (left) with optimized scattering at PLEXIGLAS® LED Black & White 9H001 (right)

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Certified to DIN EN ISO 9001 (Quality) and DIN EN ISO 14001 (Environment)

Evonik is a worldwide manufacturer of PMMA products sold under the PLEXIGLAS® trademark on the European, Asian, African and Australian continents and under the ACRYLITE® trademark in the Americas.

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