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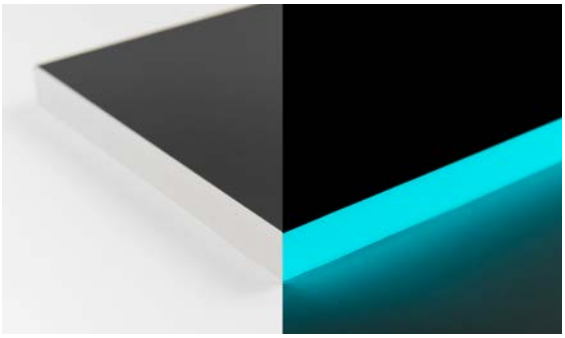
RAUKANTEX light up

Technical Information

REHAU
Interior Solutions

RAUKANTEX light up – Technical information



Innovative edgebands bring light into the darkness
Thanks to its phosphorescent properties, the new RAUKANTEX light up is able to glow in the dark after being exposed to daylight or UV light. This makes it ideal for lighting up the contours of objects in darkness.

This feature means furniture, doors, and other objects remain visible. Orientation in unfamiliar environments, such as hotel rooms and hospitals, is made much easier.

Escape routes can be marked in this way for better orientation in the dark.

The coloring used by REHAU is primarily characterized by the following properties:
- Stays lit at the same brightness level (see diagram)
- Afterglow thanks to pigment technology
- Optimized glowing behavior after sufficient charging time, tested according to DIN 67510-1

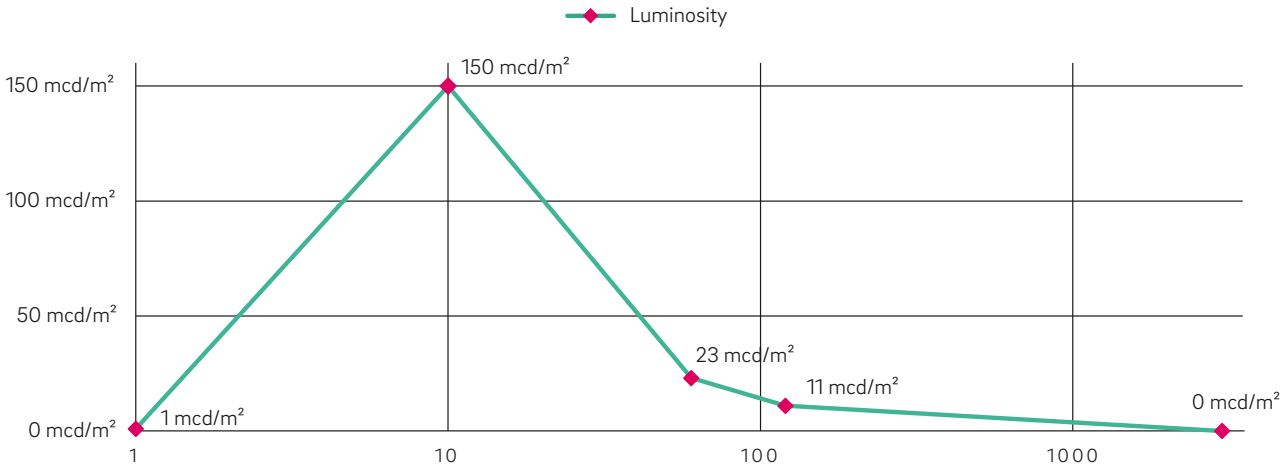
The glowing effect lasts for several hours but continually decreases and can therefore only be detected once your eyes adjust to the darkness.

The human eye takes several minutes to fully perceive the lighting effect in the dark, a process known as adaptation.

Adaptation is the ability of the eye to adjust to different lighting conditions. The eye's pupil, sensory cells and visual pigment are all involved. A differentiation is usually made between light and dark adaptation. Dark adaptation describes the process which occurs when you go from the light into darkness. It usually takes 30 to 45 minutes for your eyes to fully adapt to darkness.

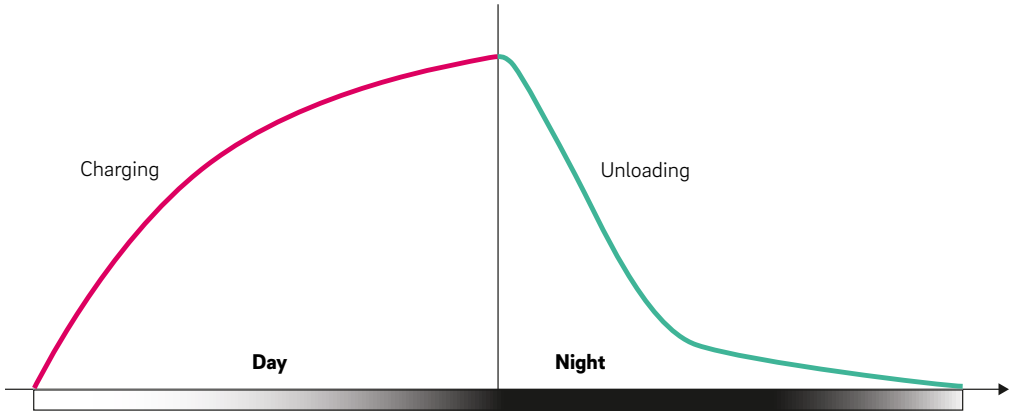
When you go from light to darkness, you are nearly blind at first. After one minute, though, the sensitivity of your retinas has already increased a hundredfold. This rather quick increase in sensitivity is explained by the adaptation of the cones, the color sensory cells in the eye. After three to four minutes, they have fully adapted, and their sensitivity does not continue to increase for several minutes. After about 10 minutes, the rods – that is, the second receptor type of the retina responsible for twilight vision – overtake the cones in terms of sensitivity. The rods cannot differentiate between colors. Instead, they are only responsible for light/dark vision and require a good half hour to fully adjust to darkness. At this point, the sensitivity of the retina is 100,000 to 1,000,000 times greater than in bright light.

The opposite process of dark adaptation – light adaptation – occurs much faster. When you come out of darkness, your eyes fully adjust to bright light in just 15 to 60 seconds.



The following diagram shows the charging and glow duration of the phosphorescent pigment used proportionally in RAUKANTEX light up. Measurements with a charging time of five minutes at 1,000 lux. Glowing continues for 3,000 minutes, after which a glowing effect can no longer be measured.

This being the case, the following lighting behavior of the pigment can be expected in practice:



When the glowing pigment is charged accordingly, RAUKANTEX light up exhibits very strong luminosity for about 10 to 15 minutes. After this, the brightness level goes down, but can be perceived for several hours thanks to eye adaptation.

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