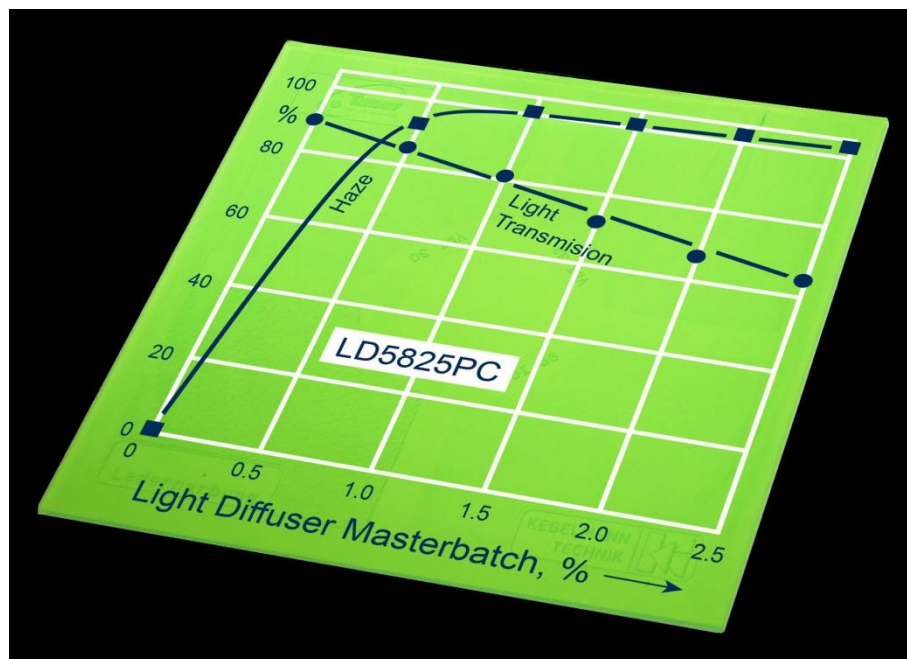


PRESS RELEASE

No hot spots with LED light sources:

Light-diffusing masterbatch for evenly backlit surfaces



Only minimal quantities of the light-diffusing masterbatches from Tosaf Color Service are enough to effectively diffuse the light when it impacts a surface. The light transmission remains at a high level. © Tosaf

Karlstein/Germany, February 2021 – Many LED light sources have a problem to create uniform diffused light, resulting in brightness concentrations – so-called "hot spots" – on backlit surfaces. Light-diffusing (LD) masterbatches from Tosaf Color Service effectively prevent this undesirable phenomenon. In extensive laboratory trials, the micro-fillers it contains were optimized with regard to material, refractive index, transparency, geometry and dimensions. As a result, only very small amounts of masterbatch – namely 1-2 % – are needed to effectively scatter the light in originally transparent material, predominantly polymethylmethacrylate (PMMA) and polycarbonate (PC). At the same time, the light transmission and mechanical properties of the base material are largely retained. In addition to color-neutral grades, combinations with specific colorings and other functional properties such as UV stabilizers are available.

The use of such LD masterbatches gives extrusion and injection molding companies maximum flexibility without the need to keep diverse stocks. It means that they are able to adjust the targeted light scattering properties for the respective application and material thickness merely by varying the quantity added. On top of that, they have the possibility to produce the corresponding mixture either before filling it into the hopper, or to add the masterbatch inline to the melt. Another advantage is

derived from using masterbatches generally, namely that, although the responsibility for homogeneous dispersion passes over to the converter, this route is often more cost-efficient compared with buying ready-to-use material, especially with large volumes.

Rudolf Reinhart, Product Manager at Tosaf Color Service: "Producers of parts or extrudates for lighting technology are, because of the large amount of apparatus needed, not usually able to incorporate the light-scattering additive themselves. However, our easy-to-process light-diffuser masterbatches open the way for them to achieve inexpensive flexibility, because they are designed for products without streaks or other defects. This means that our customers have a cheaper alternative to compound solutions."

And Marketing Manager Andreas Kruschinski adds: "We see a growing demand for light-scattering plastic parts. This is due not only to the increasing popularity of LED light sources, but also to the increasing range of applications. A current example is the development of evenly backlit decorative elements for interior and exterior automotive parts. Relevant applications are also foreseeable over and above lighting technology in many other areas, including white goods, furniture design and consumer electronics, for example for edgings for gaming machines."

Tosaf Color Service is a pioneer in the field of masterbatches and has been developing innovative products and services in plastics coloring since 1970. Its broad range of products covers standard colors, additives and combination solutions that meet not only all kinds of customized color requirements but also satisfy the related functional challenges. Tosaf Color Service is a subsidiary company of Tosaf.

Tosaf, Alon Tavor/Israel, has been developing and producing high-quality additives, compounds and color masterbatches for the plastics industry for more than three decades. Through the continuous expansion of its product portfolio, its production capacities and its regional coverage, it has become a global, market-oriented organization. With more than 1,000 employees in production facilities, warehouses and sales offices distributed around the world, Tosaf now serves customers in more than 50 countries in Europe, North and South America, Asia and the Middle East.

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