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## Light Diffusers

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**Light diffuser masterbatches for a variety of polymer systems**

## Summary

Ampacet provides a line of light diffuser masterbatches available for use in all industrially important clear plastics: polycarbonate, acrylics, polyesters and clear ABS. The light diffusers can be used as-is or may be tinted with color. LED devices benefit in particular due to the elimination of “hot spots” (irregular light patterns emanating from the LED source).

## Product Overview

Many LED diffusers contain fine particles of inorganic materials, such as calcium carbonate, barium sulfate, titanium dioxide, etc. Such materials often reduce light transmission to 80 percent, or less. Ampacet’s polymer based light diffusers effectively diffuse light while maintaining a high level of light transmission. This is achieved by careful selection of the light diffuser’s properties, including material type (refractive index), particle morphology and particle size (average and distribution).

## Representative Product Applications

- Indoor signage
- Outdoor signage
- Lighting components
- Consumer electronics

## Products/Codes

Production Code	Resin	Application	LDR
x603170-PC	Polycarbonate	Molding	3% to 6%
704473	Polycarbonate	Sheet	3% to 6%
603171-AY	Acrylic		3% to 6%
603595-AB	ABS		3% to 6%
603122-PT	Polyester		3% to 6%



## Performance Data Details

Percent light transmission of polycarbonate (603170-PC) and poly(methyl methacrylate) (603171-AY) injection molded chips:

Wt% 603170-PC	35 mils	55 mils	100 mils
0	94.9	94.5	93.7
1.5	93.8	93.2	91.9
3	93.4	92.5	88.8
4.5	93.2	91.8	85.2
7.5	92.2	87.3	72.1
10	92.1	86.5	69.8
15	89.2	79.8	62.8

Wt% 603171-AY	35 mils	55 mils	100 mils
0	96.4	96.1	95.8
1.5	94.9	94.0	91.9
2	94.6	93.7	90.9
3	94.3	92.8	87.3
4.5	93.5	90.9	81.3
5	93.4	90.5	80.9

For more information on **Light Diffuser Masterbatches**, their use and complete Regulatory Status, contact your Ampacet Account Executive or visit [www.ampacet.com](http://www.ampacet.com).

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