ADDITIVES & COLORS FOR THE PLASTICS INDUSTRY

Light Diffusers Masterbatches & Compounds from Tosaf

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Light diffusion additives are used to eliminate the uncomfortable glare that can occur when direct sunlight comes through a clear PC, PMMA or any type of clear polymer cover.
Having developed, improved and built a database of unique light diffuser MB's and compounds, Tosaf offer products that maximize light transmission while providing high quality of light diffusion.

These range of products are requested when it is necessary to utilize the energy to the maximum, like in lighting applications. For Polycarbonate & PMMA applications for example, Tosaf light diffusion solutions, reduce only up to 5% of the total light transmission
in comparison to clear sheet or profile, when at the same time provides excellent light diffusion.

On the other hand, when dealing with light diffusers for roofing, maximizing light transmission it isn't always a request. sometime customers are asking for reduction of the light transmission in 20%-30% in comparison to standard clear sheet. Also in that case, Tosaf light diffuser portfolio offer different solutions that efficiency reducing the light transmission to a level of 60%-70% with masterbatch loading of 2%-5% only.
The Light diffusers range includes also products for PET-G, SAN, PS and transparent ABS.
Tosaf offer high concentrated light diffuser MB's mainly for extrusion applications (sheets & profiles) with all the economic and logistic advantages involved in using masterbatch, or ready compound, mainly for injection molding applications where the pre-dispersion of the additive is critical in order to achieve optically uniform product .
for extrusion applications, beside the wide selection of light diffuser solutions, Tosaf also offer anti-glare (matt finish) compounds to be applied as a co-extrusion

Light diffuser for polycarbonate

For this specific polymer, Tosaf offer a range of solutions that distinguish in the level of the light transmission, the product undertone and the usage level. Beside offer a ready compound mainly for injection molding applications, several highly loaded masterbatches are available from our portfolio as listed below.
All our products are based on selected raw materials that beside the optimal optical parameters, are highly thermal stable and therefore has minimal effect on the extrusion process.

Light diffusers for polycarbonate

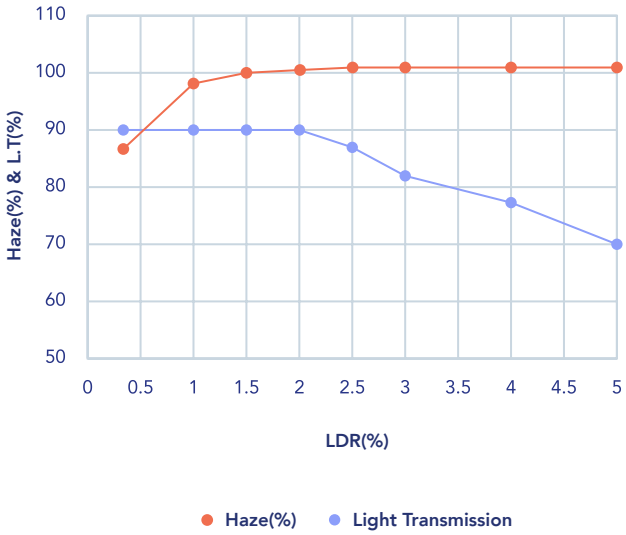
Product Code	Usage level	Undertone	Light Transmission	Remarks
LD5891PC EU	2%-4%	Natural	Very high light transmission up to 85% while maintaining high level of diffusion performances	The recommended product when high L.T is requested. Very efficient
LD7559PC	1%-4%	Natural	Medium light transmission level About 65%	Can't be sale to EU countries
LD5825PC EU	1%-4%	Natural	Medium light transmission level About 65%	This is the EU version of LD7559PC
LD7631PC EU	100%	Natural	Very high light transmission about 85% while maintaining high level of diffusion performances	Ready to use compound mainly for injection molding
LD8939PC	3%-6%	Slightly bluish	Medium light transmission level About 65%	Color modification based on market request
LD7906PC	3%-6%	Whitish/purple	Medium light transmission level About 65%	Color modification based on market request

Demonstration of the different light diffusers shades available. LD7559PC is with typical shade of all “natural” products.

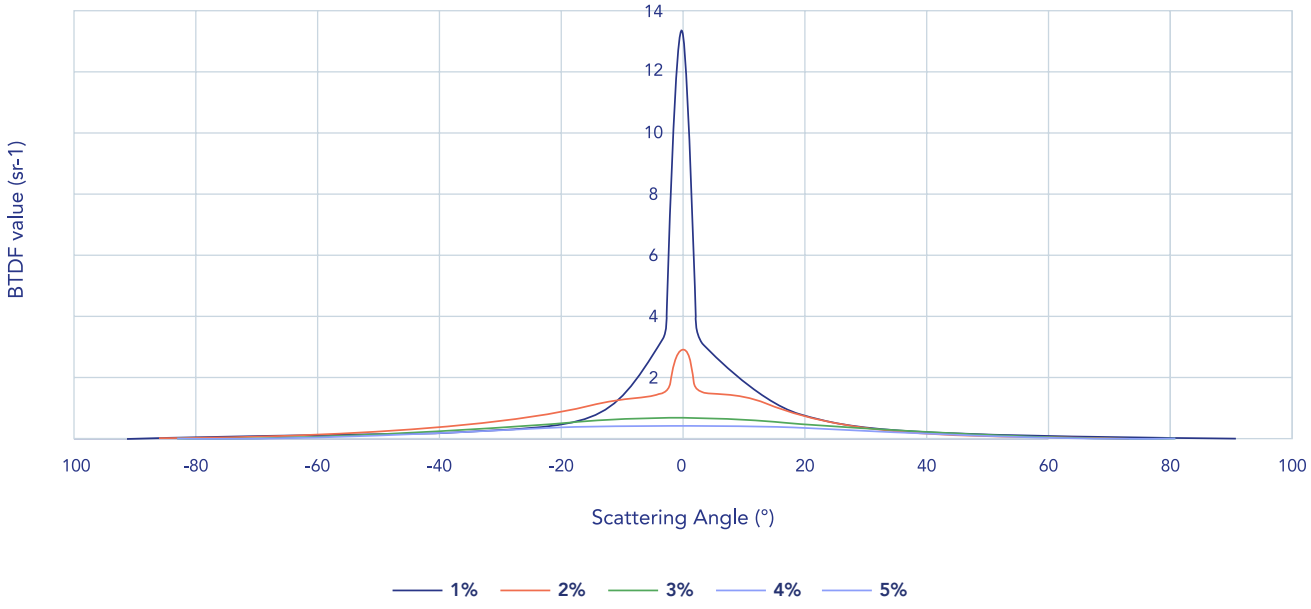
LD5891PC EU optical performances

LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
0.5	88.9	85.9	78.2
1	88.6	98	51.6
1.5	88.4	100	13.8
2	88.1	101	5.7
2.5	85.3	101.8	3.9
3	82	102	3.1
4	75.5	102	2.9
5	71.2	102	2.4
Clear PC	90.1	1.47	98.3

LD5891PC - Haze & L.T vs. LDR

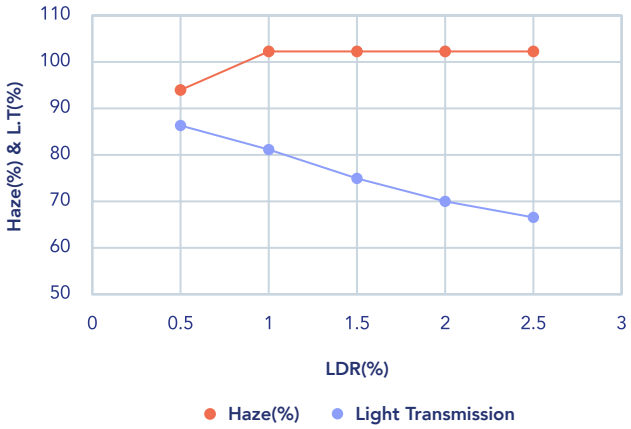


LD5891PC Light Intensity vs. Angle (BTDF 0°)

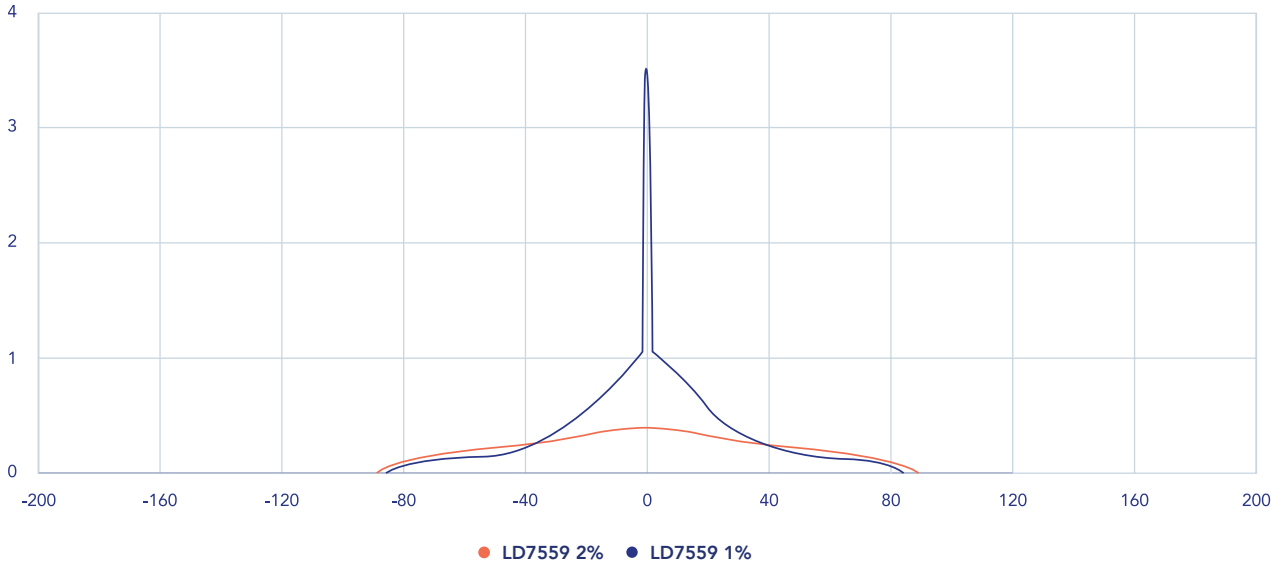


LD7559PC optical performances

LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
0.5	86.3	93	86.4
1	81.3	101	51.3
1.5	73.8	101.7	7.8
2	68.5	102	3.1
2.5	65.3	102	2.7
Clear PC	90.1	1.47	98.3

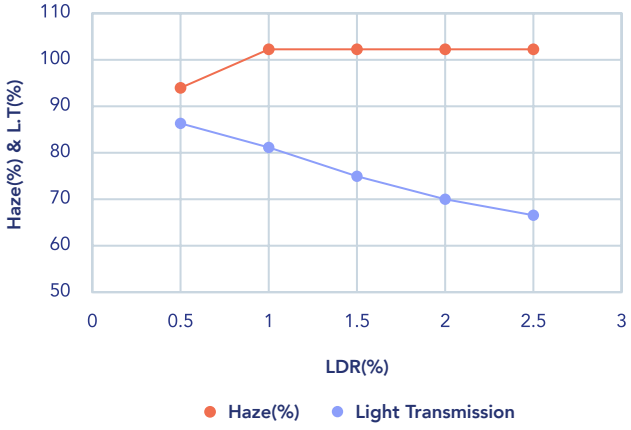


LD7559PC Light Intensity vs. Angle (BTDF 0°)



LD5825PC EU

LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
0.5	86.5	94	86
1	81.4	101	51.5
1.5	74	101.8	7.5
2	68.8	102	3
2.5	65.5	102	2.7
Clear PC	90.1	1.47	98.3

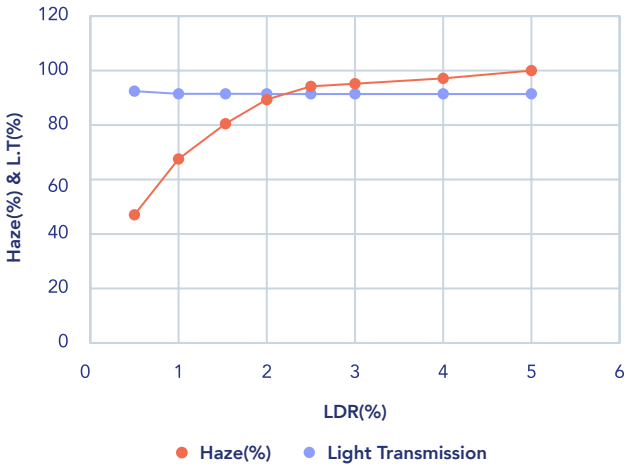


Light diffusers for different polymers

Product Code	Usage level	Undertone	Light Transmission	Remarks
LD7292MA EU	2%-4%	Natural	Very high light transmission up to 85% while maintaining high level of diffusion performances	For PMMA The recommended product when high L.T is requested. Very efficient
LD7416MA	2%-4%	Natural	High light transmission level About 88%	For PMMA Can't be sale to EU countries
LD8688MA EU	2%-4%	Natural	High light transmission level About 88%	For PMMA The EU version of LD7416MA
LD7898PS	2%-4%	Natural	High light	For PS Applications
LD8876SA	1%-3%	Natural	Medium light transmission level About 63%	For SAN and transparent ABS applications
LD8873ET	1%-2%	Natural	Medium light transmission level About 73%	For PETG and PET applications

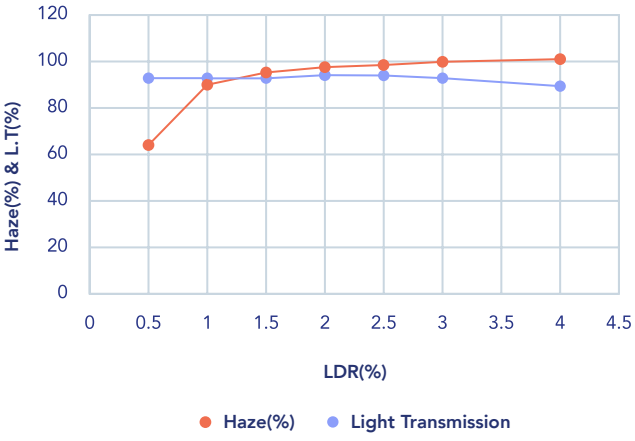
LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
0.5	91.6	46.9	-
1	90.8	69.3	-
1.5	90.6	81.9	-
2	90.5	89.7	-
2.5	90.4	92.7	-
3	90.2	94.3	-
4	90.1	97.9	-
5	89.8	100	-
Clear PMMA	92.9	1.4	-

LD7292MA - Haze & L.T vs. LDR



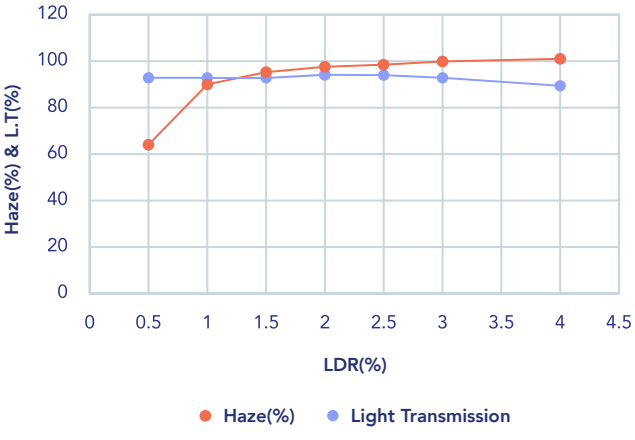
LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
0.5	92.2	63.6	-
1	92	89.5	-
1.5	91.9	94.9	-
2	91.8	98	-
2.5	91.7	100	-
3	91.5	101	-
4	88.5	102	-

LD7416MA - Haze & L.T vs. LDR



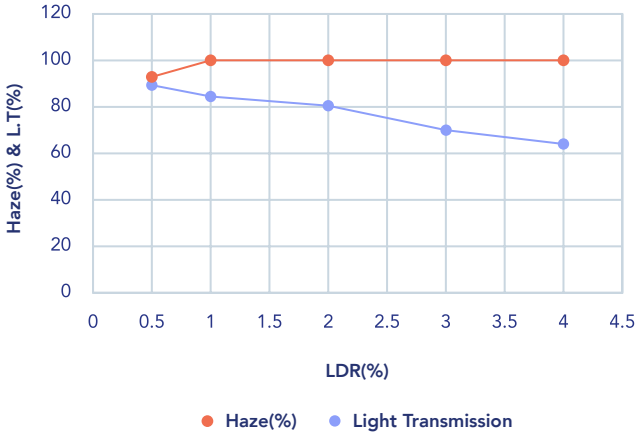
LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
0.5	92.2	63.6	-
1	92	89.5	-
1.5	91.9	94.9	-
2	91.8	98	-
2.5	91.7	100	-
3	91.5	101	-
4	88.5	102	-

LD8688MA EU



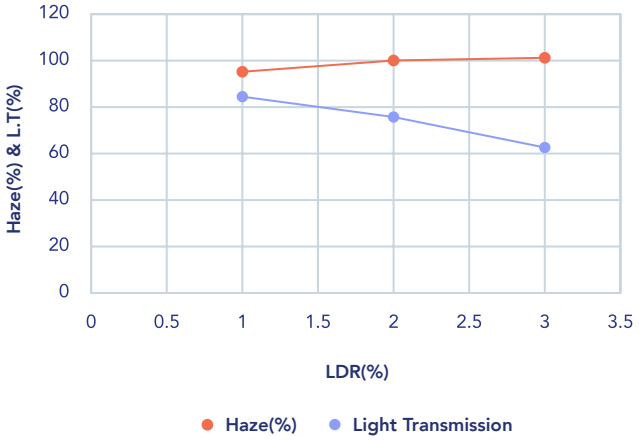
LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	
0.5	88	92	85
1	85.5	98.7	70
2	78.7	100	5
3	68.5	101.5	3
4	63.5	102	2.33
Clear PS	90.8	1.24	98.2

LD7898PS



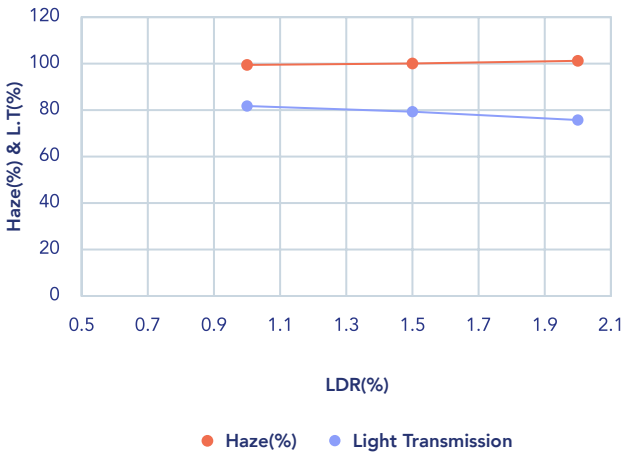
LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
1	84	97	-
2	74	101	-
3	64	102	-

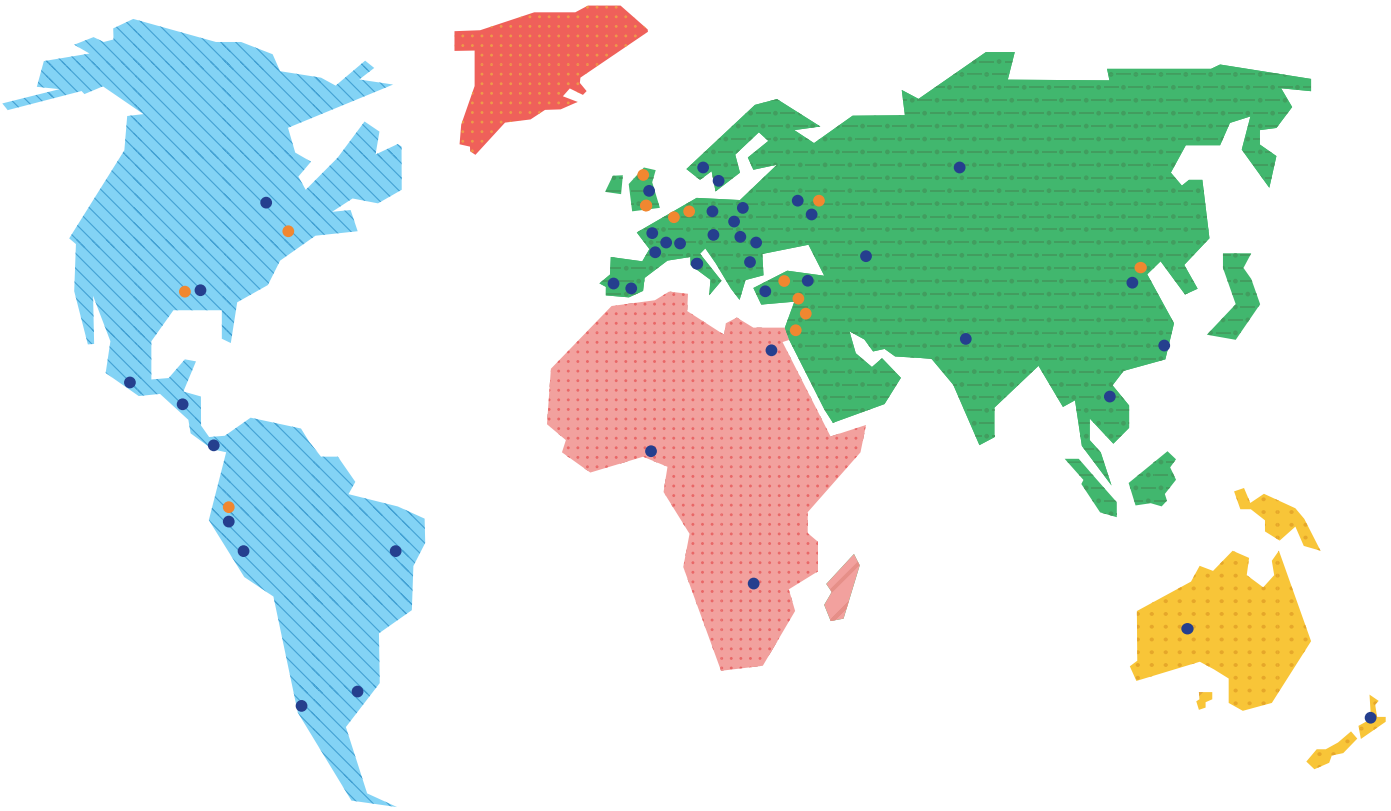
LD8876SA Haze & L.T vs LDR



LDR (Let Down Ratio %)	Light Transmission (%)	Haze (%)	Clarity (%)
1	82.3	99.3	-
1.5	78.3	101	-
2	73.8	102	-

LD8873ET L.T & Haze vs. LDR





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