

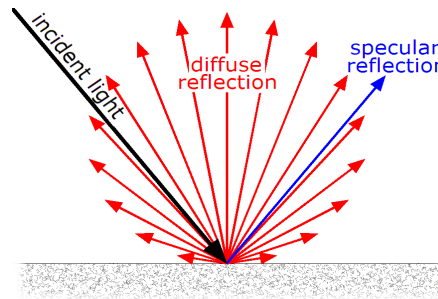
Gloss and Distinctness of Image

OVERVIEW

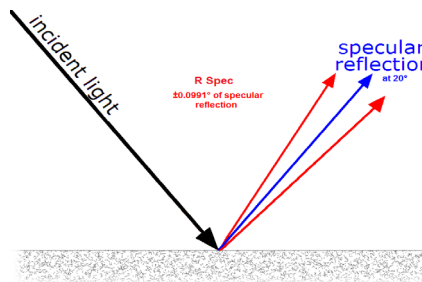
The subject of gloss is more comprehensive than how “shiny” a surface appears to the human eye. This tech brief is meant to inform and educate on the subject of gloss and the terms that can be used to describe it.

DEFINITIONS

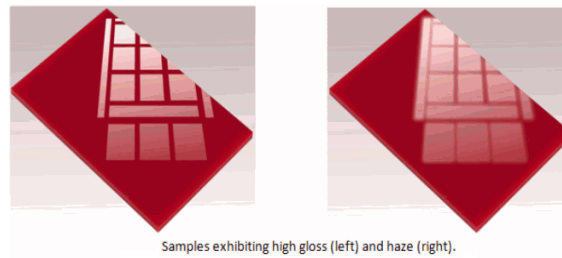
Gloss: an optical property that indicates how well a surface reflects light in a specular (mirror-like) direction:



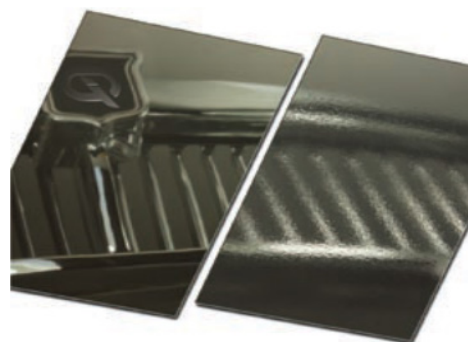
R Spec: Peak Specular Reflectance at $\pm 0.0991^\circ$ around the specular angle; this is a tighter measurement of specular gloss:



Reflectance Haze: an optical effect caused by microscopic texture or residue on a surface:



Distinctness of Image: the deviation of the direction of light propagation from the regular direction by scattering during transmission or reflection; also known as orange peel:



Orange Peel

SEKISUI
KYDEX

Customer Collaboration
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Email: info@kydex.com

appLab™
Phone: 800.682.8758
Email: applab@kydex.com

kydex.com

Gloss and Distinctness of Image

NOTES

- Distinctness of Image is often mistakenly referred to as Depth of Image, this can cause some confusion with regards to product selection.
- The closer the specular gloss and R spec values are to each other, the more mirror-like the surface finish.
- Lower haze and higher DOI values also contribute to a mirror-like finish.

COMPARING SURFACE FINISHES

	PROS	CONS
ALLEN® 2007NL with UV film	- UV film layer helps part retain color - High gloss	Lower DOI after forming versus flat sheet
ALLEN® 2155HG, no film	- High gloss - Low relative cost	- No UV protection - Increased haze after forming - Scratches easily
ALLEN® 5160WHG	- ASA cap layer protects from UV exposure - High gloss, low haze - Haze lower and DOI higher after forming	Relatively higher cost than ABS
ALLEN® 6000	- Acrylic cap layer protects from UV exposure - High gloss, low haze - Surface repairability	Higher relative cost than ASA/ABS



Customer Collaboration
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Email: info@kydex.com

appLab™
Phone: 800.682.8758
Email: applab@kydex.com

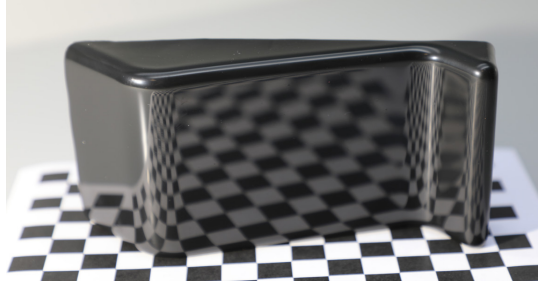
kydex.com

	ALLEN® 2007NL UV		ALLEN® 2155HG		ALLEN® 5160WHG		ALLEN® 6000	
	SHEET	FORM	SHEET	FORM	SHEET	FORM	SHEET	FORM
Gloss 20°	45.5	54.7	89.3	67.4	73.8	88.2	76.8	76.1
Gloss 60°	75.4	77.3	94.9	86.7	94.6	91.7	83.8	82.9
R Spec	67.5	29.4	94.0	24.8	71.5	76.6	84.3	58.9
Haze	2.6	2.2	0.2	3.9	2.5	1.6	0	0
DOI	98.4	73.2	99.1	61.8	95.8	97.7	99.6	93.0

Gloss and Distinctness of Image

DOI EXAMPLE IMAGES AFTER THERMOFORMING

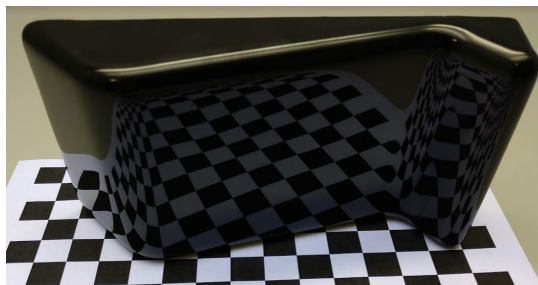
ALLEN® 2155HG:



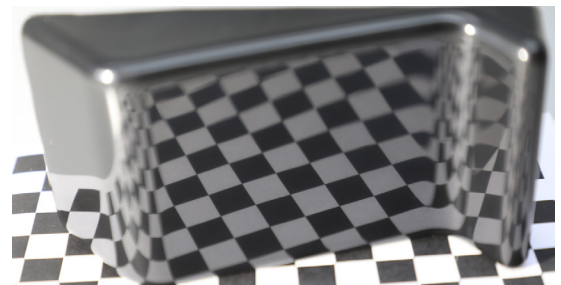
ALLEN® 2007NL with UV film:



ALLEN® 5160WHG:



ALLEN® 6000:



CONCLUSION

The SEKISUI KYDEX Thermoplastics product portfolio offers a wide range of gloss and DOI options, from matte gloss, to medium gloss, to a nearly mirror finish. There are also ten embossed texture options.

High gloss can refer to a textured or smooth surface, but if high DOI is necessary, the smoothest finish possible is required. The best option for both high gloss and high DOI is the ALLEN® 6000 product line produced in smooth texture or ALLEN® 5160WHG as an alternative.



Customer Collaboration
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Email: info@kydex.com

appLab™
Phone: 800.682.8758
Email: applab@kydex.com

kydex.com