LIDAR MATERIAL SOLUTIONS FOR ADVANCED DRIVER ASSISTANCE SYSTEMS

With the trend to embed LiDAR systems within the front and rear fascia of automobiles or within the headlights, ensuring the durability and clarity of these units is paramount. Many MEMS (Micro-Electro-Mechanical Systems) and solid-state LiDAR systems are exposed to adverse weather conditions and road debris making them vulnerable to hot and cold temperatures and impact.

SABIC's Specialties portfolio of highly engineered thermoplastics offers material solutions to support IR transparency, superior optical quality, high heat resistance and excellent weatherability. SABIC supports the functionality of LIDAR units with unique solutions that offer design freedom, enable laser welding and lead free soldering, provide IR transparency with customizable visual opacity, as well as specialty coatings to boost scratch and UV resistance.

SUPERIOR OPTICS & HEAT RESISTANCE

LENS COVER & BARREL LENS

 LNP[™] CXT[™] resin (superior optics, IR transparency, cold temperature impact)
ULTEM[™] resin (high heat resistance,

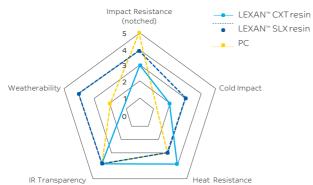
stability, lead free solder capable)

(weatherability, superior cold

• LNP[™] SLX[™] resin

temperature impact, IR transparency)

weatherability, IR transparency, dimensional



TRANSPARENCY AT KEY WAVELENGTHS			
Grade	Thickness	905nm	1550nm
LEXAN™CXT17 resin	1mm	90.04	89.76
	2mm	89.74	88.76
	3mm	89.37	87.65
LEXAN™CXT19 resin	1mm	89.86	89.51
	2mm	89.65	89.00
	3mm	89.34	87.48
ULTEM™1010 resin	0.5mm	89.00	89.00
	1mm	87.32	87.90
	2mm	86.18	86.90
	3mm	84.99	85.91
LEXAN™ SLX2271T resin	1mm	90.46	89.74

BACK COVER / SIDE HOUSING

- LNP™THERMOCOMP™ compound (chemical resistance, rigidity, low warpage, UV stability)
- LNP[™]KONDUIT[™] compound (thermal management)
- NORYL[™] resin (UV stability, low warpage, low moisture uptake, laser welding)

- MIDDLE PLATE

- LNP[™] FARADEX[™] compound (EMI Shielding)
- LNP[™]KONDUIT[™] compound (thermal management)

CHEMISTRY THAT MATTERS™



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