



AEROSOL BOX TAP ASSY

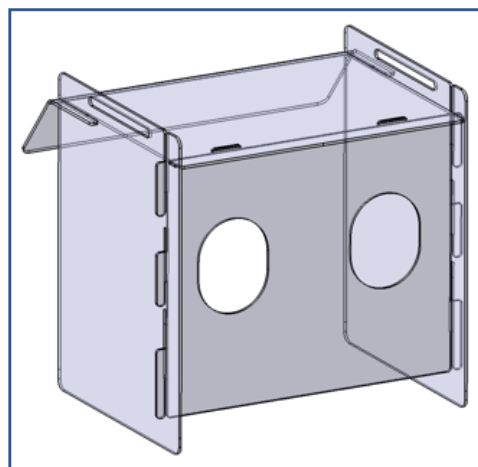
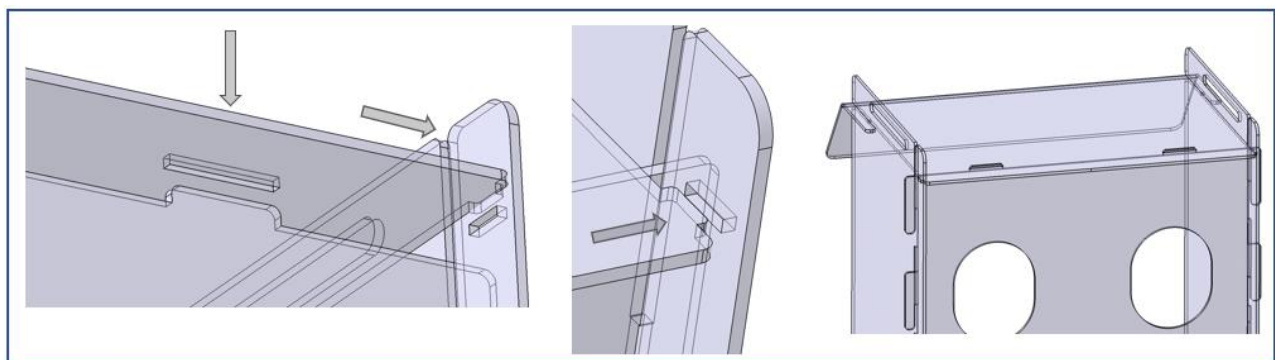
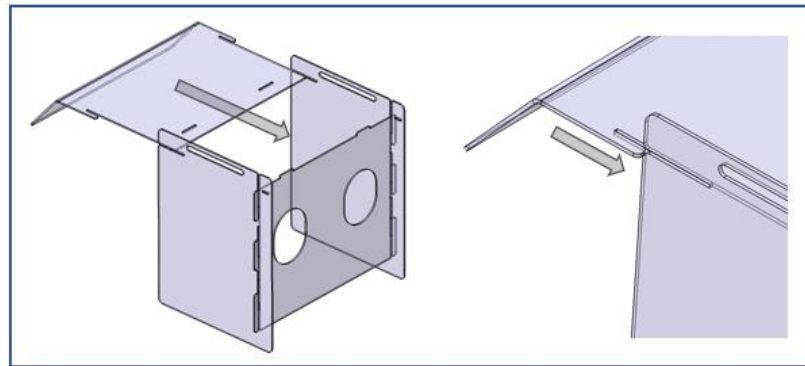
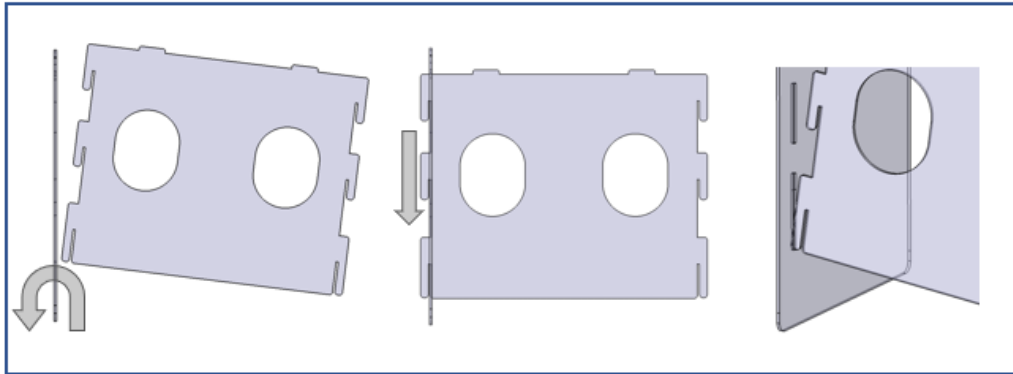
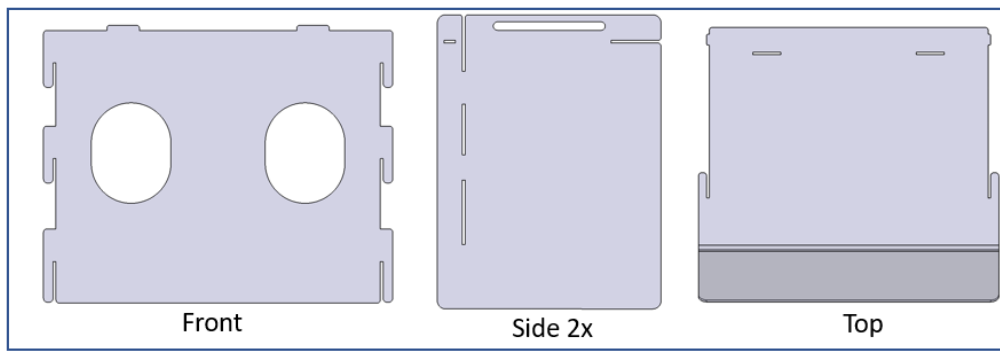
TEM-U-0022570-001

Mahindra Automotive North America

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ADDITIONAL INFORMATION AVAILABLE UPON REQUEST

248-268-6600



Chemical Resistance

Lexan 9030 Polycarbonate Sheet and Lexan Exell D Polycarbonate Sheet

The chemical resistance of Lexan polycarbonate sheet from the plasticshop.co.uk is dependent upon five major factors:

1. Stress level in the application
2. Temperature
3. Exposure time
4. Chemical concentration
5. Type of chemical involved

Lexan polycarbonate sheet has a good chemical resistance, at room temperature, to a variety of dilute organic and inorganic acids. Water, vegetable oils, solutions of neutral salts, aliphatic hydrocarbons and alcohols are also included in this category. When polycarbonate sheet is attacked by a chemical it usually takes one of three forms.

In the first case the chemical is absorbed into the plastic, and plasticisation and/or crystallisation occurs. The visible signs of this type of attack are swelling or surface whitening. Lexan polycarbonate is affected in this way by partial solvents such as low molecular weight aldehydes and ethers, ketones, esters, aromatic hydrocarbons and perchlorinated hydrocarbons.

In addition, chemical attack ranging from partial to complete destruction of Lexan polycarbonate occurs in contact with alkalines, alkali salts, amines and high ozone concentrations.

The third type of attack is often the most difficult to predict since environmental conditions dictate whether or not the plastic will be affected. Combinations of certain environments, coupled with stress and/or strain upon the material, cause stress cracking or crazing of the polycarbonate sheet. Crazing can be induced at moderate to high stress levels by low molecular weight hydrocarbons. Products such as acetone and xylene may cause stress cracking even at very low stress levels and should therefore be avoided.

Taking into account the complexity of chemical compatibility, all chemicals which come into contact with polycarbonate sheet from should be tested.

Chemical class Effects:

Acids (Mineral) No effect under most conditions of concentration and temperature

Alcohols Generally compatible.

Alkalis Acceptable at low concentration and temperature. Higher concentrations and temperatures result in etching and attack as evidenced by decomposition.

Aliphatic Hydrocarbons Generally compatible.

Amines Surface crystallisation and chemical attack.

Aromatic Hydrocarbons Solvents and severe stress-cracking agents.

Detergents and Cleaners Mild soap solutions are compatible. Strongly alkaline ammonia materials should be avoided.

Esters Cause severe crystallisation. Partial solvents.

Fruit Juices and Soft Drinks Compatible at low stress levels. Some concentrates not recommended.

Gasoline Not compatible at elevated temperatures and stress levels.

Greases and Oils Pure petroleum types generally compatible. Many additives used with them are not, thus materials containing additives should be tested.

Halogenated Hydrocarbons Solvents and severe stress-cracking agents.

Ketones Cause severe crystallisation and stress-cracking. Solvents.

Silicone Oils and Greases Generally compatible up to 80°C.

PRODUCT DATASHEET (Full Sheet Available Upon Request)

DESCRIPTION

High abrasion resistant, non-weatherable, LEXAN™ MARGARD™ HLGA2 sheet is an improved single-sided hard coated polycarbonate sheet offering excellent abrasion resistance, excellent dimensional stability, impact resistance, optical clarity and passes DIN 52305 A-AZ† for a specific gauge range. It is an excellent candidate for glass-LEXAN sheet laminates where LEXAN MARGARD HLGA2 sheet is being bonded by means of PU interlayer or polymers to the glass package creating a “no spall” glass/LEXAN laminate with improved abrasion resistant properties. LEXAN MARGARD HLGA2 sheet is suitable to be screen-printed at the uncoated side using screen-print inks, being compatible with LEXAN polycarbonate sheet.

TYPICAL PROPERTY	Test Method	Units	Value
VALUES [†] Property			
Physical			
Density	ISO 1183	g/cm ³	1.20
Water absorption, 50% RH, 23 °C	ISO 62	%	0.15
Water absorption, saturation, 23°C	ISO 62	%	0.35
Mechanical			
Yield stress 50 mm/min	ISO 527	MPa	>60
Yield strain 50 mm/min	ISO 527	%	6
Nominal strain at break 50 mm/min	ISO 527	%	>100
Tensile modulus 1 mm/min	ISO 527	MPa	2300
Flexural strength 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
Taber haze - 100 cycles, 500 gram, CS-10F	ASTM D1044	%	0.5 - 1
Taber haze - 500 cycles, 500 gram, CS-10F	ASTM D1044	%	1 - 4
Thermal			
Vicat softening temperature, rate B/120	ISO 306	°C	145
Temperature of deflection under load (type A), 1.8 MPa, flat	ISO 75-2	°C	127
Thermal conductivity	ISO 8302	W/m.°C	0.2
Coefficient of linear thermal expansion, 23-55°C	ISO 11359-2	1/°C	7x10 ⁻⁵
Ball pressure test 125 ±2°C	IEC 60695-10-2	-	Pass
Electrical			
Volume resistivity	IEC 60093	Ohm.cm	>10 ¹⁵
Dielectric strength, in oil, 3.2 mm	IEC 60243-1	kV/mm	18
Optical			
Light transmission 1 mm	ASTM D1003	%	92
Light transmission 1.5 mm	ASTM D1003	%	92
Light transmission 2 mm	ASTM D1003	%	92
Light transmission 3 mm	ASTM D1003	%	91
Light transmission 4 mm	ASTM D1003	%	90
Light transmission 5 mm	ASTM D1003	%	90
Light transmission 6 mm	ASTM D1003	%	89
Light transmission 12 mm	ASTM D1003	%	85
Optical distortion 2 – 6 mm	DIN 52305/-A-AZ		0.02