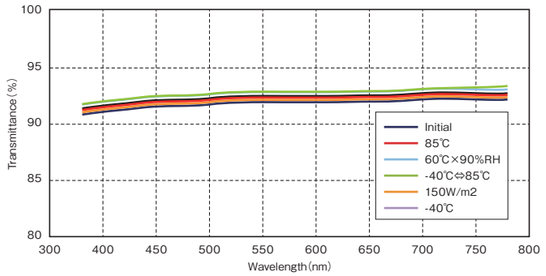
Transmittance after environmental test (Result after 1000 hours)

Measurement wavelength	Initial	High temperature exposure	Hot and humid climate	Heat cycle	Light resistance	Low temperature storage
		85℃	60℃×90%RH	-40℃⇔85℃	150W/m2	-40℃
400nm	91	91	91	91	91	91
800nm	91	91	91	91	91	91

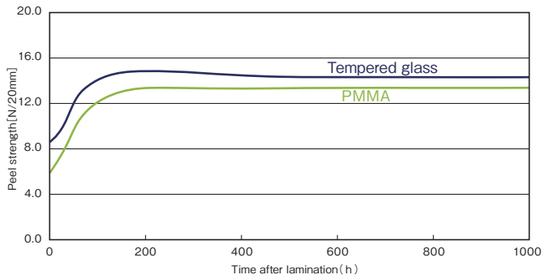
Unit：%

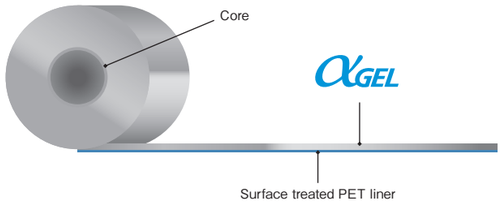


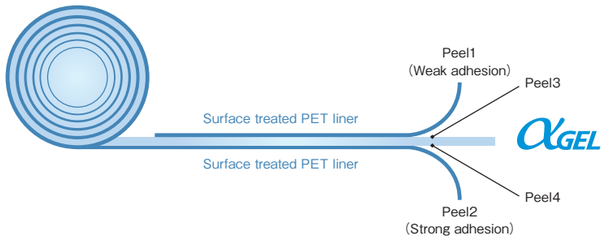
Peel strength (Peel3)

Time after lamination (h)	PMMA	Tempered glass
0	6.2	8.8
120	12.8	14.6
500	13.4	14.4
1000	13.4	14.4

Unit：N/20mm







Item	Thickness (mm)	Width (mm)		Length (M)	Core (inch)	Liner	Adhesion Strength vs liner (N/20mm)	
		Liner	Effective				Peel1 (Weak Adhesion)	Peel2 (Strong Adhesion)
K120E(-D)	t0.175/t0.2/t0.25/t0.3/t0.5	500	460	50	3/6	Liner on one-side	0.05	0.7
K120E(-D)	t0.8/t1.0	500	440	25	3/6	Liner on one-side	0.05	0.7
K95E(-D)	t1.2/t1.5/t1.8	500	400	25	3/6	Liner on one-side	0.03	0.5

Notes

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- The Silicone-gel contains low molecular siloxane, which could be volatile.
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2023.09

αGEL

Optical Bonding

Enhancement of visibility by Optical Bonding

Silicone OCA (＊Optical Clear Adhesive)

Taica

FEATURE.1

High weather resistance —High transparency even in harsh environments—

Weather bility

Silicone OCA posses high yellowing resistance from heat and ultraviolet.
It also has low temperature dependence, which implements long-life performance in wide range of temperature.

[Benefits]

Stable performance (High and low temperature)

Yellowing resistance

＊Digital signage

Silicone OCA (αGEL)	Acrylic OCA (Competitor)

＊Images show yellowing of the displays after environmental testing

FEATURE.2

Stable Viscoelasticity —Stable viscoelasticity in wide range of temperature—

Viscoelasticity

With its low temperature dependence, Silicone OCA enables stable performance in wide range of temperature(-40℃ to 200℃)
In addition, its' vibration transmission ability works well in a specific frequency range . This feature is expected to add values in various of applications. (ex: HMI)

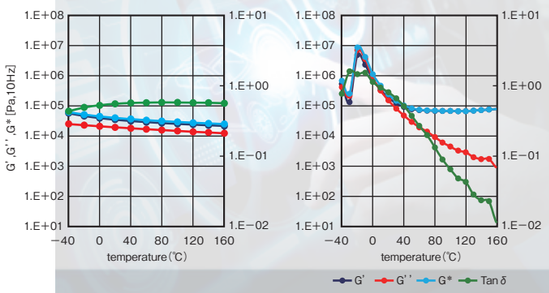
[Benefits]

Stable performance (High and low temperature)

Haptic feedback characteristics

＊Haptic feedback display in automotives

Silicone OCA (αGEL)	Acrylic OCA (Competitor)



＊Temperature dependence data of dynamic viscoelasticity

FEATURE.3

Excellent flexibility —Excellent shock absorption and gap-filling ability—

Flexibility

Excellent flexibility of Silicone OCA suppresses displays' mura and improves durability.

[Benefits]

Shock resistance

Stress relief

＊Industrial tablet

Silicone OCA (αGEL)	Acrylic OCA (Competitor)

＊Image of display mura in environmental testing

FEATURE.4

High gas permeability —Bubble occurence reduced by its gas permeability—

Gas Permeability

The gas permeability of the Silicone OCA is high enough to release the outgas caused by plastic materials, and reduces risk of bubble occurrence.

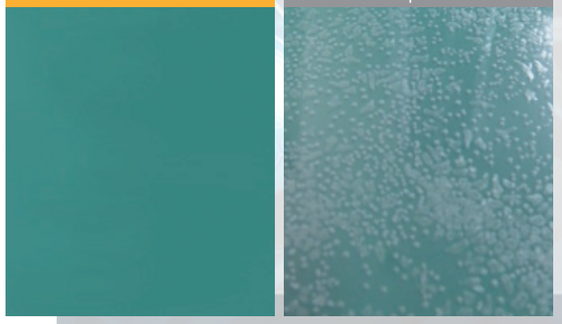
[Benefits]

High gas permeability

Bubble occurrence prevention

＊Curved/3D display

Silicone OCA (αGEL)	Acrylic OCA (Competitor)



＊Image of bubble occurrence after environmental testing (polycarbonate/OCA/polycarbonate, 95° C x 12 hours)

FEATURE.5

Unique refractive index —Enhancement in visibility(brightness) by light diffusion—

Refractive Index

Silicone OCA reduces refractions on surface of displays. This can prevent light reflection and image distortion.
This feature is especially valuable to reflective displays which requires in-plain uniformity of the light diffusion. In this application, the Silicone OCA works as a light guiding panel providing increased brightness through its unique refractive index.

[Benefits]

Refractive index 1.41

Light diffusion

＊E-paper

Silicone OCA (αGEL)	Acrylic OCA (Competitor)

＊Image of visibility in reflective display used outdoor

[Physical Property Data]

characteristics	Items	Method	Condition①	Condition②	Unit	K120E(-D)	K95E(-D)	Notes
Mechanical Properties	Hardness	Penetrometer	Cup:40ml	–	1/10mm	120	95	JIS K 2207
	Young's Modulus	Tensile Tester	ϕ30mm×t12.7mm	1mm/min (Compression)	kPa	22	48	Compressive elastic modulus
	Tensile strength at break	Tensile Tester	K120E:t1.0mm K95E:t1.8mm	200mm/min	%	1265	1050	JIS K 6815-1
	Viscoelasticity tanδ	Viscoelasticity measuring device	ϕ25mm×t1.8mm @10Hz	20℃	–	0.54	0.45	–
				100℃	–	0.56	0.45	
Optical Properties	Total light transmittance	Haze Meter	K120E:t0.5mm K95E:t1.8mm	Room Temperature	%	92.7	92.5	JIS K 7136
				95℃×1000h	%	92.5	91.5	
				85℃_85%×1000h	%	92.4	92.2	
	Spectral light transmittance	Spectrophotometer	K120E:t0.5mm K95E:t1.8mm	380nm	%	91	91	JIS K 7105
				780nm	%	91	91	
	b* value	Spectrophotometer	K120E:t0.5mm K95E:t1.8mm	Room Temperature	–	0.14	0.20	
				95℃×1000h	–	0.39	0.86	
				85℃_85%×1000h	–	0.27	0.36	
	Haze	Haze Meter	K120E:t0.5mm K95E:t1.8mm	Room Temperature	%	0.24	0.42	JIS K 7136
				95℃×1000h	%	0.33	0.61	
				85℃_85%×1000h	%	0.31	0.60	
	Refractive index	Abbe refractometer	25×25×t0.5mm	23℃/589nm	–	1.41	1.41	JIS K 7142
Others	Specific Gravity	Electronic gravimeter:	ϕ30mm×t12.7mm	–	–	0.98	0.98	–