IDEMITSU PC「TARFLON」
Introduction of LEV1700

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The data presented in this leaflet represent typical measurements under specific conditions.

High stability and Excellent transparency grade LEV1700

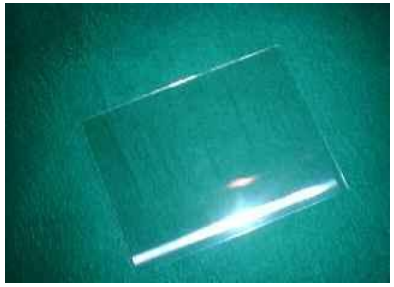
Characteristic features

(1) Excellent transparency
LEV1700 has a transparency like PMMA

(2) High stability of optical properties under high temperature , high humidity and UV resistance

(3) High heat resistance, Excellent impact strength

(4) Halogen free flame retardant (UL94 0.4mmt V-2)



	LEV1700	LC1700	PC	PMMA	COP
Transparency	○	○	△	◎	◎
Color hue	○	○	△	◎	◎
(Short term)					
Heat resistance	◎	◎	◎	△	○－◎
Impact resistance	◎	◎	◎	△	△
(Long term)					
Heat resistance	◎	○	○	△	△
Humidity resistance	◎	○	○	△	△
Moldability	○	◎	○	○－◎	○－◎

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Mechanical properties

			LEV1700	LC1700	LC1500
Density	kg/m^3	ISO 1183:87	1,200	1,200	1,200
Water absorption (23℃, 24 hrs. 50% RH)	%	ISO 62:80	0.23	0.23	0.23
transmittance (3mm)	%	ISO 13468-1:96	90	90	90
refractive index (nD)	-	ASTM D542	1.585	1.585	1.585
linear expansivity	cm/cm/℃	ASTM D696	6.5×10^{-5}	6.5×10^{-5}	6.5×10^{-5}
deflection temperature under load	℃	ISO 75-1,-2:93	128	128	127
MVR (300℃,1.2kgf)	cm^3/10min.	ISO 1133:97	27	40	65
Tensile yield strength	MPa	ISO 527-1:93 ISO 527-2:93	65	65	65
Tensile elongation at Break	%		95	95	80
Tensile modulus	MPa		2,000	2,000	2,000
Flexural strength	MPa	ISO 178:93	90	90	90
Flexural modulus	MPa		2,300	2,300	2,300
Charpy Impact Notched at 23℃	kJ/m^2	ISO 176:96	40	20	12
Rockwell Hardness R, M scale	-	ISO 2-39-2:93	50	50	50
Mold Shrinkage	%	IDEMITSU	0.55-0.65	0.55-0.65	0.55-0.65
Flammability, Rating	-	UL94	0.4mmV-2	0.4mmV-2	0.4mmV-2

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Durability evaluation

1）Samples

①LEV1700 : Optical grade for secondary lens of IDEMITSU
②A1700 : General PC of IDEMITSU
③比較A : UV resistance PC of competitor
④比較B : General PC of competitor

2）Test condition

① Weather resistance test : Xenon weather meter
340nm 0.35W/㎡, 63℃,50%RH,
without rain , until 1,000hr.
②Heat resistance test : 120℃, until 3,000hr.
③Humidity resistance : 85℃,85%RH, until 3,000hr.

3）Sample size

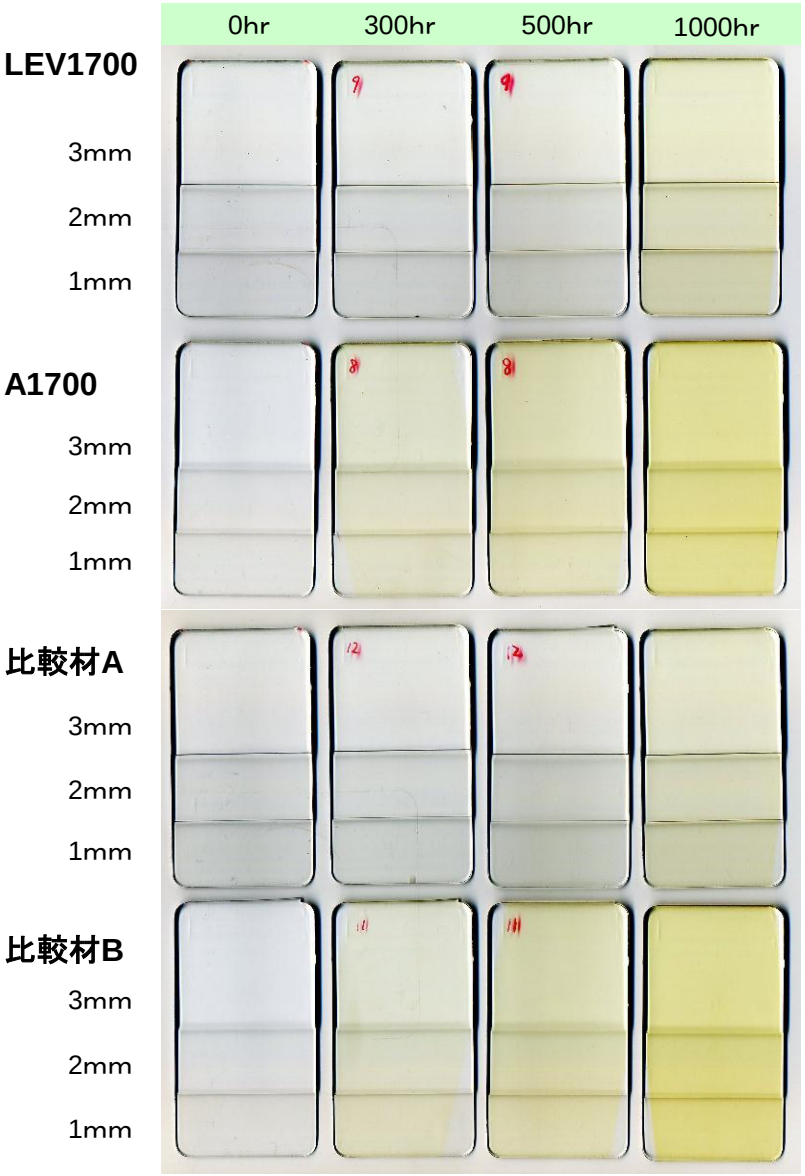
①50mm×90mm× (1,2,3mmt) ②Molding temperature.：280℃

4）Evaluation of optical

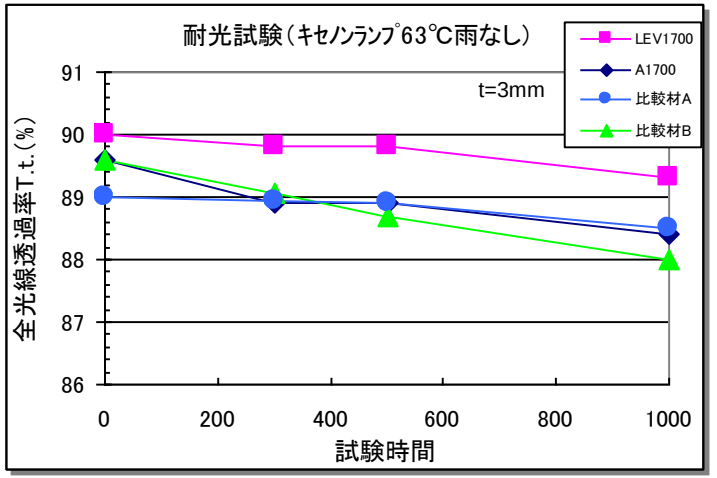
① Total luminous transmittance (3mmt)

②Yellow Index (3mmt)

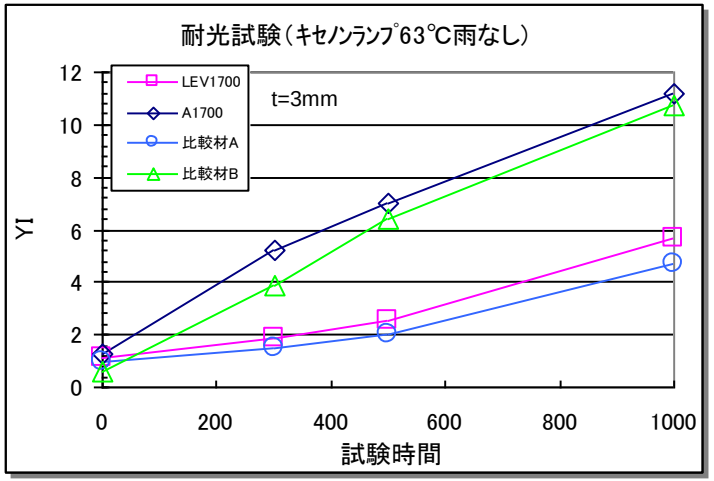
Weather resistance test（63℃,50%RH, without rain）



◇Discoloration of general PC was large.
Discoloration of LEV1700 was small.



◇LEV1700 showed least change
and it was the highest transmittance.



◇Change of YI was large in general PC(A1700,比較B),
and small in UV resistance PC(LEV1700, 比較A).

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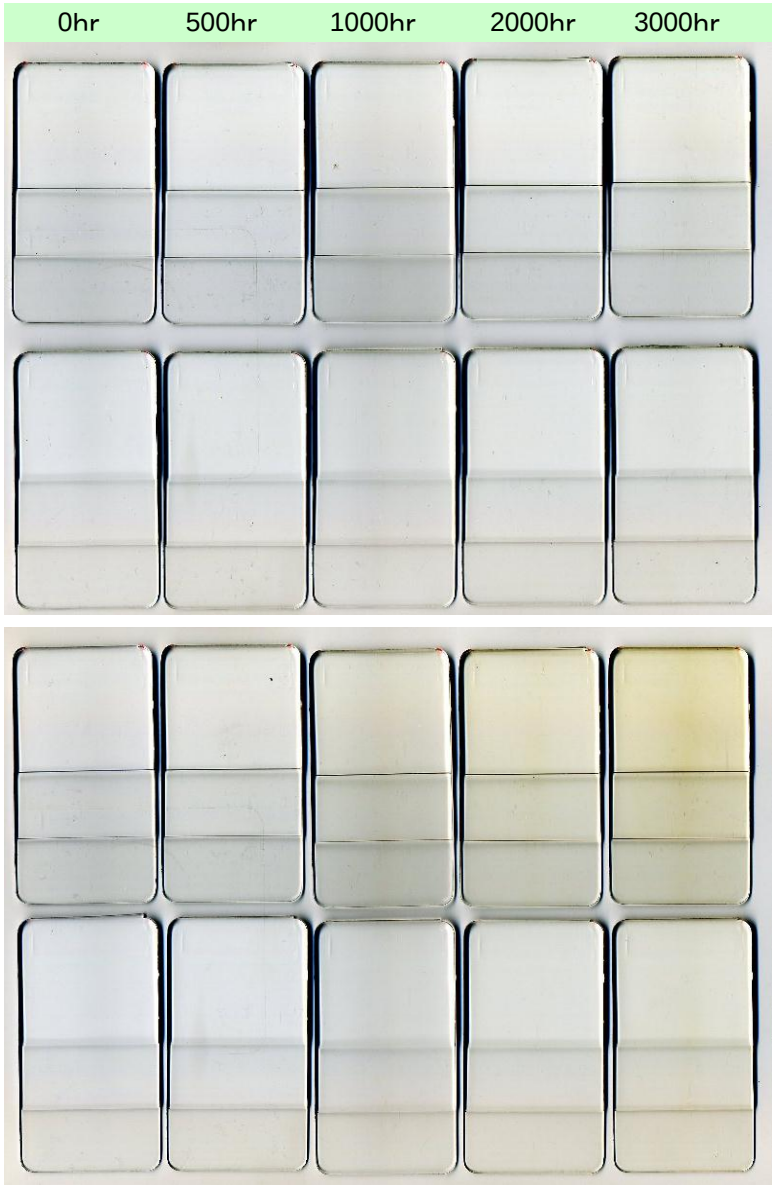
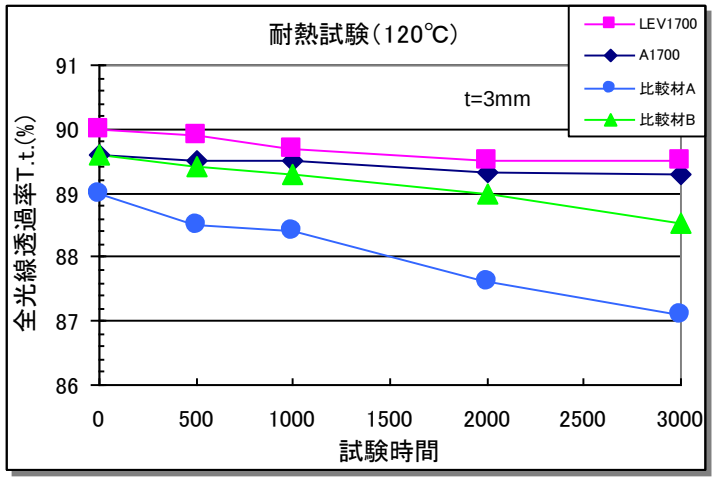
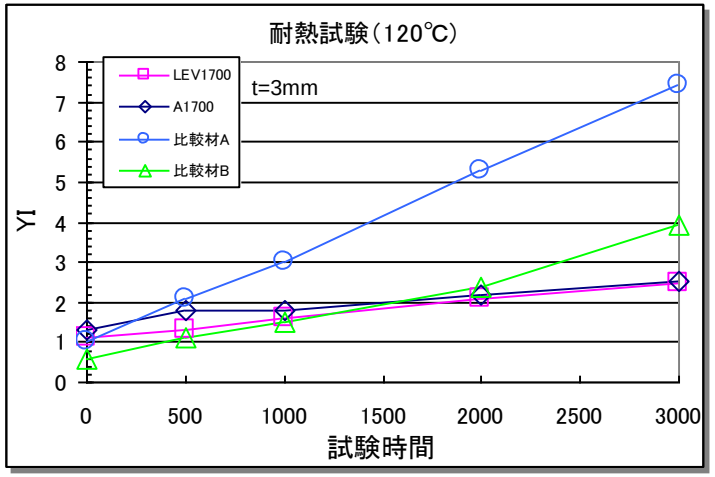
Heat resistance test（120℃）



◇LEV1700 was hardly discolored until 3000hr.

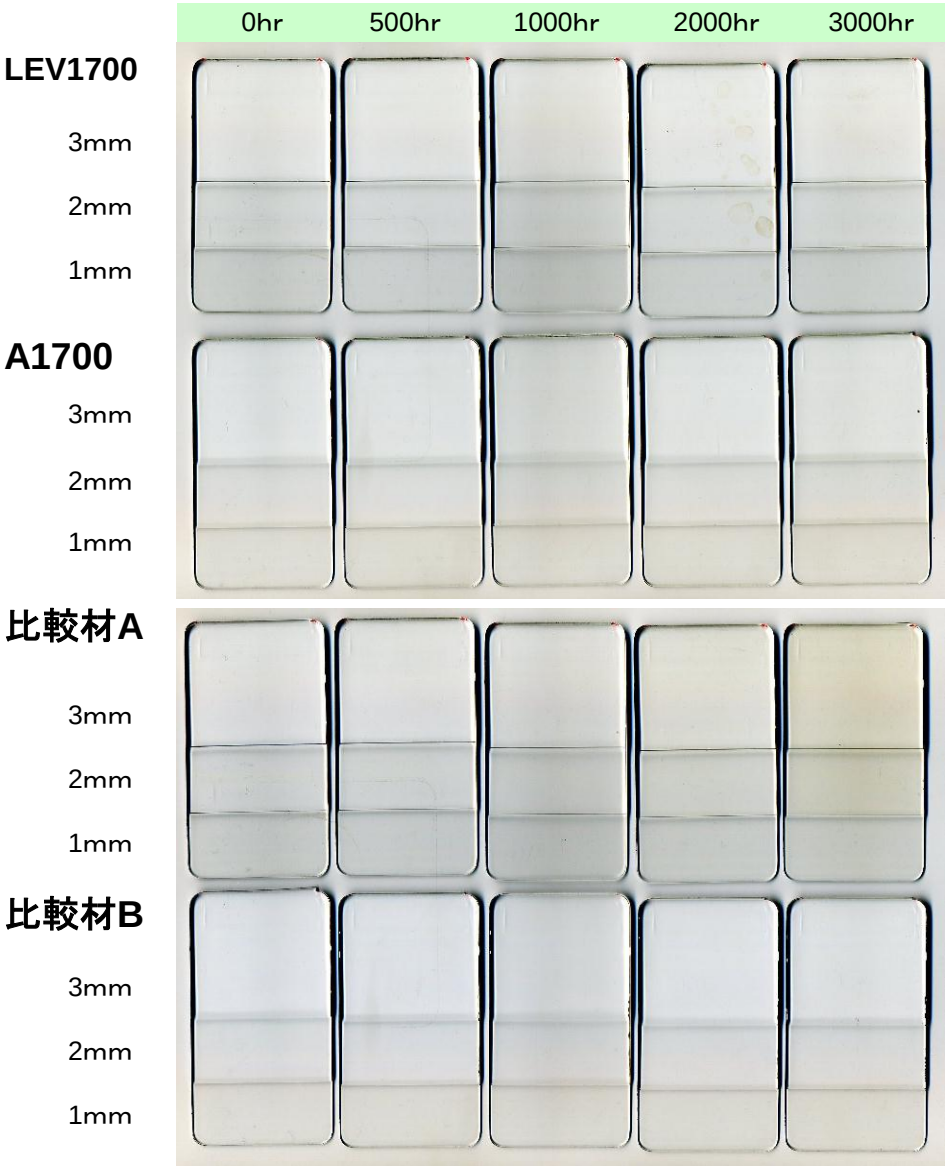


◇ LEV1700 showed least change.
◇Degree of degradation ：LEV1700≒ A1700＜比較材B ＜比較材A



◇LEV1700 and A1700 showed least change.

Humidity resistance（85℃ ×85%RH）



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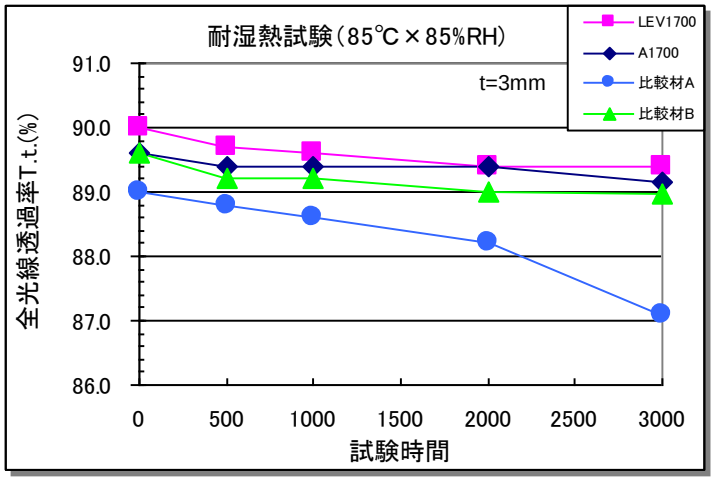

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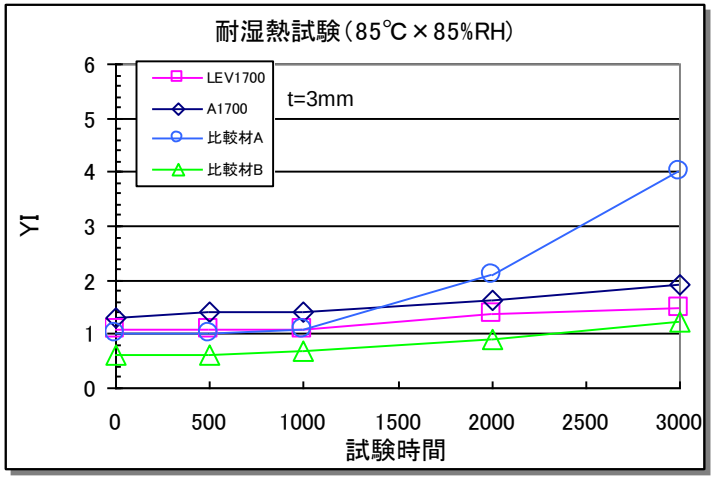

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