Opteria

Functional hard coated film

HA series (with adhesive) · H series

Various functions can be added by thin film wet coating technology. Wide variety of coating formulations are available for various applications. In addition to the clear type, low reflection type and anti-glare type, we also have a lineup of special grades that improve the writing quality of the touch pen.

Composition



We are able to support a variety of applications by combining our core technologies of "Surface Modification Technology," "Adhesive Technology," and "Release liner Technology." Various films such as streched plastic films and cast films are used as base film.

Various technologies for functional hard coated films

Clear/Anti-glare/Anti-reflective type

Suppresses the decrease in visibility from the reflection of outside light on the screen.

For anti-glare type, we offer a line-up of high anti-glare and high-definition grades.

Clear type	Anti-glare type (High anti-glare type)	Anti-glare type (High definition anti-glare type)
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Anti-sparkling type

Applying to high-definition displays enables suppression of dazzle.

Fingerprint-resistant type

(Fingerprint removability type and visual noticeability type)

We have two approaches as below for fingerprint-resistant films which are applied to the surface layer of displays.

Water-repellent type (Fingerprint removability type)

Before wiping





Water contact angle

Contact angle Water:105.6°, Oleic acid:68.4°

Lipophilic type (Visual noticeability type) Fingerprint on normal Fingerprint on lipophilic

hard coat







Oleic acid contact angle

Contact angle Water: 60.6°, Oleic acid: 20.8°

Anti-water marking and anti-Newton ring type

Water marks that occur in air gap-type touch panel devices lead to a drop in the visibility.

In our coating products, the material designs take into account of the suppression of interference fringes.

High writability type

Tablet PCs for educational purposes and other devices that allow writing on the screen with a touch pen have become widespread. In order to make writing on them feel natural, we focused on the resistance and vibration when writing with a pencil on paper.



AG film surface observation in (SEM×500x magnification)

> Writing taste NG se to paper Writing taste is not close to pap





Antibacterial · Anti virus type

	Test item	Result	Test method	SIAA Certification number
	Antibacterial	Staphylococcus aureus Over 99% reduction	JIS Z 2801	Based on the result of tests conducted in accordance with the ISO 22196 international standard, SIAA marks can only be used for products which conform
		Escherichia coli Over 99% reduction	010 Z 2001	the guideline formulated by the Society of International sustaining growth for Antimicrobial Articles (SIAA).
	Anti virus	ti virus Specific Over 99% reduction		Based on the result of hests conducted interactional standard, Sub American international standard, Sub American international standard, Sub American interactional standard standard be guideline formulated by the Society of International standard you for Antimicrobial Articles (SIAA).

**Notes (1)Anti virus coating is not intended to treat or prevent disease.
(2)Meets SIAA safety standards.
The values reported in the data are actual measured values and not guaranteed.

Product Line-up

Ту	rpe	Product name	Haze[%] (1)	Total Transmittance[%] ⁽²⁾	Reflectance[%] (3)	Pencil hardness (4)	Scratch resistance (5)	備考
	(Low definition / high anti-glare)	HA203	9.3	90	-	2H	0	
Anti-Glare Type	(High definition / low anti-glare)	HA239	5.5	90.5	-	ЗН	0	Improved fingerprint removability
	(High definition / low anti-glare)	HA239LR	10.6	94	0.9	ЗН	0	Low-Reflection Improved fingerprint removability
Cl	Clear		0.8	91.2	-	2H	0	Improved fingerprint removability
Clear		HA137	0.3	91	-	Н	0	Anti-water marking
Imploved writability type		HA245	19.7	89.1	-	2H	0	High writability type

(1) Measuring method : JIS K 7136 (2) Measuring method : JIS K 7361-1 (3) Measure the reflectance of the visible light spectrum with a spectrophotometer, and took the lowest value as reflectance. (4) Measuring method : JIS K 5600-5-4(750g load), Film only (5) Measuring method : SW#0000, 250g/cm2, load 10 round trips The values reported in the data are actual measured values and not guaranteed.



LINTEC Corporation Linking your dreams

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