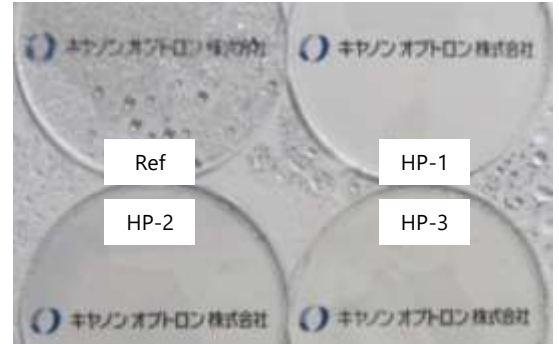


Evaporation Materials

Hydrophilic Coating PHILICFINE HP Series

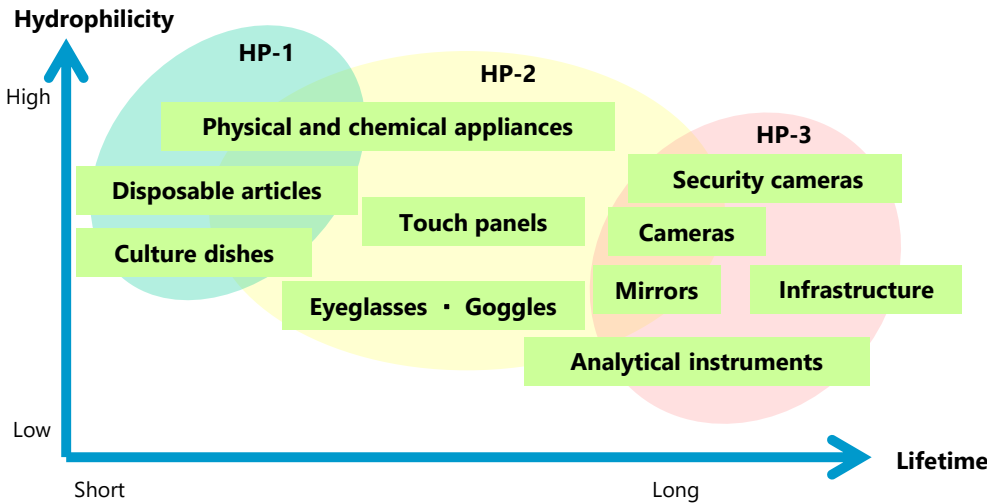
Product Features

- ◆ Exhibits good hydrophilicity
- ◆ Effective in dark places
- ◆ Can be used outdoors
- ◆ Can be used on plastics
- ◆ High transparency
- ◆ Select the product that match your application



External appearance of each product :
When sprayed

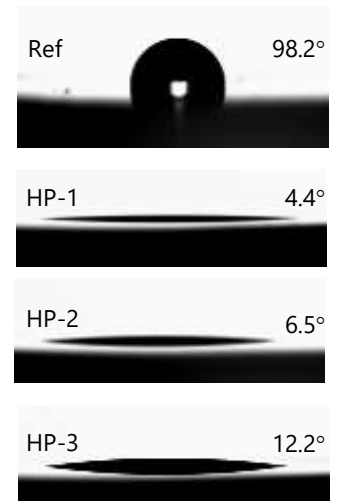
Applied Example



Sample application : Film formed on a dome-shaped substrate

Product Lineup

	HP-1	HP-2	HP-3
Hydrophilicity	++	++	+
Weatherability(XW)**	--*	+	++
Abrasion Resistance	++	+	--*
Residue resistance ***	--	-	+
Salt Spray Test (168h)	--*	+	+
Refractive Index**** (Film Thickness)	Approx. 1.55 (83nm)	Approx. 1.65 (94nm)	Approx. 1.81 (81nm) Note: Some absorption occurs



Contact Angle

--* : Contact Angle $\geq 30^\circ$

XW ** : Xenon Weather Meter Test, Duration of test = about six months

Water Mark Resistance *** : "+" shows little water mark on the substrate after dry.

Refractive Index**** : Measured at wavelength of 550 nm.

The table above compares the three products based on in-house testing. Results may differ from those listed above, depending on the deposition method.

Coating Condition Example

Evaporation Conditions

Coater	Vacuum Evaporator
Chamber Diameter [mm]	Φ900
Evaporation Source	EB
O ₂ Introduction [Pa]	1.2×10 ⁻²
Ion Assistance (IAD)	No
Distance to Substrate [mm]	890
Substrate Heating [°C]	50
Evaporation Rate [Å/s]	Undercoat: 2, Hydrophilic Layer: 2
Layer Thickness [nm]	Undercoat: 10, Hydrophilic Layer:100
Vacuum Degree at Evaporation Start [Pa]	≤2×10 ⁻³
Substrate and Size	Float Glass (Φ74.5mm x 1.1t) Poly Carbonate (Φ74.5mm x 2t)



Appearance
1-2mm

HP Series

HP-U (under coat)

Substrate

Standard layer compositions

EB Conditions for HP-U

	AMP.	Emission [mA]	Time
Pre-melting	2	250→200	1'30''
Evaporation	2	Rate Control (2 Å/s)	

EB Conditions for HP Series

	AMP.	Emission [mA]	Time
Pre-melting	5	170→150(HP-1) 150→130(HP-2, 3)	1'30''
Evaporation	5	Rate Control (2 Å/s)	Approx. 8'00''

Important Point:

- ◆Canon Optron's specific undercoat is required for best performance.
- ◆Our Hydrophilic material needs to be designed as the top layer.
- ◆Pre-melting is required.
- ◆Hearth of Mo (molybdenum) or W (tungsten) is required (not Cu).
- ◆Results may differ from the table on the previous page, depending on the deposition conditions.
- ◆Substrate heating needs to be lower than 200°C.

- All the data listed in this Pamphlet Data are either values measured by our company or quoted from the literature. However, we cannot accept any liability for any troubles or damage caused by using any of these data.
- In order to use the product safely and correctly, please first read the Product Safety Data Sheet.
- Pamphlet Data contained herein is the data as of December 2022.
- Note that the specifications of this Pamphlet Data and/or product appearance are subject to change for improvement, etc. without prior notice.
- We reserve all rights to this Pamphlet Data.
- Please contact us for any inquiries/requests about the product, for more details, or for product catalogs, etc.

Canon
CANON OPTRON, INC.

1744-1, Kanakubo, Yuki, Ibaraki 307-0015 Japan
TEL : +81-296-21-3700
FAX : +81-296-21-3770
E-mail : optsales@mail.canon
URL : <https://optron.canon/en/>

