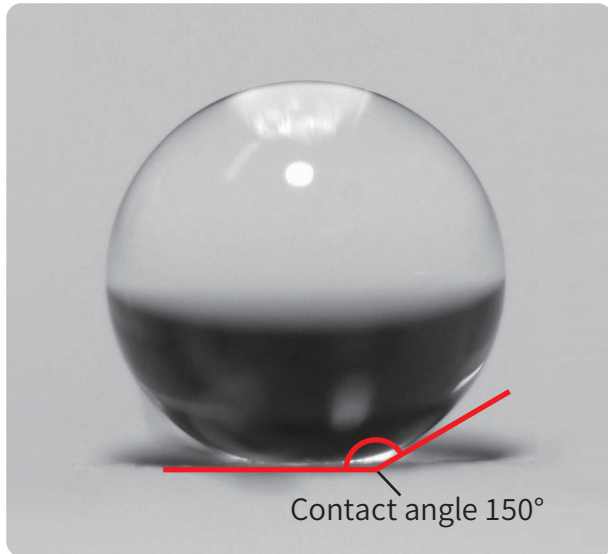




Water-based HIREC300-W brand new debut, Friendly to people and the environment



A water droplet on HIREC 300-W



Without HIREC



Without HIREC



HIREC painted



HIREC painted

Amazing hydrophobic performance Can be used in a variety of objects and scenes

The HIREC series, super hydrophobic materials exhibit an excellent water-repellent property with a contact angle of more than 150 degrees. In addition, outdoor type HIREC such as HIREC100 has anti-fouling function which enables to keep the performance for about 3 years*.

The newly developed HIREC 300-W retains the same anti-fouling function as HIREC 100 and contains almost no volatile organic compounds (VOC). Thus, it is friendly to people and the environment.

POINT

1

Water-based:
friendly to people and the environment

Not subject to regulations on Organic Solvent as it contains almost no VOCs. Construction contractors can use it safely.

POINT

2

Non-dangerous goods:
easy to transport and store

Not subject to restrictions on storage and transportation of dangerous goods as it has no flash point.

POINT

3

Antifouling function:
about 3-year fadeless performance.

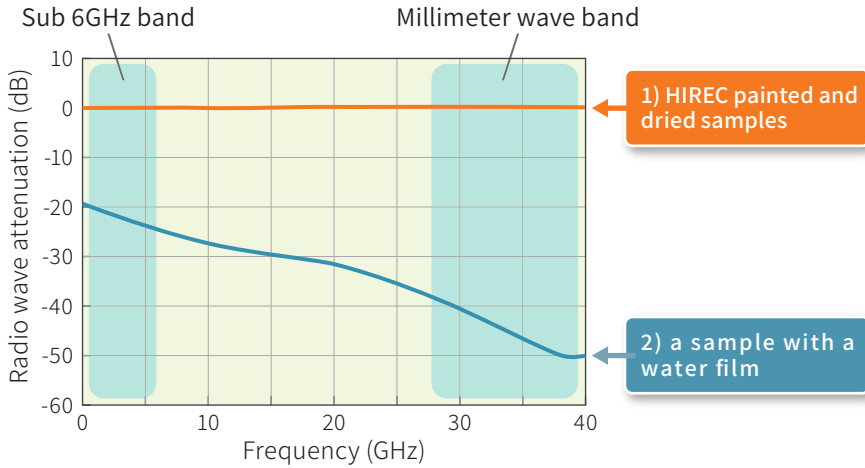
It can maintain ultra-water-repellent performance for about three years* even outdoors, where air pollution poses a deterioration risk of the performance.

*This is the expected period for our recommended HIREC thickness (about 30 μm). And not the guaranteed value because the duration of ultra-water repellency depends on the usage environment.

Optimal solution for reliable 5G infrastructure

•HIREC minimizes attenuation even in the high-frequency band of 5G, where water films are prone to cause the attenuation

Using a polycarbonate resin plate widely used as an antenna cover for mobile base stations as a sample, we conducted radio attenuation tests in the sub-6 GHz and millimeter-wave bands used in 5G services in order to reproduce the conditions in which water membranes are covered and the conditions in which HIREC is painted so that it does not get wet. As a result, radio waves were significantly attenuated when water membranes are covered, but no attenuation was observed when HIREC is painted and dried. Polycarbonate (PC) is widely used for the antenna covers. We two PC boards. 1) Covered with a water film. 2) Dried surface with HIREC coated. Using them, a wave attenuation test was conducted in a frequency range including 5G service band (sub 6GHz and millimeter wave). The water film significantly attenuated radio waves but HIREC coated dried surface didn't.



Application Examples

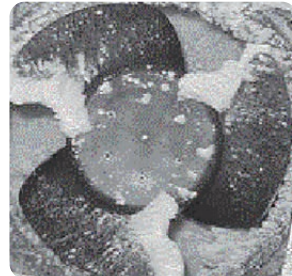
•Preventing snow accretion on bridges

HIREC's "Anti-Stick" characteristic turns falling snow into small particles, reducing the effect on cars and pedestrians.

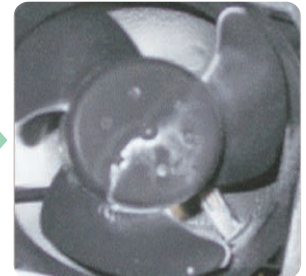


•Preventing ice coating on equipment

HIREC's anti-adhesion characteristic keeps the freezer fan from icing up.



Without HIREC



with HIREC

Comparison with HIREC 100

	HIREC 100	HIREC 300-W
Contact Angle	≥ 150°	≥ 150°
Self-cleaning function	Yes (expected life: about 3 years)	Yes (expected life: about 3 years)
Dilution solvent	Dedicated thinner	Tap water
Flash point (state of paint)	29°C	None



HIREC 300 W package style (photo; for 10 kg)

Notes:
 * "HIREC" is a trademark of NTT Advanced Technology Corporation, registered in U.S. Patent and Trademark Office.
 * Company names, product names, etc. which were indicated are the trademark or registered trademark of each company.
 * Contents of this catalog may be subject to change without prior notification.
 * Catalog contents from March, 2023 to present.

For more information,
please contact

https://keytech.ntt-at.co.jp/en/environ/prd_40022.html

