# NTT-AT Launches HIREC-R, New Super hydrophobic Material

## ~ Improves supply stability while maintaining the same super hydrophobic performance as HIREC100 ~

June 26, 2025

NTT Advanced Technology Corporation (NTT AT, Head Office: Shinjuku-ku, Tokyo, President: Tadashi Ito) has developed HIREC-R which replaces HIREC100while keeping the self-cleaning function. HIREC-R is a part of the HIREC® series, super hydrophobic materials used for the safety and maintenance of outdoor equipment in a wide range of fields including antennas, radars, bridges, steel towers, electric power, railways and buildings. HIREC-R is now available with improved supply stability.

### 1. “HIREC-R”

While a typical fluoropolymer coating has about 100 degrees of water contact angle(index of water repellency), HIREC has an extremely high initial contact angle over 150 degrees. Thanks to this characteristic, the HIREC coated surfacerepels water and barely forms a water film.

However, whendust adheres to the water-repellent surface, hydrophobic performance gradually deteriorates.Hydrophobic performance is alsoimpacted by UV rays contained in sunlight damaging the surface of the coating.

As same as HIREC100, HIREC-R contains photocatalytic materials which allow a new super water-repellent surface to appear by exposing the dirty surface to sunlight. With this function, the super hydrophobic performance couldbe maintained for approximately 3 years. That is a long period of time for super water-repellentmaterials without manual cleaning *, and the cost of repainting due to deterioration in performance can be reduced.

As HIREC-R is effective not only for repelling water but also for preventing ice and snow accretion, HIREC-R can be used in a wide range of fields such as antennas, radars, bridges, steel towers, electric power, railways, and buildings for the safety and maintenance of outdoor equipment.


HIREC-R

## 2. Scheduled Exhibitions

NTT-AT will showcase HIREC-R at our company booth at the following exhibitions.

(1)Maintenance Resilience TOKYO2025

Date: Wednesday, July 23, 2025 to 25th (Fri)

Location: Tokyo Big Sight East Exhibition Building

Information: https://www.ntt-at.co.jp/eventseminar/event/2025/detail/e_20250723/

(2)COMNEXT

Date: Wednesday, July 30, 2025 - Friday, August 1

Location: Tokyo Big Sight South Exhibition Hall

Information: https://www.ntt-at.co.jp/eventseminar/event/2025/detail/e_20250730/

## 3. Detailed Information on HIREC Super hydrophobic Materials

https://keytech.ntt-at.com/environ/prd_4001.html

HIREC® has been used to create the gigantic, meticulous, and pure“Water” Spectacle in Dome A of the private pavilion“ BLUE OCEAN DOME ” exhibited by NPO ZERI JAPAN at the 2025 World Exposition, Osaka, Kansai.

The exhibition concept and direction of BLUE OCEAN DOME was managedby Hara Design Laboratory of the Japan Design Center, our loyalcustomer of HIREC for many years.

The Dome A artpiece was created by Nomena.

●Japan Design Center

https://www.ndc.co.jp/projects/blue-ocean-dome/

●Nomena

https://nomena.co.jp/project/expo2025-blue-ocean-dome/