

WHITE PAPER

“ClearSight” Coating Technology

i-PRO Video surveillance systems



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1. Introduction

Outdoor surveillance is needed nowadays in a variety of locations - primarily urban venues - such as railways, airports, roads, and ports. Cameras for this kind of surveillance are gaining higher resolution along with changing from analog to IP types.

However, even while cameras are gaining higher resolution, poorer visibility of the images they record has become an issue. These issues arise when vital images cannot be made out due to external factors such as lens covers becoming dirty due to rain, water, and dust in outdoor surveillance environments.

i-PRO has developed its new original "ClearSight" Coating technology in order to overcome this kind of issue. The company has introduced new H.265 outdoor PTZ cameras, outdoor dome cameras, and outdoor box cameras equipped with lens covers that utilize this coating technology, providing monitoring environments with greater visibility.

2. i-PRO's "ClearSight" Coating Technology

i-PRO developed its Rain-Wash Coating technology to tackle the issues of reduced visibility due to rainfall, dirt, etc. It has been employed on H.264 outdoor PTZ cameras to achieve environments with both good visibility and resistance to dirtying. With this technology, stable outdoor surveillance can be provided and maintenance costs for lens cover cleaning minimized. However, there is room for improvement as described below in the areas of installation work and maintenance.

(Ease of installation and maintenance)

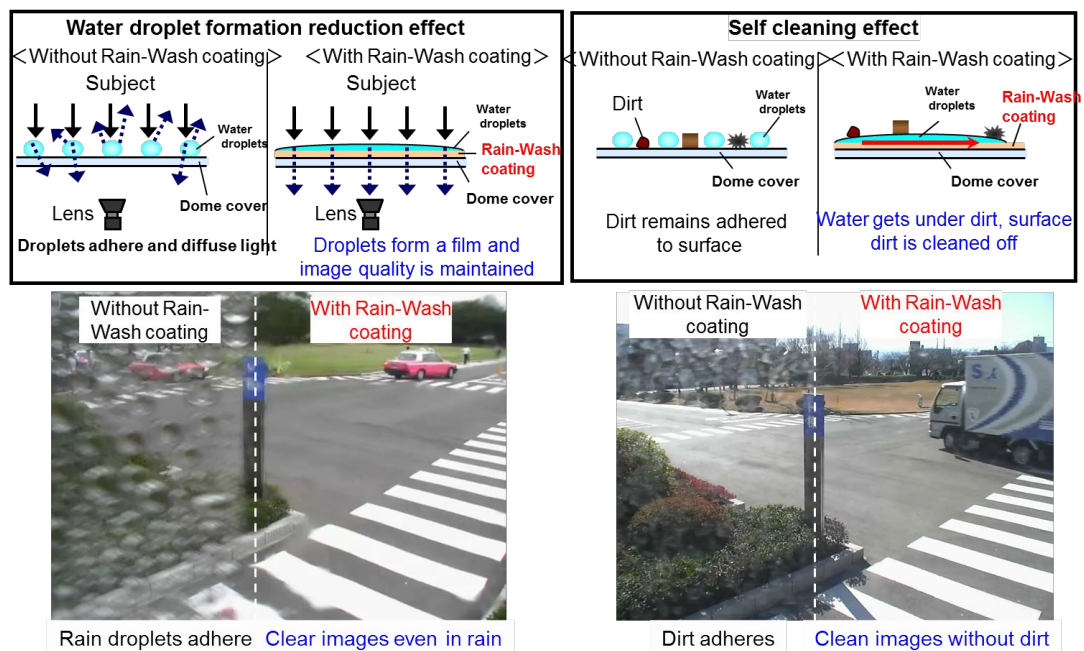
- ① Film strength is poor, and Rain Wash Coating comes off when wiped with a cloth, etc. Fingerprints and dirt adhere to a dome if accidentally touched, and that cannot be dealt with by means such as wiping with a cloth.
- ② Similarly, protective sheets cannot be used on domes due to film peeling, and a dedicated non-contact hard cover is required.

In order to overcome those issues, i-PRO has developed advanced coating technologies and introduced cameras that are easy install and maintain.

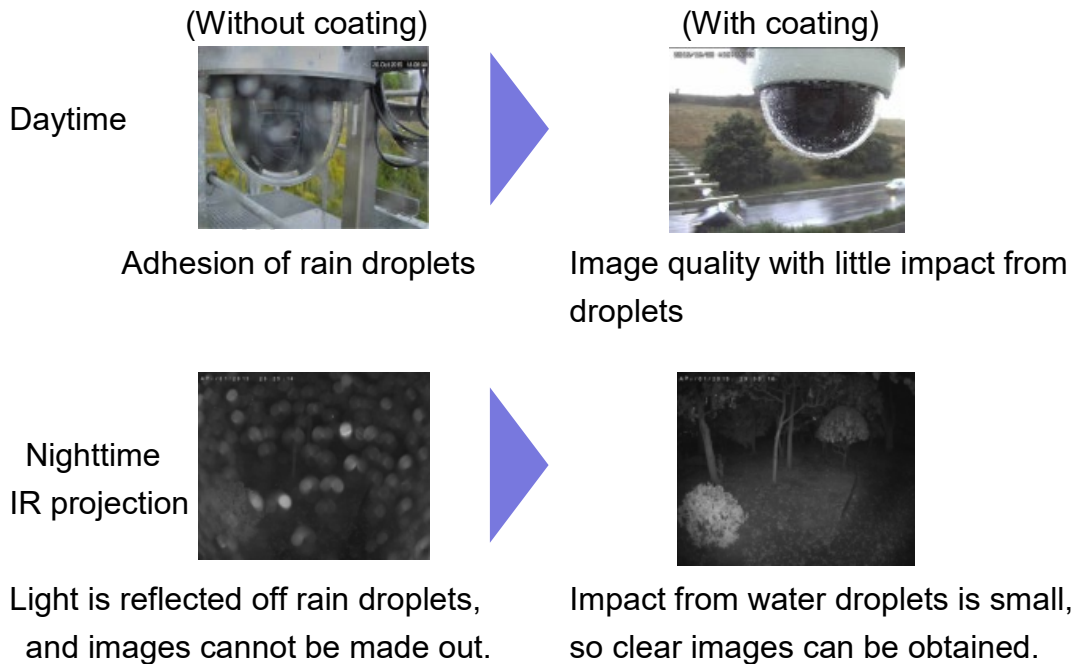
3. Special Coating Technology

3.1 Rain-Wash Coating

- i-PRO's Rain-Wash Coating, developed as a proprietary technology, has "water droplet formation reduction" and "self cleaning" effects as shown in the diagram. Thanks to these features, good visibility and resistance to dirtying in rain is achieved. This enables high-resolution surveillance in outdoor environments.



This coating technology is also applied to IR LED models. As shown below, the impact of reflection from IR projection is reduced even in IR projection environments in rainfall, enabling stable surveillance.



3.2 “ClearSight” coating

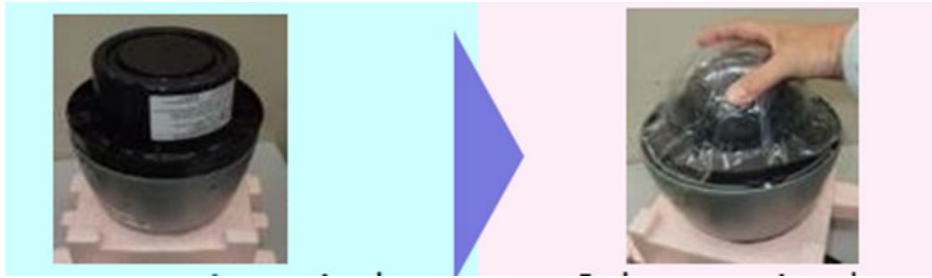
In order to improve film strength, which was an issue with Rain Wash Coating, the new “ClearSight” Coating was established and ease of maintenance, handling, and installation were improved.

- Change in coating material
- Increased film thickness, enhanced adhesion to dome substrate

Ensuring coating quality (uniform coating and prevention of unevenness) becomes more difficult with increased film thickness, but coating quality is ensured by establishing an original coating method.

With this coating technology, fingerprints and dirt can be wiped off with a wet sponge even if the lens cover is accidentally touched during installation or maintenance and fingerprints or dirt adhere to the lens cover. The cover can also be washed with a neutral detergent. In this way, the issues with Rain-Wash Coating are overcome.

Moreover, protective sheets can be used in the same way as with ordinary models, improving ease of handling and installation. (Can be handled in the same way as ordinary models.)



(Rain-Wash Coating compatible model)

(ClearSight Coating compatible model) *With protective sheet

4. Conclusion

i-PRO is equipping new H.265 outdoor cameras, including outdoor dome cameras and outdoor box cameras, with its original “ClearSight” Coating. This is in addition to conventional outdoor PTZ cameras. With this, it is creating more stable surveillance systems that achieve high-resolution surveillance even when used in outdoor environments. The technology will contribute not only to visibility due to improved resistance to dirtying, but also reduced maintenance and operation costs.



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