

WISENET

Hard-coated dome bubble

1-1. Overview

Clearer, Harder

A good dome bubble has many factors. Among many factors, transparency rate and ability of scratch-resistance are important characteristics.

Transparency rate is essential in order to shoot high-resolution images without exposing the lens to the outdoors.

In addition, cameras used in various environments are always exposed to external stimulus (sand, salt, rain, installer's hands, etc.)

Persistent external stimulus can scratch the surface, resulting in IR diffuse reflections or problems with image quality.

In this situation, hard-coating makes your dome bubble more robust and transparent.



1-2. What is Hard-coated dome bubble?

Coating on Dome bubble

In general, dome bubbles are made of **PC**(PolyCarbonate) or **PMMA**(Poly Methyl MethAcrylate) material.

PMMA material has better transparence (92%) and scratch resistance than PC. However, despite its low transparence(88%) and easy scratching, the main reason why we used PC is because of shock resistance.

It is suitable for anti-vandal product as it can be rated for IK10 even with a thin thickness

For this reason, hard-coating was applied our dome bubble to compensate for the weaknesses of PC materials and make use of the existing advantages.



<concept image of
Hard-coated dome bubble>

2-1. Improved surface hardness

Do you remember 4B, HB pencil?

4B pencil that you've used normally in art class has a combination of number and letter.

It is called HB graphite scale or pencil hardness. Dome bubble also uses this standard regarding hardness.

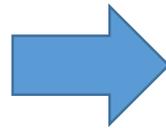
Hard-coated dome bubble improve hardness from 5B~4B to HB. it can be more robust and preventing scratch better.

The hardened dome bubble provides better resistance to scratches from external stimuli (sand, worker's hand, etc.).

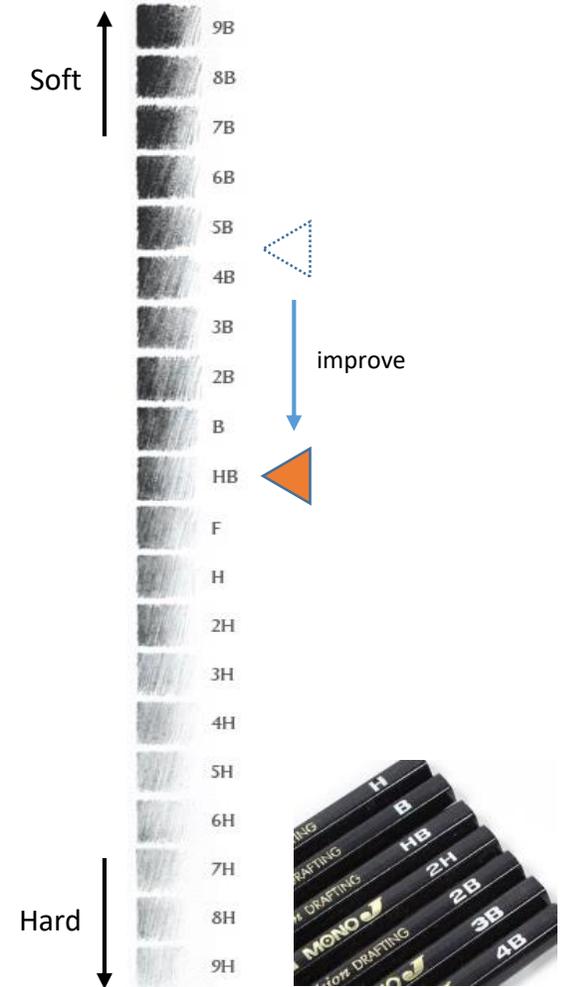
Of course, the degradation of resolution due to scratches can also be minimized.



<PC : 5B~4B>



<Hard-coated PC : HB>



2-2. Clearer sight

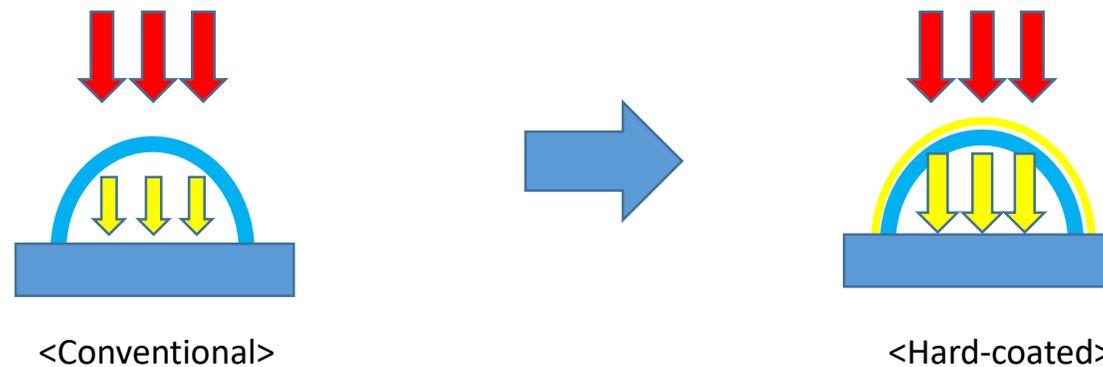
Even water-repellent?

The camera has lens inside the case. Image is taken through the dome bubble. So, transparency must be important factor.

When hard-coated dome bubble is applied, it is improved from 88% to 92%.

As the transparency improves, the resolution loss can be minimized and the reflection of IR LED can be reduced.

In addition, hard-coated dome bubble has water repellent a little, it has also advantage to reduce water droplets on the surface.



3. Summary

Promise for better product

Even a simple part contains a variety of technologies. Dome bubble is one of them.

Through the hard coating technology Hanwha techwin can make products to improve quality of image and hardness.

Also, Hanwha techwin will verify based on variety quality assurance test such as pencil hardness test, resolution measurement and more.

Find the specification regarding hard-coated dome bubble in the Hanwha Techwin datasheet.

Mechanical

Color / Material	White / Aluminum Hard-coated dome bubble
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※ Some products does not applied and under development.
Check our product datasheets on the website.