MULTI IR has broken through the sulfur-based glass DLC coating technology and achieved mass supply

Hangzhou, Zhejiang May 22, 2026 (Issuewire.com**)** - In the field of infrared optics, there is a widely recognized "golden combination" - chalcogenide glass + DLC film.

Chalcogenide glass, with its advantages of mold pressing, lightweight, and low cost, is rapidly replacing traditional monocrystalline germanium and becoming the ideal substrate for civilian markets such as vehicle night vision, security surveillance, and industrial monitoring. DLC films, with their sapphire-like hardness, excellent corrosion resistance, and infrared transmittance, are hailed as the "armor" of optical lenses.

Combining the two should be the ideal path for infrared optical components to achieve low cost, high reliability, and long lifespan.

However, due to numerous technical difficulties such as material characteristics and processes, this "tough nut" has been difficult to crack over the past years. Currently, most enterprises are still stuck in the research and development stage, and it is difficult to find mature products with stable batch supply in the market.

Specifically, the technological difficulties lie in:

- **Mismatch in thermal expansion coefficient** - The thermal expansion coefficients of chalcogenide glass and DLC film are significantly different, making the film prone to cracking when exposed to alternating hot and cold conditions;

- **High internal stress in the film layer** - the internal stress of DLC film is large, and improper control can easily cause surface deformation or even substrate cracking;

- **It is difficult to achieve both hardness and transmittance** - high hardness for wear resistance and high transmittance for image preservation, making it extremely challenging to strike a balance;

- **Poor film-substrate adhesion** - the surface of chalcogenide glass is chemically inert and prone to oxidation, leading to easy detachment and peeling of the film layer.

Today, **MULTI IR**, leveraging its profound expertise in the field of infrared optics, has achieved a breakthrough in the industrialization of chalcogenide glass DLC coating technology, becoming one of the few enterprises globally that master this technology and possess the capability to supply in bulk.

This product has:

Hardness > 18GPa - ultra-wear-resistant
The hardness of the film layer is up to 18GPa or more, significantly enhancing its scratch resistance.

Adhesion Level 5B - No Peeling
By addressing the stress issue in the film layer through process innovation and optimizing thermal stress matching, the cross-cut test achieves the highest grade of 5B. The film layer is firmly bonded to the substrate, ensuring no cracking or peeling even in environments with drastic temperature changes.

Salt spray resistance > 72h - all scenarios
Resistant to salt spray, acid and alkali, and damp heat, it meets the long-term use requirements of harsh working conditions such as outdoor surveillance, marine equipment, and industrial monitoring.

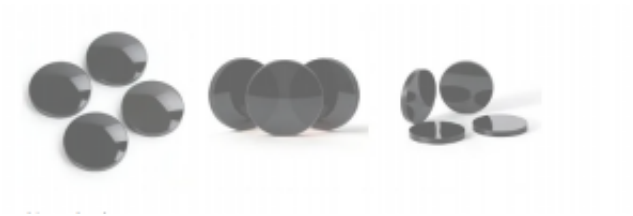
Transmittance > 91% - High transparency
The average transmittance in the infrared band exceeds 91%. While providing mechanical protection, it does not sacrifice optical performance, ensuring clear imaging and lossless signal transmission.

Currently, the **MULTI IR** DLC coating products, which have the capability to supply in bulk, are rapidly entering three high-value sectors:

• **Vehicle-mounted infrared**: night vision windows, laser radar protective films, resistant to wind, sand, and car wash wear
• **Security surveillance**: outdoor camera protective windows, adaptable to all-weather harsh conditions
• **Industrial monitoring**: protective covers for sensors in high-temperature and high-humidity environments, ensuring stable operation of equipment

As the "tough nut" in this industry, **MULTI IR** not only overcame the difficulties but also offers customized products tailored to different customer needs, ensuring applicability across various scenarios.

From "0" to "1", every technological leap is an important cornerstone for industrial chain security. **MULTI IR** will continue to deeply cultivate core infrared optical processes, leveraging technological innovation to propel China's infrared industry towards a more reliable, cost-effective, and self-reliant future.



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