

The Curious Case of Coatings



Zeiss

Ophthalmic lens coatings have been around for decades. However, in recent years the options have rapidly expanded, with new technology improving their functionality, durability, and overall wearer experience.

With increasing use of digital devices in our modern-day world, sensitivity to light, and knowledge of the need for UV protection, coatings are now at the forefront of many customers' minds. It stands to reason then, that as eye care professionals, we must be fully informed of the options available.

In this article, Elizabeth Cassidy describes how you can recommend coatings to meet your patients' needs and differentiate your practice within a highly competitive market.

WRITER Elizabeth Cassidy

Two decades ago, multicoats looked and performed quite differently from today. There were issues with “lifting, bubbling, and a difficulty to keep clean”, James Gibbins, Australasian College of Optical Dispensing (ACOD) Director said.

Nicola Peaper at Rodenstock noted that “the original anti-reflective coatings didn’t have as many layers in the stack (as they do today) and so residual bloom tended to be less attractive and more obvious”.

A very common complaint was the ability to keep these coatings clean. This alone made many customers reluctant to have a multicoat again. As Ms Peaper explained, “Conventionally, the top layer of a coating is made up of molecular chains that are responsible for repelling oil and water to help keep the lens clean. These chains are inflexible and have microscopic chasms that dirt can become embedded into, making them hard to clean.”

However, advances in technology have essentially eliminated this issue. As an example, Ms Peaper said the newer Rodenstock Solitaire Protect Plus 2 X-tra Clean “has flexible molecules so dirt doesn’t stick so readily, and cleaning is much easier”. Additionally, Danny Messenger, General Manager at Shamir Australia, noted that “there is now a much more elegant bloom for better cosmetic appearance”.

In addition to solving these issues, manufacturers now construct anti-fog, blue light and UV protective lens coatings, and more.

UV protection, especially in Australia, is in high demand. Whereas customers used to protect their eyes from the sun with tinted or polarised lenses in sunglasses, we now see an increased awareness of the need to continuously protect against UV. As such, many manufactures either offer UV coating as a standard on their lenses, or combine it with their multicoat. As an example, Mr Messenger said Shamir’s “Glacier Plus UV provides back and front UV protection (which is) vital in Australian conditions”.

UNDERSTANDING LIFESTYLE

For a multicoat to be successfully dispensed today, we need to consider both the customer’s lifestyle and visual needs. As Dylan Oblein, Business Development Manager at Eyecare Plus, explains, “discussing and considering the customer’s lifestyle is one of the earliest things we are taught on our dispensing journeys”.

“Not only does this ensure that a patient’s eyewear needs are met, but shows our

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patients are being heard and listened to. Technology may have changed, but the basics of communication and understanding lifestyle needs remain the core skillset of all dispensers”.

THE BLUE LIGHT LENS DEBATE

A significant influence on lens decision making right now is our ubiquitous use of technology. Driven by advertising, customers are increasingly requesting blue light lens coatings to protect against the perceived risks of blue light emitted from digital devices. This has been the case especially since the onset of COVID-19, which resulted in a higher percentage of individuals working from home and using computers for long periods of time. Some dispensers have even noted that parents are requesting a blue light coating for their children as they spend such a large amount of time looking at screens.

However, the scientific evidence for the benefits of blue light coatings has been, and continues to be, hotly debated within the optical industry. The debates centre around whether these lenses assist with protecting the macula, reduce sleep disruption, and/or help with eye fatigue.

Despite this, in response to consumer demands for blue light protection, we can now choose from a wide variety of blue light coatings, many of which block different wavelengths. Additionally, some manufacturers are now combining a blue light coating with a standard anti-reflective coating.

With all of this variety to choose from, dispensers should be aware of the benefits that each type of coating offers, in order to recommend the best option for their customers. And, although there is a huge amount of anecdotal feedback from those who have tried these coatings, until scientific backing becomes evident, we should all be

careful to correctly explain the benefits to patients, ensuring no false claims are made.

PHOTOCHROMIC TREATMENTS

Photochromic treatments have been available for decades, catering to customers who want simplicity and one pair that can 'do it all'.

Most dispensers agree that these treatments have not been as popular as they could have been because of the compromise that comes with putting everything into one pair, especially when we get behind the wheel of a car.

However, with advances in technology, photochromic filters have dramatically changed, and in recent times, the options for photochromic lenses have rapidly expanded. We can now choose from a variety of indexes / lens designs and even labs for supply.

In terms of colour we also have plenty of choice. As Paul Clarke, Optical Dispenser and proprietor of Vision West Perth commented, "In the past, a grey photochromic lens always worked the best and seemed to be more of a crowd pleaser. There have always been other colours, but they didn't seem to work as well, or be as popular". Now the options for colour are endless and effective.

Impressively, lens transition has also significantly improved. Previously, it was common to see a residual tint on the lenses, even when worn indoors. Comparatively, these filters now have faster changing times, with a much 'clearer' appearance when indoors.

However, the main concern with these treatments has been their effectiveness in

a car. And, although the performance of photochromic lenses behind a windscreen has improved over the years, it's true to say that even today, photochromics will not turn as dark, or offer the same protection as a polarised sunglass.

Mr Clarke said this can be the biggest factor to consider when dispensing and recommending these treatments. "The advertising of these tints typically does not clearly suggest that (some photochromics) are not effective in the car, so a customer will expect them to be the same as normal sunglasses. Therefore, a dispenser should be very honest with their customers about how they work. Most of the time, as soon as you tell a customer they won't work as well in a car, they'll say that's what they wanted them most for!"

With this in mind, manufacturers have worked hard to come up with solutions. We now see products that are specifically designed to negate this issue, with some lenses, such as Transitions XTRActive new generation lenses, delivering extra darkness and light protection, achieving category 2 levels inside a car. Others, such as Transitions Drivewear, combine polarising to block harmful glare and change density to achieve excellent traffic signal recognition, while improving contrast to deliver the ultimate visual quality and safety.

POLARISATION

Polarisation is another coating that offers patient benefits for everyday wear. Although this technology has not advanced as rapidly as multicoats, manufacturers have worked

to improve the contrast, thickness, UV protection, and density of coatings, which are now available in solid, gradient, mirror, photochromic, and a wide range of colours. Additionally, they have improved the way polarising affects various digital screens, especially digital displays in cars.

With strong demand for polarisation, there is huge potential for manufacturers to release new and updated products.

REMAIN ALERT TO NEW TECHNOLOGIES

Coatings add significant benefit to ophthalmic lenses and are an important aspect of dispensing. In a highly competitive market, we see continuous updates in technology and improvements. However, we should always ask lifestyle questions of our customers before making recommendations and we should explain the full benefits and disadvantages.

As dispenser and ACOD staff member, Melanie Muscat noted, "Lens coatings are most effectively sold when they are relevant to the customer's specific lifestyle. When this relevance is explained fully to the customer, they are more likely to purchase."

Elizabeth Cassidy is an Optical Trainer and Compliance Officer for the Australasian College of Optical Dispensing (ACOD). She started working in optics in 2015, and has undertaken a Cert IV in Optical Dispensing, Cert IV in Teaching and Assessing, and an Advanced Diploma in Leadership and Management. She has worked at numerous practices across Australia as a senior dispenser and training other staff.

High Performance Lens Coatings

Crizal Sapphire HR

Essilor states that Crizal Sapphire HR was found to be the best anti-reflection coating overall^{1,2} due to its transparency and durability. High resistance technology means Crizal Sapphire HR is 70% more scratch resistant and has 20% more thermal resistance than previous generations. It is also easy to clean. Sitting above the rest of the Crizal range, Crizal Sapphire HR is the only coating with 360° multi-angular technology.

Contact: Essilor Account Manager

References

1. Based on Brand tracking 2017 - MSW - 19 countries - 16,746 eyeglass wearers, 668 Crizal wearers. Countries: Australia, Brazil, Canada, China, Colombia, France, Germany, India, Italy, Malaysia, Mexico, Philippines, Russia, Singapore, Spain, Taiwan, Thailand, United Kingdom, United States of America.

2. External laboratory tests and internal technical tests in 2020. Compared to the most known lens brands by consumers (2019 external brand tracking in 11 countries). The word 'overall' refers to consumer expectations about anti-reflective coatings, ranked through a quantitative consumer study run by an external institute in three countries.



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Introducing the new Neva Coatings range by OSA.

Available in 5 different options, each coating has its own set of unique features to suit all types of lifestyles.

Coating Features



Anti-reflection



Anti-scratch



Anti-smudge



Anti-static



UV Protection

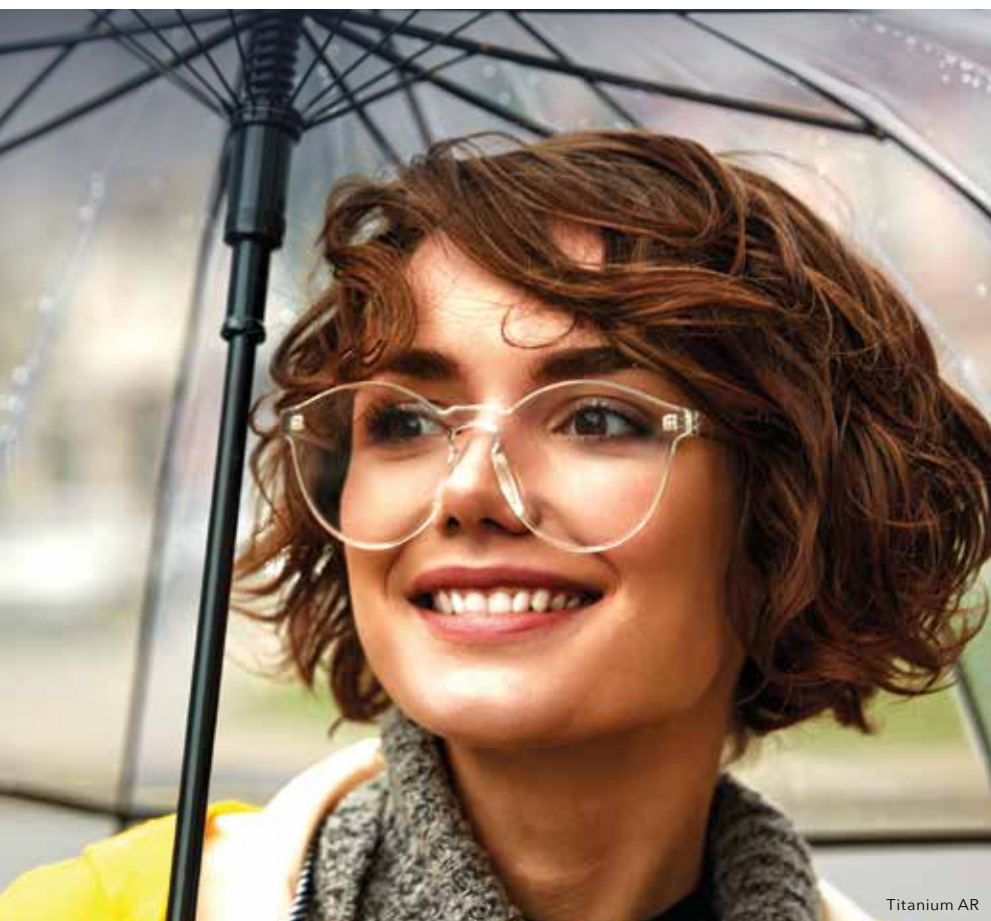


Blue Light Filter



To find out more about the Neva Coatings range contact your OSA sales representative or visit osalens.com.au





Titanium AR

Traditional AR coatings, with their reflex colours of green or blue, can become distracting and unsightly when exposed to different angles of light.

CR Labs' multi-layer anti-reflective coating, Titanium AR, features an aesthetically pleasing pale blue bloom that produces a 99.6% light transmittance and ultra-low reflection intensity (0.2% at 25° angle of incidence), allowing superior visual sharpness and clarity.

Titanium AR uses CR Lab's latest True Bond technology – a super-hydrophobic topcoat

and index matched double-sided dipcoat. With clear optics, high scratch resistance, sustained durability, and a thermal resistance of over 80°C, Titanium AR has been designed to combat the naturally harsh Australian conditions.

Whether the coating is exposed to the extreme heat of Oodnadatta or subjected to the coldest days on the slopes of Thredbo, Titanium AR is a premium option when it comes to anti-reflective coatings.

Look out for Titanium+ coming soon.

Contact: CR Labs (AUS) 1800 334 867



Armour Hardcoat

Armour Hardcoat provides lenses with greater durability and protection against scratches and general wear and tear.

Add Skeye Multicoat with tough, water repellent, and anti-fog properties for clearer vision even at night, and a cosmetically enhancing aesthetic.

Armour Hardcoat combined with Skeye Multicoat provides a hydrophobic topcoat that repels substances such as oil and water from the lens surface. Acting as a shield, it forces droplets to bead and run off the lens, leaving it clean and clear. Additionally, it resists stains and fingerprints, so lenses stay clear for longer and are much quicker and easier to clean.

Contact Opticare (AUS) 1800 251 852

X-tra Clean Finish

Rodenstock's X-tra Clean Finish creates lenses with an extremely smooth surface, so that dirt hardly sticks. Even if the lens does get dirty, dirt can easily be removed without leaving any streaks or residue.

An independent market research study of spectacle wearers age 40–70 years showed that:

1. After cleaning lenses with X-tra Clean Finish, 100% perceive them as clean without residue, and
2. 93% state that lenses with X-tra Clean Finish are easier to clean than their current lenses due to the smoothness of the lenses.

Add X-tra clean to Rodenstock's current Solitaire 2 family of coatings, which have UV back surface protection and a three-year scratch warranty.

Contact: Rodenstock (AUS) 02 9748 0988



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Perfect Vision. Personal Touch.



Full Control

Hoya's Full Control four-in-one coating combination provides the ultimate in resistance to scratches and bacterial growth for lenses, protection from UV light, and more relaxed vision when viewing digital devices. Full Control includes Diamond Finish, UV Control, Anti-bacterial Coating, plus BlueControl for total protection.

Diamond Finish, an award-winning anti-reflective coating, provides scratch resistance protection, makes lenses easy-to-clean, and dirt and water-repellent.

UV Control provides 100%, all-round UV protection.

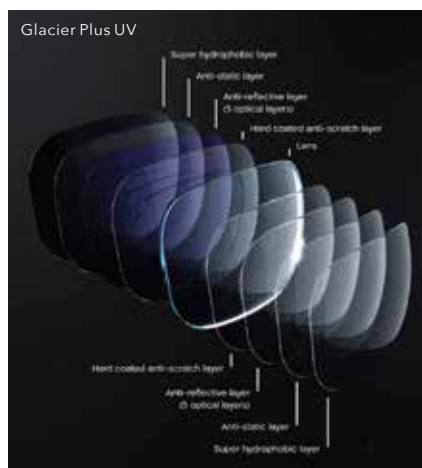
Hi-Vision Anti-Bacterial coating reduces bacteria growth on lenses by at least 99.9%¹ and is certified for its quality and effectiveness.²

BlueControl filters blue light for less eye strain and fatigue, and more relaxed vision when viewing digital devices.

Contact: Hoya Lens (AUS) 02 9698 1577

References

1. Based on BOKEN Quality Evaluation Institute's anti-bacterial activity value test results (Staphylococcus aureus and E.Coli).
2. Tested according to ISO 22196 and certified by The Society of International Sustaining Growth for Antimicrobial Articles (SIAA) standards.



Glacier Plus UV

The Shamir Glacier Plus UV coating range provides UV protection from incoming and reflected light for both front and back lens surfaces, which helps to avoid the risk of damage to the cornea and retina.

Shamir's Glacier range comprises:

Glacier Plus UV: A durable, comfortable, antistatic, and hydrophobic multi-coated lens.

Glacier Achromatic UV: All the benefits of Shamir Glacier Plus UV with the addition of improved anti-reflection for superior, bloom-free lenses.

Glacier Sun UV: Designed for sun wear to accommodate a wide range of fashion preferences, lifestyles, and activities.

Visit: shamir.com/au

TechShield Blue

TechShield Blue provides advanced blue light defence in a premium anti-reflective coating to enable patients to enjoy all the benefits of a digital life without digital eye strain.

Advantages include targeted blue light reduction, glare reduction, UV protection, scratch and smudge resistance, super oleophobic and hydrophobic properties, and

an attractive cosmetic appearance. This next generation lens enhancement is available across the VSP Optics Australia lens portfolio and is backed by a two-year warranty.

Contact: VSP Optics (AUS) 1800 251 025

DuraVision Platinum UV Coating

Zeiss DuraVision Platinum UV is the hardest ever Zeiss anti-reflective coating. This advanced coating technology features nine ultra-thin layers and is manufactured via a unique 'ion bombardment' process, for an incredibly hard lens.

According to Zeiss, the blue reflex colour of DuraVision Platinum UV ensures a luminous transmittance that is higher than the industry-standard green reflex colour. Reflections are less noticeable on your patient's face, resulting in a clearer looking and more attractive lens.

Featuring anti-static technology patented by Zeiss, DuraVision Platinum UV repels dust and dirt by preventing the build-up of static electricity on the lens surface, even after wiping. This premium coating also features an oleophobic (oil-repelling) and super-hydrophobic (water-repelling) clean coat that makes it easier to clean and care for your Zeiss lenses.

Contact: Zeiss Vision (AUS) 1800 882 041

