

The most scratch-resistant
Crizal[®] No-Glare lens
ever made

Crizal[®]
Rock[™]



CORRECT

PROTECT

ENHANCE



Delivering Durability Like Never Before for No-Glare lens wearers with the new Crizal[®] Rock[™] lens



*Within Crizal Range - External laboratories tests and internal technical tests in 2019 – compared to all previous generations of Crizal coatings.

- 1/ Innovation Driven by Consumer Need
- 2/ What is the Durability of a No-Glare lens?
- 3/ New Product Introduction – Crizal® Rock™
- 4/ The Lifeproof Multi-Test & Competitive Superiority
- 5/ Go-to-Market Information



Innovation Driven by Consumer Need

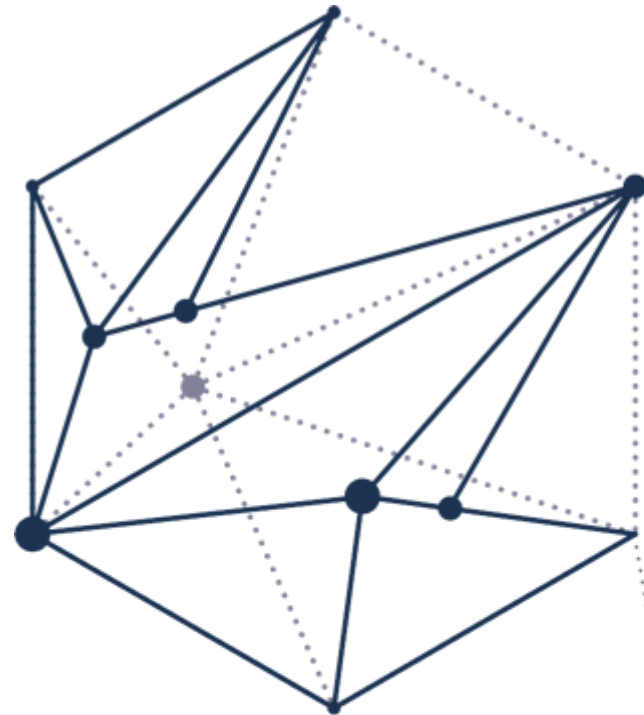


SCRATCHES & SMUDGES: 2 MAJOR ENEMIES OF CLEAR VISION

Crizal[®]
Rock[™]

With scratches and smudges frequently appearing on lenses, wearers feel like they're constantly battling to keep their vision clear.

SCRATCHES



For **93%**

of wearers, scratch resistance is an **important characteristic** when choosing eyeglasses.¹

64%

of wearers have already experienced **scratches on their lenses.**¹

SMUDGES



For **87%**

of wearers, Easiness to clean is an **important characteristic** when choosing eyeglasses.¹

77%

of wearers wipe their lenses with **t-shirts, tissues, or towels**, at least once a week.¹

(1) ©Ipsos – Risky behaviours of eyeglasses wearers - consumer quantitative research 2019 - declarative results - USA - n= 2435 eyeglasses wearers.

Consumer Lifestyle

“I slipped while cooking dinner and my eyeglasses fell down”

“Someone bumped into me and accidentally knocked my eyeglasses off”

“I was returning from work when I passed a building site. My lenses got covered with dust and I had to clean them with whatever I had.”

“I was in a hurry and dumped my eyeglasses into my handbag. No time to find my protective eyeglass case.”

“I was playing with my daughter and her toys, when she accidentally grabbed my eyeglasses.”

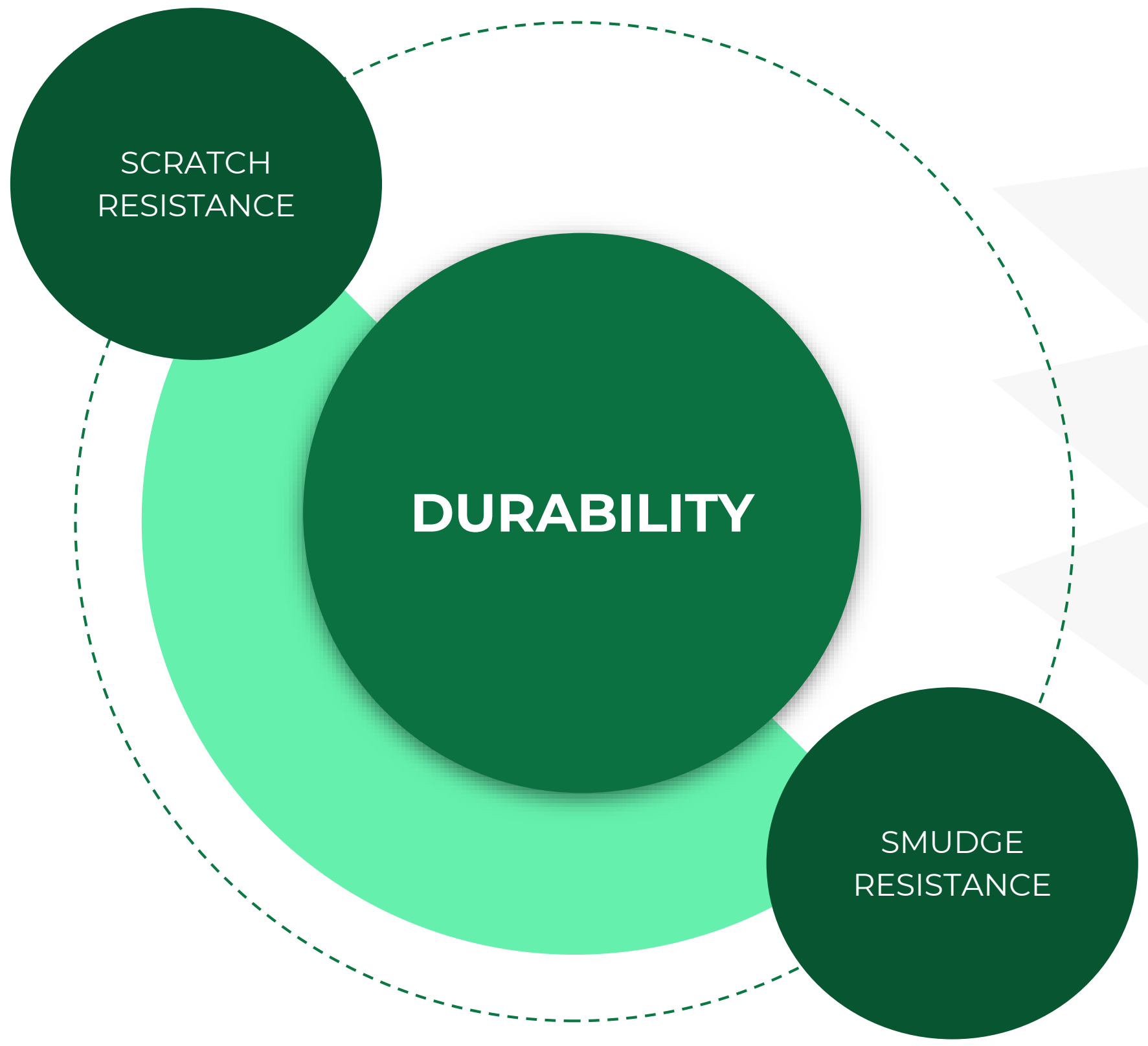
All these situations generate high frustration!



What is the Durability of a No-Glare lens?

WHAT IS DURABILITY?

SCRATCHES



SMUDGES

Imagine a no-glare lens that can make
scratches and smudges a thing of the past

Introducing

Crizal[®]
Rock[™]



WHY THE NEED FOR INNOVATION...



LEADING THROUGH INNOVATION

At Essilor we want to push ophthalmic lens technology to deliver more to our customers, with over **\$200 MILLION** invested every year in research and development



LAUNCHING REVOLUTIONARY PRODUCTS

It is Essilor's commitment to innovation that allows us to bring the most advanced lens technologies to our ECPs and patients

Varilux®

#1 Progressive lens brand

recommended by optometrists and opticians*

Crizal®

4 out of 5

consumers prefer Crizal® No-Glare lenses over regular lenses**

Transitions™

9 out of 10

Transitions® lens wearers are satisfied and will repurchase.***

*Survey conducted in 2018 by an independent third party. Sponsored by Essilor. Results were reported by independent opticians and optometrists.

** (2016) Independent eyeglass wearers study of 200 participants, conducted by Dr. Han-Seok Seo at the University of Arkansas Sensory Science Laboratory and sponsored by Essilor.

***US Consumer Brand Tracking; Q3 2017; N=210 Transitions Users (MSW-ARS).

The new technology behind

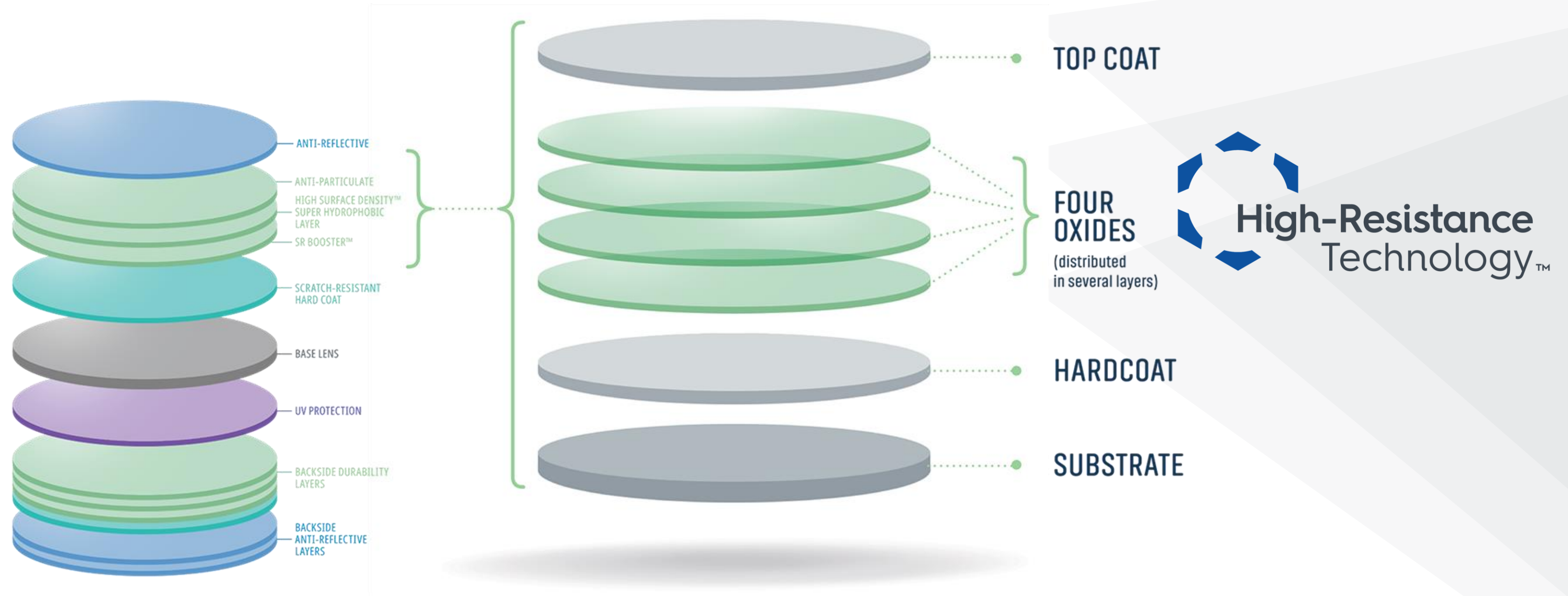
Crizal[®]
Rock[™]

Overcoming industry-wide
technical compromises



CRIZAL® ROCK™ CONTAINS OUR UNIQUE HIGH-RESISTANCE TECHNOLOGY™

Our unique High-Resistance Technology™ is a combination of specific oxides, known to resist scratches, dust, and dirt.



THOROUGH RESEARCH TO REACH THE TARGETED PERFORMANCE

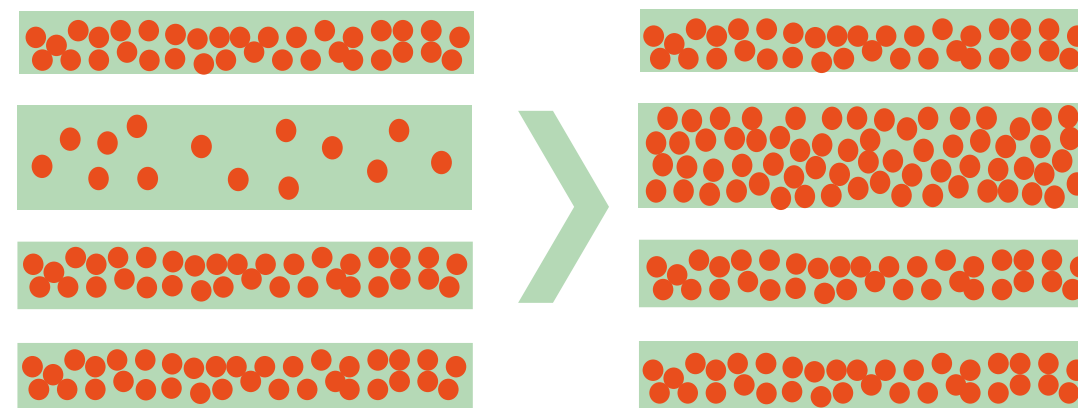
STRUCTURE

REINFORCE THE STACK
by increasing the proportion
of high resistance oxides
Ratio: ~2 times higher*

A stack is composed of low and high refractive index oxides:
the higher the proportion of low refractive index oxides, the higher the resistance to abrasion.

PROCESS

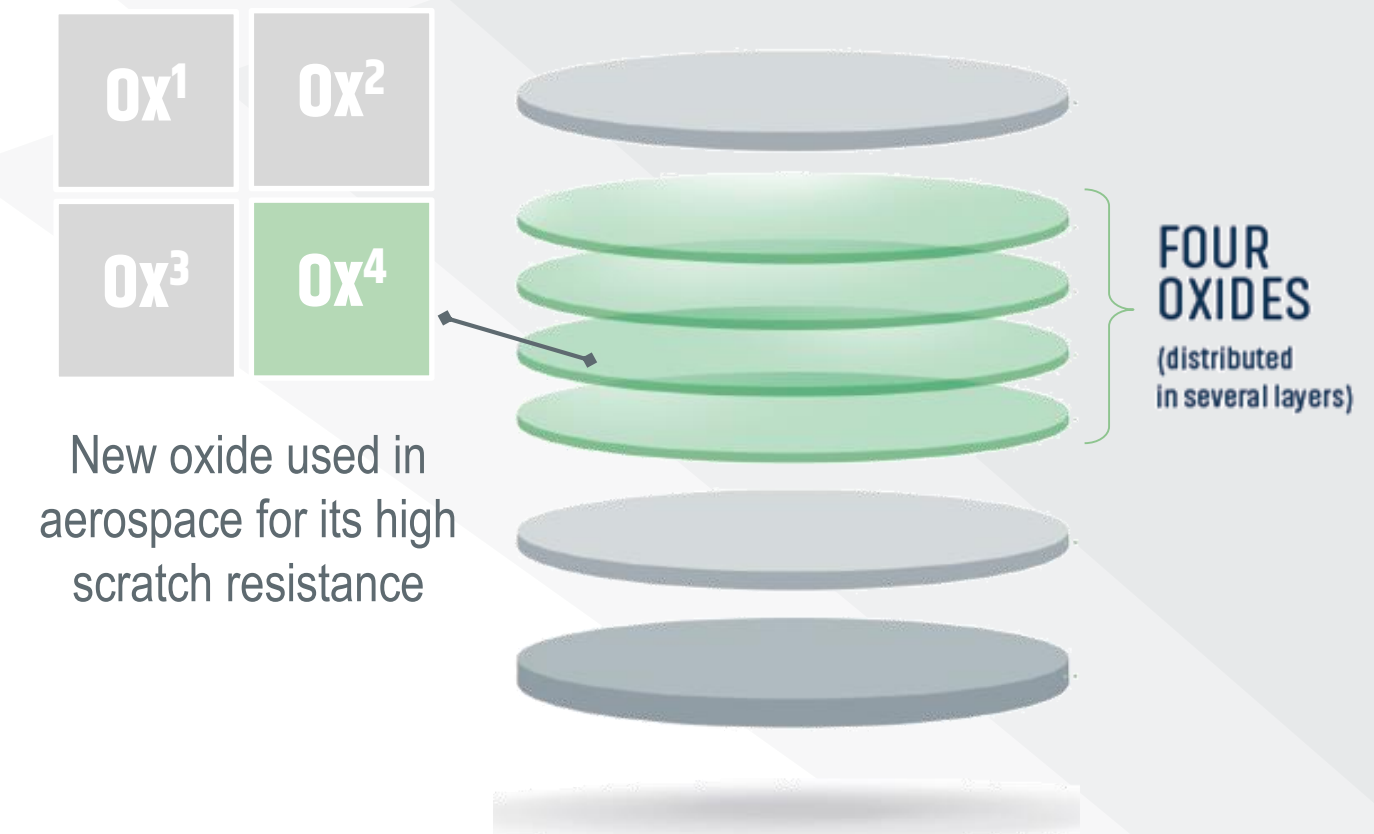
INCREASE THE DENSITY
of the final stack
> For stronger scratch
resistance



The final stack is formed by several layers.
This illustration is a simplified representation
of the stack for comprehension purpose only.

MATERIAL

A NEW OXIDE
embedded in the stack



New oxide used in
aerospace for its high
scratch resistance

FOUR
OXIDES
(distributed
in several layers)

*Compare to previous generations of Crizal coatings - with a configuration Image 1.6 Mithril 1.6



HIGH SURFACE DENSITY™ - SUPERHYDROPHOBIC LAYER

The superhydrophobic topcoat repels smudges, water, and makes lenses easy to clean

ANTI-PARTICULATE LAYER

The anti-particulate layer repels dust and other particulates and keeps lenses cleaner longer.

LIFEPROOF MULTI-TEST

2x cleaner than main competitors after extensive smudges

20.000 CLEANING RUBS

CLEANING TEST

*External lab test - stain release test 2019
Main competitors defined as the most known brands among consumers in 2018 brand tracking - 17 countries

Crizal® Rock™



The best combination of scratch and smudge resistance in the market, for durability like never before.

* External laboratories tests and internal technical tests in 2019. Combination here defined as the merger of 2 distinct criteria which are scratch resistance and smudge resistance - Crizal® Rock™ rated best on smudge resistance and equal on scratch resistance, compared to the most known lenses brands by consumers (MSW brand tracking 2018 in 17 countries). Scratch resistance may vary depending on lens configuration

** Within Crizal® Range - External laboratories tests and internal technical tests in 2019 – compared to all previous generations of Crizal® coatings.

BENEFITS FOR THE WEARER



HIGHER RESISTANCE TO SCRATCHES



EASIER TO CLEAN



GLARE REDUCTION

CLEANER LONGER

UV PROTECTION

DUST & WATER REPELLENCE

*Most durable Crizal[®] coating ever made!**

*The best combination of scratch and smudge resistance in the market –
for durability like never before!***



*External laboratories tests and internal technical tests – vs all previous generations of Crizal coatings
**Consumer sensory test run by external third party - 80 eyeglass wearers

The Lifeproof Multi-Test & Competitive Superiority

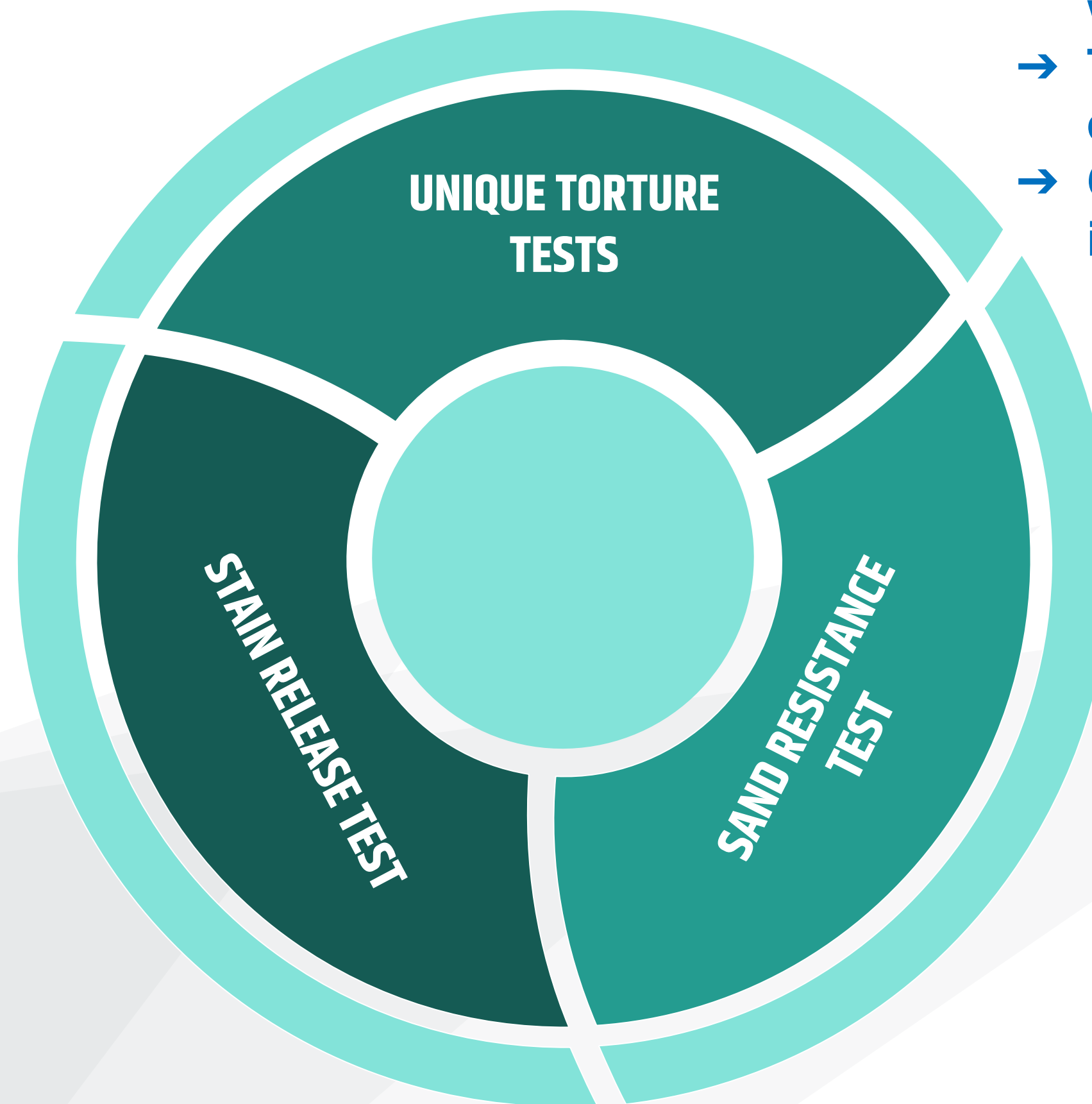


THE LIFEPROOF MULTI-TEST TO ASSESS RESISTANCE



Objective of this protocol:

Assess lens' resistance to wearers hectic lives



- Reproduces daily wearer occurrences
- Tested in front of consumers
- Certified by an independent third-party

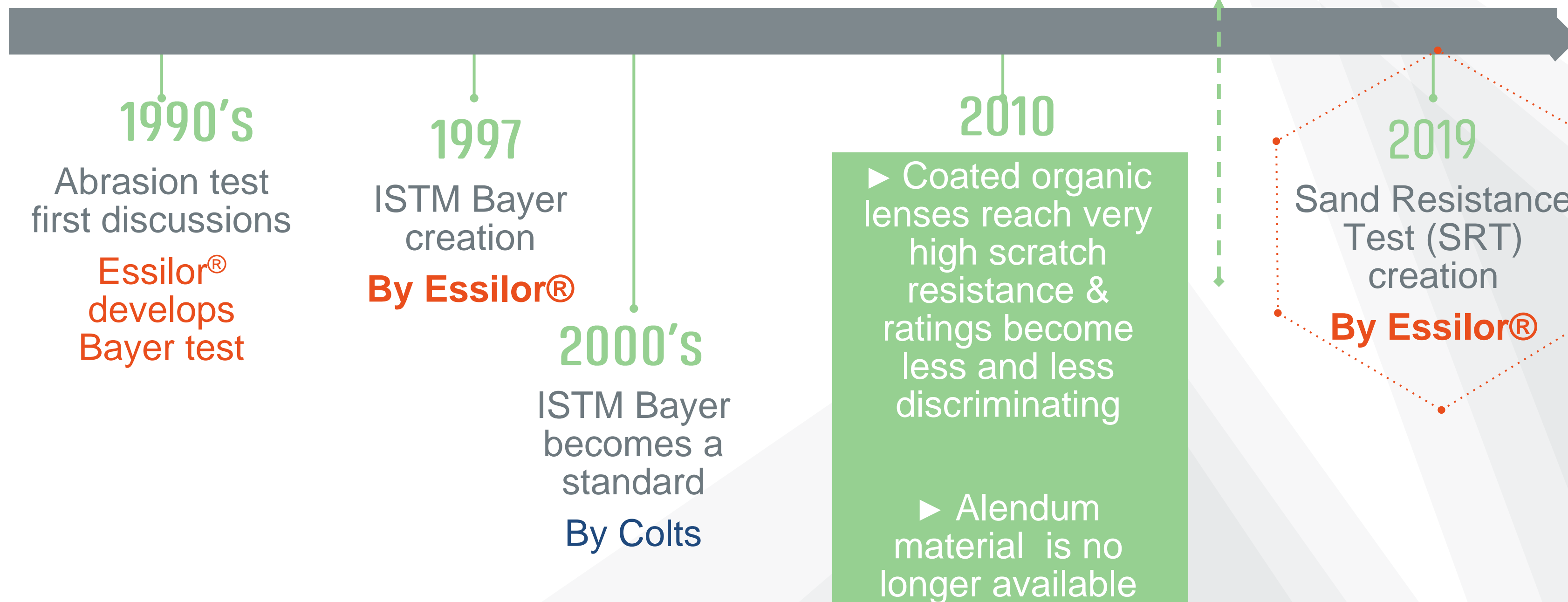
- Re-enacts daily wearer activities
- 20,000 wipes using ink-splattered on lens every 5,000 wipes
- Run in an external lab

- Measures scratch resistance
- 300 shake-cycles in a sand tray
- Supervised by a third-party technician

A NEED TO REINFORCE ABRASION TEST



Abrasion tests in the optical industry have evolved over the past years, and Essilor® has been at the heart of the conception of each test.

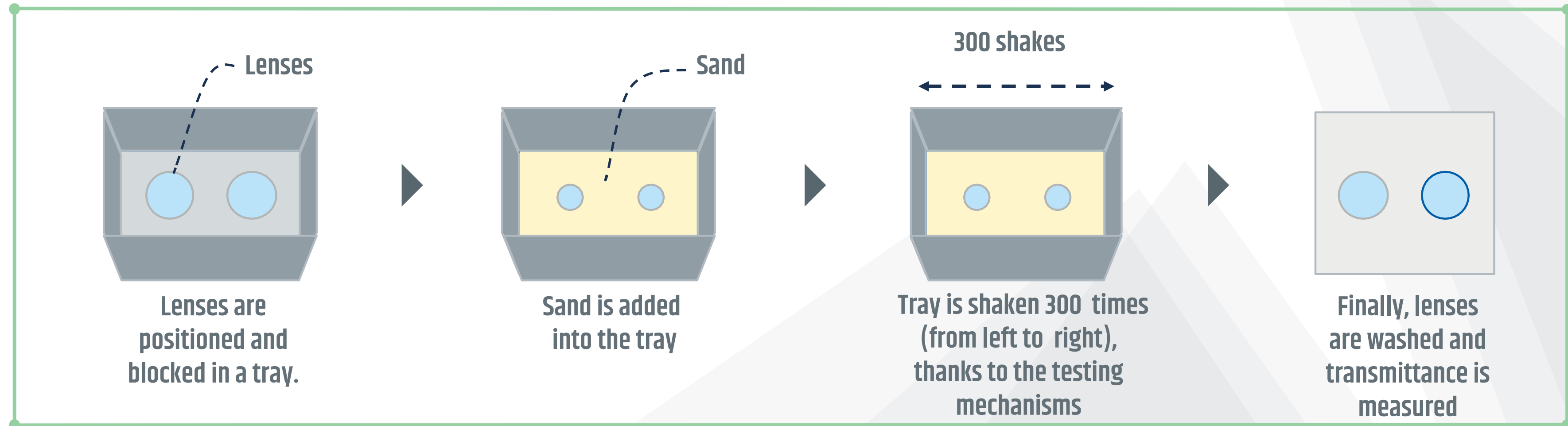


Colts is a US laboratory

BENEFITS OF SAND RESISTANCE TEST (SRT)



- Results even more detailed and robust than the previous ISTM Bayer test, thanks to limited dispersion of raw material (sand vs alundum)
- Evaluation criteria more representative of real life: haze value vs. a ratio
- Highlights differentiation between high scratch resistant products: 20% difference is significant



HOW TO READ SRT MEASUREMENT?



The newly developed Sand Resistance Test, or SRT, measures scratch resistance using sand as the medium. It consists of 300 shake-cycles in a sand tray and is supervised by a third-party technician.

Classes of haze have been defined to highlight differentiation between products with different scratch performances.

Class	1	2	3	4	5
Range of Normalized Haze value	< 0.50	0.50 – 1.50	1.50 – 2.50	2.50 – 3.50	> 3.50
Abrasion resistance level	Best (Mineral/Glass)	Better (Premium AR with improved scratch resistance)	Good (Premium AR with good scratch resistance)	Basic (AR with basic level of resistance to abrasion)	Poor (AR with poor abrasion resistance)

CRIZAL® ROCK™ REACHES THE HIGHEST CLASS OF COATED ORGANIC LENSES



Crizal® Rock™ reaches a higher Haze class compared to Crizal® Avancé UV™ → Crizal® Rock™ has +70% higher scratch resistance vs. Crizal® Avancé UV™

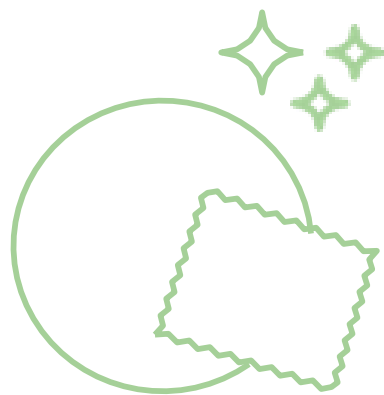
	HAZE CLASS*
Crizal® Rock™	Class 2
Crizal® Avancé UV™	Class 3
Crizal® Easy UV™	Class 4
Competitor A	Class 2
Competitor B	Class 4

DIFFUSION (%)

*Internal Sand Resistance test 2019 Haze results on all config except for Crizal Forte: excluding FSV 1.5 & FSV Transitions

**Internal Sand Resistance test 2019 Iterative results - no relevancy before 150 shakes

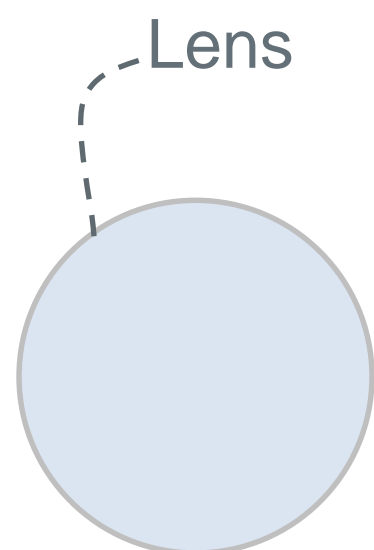
STAIN RELEASE TEST



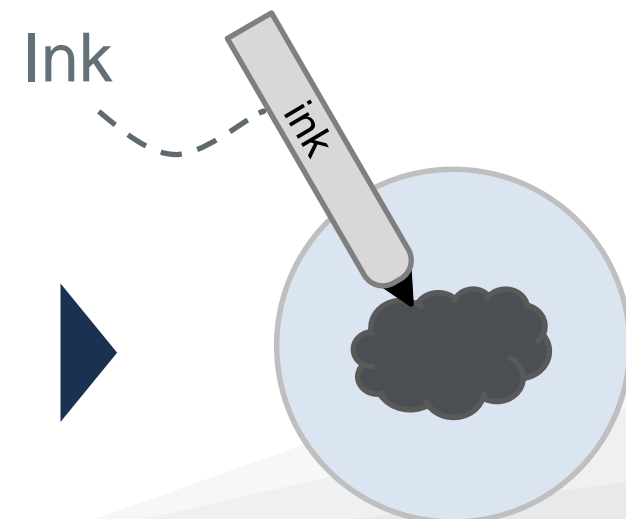
Cleaning can affect your lenses overtime - in 2 years of wear (average lifespan of eyeglasses), wearers clean their lenses ~20.000 times and not necessarily with a dedicated cloth.*

Stain release test is conducted in a third-party laboratory (NSL) in USA.

These two steps are repeated every 5k wipes till 20k



One lens is chosen



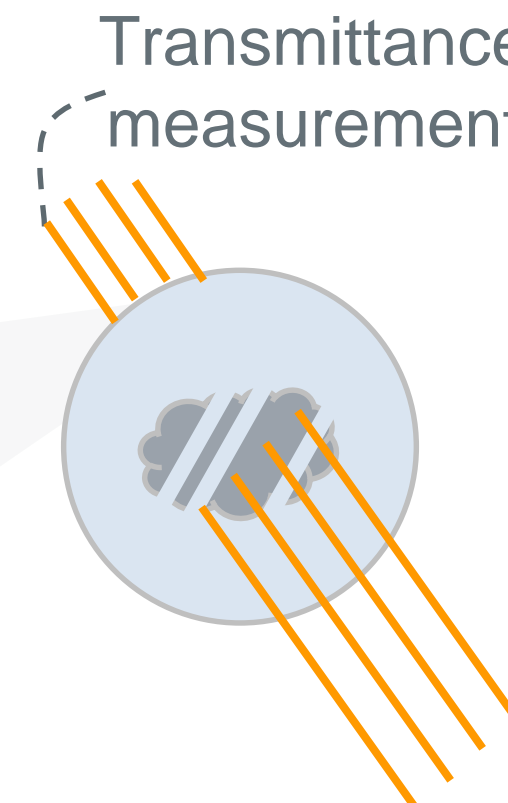
Ink is applied on the lens



Lens is wiped « x » times with a cleaning cloth



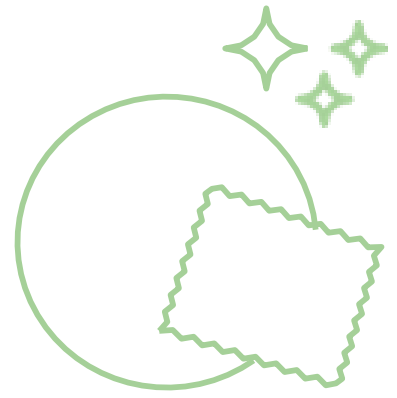
Lens is ready to be analyzed



Finally, lens transmittance is measured

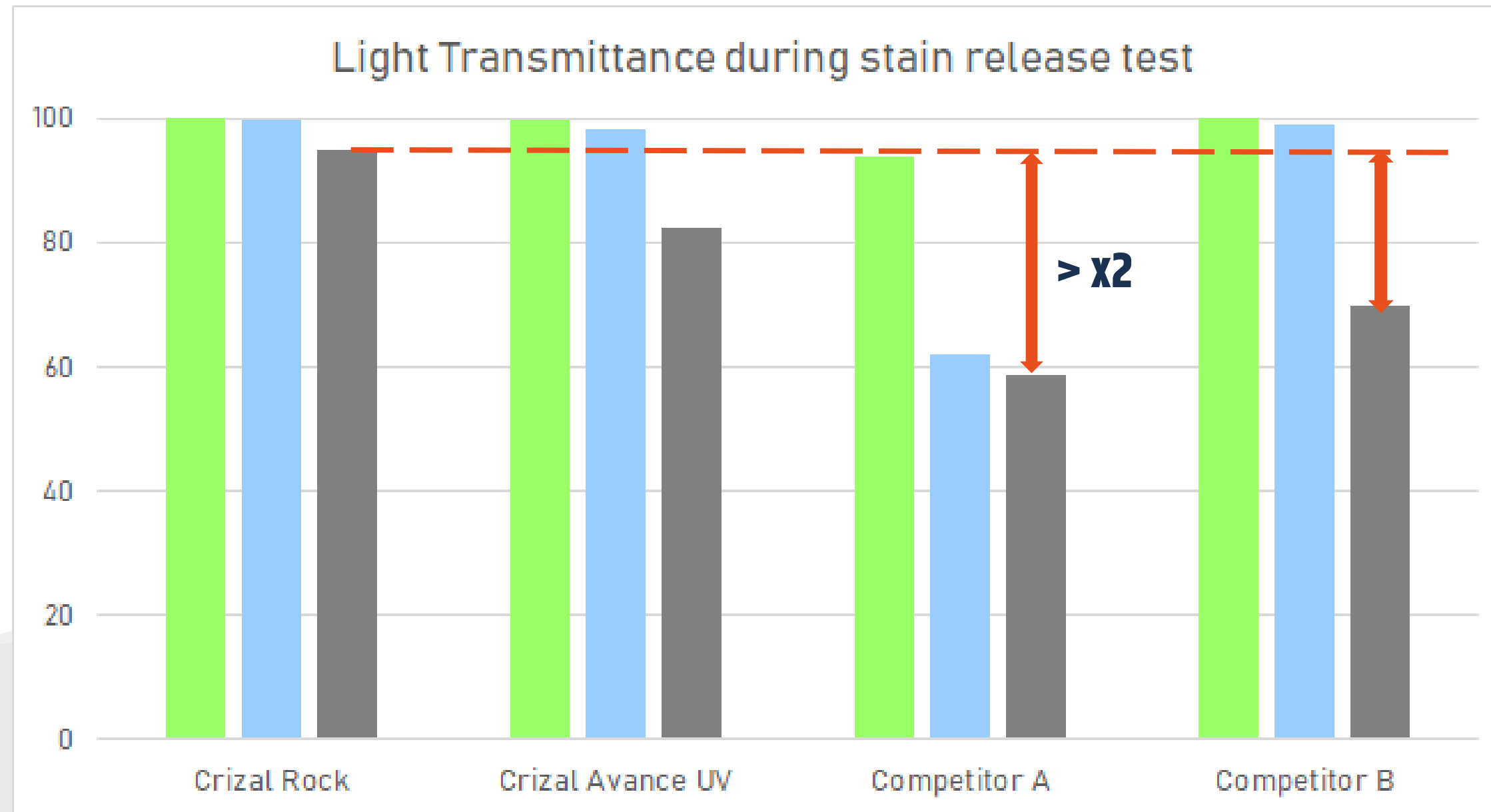
*Essilor's estimations based on Ipsos quantitative survey in US, India and Fr - ~2500 eyeglass wearers

CRIZAL® ROCK™ NO-GLARE LENSES ARE THE EASIEST TO CLEAN



2x cleaner than Premium competitors after extensive smudges.

After 20K wipes, Crizal® Rock™ transmission remains **> 90%**

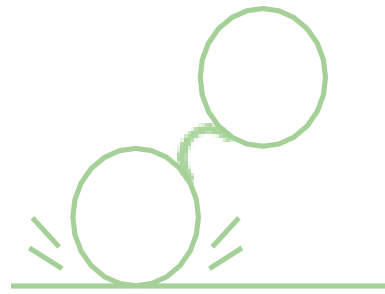


Legend:
■ Lenses before the test
■ Lenses after 10k wipes
■ Lenses after 20k wipes

> x2

Source: External laboratories tests and internal technical tests in 2019, among the most known lenses brands by consumers (MSW brand tracking 2018 in 17 countries).





To push Crizal[®] Rock[™] No-Glare lenses to their limits, torture tests have been designed based on risky daily situations met by eyeglass wearers.

1

Reproduced daily wearer occurrences, like dropped eyeglasses and improper cleaning, in front of consumers.

- “Cleaning lenses with clothes”
- “Tossing eyeglasses on the table”
- “Eyeglasses falling down”
- “Eyeglasses stored in a bag”
- “Eyeglasses grabbed by kids”

2

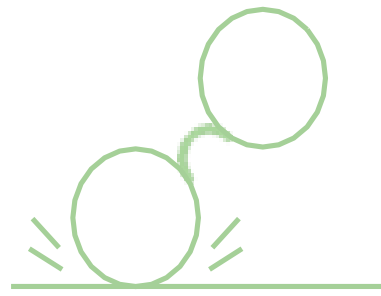
Tested in front of real consumers.

3

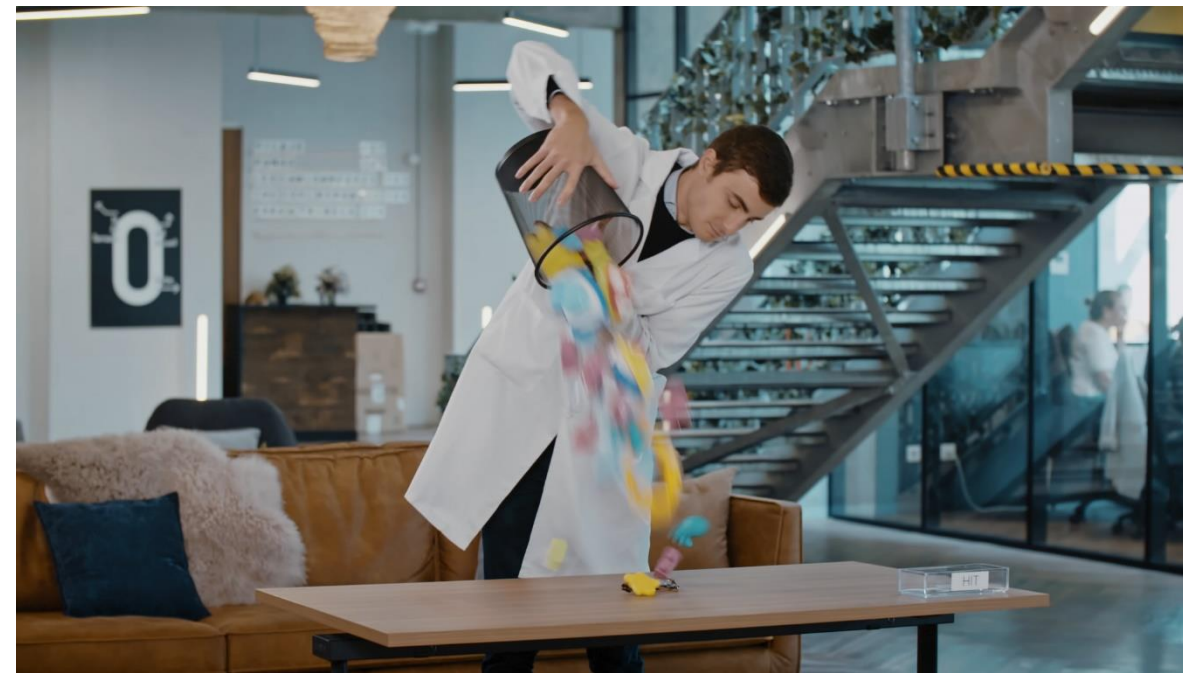
Protocol and results certified by an independent third party.

CRIZAL® ROCK™ RESISTS 5 TORTURE TESTS

Crizal®
Rock™



After the tests, lenses were certified as in new condition by an independent third party.



“Cleaning lenses with clothes”
“Tossing eyeglasses on the table”
“Eyeglasses falling down”
“Eyeglasses stored in a bag”
“Eyeglasses grabbed by kids”

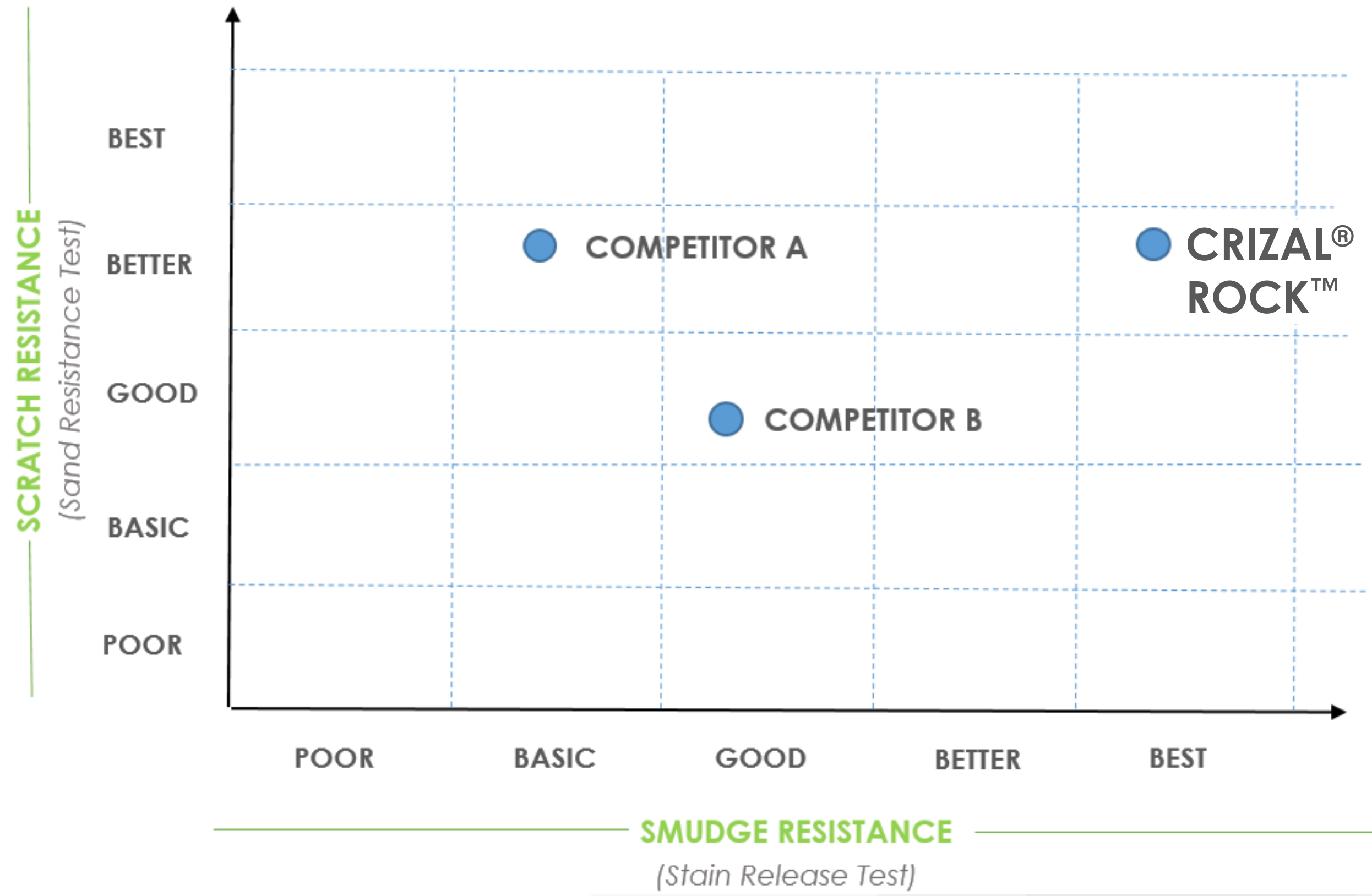


Video available at EssilorPRO.com/Crizal-Rock



IN A NUTSHELL, CRIZAL® ROCK™ OFFERS

THE BEST COMBINATION OF SCRATCH AND SMUDGE RESISTANCE



External laboratories tests and internal technical tests in 2019. Combination here defined as the merger of 2 distinct criteria which are scratch resistance and smudge resistance - Crizal® Rock™ rated best on smudge resistance and equal on scratch resistance, compared to the most known lenses brands by consumers (MSW brand tracking 2018 in 17 countries). Scratch resistance may vary depending on lens configuration

Go-to-Market Information



A COMPLETE CRIZAL NO-GLARE LENS PORTFOLIO BASED ON PATIENT NEEDS



(1) Best-in-class is defined as best performance of a certain attribute within the Crizal® portfolio.

(2) In a clear lens, *Crizal Alizé UV* and *Crizal Easy UV* offer comprehensive UV protection, while *Crizal Sapphire® 360° UV*, *Crizal® Rock™*, *Crizal® Previncia®*, and *Crizal® Avancé UV™* offer optimal UV protection, on all lens materials except 1.50 clear plastic, the higher the E-SPF® index, the greater the level of UV protection provided by the lens // E-SPF is an index rating the overall UV protection of a lens. E-SPF was developed by Essilor International and endorsed by third party experts. The E-SPF index relates to lens performance only and excludes direct eye exposure that depends on external factors (wearer's morphology, frame shape, position of wear).

(3) Harmful Blue Light is the blue-violet wavelengths found between 415–455nm on the light spectrum believed most toxic to retinal cells. Harmful Blue Light protection only available with *Crizal Previncia*. *Crizal Previncia* No-Glare lenses block up to 20% of Harmful Blue Light.

CLARITY
 DURABILITY
 PROTECTION





Crizal Rock Launch Date: April 13th, 2020

Crizal No-Glare lenses are available on a large variety of lens blanks and designs, making it one of the most compatible and flexible products for your patients.

Be sure to pair your *Crizal Rock* lenses with a premium Essilor design like Varilux or Eyezen!

Crizal® Rock™ ABO Training

Please visit EssilorPRO.com/Crizal-Rock or reach out to an Essilor Account Executive for more information!

