

Lens with UV+420cut™ technology

Typical UV-cut lens

## Protect your eyes from harmful UV and HEV.

UV+420cut™ technology blocks harmful light  
without blue reflection nor yellowish lens color.

### Aging care

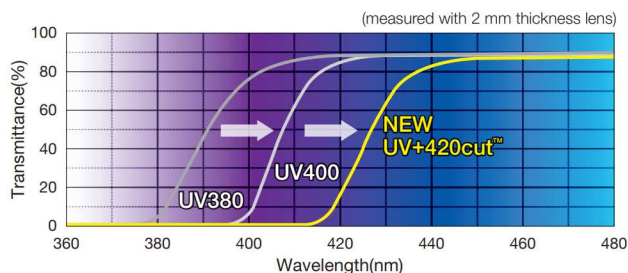


UV+420cut™

# New UV protection technology combined with MR™ Series helps to keep eyes healthy.

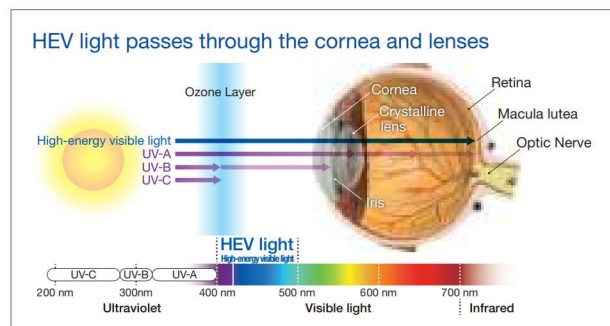
## Technology

- HEV light with wavelength of 400-420 nm is also blocked in addition to UV-A and UV-B.



## What is UV & HEV light

- High-energy visible light (HEV light) is high-frequency, high-energy light in the violet/blue band from 400 to 500 nm in the visible spectrum.



Latest research has shown that blocking UV and High Energy Visible (HEV) light is critical for protecting eyes against cataracts and age-related macular degeneration (AMD), a medical condition where the macula in the retina degenerates due to aging.

### Importance of blocking HEV light

Importance of blocking shorter wavelength light up to 420 nm for long-term eye health.

The shorter wavelength light of **400-420 nm**, is **more harmful for younger individuals under 20 years old**, who play and enjoy outside under sunlight, because their eye lenses are very transparent.

The group of Prof. Funk showed in standardized laboratory experiments that **neuronal retinal cells after exposure to short wavelength light of 411 nm begins to die from higher stress** than after exposure to 470 nm light.

Thus, it is very useful to block HEV light of 400-420 nm, because the light can trigger harmful processes for the eye.



**Richard H. W. Funk**

Medical Faculty Carl Gustav Carus Technical University of Dresden

- UV and Blue light cut rate

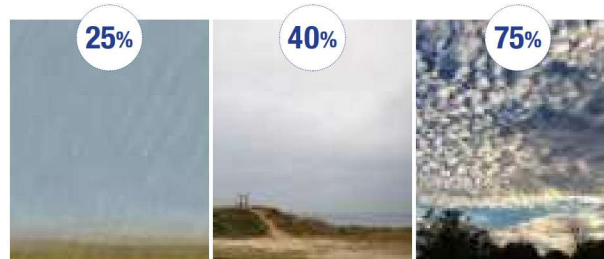
	Wavelength	Percentage	
		2mm plano	1.2mm plano
Cut rate	380-500 nm	42.2	<b>39.1</b>
	400 nm	99.9	<b>99.9</b>
	410 nm	99.9	<b>99.7</b>
	420 nm	86.1	<b>70.5</b>
	430 nm	30.1	<b>20.2</b>
ISO12312-1	380-500 nm	24.3	—

\* measured with 1.60 MR-95 lens manufactured at Mitsui Chemicals' R&D lab.

## Clear lens benefit

- We are still exposed to 40-75% of Ultraviolet rays on cloudy days and 20-30% on rainy days. Clear lenses can be worn under all weather.

You can wear clear lenses **under all weather** and **always** protect yourself from harmful light.



Rainy day

Under the thick cloud

Under the light cloud

- The lenses do not affect the way we see natural colors thus the eyewear with UV+420cut™ is suitable for all occasions.



		Available Index				
		1.50	1.59	1.6	1.67	1.74
Monomer	CR-39	Polycarbonate	MR-20	MR-7	MR-174	
	0.50, 2.25, 4.25	0.50, 2.00, 4.00	0.00, 0.50, 1.00	1.00, 2.00, 3.00	1.00, 2.00, 3.00	
	5.25, 6.25, 8.25	6.00, 8.00	2.00, 3.00, 4.00	4.00, 5.00, 6.00	4.00, 5.00, 6.00	
	10.25		5.00, 6.00, 7.00	7.00, 8.00, 9.00	7.00, 8.00, 9.00	
Base Curves			8.00, 9.00, 10.00	10.00	10.00	
Diameter		70mm	75mm	75mm	75mm	75mm

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