

Prescription safety spectacles

Focustypes

Single vision lenses

Single vision lenses correct long and short-sightedness.

Multi-focal lenses

In addition to correcting distance vision, multi-focal glasses correct long-sightedness and also correct intermediate distances, if applicable.

Multi-focal glasses are required when the eyes are no longer able to adjust easily due to the natural aging process. Small objects, just in front of the eye, are no longer clearly discerned (so-called age-related long-sightedness, presbyopia).

Bifocal

- Visibly ground segment for near vision ("reading field")
- Abrupt transition from distance to near vision at the edge of the segment
- Instant wearer acceptance: distinct edge helps eyes to adjust
- Intermediate ranges are not corrected

Multifocal

- Gradual transition from distance to near vision, known as progressive lenses
- Invisible progression also corrects in-between distances
- Clear vision at all viewing distances
- May require an initial phase of adjustment

uvex HD lenses

uvex HD lenses – maximum individuality

uvex optima prescription lenses in the so-called free-form design are produced specially for you. The inner surface of the raw lenses is calculated and produced taking into account your individual prescription, the glass curve and your eye measurements (distance between the eyes and fitting height).

Further individual parameters such as corneal vertex distance, face form-wrap and pantoscopic tilt are also taken into account. Special programs have been developed to map thousands of individual points on the inside of the lenses. The results are directly incorporated into the customised uvex optima HD lenses. Greater customisation is not possible.

uvex optima HD lenses are available in the single vision HD and varifocal Optima HD designs.

Selected optical associates or your uvex optical consultant will determine the individual measurements for you.

Comfort lenses

Comfort lenses are mainly used at computer workstations. Invisibly integrated correction areas ease the strain on the eyes when looking at near and intermediate distances (so-called accommodation support).

The visual requirements in many other working environments are also limited to areas, which are just in front of the eye up to a few meters away.

Comfort lenses are a good alternative, if the prescription safety spectacles are only used at workstations and distance vision (> 5 m distance) is mainly not necessary.

Nahcomfort Standard, Nahcomfort Optima

- Perfect solution for working distances between 30 cm and around 2 m
- The medium range of the lens surface is determined by the degression chosen and is designed for a distance of ca. 60 to 80 cm.
- Three versions available, depending on the required prescription for reading distance (addition) and the age of the wearer
- All that is needed to place an order are details of the close-range values and the required design (type A, B, C)
- When ordering the Nahcomfort Optima option, the inner surface of the raw lenses are calculated and manufactured, taking into account the correction, the glass curve and the distance between the eyes

Type A	Type B	Type C
Degression** 0.75 dpt	Degression** 1.25 dpt	Degression** 1.75 dpt
< 50 years	50 to 55 years	> 55 years

** Degression: correction reduced, based on the close-range value

Distanzcomfort Optima

- Perfect solution for working distances between 30 cm and around 1 m, 2 m or 4 m
- By specifying the viewing distance, which is required at the workstation, the correction areas will be calculated individually
- All that is needed to place an order are details of the distance and close-range values (addition), the viewing distance (one, two or four metres) as well as the eye measurements (distance between the eyes and fitting height)

Single Vision Relax

- This type of lens is targeted at people over the age of 30.
- An invisibly integrated change to the correction value of +0.5 dpt. in the lower area of the lens eases the strain on the eye when looking at near distances (so-called accommodation support).
- The distance correction remains unchanged
- All that is needed to place an order are details of the distance values and the eye measurements (distance between the eyes and fitting height)
- We recommend Single Vision Relax lenses for professionals, who use mobile devices (notebook, tablet, smartphone etc.) for their daily work.

Prescription safety spectacles

Lens materials · Anti-reflective coating · Tinting

Lens materials

Polycarbonate

Additional labelling: PC

- organic material with very high breaking strength
- only limited resistance to chemicals and therefore, not suited in combination with frameless safety spectacles
- mechanical strength, class "F" (45 m/sec)
- PC⁺ – polycarbonate with increased centre thickness, specially for uvex RX goggle (see page 359)

Trivex™

- organic material with high breaking strength
- light weight, suitable for even higher prescription values
- excellent optical performance, even for higher prescription values
- excellent resistance to cleaning agents, oils and cosmetics
- good scratch resistance
- best all-round lens material
- mechanical strength, class "F" (45 m/sec)

CR39

Additional labelling: plastic

Safety spectacles should always be modified otherwise the tensile strength is too low. The middle of the lens must be thicker in order to meet the requirements for tensile strength.

- light weight organic material
- very good optical performance even for high prescriptions
- suitable for working with chemicals and paints/varnishes
- good scratch resistance due to hard layer (optional)
- mechanical strength, class "S" (falling ball test)

HI (high index), organic lens materials with high refractive index

- organic lenses with a refractive index of 1.6 or 1.67 provide better vision (than CR 39)
- the lenses have the required optical efficacy if they comprise less material and the surface is less curved
- the lens is thinner and more aesthetically pleasing
- recommended for a prescription > +/-4.0 dpt.: HI 1.6 recommended for a prescription > +/-6.0 dpt.: HI 1.67
- mechanical strength, class "S" (falling ball test)

Hardened glass

Additional labelling: silicate, mineral glass, glass
Safety spectacles should always be modified otherwise the tensile strength is too low. The tensile strength is increased through thermal or chemical hardening treatments.

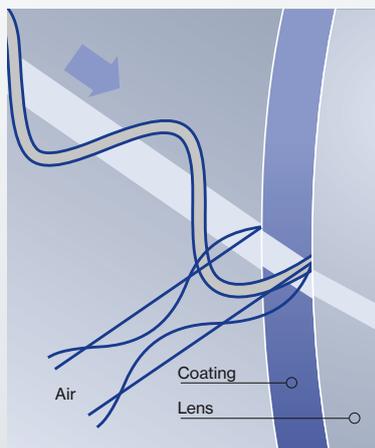
- mechanical strength, class "S" (falling ball test)
- highly scratch-resistant surface
- suitable for working with chemicals and paints/varnishes
- heavy weight, not recommended for prescription values greater than +/-4.0 dpt
- spark penetration when welding or grinding
- implosion with liquid metals

Anti-reflective coating

Anti-reflective coating is applied to the inside and outside of lenses by vapour deposition. It significantly reduces reflections on the surfaces, as well as offering an aesthetic advantage and reducing light transmission.

Three qualities are available:

- Normal anti-reflective coating
- Multiple anti-reflective coating
- Super anti-reflective coating



Tinting

Tinted lenses provide effective protection against glare in areas with high light intensity (for example, sunlight).

Constant tinting

- available in brown and grey
- tinting levels: 15%, 25%, 65%, 75%

Variable tinting – Variomatic™

- lenses tint automatically, depending on the intensity of the UV radiation and temperature
- tinting of between approx. 8% and 80%, in brown
- Polycarbonate and Trivex™ prescription safety lenses



Prescription safety spectacles

Certification and labelling

The frames and lenses of tailor-made prescription safety spectacles in accordance with European standard 166 must feature a permanent mark.

Independent testing institutes carry out certification of the materials at regular intervals.

Frames and lenses must be marked with the manufacturer's identification and the mechanical strength, and the lenses must also be marked with the optical quality class.

The different methods used to test mechanical strength vary according to the lens material. The test methods are defined under European standard EN 168.

If the mechanical strength level marked on the lens differs from that on the frame, the lower mechanical strength applies to the eye protection as a whole.

NB: due to marking requirements, it is not possible to purchase frames without lenses. Please do not modify any feature of the complete spectacles obtained from uvex as this may reduce their protective function.

Basic requirements in accordance with EN 166 (extract)

- Mechanical strength

Increased robustness	Impact resistance, low energy	Impact resistance, medium energy
Ball bearing drop test, Dropping a ball bearing (44 g) against the lens/supporting frame from a height of 1.30 m	Firing a ball bearing (0.88 g) against the lens/supporting frame, Impact speed 45 m/s (Δ 162 km/h)	Firing a ball bearing (0.88 g) against the lens/supporting frame, Impact speed 120 m/s (432 km/h)
Identification class: S	Identification class: F	Identification class: B

Additional requirements in accordance with EN 166 (extract)

- Resistance to liquids (droplets and splashes)
Labelling: 3
- Resistance to coarse dust (grain size > 5µm)
Labelling: 4

Optional requirements in accordance with EN 166 (extract)

- Mechanical strength tested under extreme temperatures (+50°C and -5°C)
Labelling: T
This labelling is always in combination with mechanical strength (for example, FT).

Marking according to EN 166

Lens marking			
Manufacturer identification	Optical grade	Mechanical strength	
W = uvex	1	S = Increased robustness F = Low-energy impact (45 m/sec.) B = Medium-energy impact (120 m/s)	
Frames marking			
Manufacturer identification	Mechanical strength	Applicable EN standard	
W = uvex	S = Increased robustness F = Low-energy impact (45 m/sec.) B = Medium-energy impact (120 m/s)	166	

► "F" constitutes the highest mechanical strength class which a pair of spectacles can be allocated according to EN 166.

uvex i-3 add

Perfect vision in every situation

Optimum protective eyewear means improved, safe vision.

uvex i-3 add safety spectacles have invisible integrated dioptr correction for near vision. Strain on the eyes is effectively reduced (e.g. when reading) and the patented lens technology ensures an instant high level of compatibility for wearers. At the same time, the uvex i-3 add spectacles provide secure protection and optimal comfort.



Variable side arm inclination
The 5-position side arm inclination allows individual adjustment and optimum coverage of the eyes.



Addition
Two models are available for individualised correction of near vision. (+1.0 dpt. and +2.0 dpt.)



Flexible nose loops
The extremely soft adjustable Softflex nose loops ensure a secure fit and can be individually adapted to sit comfortably on the nose.

uvex supravision excellence
The uvex supravision excellence coating guarantees extreme scratch resistance on the outside and permanent anti-fogging properties on the inside.

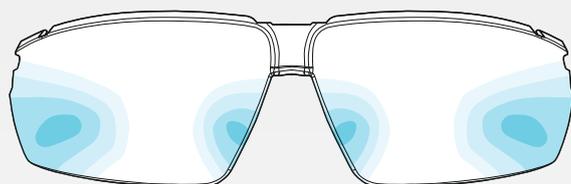
MADE IN GERMANY

Patent no.: DE 10 2012 207 384

Perfection in every detail

The patented lens technology makes it possible to integrate two progression zones for near vision on the inside of the duospherical single lens safety spectacles. The correction strength at the bottom of the lenses is +1.0 or +2.0, depending on the model. A distinctive feature and unique selling point is that the patented manufacturing technology means the front area and consequently the base curve of the lenses are not altered.

This combines extremely good coverage and fit, all the way to the edge, together with the benefits of a progressive lens on the inside area. A further benefit is that the progressive zone is not visible and that these spectacles comply with all standards of EN norms that are relevant to safety.



optical lens designed by
optiswiss
original since 1937

Progression zones

This diagram of the lenses shows the large zone that does not feature any optical correction. The transparent, integrated optical correction starts in the region of the middle and the strength increases gradually towards the lower edge of the lenses. The correction strength of the spectacles is +1.0 or +2.0, depending on the model.

The free-form lens is manufactured in accordance with standard parameters and designed for a distance of approximately 64 mm between the eyes. These safety spectacles do not permanently replace prescription safety spectacles.

uvex i-3 add

	uvex i-3 add 1.0	uvex i-3 add 2.0
Art. no.	6108.210	6108.211
Frame	anthracite, lime W 166 FT CE 0196	anthracite, lime W 166 FT CE 0196
Lens	PC clear UV 400 2C-1.2 W 1 FTKN CE uvex supravision excellence	PC clear UV 400 2C-1.2 W 1 FTKN CE uvex supravision excellence
Strength	1.0 dpt.	2.0 dpt.



Including soft spectacles case with microfiber cloth



VDU spectacles

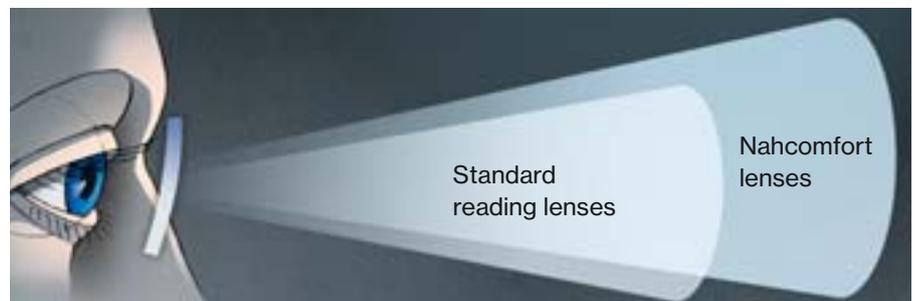
Spectacle lens technology and body posture at VDU workstations

The positioning of screen, keyboard and reading materials at office workstations can cause vision related problems.

To be able to focus properly at different distances, spectacle wearers adopt an unnatural head position and body posture, which can lead to posture-related discomfort.

As you become older, it becomes increasingly difficult for the lens within the eye to adjust to various distances.

Working in front of a VDU or performing other activities that involve alternating between different distances frequently causes fatigue as a result of the constant strain to the eye.



The diagrams and explanations above outline the differences between the various lens options; the potential affect on the wearer and how the Nahcomfort overcomes many of the issues experienced by those working at a VDU or computer.

Varifocal lenses

Varifocal lenses are designed to give the wearer focused vision from 40 cm onwards. However, to see the computer screen clearly through the middle and lower areas of the lense, the wearer has to change their normal head posture and hold their head at an unusually high angle. This can result in permanent straining of the shoulder and neck muscles.

Single-vision lenses

Single-vision lenses, as used in standard reading glasses, enable the wearer to see clearly at a normal reading distance of between 30 cm and 40 cm, which is the ideal distance for keyboards or printed documents. However, if an employee also wishes to see the computer screen and the surrounding area clearly, it is necessary to lower the head and look over the top of the reading glasses. This unnatural head posture puts a severe strain on the shoulder and neck muscles.

Nahcomfort lenses

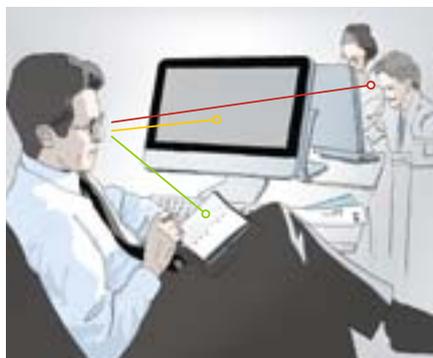
Nahcomfort lenses are specially designed to suit computer-based workplaces and provide unrestricted vision at VDU workstations. The advantages are:

- seamless focused vision from 30 cm to approx. 2 meters
- the head remains in an ideal position allowing keyboards, computer screens and work documents to be seen clearly
- a marked reduction of posture-related complaints, because the head and neck remain in a natural position

VDU spectacles

Nahcomfort lenses

Nahcomfort lenses are developed for those working in front of a computer monitor or undertaking work that requires frequently alternating between distances of approx. 40 cm and 3 m. The unique design facilitates unimpaired vision in the essential focal zones.



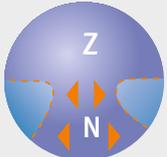
Lens design

- The wearer's usual reading prescription is found in the lower part of the lens.
- The reading prescription gradually becomes weaker further up the lens; in the upper part of the lens, vision is clear at a maximum of approx. 3 m.
- The transitions between the different zones are smooth, similar to varifocal lenses.

Advantages of Nahcomfort lenses

- seamlessly sharp vision at distances of approx. 30 cm to 2 m (the distance is a guideline and may vary depending on the prescription)
- a more comfortable field of vision in the individual zones in comparison with varifocal lenses
- a more natural head position is achieved at the work station, this helps to reduce posture-related complaints, such as tension in the neck muscles

Lensmaterial/style

Nahcomfort Standard	Nahcomfort Optima
	
Choice of CR 39 or polycarbonate	Optimised design of the vision zones, very comfortable style, available in CR 39

Lens type

When selecting the lens type, the wearer's required reading "addition" (reading prescription) and/ or the "degression" (reduction of the reading prescription towards the top of the lens) is taken into account.

Alternatively, the age of the wearer can be used as a point of reference.

▼
Please specify lens type, material and desired model with order.

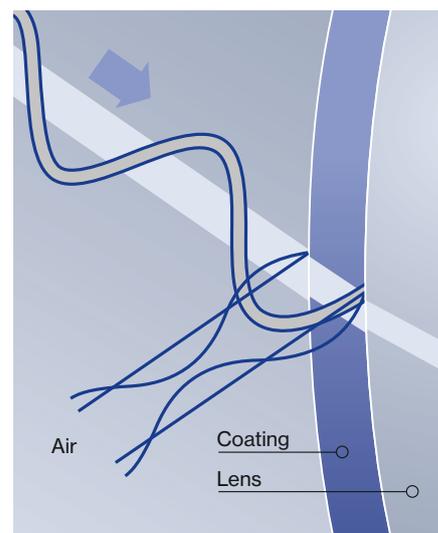
	Type A	Type B	Type C
Degression	0.75 dpt.	1.25 dpt.	1.75 dpt.
Addition	< 1.5 dpt.	1.75 to 2.25 dpt.	> 2.25 dpt.
- alternatively	Age < 50 years	Age 50 - 55 years	Age > 55 years

Anti-reflection

We recommend anti-reflective lenses for work at a VDU. An anti-reflective metal oxide coating is applied, which ensures a significant reduction in reflections on the inner and outer sides of the lens.

This increases the light transparency of the lens and vision clarity is improved. Vision discomfort as a result of reflections is reduced.

Normal anti-reflective	Super anti-reflective
Good reflection reduction	Maximum reflection reduction
Metal oxide is applied once to each surface	Metal oxide is applied several times to each surface
Residual reflection ≈ 4%	Residual reflection < 2%



UV blue

The multi-layered surface of uvex UV blue includes a layer that provides enhanced filtration of short-wave visible light in the blue-violet range,

providing effective protection against the symptoms of fatigue and headaches associated predominantly with long periods of working at a monitor and/or with digital media.

The uvex UV blue layer system also includes a super anti-reflective coating and a scratch-resistant coating.

