

## **Instructions for use Rodenstock Progressive lenses For opticians**

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# Instructions for use Rodenstock Progressive lenses

## For opticians

When selling medical products, the adapter, hereinafter referred to as the optician, is obliged to inform the end user, hereinafter referred to as the spectacle wearer, about restrictions of use, preferably in writing. Convince them with your professional competence by also informing your customer of relevant restrictions on use during your individual and personal consultation.

You can find important information about Rodenstock lenses at any time at <https://www.rodenstock.de/de/de/instructions-for-use.html>

## 1 Intended use

### 1.1 Purpose & target group

Progressive lenses are spectacle lenses used to correct customer-specific ametropia such as hyperopia (long-sightedness), myopia (short-sightedness) and/or astigmatism as well as positional errors of the eyes, in combination with age-specific presbyopia. In addition, solutions for special problems (e.g. aniseikonia) can be offered.

Progressive lenses offer infinitely sharp vision at all distances from far distance to near.

### 1.2 Design of progressive lenses

Progressive lenses can be divided into four categories:

- 1 Far vision area**  
Area of the lens for sharp vision in far distance (max.  $\infty$ ).
- 2 Intermediate vision area**  
Area of the lens for sharp vision at intermediate distances, e.g. when working at a computer.
- 3 Orientation area**  
Area of the lens is for orientation.
- 4 Near vision area**  
Area of the lens for sharp vision at near distances (usually 40 cm).

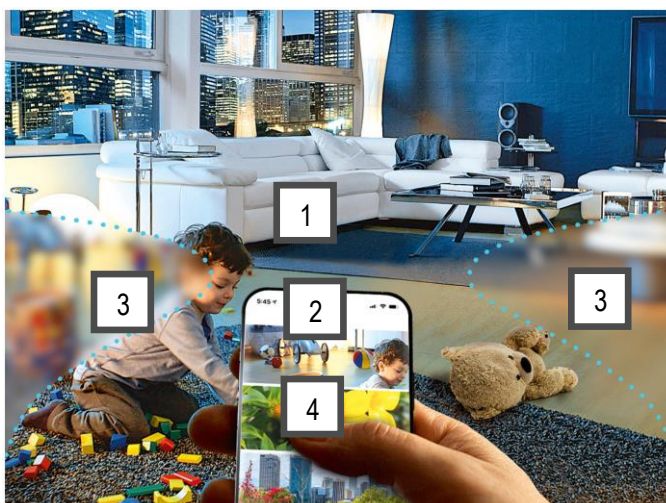
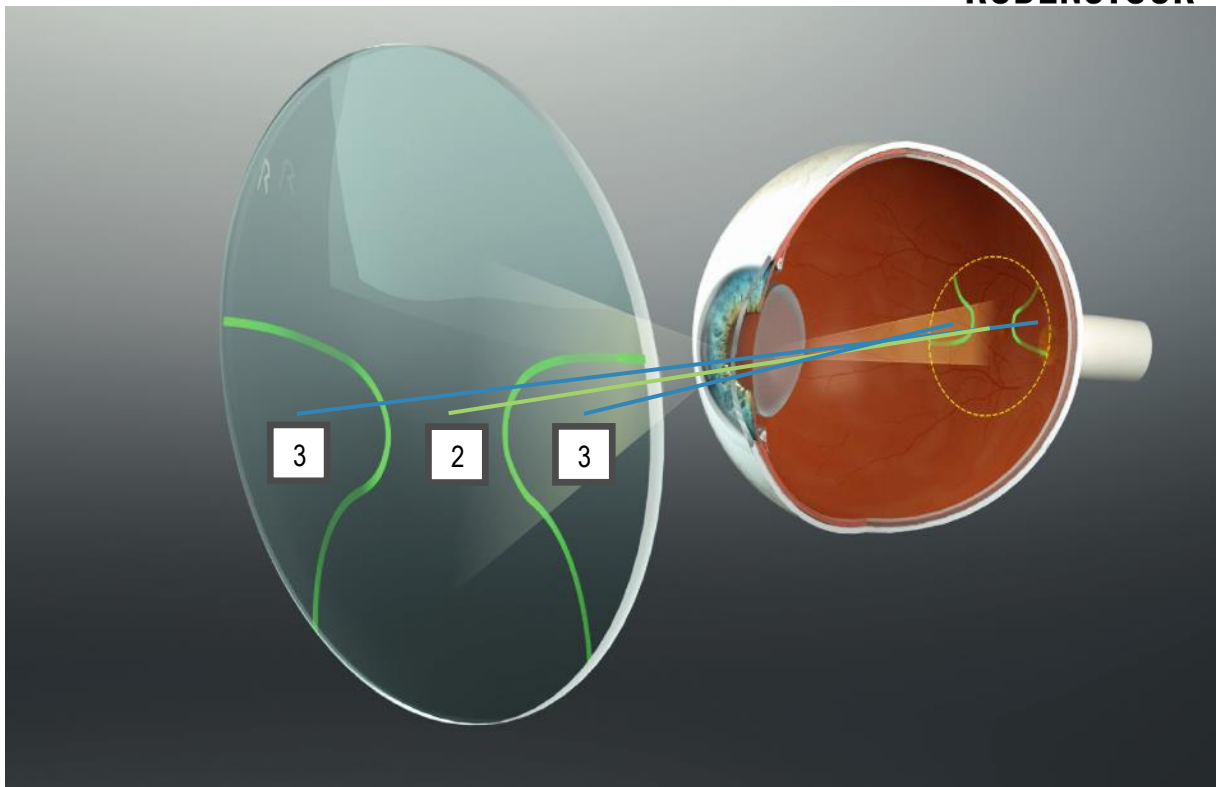
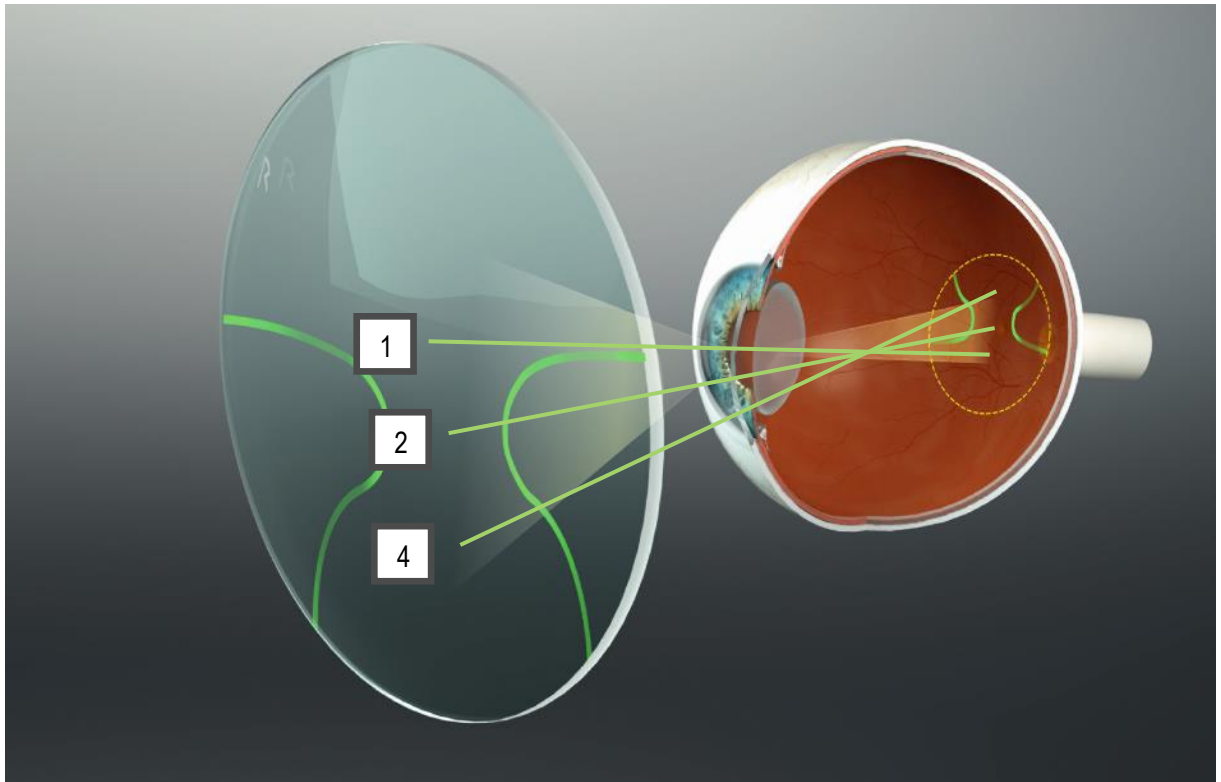


Figure 1: Schematic structure of a progressive lens



**Figure 2:** Horizontal view deflection when looking through a progressive lens at the level of the intermediate vision area



**Figure 3:** Vertical view deflection when looking through a progressive lens

### 1.3 Further information

- The main viewing line of vision of a progressive lens describes the path of the converging eye from the distance vision area via the intermediate area to the near vision area. The viewing points in the far, intermediate and near vision areas are adapted to the convergence behaviour and the distance of the object being viewed (inset).
- The distance between far vision area and near vision area is called the progression length and is measured as the distance between the reference point far and the reference point near. The shorter the progression length, the narrower the intermediate vision area.
- The longer the length of progression, the more the wearer must lower his or her gaze in order to be able to see through the near vision area of the lens. Conversely, the same applies to the corneal vertex distance, the smaller the higher the necessary vertical view deflection for near vision.
- The amount of the near addition depends among others on the age of the wearer of spectacle lenses.
- The addition influences the size of the intermediate vision area. With the same progression length, progressive lenses have a narrower intermediate vision area the higher the addition.
- Progressive lenses meet the roadworthiness criteria prescribed by EN ISO 14889 and 8980-3:2013. They are therefore suitable for road use and driving in traffic and operating machinery.
- Due to its design the design type Road is recommended for presbyopic drivers.
- Progressive lenses are optimised for either (a variable or a fixed tilt situation. The tilt situation depends, among other things, on the base curve, frame, centre thickness reduction and individual parameters:

Possible value ranges for progressive lenses with individual parameters that can be ordered

cornea vertex distance (CVD) 5 – 30 mm

pupil distance (PD): 20 – 40 mm

pantoscopic tilt (PT): -5° - 20°

face form angle (FFA): -5° - 15°

Progressive lenses with orderable PD

Possible range of values pupil distance (PD): 20 – 40 mm

For products where the individual parameters cannot be ordered, it is recommended to adjust the frame with a pantoscopic tilt of approx. 8°, a face form angle of approx. 5° and a cornea vertex distance of approx. 13 mm (WL/PL/Netline 15 mm). These products are based on a standard pupil distance of 32 mm.

Conventional progressive lenses or free-form progressive lenses of the old generation are calculated for a fixed tilt situation and "central" centring.

- The satisfaction guarantee for progressive lenses is only valid for the described intended use and with proper application.

## 2 Restrictions of use & foreseeable misuse

- Progressive lenses are generally not recommended for people with a sufficiently large accommodation capacity > 2.50 D. Accommodation ability is usually less than 2.50 D from the age of approx. 45 years.
- In contrast to single vision lenses, orientation areas of progressive lenses are not suitable for sharp vision.
- Progressive lenses are not suitable for near vision in conjunction with eye elevation.
- For special applications, e.g. permanent work at the screen, near comfort lenses are more suitable.
- The points mentioned for restrictions of use and foreseeable misuse are only examples and do not claim to be complete. Reference is made to the contents of the chapter "Intended use" and "Correct use".

### 3 Correct use

- For the selection of the right type of progressive lens and correct centring, it is essential that the frame is anatomically fitted to the wearer's face. The individual parameters of the wearing situation (pupil distance, cornea vertex distance, face form angle and pantoscopic tilt) should be measured and the appropriate progressive lens selected.

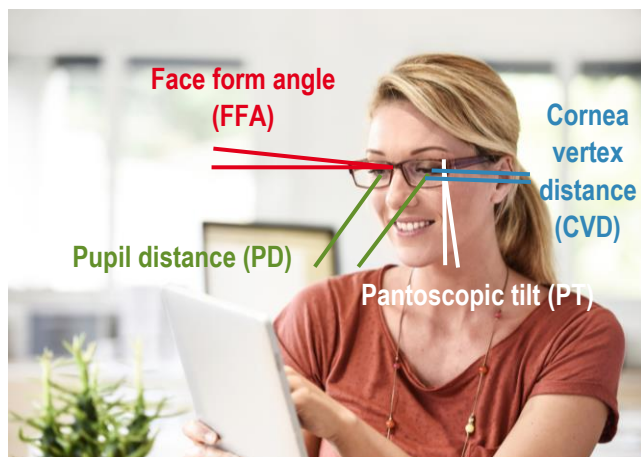


Figure 4: Individual parameters of the wearing situation

- When selecting the best type of progressive lens, other criteria such as visual requirements, progression lengths or near distances can be taken into account. To ensure that the full optical performance of the lens is maintained, the wearing situation must not be changed afterwards by the optician or the spectacle wearer.
- Progressive lenses must be centred to the pair of eyes in such a way that the centring cross coincides with the centre of the pupil in habitual head and body posture and the reference point near is within the frame.
- When determining the centring, the minimum grinding heights (position of the reference point near + 2 mm) and minimum distances to the upper edge of the frame (position of the reference point far + 8 mm) must be observed. For further information see Rodenstock product catalogue and Rodenstock Tips & Technology Lenses.
- Progressive lenses are considered to be progressive lenses with two reference points in the sense of EN ISO 21987:2017. These reference points are the far and near reference point. The products are checked for tolerance in the reference points according to ISO 8980-2 before delivery to the optician. If the measured values of the lens in the reference points correspond to the reference values on the lens bag in compliance with the tolerance, the progressive lens is fully correcting in the wearing situation.
- Individual and repeat orders of progressive lenses are possible in principle. When ordering a separate lens, it is strongly recommended to know the values of the existing lens and to specify them in the order so that they can be taken into account in the calculation. The pairing of different lens types, e.g. progressive lens and single vision lens, is a custom-made product. Please note that e.g. base curves, thickness reduction prism, colours and anti-reflective coatings are not matched.
- Special sports lenses are recommended for higher curved spectacle frames with higher face form angles.
- In case of high tilt of the lens in the wearing situation (with high face form angles and/or high pantoscopic tilts), centring data deviating from the values measured in the frame plane for pupil distance and height  $Z$  and  $Y$  in the lens plane may result. The centring data for the lens plane printed on the lens bag should be used for grinding.
- Further information on progressive lenses, such as the correct selection of the required product depending on the requirement profile of the spectacle wearer, can be found in the current consultation programme.

#### **4 Risks & side effects of progressive lenses**

- Because progressive lenses with different vision areas are constructed differently from single vision lenses, it can take some time at first for the wearer to get used to the new lenses. This may result in swim effects and slight distortions in the peripheral areas of the lens, combined with a change in spatial perception.
- The thickness reduction prism of a progressive lens can cause objects in the room to be perceived in a different position.
- If the position of the design point far, when explicitly stated, is above the centring cross in order to obtain a particularly wide intermediate vision area, it must be noted that the progression in the lens, which thus already begins further up, can result in a "blur" in the centring cross of up to +0.25 D.
- Instead of moving the eyes, a progressive lens requires the head to be moved.
- When climbing stairs, it is important to note that the spectacle wearer should look through the far vision area of the progressive lens, as the near vision area would actually be used when looking down stairs. However, this does not provide the optimum correction for the distance up to the stairs.
- The initial symptoms described are natural and are hardly or no longer noticed over time (approx. two to three weeks). Ideally, progressive lenses should be worn daily from morning to evening from the very beginning.

For further information see also "Instructions for use Rodenstock general".

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