

# Instructions for use Rodenstock Sport progressive lenses For opticians

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## Instructions for use Rodenstock Sport 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.

Important information about your new glasses at any time at

<https://www.rodenstock.de/de/de/instructions-for-use.html>

### 1 Intended use

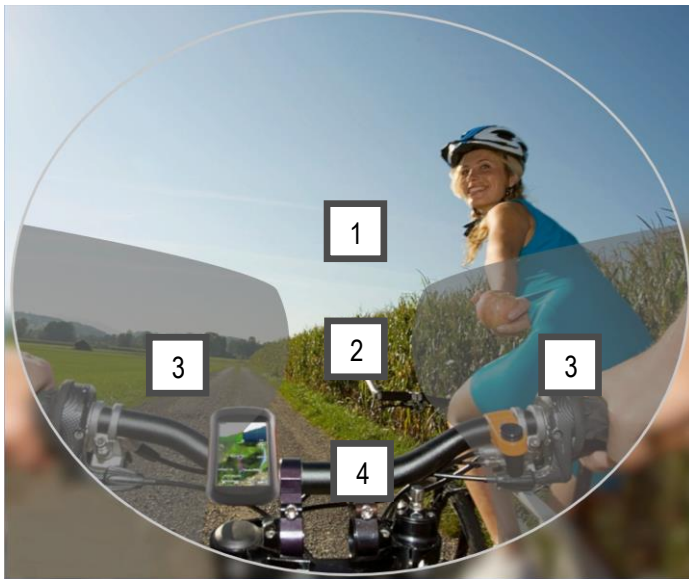
#### 1.1 Purpose & target group

- Sport progressive lenses are specially developed for dynamic visual requirements in sports.
- The design is especially designed for motion sports, such as jogging, mountain biking, alpine skiing, cross-country skiing or golf, where large and wide, distortion-free visual areas are required.
- It is used to correct customer-specific refractive errors 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.
- Sport progressive lenses are designed for curved frames with face form angles of up to 30°, which require partly higher base curves.
- Sport progressive lenses offer infinitely sharp vision at all distances from infinity to 60 cm with emphasis on the far distance.

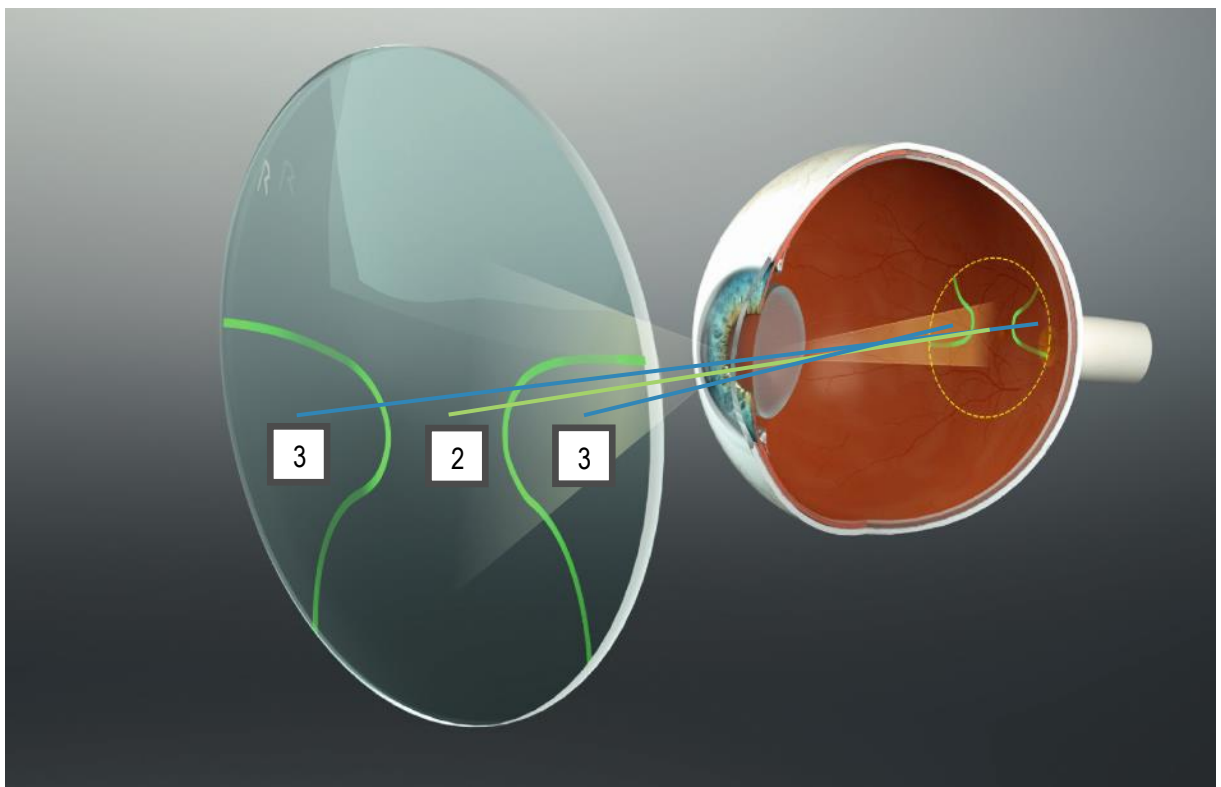
#### 1.2 Design of Sport progressive lenses

Sport progressive lenses can be divided into four areas:

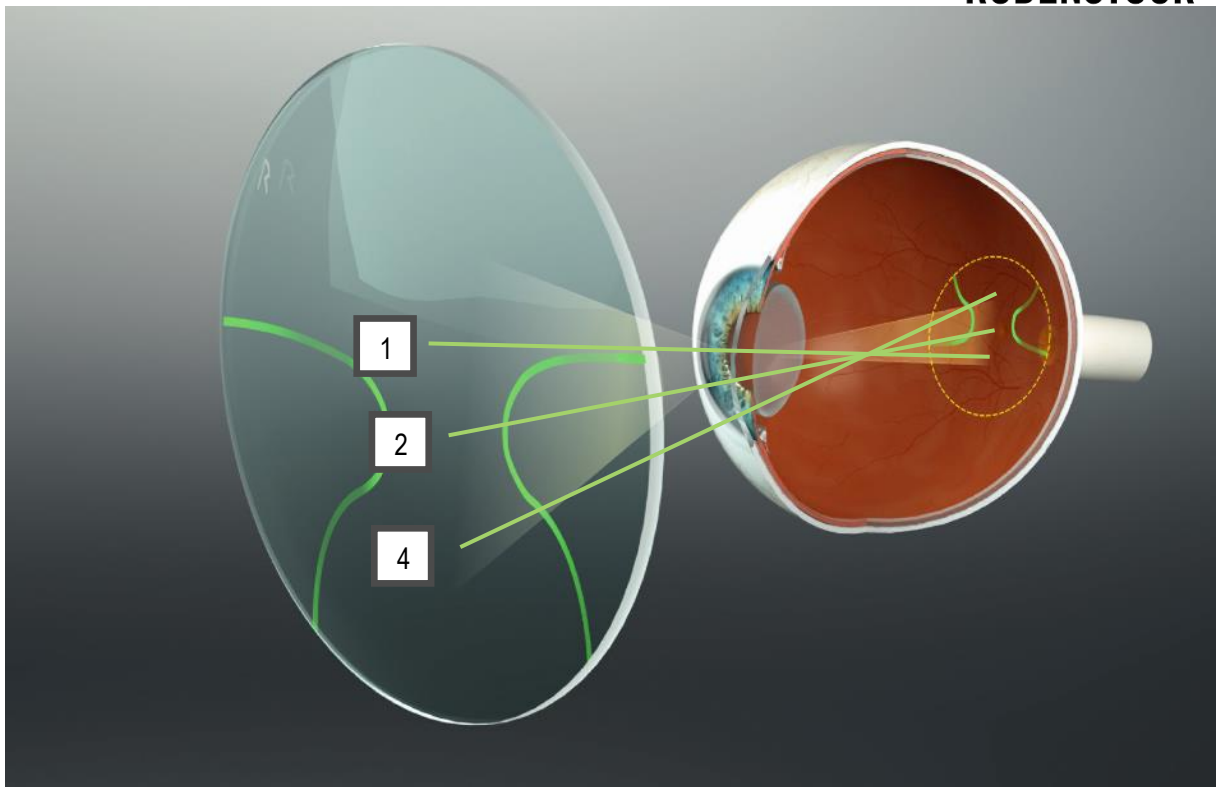
- 1 Far vision area**  
Area of the lens for sharp vision in the distance (max.  $\infty$ ).
- 2 Intermediate vision area**  
Area of the lens for sharp vision at intermediate distances.
- 3 Orientation area**  
Area of the lens is for orientation.
- 4 Near vision area**  
Area of the lens for sharp vision at a distance of 60cm.



**Figure 1:** Schematic structure of Sport progressive lenses



**Figure 2:** Horizontal gaze deflection when looking through Sport progressive lenses at the level of the intermediate area



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

### 1.3 Further information

- The basis for optimum correction with Sport lenses is distance refraction. Please note that although the near refraction is designed for 60 cm, the near refraction adjusted to 40 cm must be specified when ordering. The addition and the inset course are adjusted accordingly to the near distance of 60 cm.
- The main line of vision of Sport progressive lenses describes the path of the converging eye from the distance vision area via the intermediate vision area to the near vision area for 60 cm. The viewing points in the far, intermediate and near areas are adapted to the convergence behaviour and the distance of the object being viewed (inset).
- Impression Sport has a variable design point distance that can be shifted in the range 0 - 4 mm above the centring point depending on the main viewing direction of the respective sport.
- The near reference point of Sport progressive lenses is available in 18 mm progression length.
- The smaller the CVD, the greater the reduction in gaze of the wearer must be in order to see through the near vision area of the lens.
- The amount of near addition also depends on the age of the spectacle wearer. It also influences the size of the intermediate vision area. Sport progressive lenses have a narrower intermediate area the higher the addition.
- Thanks to the 60 cm near distance of Sport progressive lenses, these lenses have lower aberrations and a reduced swim effect compared to universal progressive lenses with the same order addition.
- Sport progressive lenses meet the roadworthiness criteria prescribed by EN ISO 14889 and 8980-3:2013. They are therefore suitable for road use and driving and operating machinery.
- Sport lenses are optimised for a variable tilt situation. The tilt situation depends on the base curve, the frame, centre thickness reduction and individual parameters:

Possible ranges of values for the individual parameters of Impression Sport that can be ordered:

Cornea vertex distance (CVD) 5 – 30 mm

Pupil distance (PD): 20 – 40 mm

Pantoscopic tilt (VN): -5° - 20°

Face form angle (FFA): -5° - 30°

Possible ranges of values for the individual parameters of Progressiv Sport that can be ordered:

Pupil distance (PD): 20 – 40 mm

Face form angle (FSW): -5° - 30°

For Progressiv Sport it is recommended to adjust the frame with a pantoscopic tilt of approx. 8° and a cornea vertex distance of approx. 13 mm

- Form and centring data is mandatory when ordering.
- Base curves of approx. 8 D are available for Sport progressive lenses. Different base curves, matched to the frame, can be ordered.
- The variable predecentration up to 10 mm is calculated by Rodenstock based on the frame and centring data. This enables larger usable diameters up to 75/95 mm.
- The satisfaction guarantee for Sport is only valid for the described intended and with proper application.

## **2 Restrictions of use & foreseeable misuse**

- Sport progressive lenses are generally not recommended for people with a sufficiently large accommodation capacity > 2.50 D. Accommodation capacity is usually less than 2.50 D from the age of approx. 45 years.
- Orientation areas of Sport progressive lenses are not suitable for sharp vision, unlike single vision lenses.
- Thanks to their design concept, Sport progressive lenses enable sharp vision from distance of up to 60 cm.
- For sharp vision at the usual near distance, universal progressive lenses are recommended.
- Despite their usually more pronounced curved shape, glasses with Sport progressive lenses are not safety glasses in the sense of EN 166 (personal eye protection).
- 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

- An anatomical fitting of the spectacle frame to the face of the wearer is absolutely necessary for an optimal calculation and correct centring. The individual parameters of the wearing situation (pupil distance, cornea vertex distance, face form angle and pantoscopic tilt) must be measured and transmitted for the order. In order to ensure the compatibility of the lens, the wearing situation must be maintained and must not be changed afterwards by the optician or the spectacle wearer. For example, the lenses must not be resharpened into another frame, as the frame data is included in the calculation and the optical performance cannot be guaranteed for another frame.

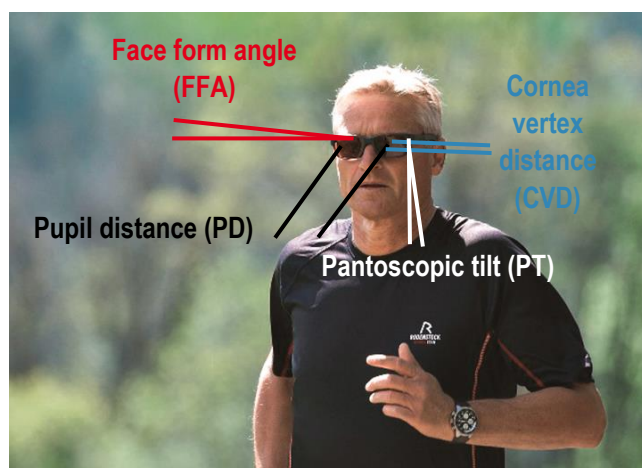


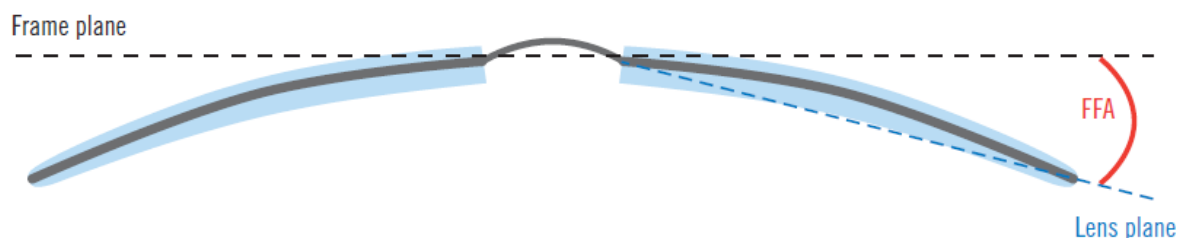
Figure 4: Individual parameters of the wearing situation

- Sport progressive lenses should be centred on 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.
- The lens bag contains information on exact centring, e.g. the centring point distance  $Z_{\text{eye}}$  and centring point height  $Y_{\text{eye}}$  for the frame plane as well as the centring correction for prismatic lenses.
- For prismatic B.I.G. EXACT & B.I.G. NORM Sport progressive lenses, no decentration of lenses in horizontal or vertical direction is necessary when grinding. The centring correction on the lens bag is therefore always = 0. The centring of the lenses during grinding in the lens plane is carried out horizontally on the basis of the centring point distance  $Z_{\text{eye}}$  and vertically on the basis of the centring point height  $Y_{\text{eye}}$  on the lens bag.
- For prismatic Standard Sport progressive lenses, a decentration of the lenses is necessary in vertical but not in horizontal direction when grinding in. The horizontal centring correction on the lens bag is therefore always = 0, the vertical centring correction is > 0. The centration of the lenses in lens plane is carried out horizontally on the basis of the centring point distance  $Z_{\text{eye}}$  on the lens bag, the centring vertically on the basis of the measured centring point height and centring correction on the lens bag.
- If the lens is tilted very much in the wearing situation (high face form angle and/or strong pantoscopic tilt), the centring data and in the lens plane may deviate from the values measured in the frame plane for pupil distance and height. The centring data for the lens plane  $Z_{\text{eye}}$  and  $Y_{\text{eye}}$  printed on the lens bag should be used for grinding.
- 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 socket (position of the reference point far + 8 mm) must be observed. For further information please refer to the Rodenstock product catalogue and Rodenstock Tips & Technology Lenses.

- Sport lenses are considered to be power variation lenses with two reference points in the sense of EN ISO 21987:2017. These reference points are the far and near reference points. 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 verification values on the lens bag, taking into account the tolerance, Sport progressive lenses are perfect for full correction in the wearing situation.

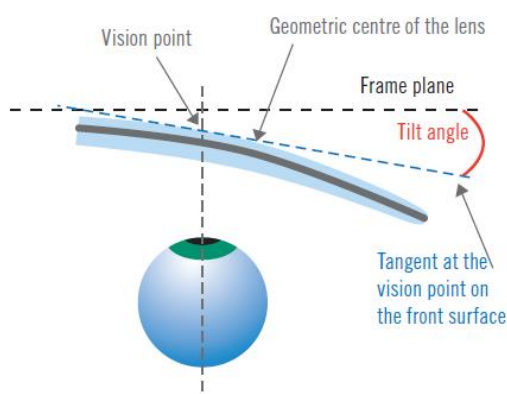
## 4 Risks & side effects

- With higher curved frames, the frame plane does not coincide with the lens plane. The resulting angle between the two planes is called the face form angle (FFA).



**Figure 5:** Face form angle

Due to the greater face form angle, the greater curvature of the lenses and depending on the frame and centring data, there is a certain tilt angle of the lenses in front of the customer's eyes. The tilt angle corresponds approximately to the face form angle when the viewing point coincides with the geometric centre of the lens. The greater the distance between these two points, the greater the difference between the tilt angle of the lenses and the frame lens angle of the frame.



**Figure 6:** Tilt angle

- This tilt angle causes prismatic side effects, astigmatism of oblique bundles, refraction errors and binocular different distortions R/L. By taking these special conditions of higher curved glasses into account when calculating the lenses and the special design, the aberrations are reduced to a minimum. Nevertheless, the special features of Sport progressive lenses may cause swim effects and slight distortions in the peripheral areas of the lens as well as a changed perception of space. Therefore, it may take some time at first for the wearer to get used to the new lenses. In special cases, incompatibilities may also occur.
- Since a shorter progression would have an unfavourable effect on the imaging properties of the lens, only the progression length 18 mm is available for Sport progressive lenses.
- Due to the special features of Sport progressive lenses, the power range is also limited in sphere, cylinder and addition.
- The thickness reduction prism of Sport progressive lenses can cause objects in the room to be perceived in a different position.
- Instead of moving the eyes, with Sport progressive lenses, as with other progressive lenses, the head must be moved.
- When climbing stairs, it is important to note that the spectacle wearer should look through the far vision area of the Sport 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, the Sport progressive glasses should be worn regularly to make it easier to get used to.

For further information see also “Instructions for use Rodenstock general”.

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