

# **Instructions for use Rodenstock Multifocal lenses**

## **For opticians**

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# Instructions for use Rodenstock Multifocal lenses

## For opticians

**When selling medical devices, the adapter, hereinafter referred to as the optician, is obliged to inform the end user, hereinafter referred to as the spectacle wearer, of any restrictions on use, preferably in writing.**

Convince your customers with your professional competence by also pointing out relevant usage restrictions 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

Multifocal lenses are spectacle lenses that serve to correct customer-specific refractive errors such as hyperopia (farsightedness), myopia (nearsightedness) and/or astigmatism as well as positional errors of the eyes in combination with age-specific presbyopia.

In addition, solutions can be offered for special problems (e.g. aniseikonia).

Multifocal lenses offer sharp vision in at least two distances, usually in the distance and the near.

In this case the lens has two focal points, it is called a bifocal lens.

Trifocal lenses also offer correction for the intermediate area by means of an additional lens segment.

They have three focal points.

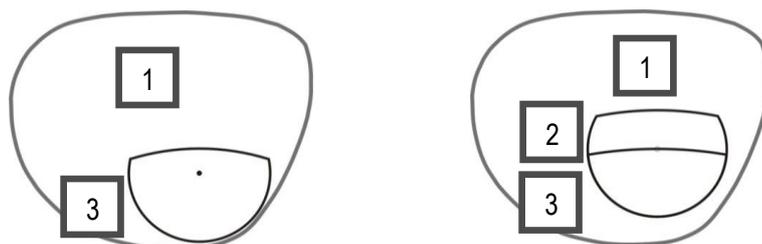
### 1.2 Design of a multifocal lens

Multifocal lenses can be divided into two or three areas:

- 1 Far vision area**  
Area of the lens for sharp vision in the distance (max.  $\infty$ ).
- 2 Intermediate vision area (only for trifocal lenses)**  
Area of the lens for sharp vision at intermediate distances, e.g. when working at a computer. This has half the addition of the near vision area.
- 3 Near vision area**  
Area of the lens for sharp vision at close range (usually 40cm).



**Figure 1:** Schematic structure of a bifocal lens



*Figure 2: Structure of a bifocal lens (left) and a trifocal lens (right)*

- Rodenstock multifocal lenses have either straight or curved lenses. Therefore, depending on the shape, they have the name suffix S for Straight = straight or C for Curved = curved. The number after the abbreviation stands for the width of the near vision area in millimetres. For example, the name Bifolit C 26 means that it is a bifocal lens with a curved near part 26 mm wide.

### 1.3 Further information

- The position of the viewing points in the base lens, if necessary in the intermediate segment, and in the near segment are adapted to the convergence behaviour of the spectacle wearer and the distance of the object being viewed (inset).
- Multifocal lenses meet the criteria for roadworthiness prescribed in EN ISO 14889 and 8980-3:2013. They are therefore suitable for road use and driving in traffic.
- Multifocal lenses are calculated for a fixed tilt situation and "central" centring.
- The satisfaction guarantee for multifocal lenses is only valid for the described intended use and with proper application.

## 2 Restrictions of use & foreseeable misuse

- Multifocal lenses are generally not recommended for people with a sufficiently large accommodation capacity > 2.50 D. The accommodation capacity is usually smaller than 2.50 D from the age of approx. 45 years.
- The arrangement of the fields of vision is very suitable for most activities. In some situations, e.g. when climbing stairs, the spectacle wearer must be careful.
- When the gaze passes from one part of the multifocal lens to another, the difference in the prismatic effects on both sides of a point on the dividing line can cause a shift in the image, the so-called image jump.
- Classic bifocal or trifocal lenses are not suitable for near vision in conjunction with gaze elevation. For this purpose, there are special lenses in the Rodenstock Manufaktur portfolio. For special applications, e.g. permanent work at the computer screen, near comfort lenses are better suited.
- 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 correct multifocal lens type and correct centring, an anatomical fit of the spectacle frame to the face of the spectacle wearer is mandatory. When choosing the appropriate multifocal lens type, other criteria such as the shapes of the near and intermediate vision segment as well as their size can be taken into account. In order to maintain the full optical performance of the spectacle lens, the wearing situation must not be changed afterwards by the optician or spectacle wearer.
- Multifocal lenses shall be centred horizontally according to eye rotation point requirement.  
A bifocal lens shall be vertically centred so that the separating edge of the lens coincides with the lower eyelid in habitual head and body posture.  
In the case of trifocal lenses, the separating edge of the intermediate segment shall coincide with the lower edge of the pupil in habitual head and body posture.  
This shall be observed individually for each eye. The edge of the near segment should be positioned in the field of vision for both eyes at the same time when the gaze is lowered and an unobstructed field of vision should be guaranteed in the main visual direction (field of fixation requirement). The frame should be selected in such a way that the near segment is contained as completely as possible in the frame.  
For aspheric multifocal lenses, the distance centring according to the eye rotation point requirement must be adhered to as a matter of priority in order to be able to guarantee a high imaging quality.  
Depending on the type of multifocal lens selected, different fittings may be necessary.
- For multifocal lenses, it must be taken into account that, especially with higher plus powers, a correction value must be taken into account when ordering in addition to the prescription value of the addition due to the changed beam path and the geometry of the lens:  $\text{Order value addition} = \text{prescription value} + \text{correction value}$ .
- Before delivery to the optician, multifocal lenses are checked for tolerance at the reference points in accordance with ISO 8980-1.
- Single and repeat orders of multifocal lenses are always possible. When ordering single lenses, it is strongly recommended to know the values of the counter lens and to include them in the order so that they can be taken into account in the calculation. The pairing of different lens types, e.g. multifocal lens and single vision lens, is a custom-made product. Please note that the base curves, colours and anti-reflective coatings, for example, are not matched.
- Further information on multifocal 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 Rodenstock product catalogue,.

#### **4 Risks & Side Effects of Multifocal Lenses**

- Since multifocal lenses with different vision areas are constructed differently than single vision lenses, it may take some time at first for the spectacle wearer to get used to the new lenses.
- Due to the possible image jump, the image appears to be shifted upwards.
- Instead of moving the eyes, a multifocal lens requires moving the head.
- When climbing stairs, it should be noted that the spectacle wearer should look through the distance vision area of the multifocal lens, as the near segment would actually be used when looking down the stairs. However, this does not offer the optimal correction for the distance to the stairs.
- The described initial side effects are natural and will hardly or no longer be noticed over time (approx. two to three weeks). Ideally, the multifocals should be worn daily from morning to evening right from the start.

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

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