

TECHTRAN POLYLENSES LTD

HYDERABAD

DISPENSING GUIDE

VARTEK HORIZON

(CENTERED SHORT CORRIDOR) PROGRESSIVE

The "Vartek Horizon" Progressive Lens

"Horizon" is the centered short corridor progressive design from Techtran, which has been developed by the CAD/CAM system. It is designed to give a short corridor making it particularly suitable for frames with shallow eyeshapes. In addition, the design has minimum rates of change and levels of astigmatism for best dynamic vision, while maintaining a well-controlled distance field.

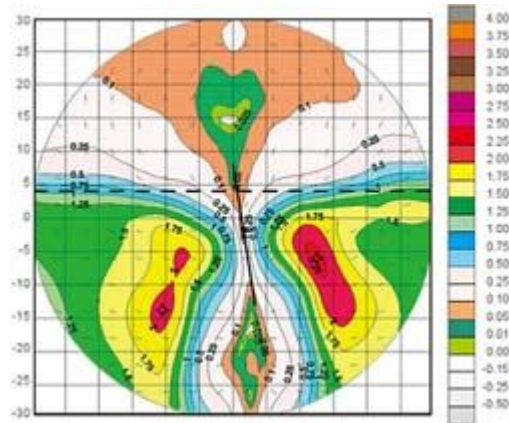
Vartek Horizon incorporates the following design features:

- Centered design produces lenses with minimal prism.
- Soft Design, giving quicker adaptation between distance and mid-range viewing.
- Wide corridor and reading area
- Short Corridor - distance from fit point to : 85 % Add Power = 12.0 mm
- Minimum fitting height of only 15mm from fit point - because of the short corridor, the full-powered reading area can be obtained with small frames.
- Recommend fitting height is 16.5 mm
- Aspheric distance area

The computer designed surface is correctly orientated for both right and left eyes to ensure that horizontal symmetry occurs. This also minimises the aberration in the temporal area and provides superior optical performance.

The cylinder plot of Horizon shown below has been produced from readings taken from an actual lens and depicts its true optical design. The lens shown is a 2.00 addition.

addition.



Vartek Horizon is available in hard resin, index $n = 1.498$, $n = 1.56$ and SunSensors

The base and addition ranges are as shown below, giving a prescription range of -7.00 to +7.00 with -4.00 cylinder, depending on the eye size required.

| Base Curve | Addition | | | | | | | | |
|------------|----------|------|------|------|------|------|------|------|------|
| | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 |
| 3.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 5.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 7.00 | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Diameter of hard resin : 70mm Centered

MINIMUM FRAME DEPTH

In order to realise the full addition power of the reading area, a minimum frame depth of 16.5mm from the pupil fitting position (Figure 1) is required.

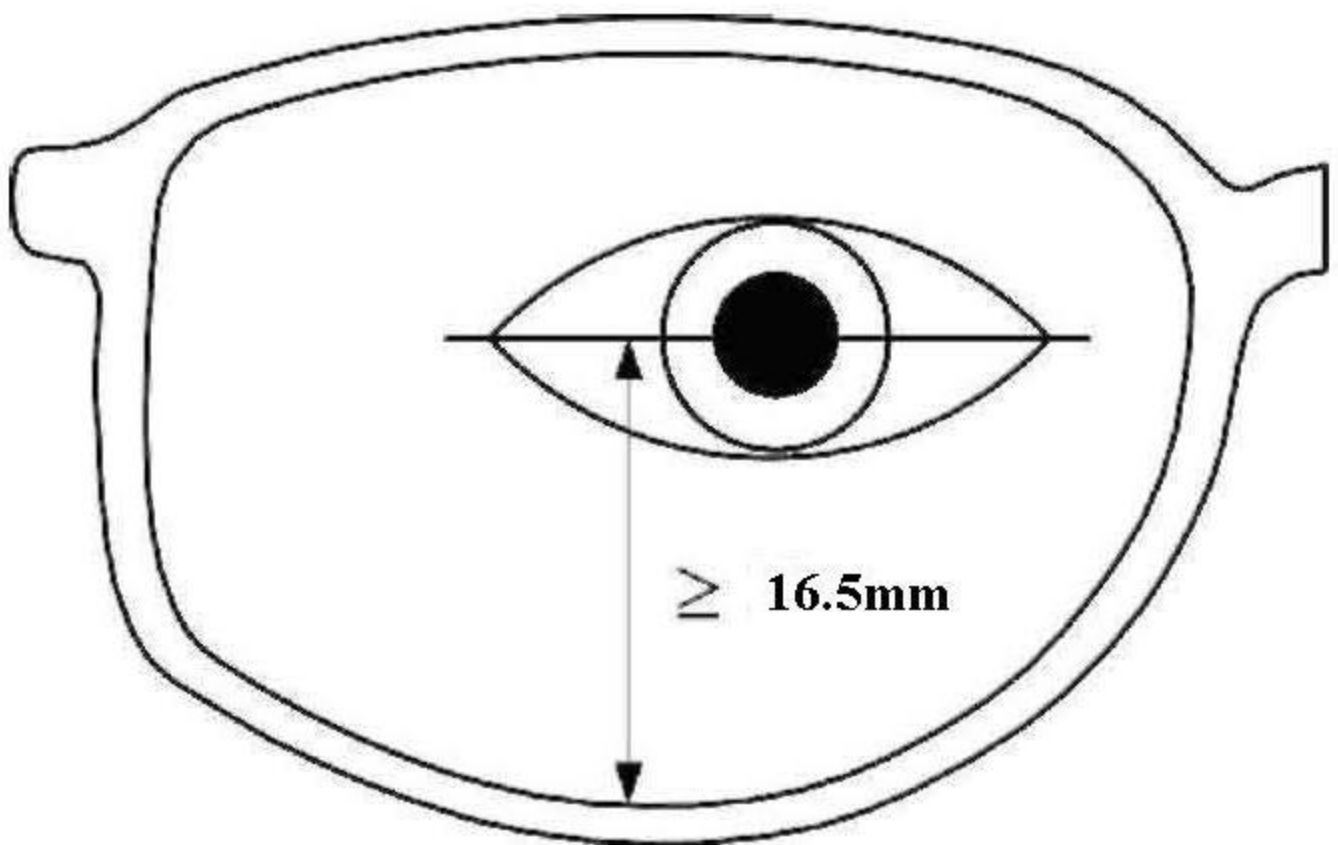


Figure 1

MINIMISE BACK VERTEX DISTANCE

The largest possible field of view will be achieved by fitting the frame as close as possible to the eye. Therefore, the back vertex distance 'V' (Figure 2) should be made as small as possible.

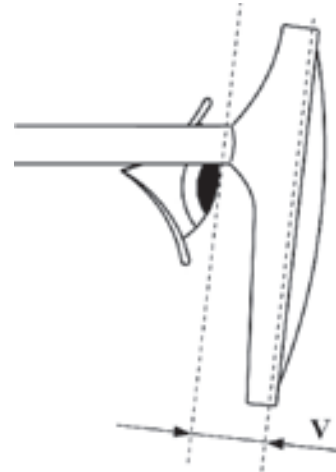


Figure 2

INCREASE SIDE ANGLE

Again, in order to maximise use of the reading area, the Side Angle 'A' (Figure 3) should be greater than normal at 10° to 20° .

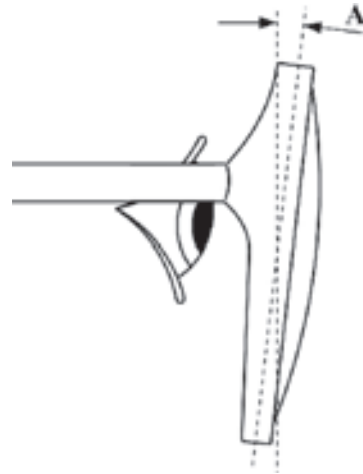


Figure 3

Location and Measurement of Pupil Positions

This is easily carried out using the Frame Templates and Measurement Chart.

- Firstly, ensure that the frame to be used is 'straight'.
- Attach the Frame Templates to the selected frame using the self-adhesive pads (Figure 4).
- Instruct the patient to look into the distance.
- Making sure you are on the same horizontal eye level as the patient, stand at arms length to the patient.
- Close your left eye, cover the patient's right eye, instruct the patient to look at your right eye and note the grid position on the Frame Template. Do not mark the template whilst the patient is wearing the frame as this may cause the patient's eye to follow the pen and give an incorrect measurement. Repeat for the patient's left eye.
- Remove the frame and mark the pupil positions as per the grid references noted.
- Replace the spectacles to confirm the pupil positions.

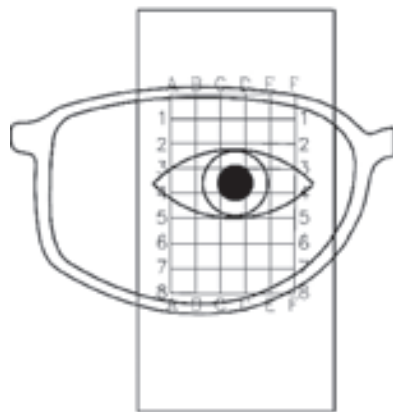


Figure 4

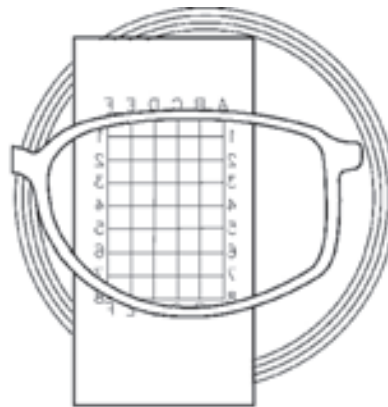


Figure 5

- Keeping the Frame Templates in position (Figure 5), align the pupil position on the fitting cross of the lens cut-out circles appropriate to the material required on the measurement chart. Ensure that the frame shape is within the lens circle blank diameter.
- Place the centre of the frame (Figure 6) on the centre line of the Measurement Chart (and the pupil position of the left eye on the horizontal axis). Read the monocular pupil distance and then the pupil height from the lowest point of the inside bottom rim of the frame (Figure 7). Repeat for the right eye.
- Keep a note of these measurements for future reference.

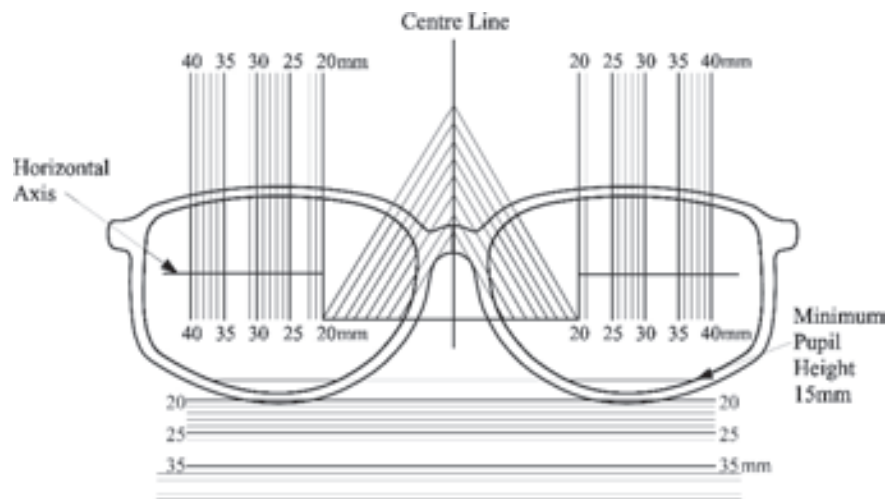


Figure 6

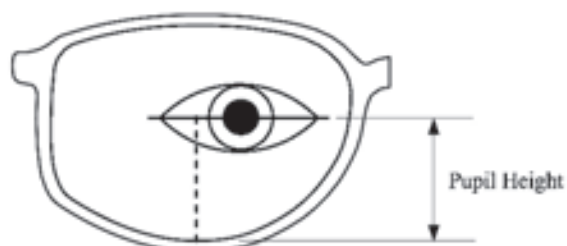


Figure 7

"Horizon" lens markings - Temporary & Permanent

On hard resin lenses the semi-visible permanent markings can be found by viewing the lens at the edge of a fluorescent light.

When the semi-visible reference plus marking have been located, mark the centres with a fine point non-permanent marker; the temporary markings can then be restored using the vinyl remarking templates. Place the reference on the template over the reference plus marking on the lens and smooth the template onto the lens surface to indicate the full set of lens markings.

Alternatively, the temporary markings can be recreated manually, using the Power Verification Markings section of the Measurement Chart.

"Horizon" Lens Markings

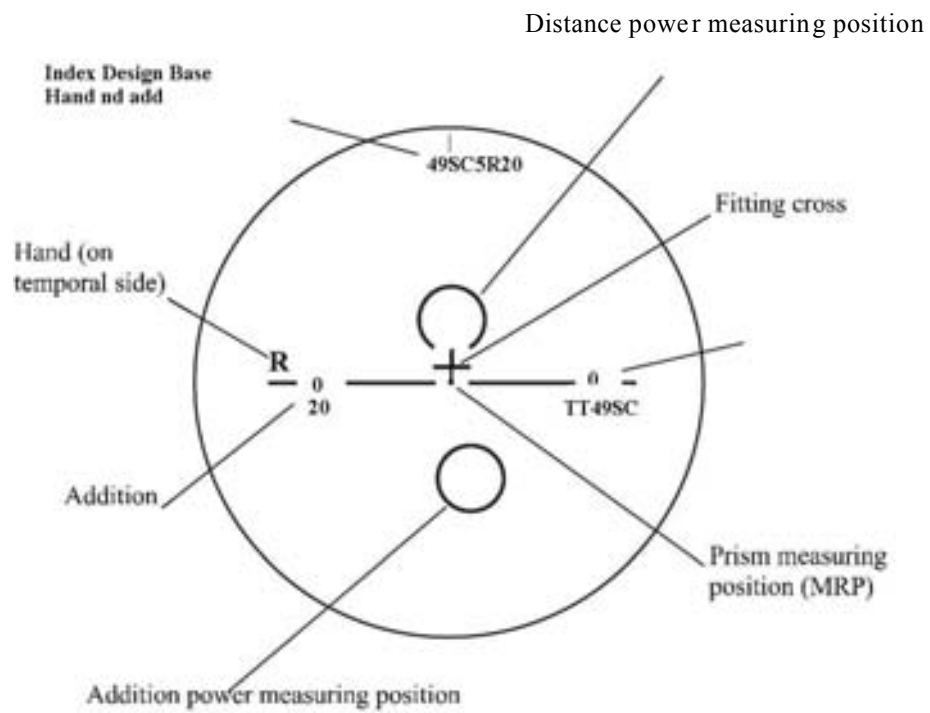


Figure 8

TEMPORARY MARKING
PERMANENT MARKING
PERMANENT SEMI-VISIBLE MARKING

Verification of Fittings

When the lenses have been glazed in the frames and the fitting positions remarked, place the spectacles on the patient's face.

Ensure that the fitting crosses are in line with the patient's pupils, adjusting the frame if necessary.

Verification of Power

The distance vision is checked by placing the distance power measuring position (see Figure 8) over the aperture of the focimeter. Ensure that the fitting line is horizontal when taking your reading for correct axis position.

The near vision is checked by placing the addition power measuring position over the aperture of the focimeter; the addition is then worked out as the difference between the distance and near front vertex power readings.