

Prism Rotation Nomograph For Achieving Proper Vertical and Horizontal Prism

The eye practitioner must frequently prescribe both vertical and horizontal prism in a single lens. Such a prescription is achieved by location the axis of the prism diagonally. In the past, the practitioner has simply noted both vertical and horizontal prism on the prescription, and the laboratory has performed the geometrical calculation to convert this prescription to the diagonal prism which they actually grind.

With the advent of the Press-On™ prism treatment, practitioners have begun applying prisms in their office in just a few minutes, while the patient waits. This has obvious advantages in convenience, patient satisfaction, etc. Consequently, the need has arisen for a simple method of determining the angle at which a prism is to be applied in order to achieve both vertical and horizontal prism. The nomograph described herein achieves this result very rapidly.

Since vertical prism is more critical than horizontal prism, the procedure is designed to achieve exact vertical prism while allowing fractional variations in horizontal prism, using the limited number of prism strengths available. The procedure is as follows:

1. Determine the amount of vertical and horizontal prism required, and locate their intersection on the nomograph.
2. The quarter circle nearest this intersection is the proper total prism power required.
3. Locate the intersection of this quarter circle and the exact vertical prism required, and draw a

diagonal line from the lower left corner through this intersection, continuing to the Prism Rotation Angle scale. The angle showing on the scale is the correct orientation of the prism axis in order to obtain the exact vertical prism required.

4. The exact amount of horizontal prism obtained can be found by noting where the intersection of the quarter circle and the diagonal line falls on the horizontal scale.

EXAMPLE:

Rx 6Δ vertical and 13Δ horizontal. The intersection of the 6Δ line and the 13Δ line falls near the 15Δ quarter circle. A line from the lower left corner to the intersection of the 15 quarter circle and the 6Δ vertical prism line intersects the Prism Rotation Angle scale at 23°. This intersection lies at 13.8Δ of horizontal prism. Thus, the application of the 15 Press-on prism with its axis at an angle of 23° from the vertical achieves 6.0Δ of vertical prism and 13.8Δ of horizontal prism.

For accurate calculation of small vertical horizontal prism, simply insert a mental decimal point on the vertical and horizontal scales. Thus, in the example above, the same line would be drawn for a prescription of 0.6Δ of vertical prism and 1.3Δ of horizontal prism. Instead of a 15Δ Press-On prism, a 1.5 prism would be applied at 23° to give 0.6Δ of vertical and 1.38Δ of horizontal prism.



THE FRESNEL PRISM AND LENS CO., LLC

6824 Washington Ave. S.
Eden Prairie, MN 55344
Tel: 1-800-544-4760
Fax: 1-952-403-7900
Email: fresnelpl@aol.com
www.Fresnelprism.com