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Cosmetic Surface Quality

Digs and Edge Chips

Digs

A dig is a pit or small crater on the polished optical surface. Digs are defined by their diameters, which are the actual sizes of the digs in hundredths of a millimeter. The diameter of an irregularly shaped dig is $1/2 \times (\text{length plus width})$:

- 50 dig = 0.5 mm in diameter
- 40 dig = 0.4 mm in diameter
- 30 dig = 0.3 mm in diameter
- 20 dig = 0.2 mm in diameter
- 10 dig = 0.1 mm in diameter.

The permissible number of maximum-size digs shall be one per each 20 mm of diameter (or fraction thereof) on any single surface. The sum of the diameters of all digs, as estimated by the inspector, shall not exceed twice the diameter of the maximum size specified per any 20-mm diameter. Digs less than 25 micrometers are ignored.

Edge Chips

Lens edge chips are allowed only outside the clear aperture of the lens. The clear aperture is 90% of the lens diameter unless otherwise specified. Chips smaller than 0.5 mm are ignored, and those larger than 0.5 mm are ground so that there is no shine to the chip. The sum of the widths of chips larger than 0.5 mm cannot exceed 30% of the lens perimeter. Prism edge chips outside the clear aperture are allowed. If the prism leg dimension is 25.4 mm or less, chips may extend inward 1.0 mm from the edge. If the leg dimension is larger than 25.4 mm, chips may extend inward 2.0 mm from the edge. Chips smaller than 0.5 mm are ignored, and those larger than 0.5 mm must be stoned or ground, leaving no shine to the chip. The sum of the widths of chips larger than 0.5 mm cannot exceed 30% of the length of the edge on which they occur.

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