CLAIMS

1. An optical lens intended to be worn in front of an eye of a wearer having at least one prescribed refractive power Px, the optical lens comprising two opposite optical faces and a plurality of contiguous optical elements, at least part of the optical elements having an optical function of not focusing an image on the retina of the eye of the wearer so as to slow down the progression of the abnormal refraction of the eye, wherein:

over a pupil having at least a 4 mm diameter, one can measure in a plane corresponding to the at least one prescribed refractive power along at least one direction, a Modulation Transfer Function through the optical lens greater than 0.1 between 0 and 20 cyc/deg;

a majority of the light rays passing through the optical lens over said pupil pass through at least one of the plurality of optical elements, and

each of the contiguous optical element verifies that $d = \frac{K}{\sqrt{|P|}}$

with d a characteristic dimension of the contour of said optical element in mm, which corresponds to the largest diameter of the inscribed circle in a contour plot defined by a level of said differential optical path (DOP),

|P| the absolute value of a characteristic best spherical optical power of said optical element expressed in diopter, and

K a number greater or equal to 0.9 and smaller than or equal to 1.7,

wherein over the said pupil the optical lens produces a first optical path difference (OPD1), a best spherical fitting optical lens produces a second optical path difference (OPD2), a differential optical path map (DOP) being composed as the difference between said first optical path difference (OPD1) and said second optical path difference (OPD2), the differential optical path (DOP) being different than zero, and

wherein over said pupil, the portion of said differential optical path (DOP) within the range [minimum level of DOP, minimum level of DOP + 10% of the amplitude] represents less than 30% of said differential optical path (DOP) over said pupil, with the amplitude the maximum level of said differential optical path (DOP) over said pupil.

2. The optical lens according to claim 1, wherein the characteristic dimension of each optical element corresponds to the largest diameter of the inscribed circle in a contour plot defined by a level of said differential optical path (DOP), said level being constant over said pupil and

within the range [minimum level of DOP, minimum level of DOP + 10% of the amplitude], with the amplitude the maximum level of said differential optical path (DOP) over said pupil.

3. The optical lens according to any of the preceding claims, wherein at least part of, for example all of, the optical elements have a characteristic optical power whose absolute value is smaller than or equal to 20 D.

4. The optical lens according to any of the preceding claims, wherein the pupil of 4 mm of diameter comprises a reference point of the optical lens, for example the fitting cross or the optical center or the geometric center.

5. The optical lens according to any of the preceding claims, wherein the optical elements are positioned on a structured mesh being a squared mesh or a hexagonal mesh or a triangle mesh or an octagonal mesh or a random mesh.

6. The optical lens according to any of the preceding claims, wherein at least one, for example all, of the optical element has an optical function of focusing an image on a position other than the retina in standard wearing conditions.

7. The optical lens according to any of the preceding claims, wherein at least one, for example all, of the optical element has an optical function of not focusing an image on a position other than the retina in standard wearing conditions.

8. The optical lens according to any of the preceding claims, wherein at least 50% of the light rays passing through the optical lens over said pupil pass through at least one of the plurality of optical elements.

9. The optical lens according to any of the preceding claims, wherein at least part of, for example all of, the optical elements are located on the front surface of the optical lens.

10. The optical lens according to any of the preceding claims, wherein at least part of, for example all of, the optical elements are located on the back surface of the optical lens.

11. The optical lens according to any of the preceding claims, wherein at least part of, for example all of, the optical elements are located between the front and back surfaces of the optical lens.

12. A molding element for a lens element, adapted for molding an optical lens according to any of claims 1 to 11, comprising a plurality of contiguous optical elements, comprising a main surface having a curvature and comprising a plurality contiguous surfacic elements, each surfacic element having a curvature that differs from the curvature of the main surface,
wherein over at least a 4 mm diameter disc:

- the contiguous surfacic elements cover most of the main surface, and
- each of the contiguous surfacic elements verifies that $d = \frac{L}{\sqrt{|C|}}$, with

d a characteristic dimension of the contour of said surfacic element in mm,
|C| the absolute value of a characteristic curvature of said surfacic element expressed in diopter, and
L a number greater or equal to 1 and smaller than or equal to 7.6.