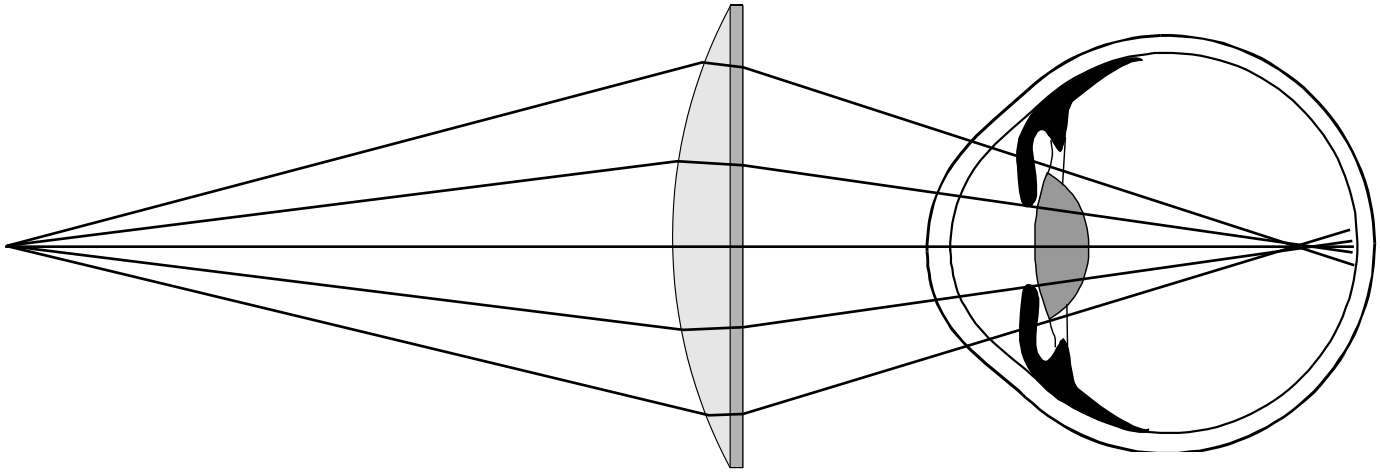
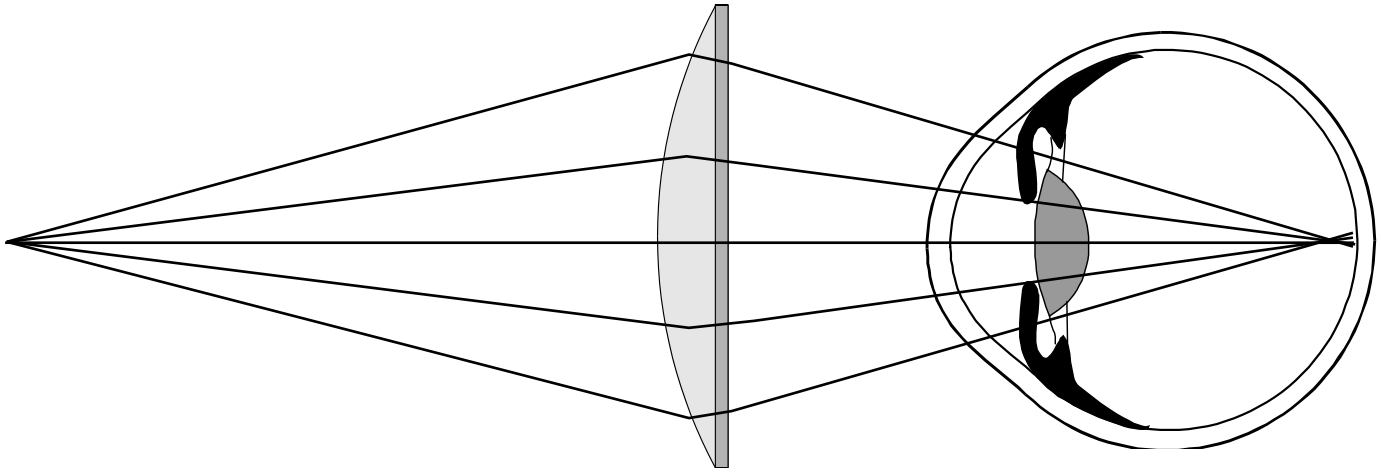
MULTILENS
OPTICAL SOLUTIONS

The new Aplanat/A2

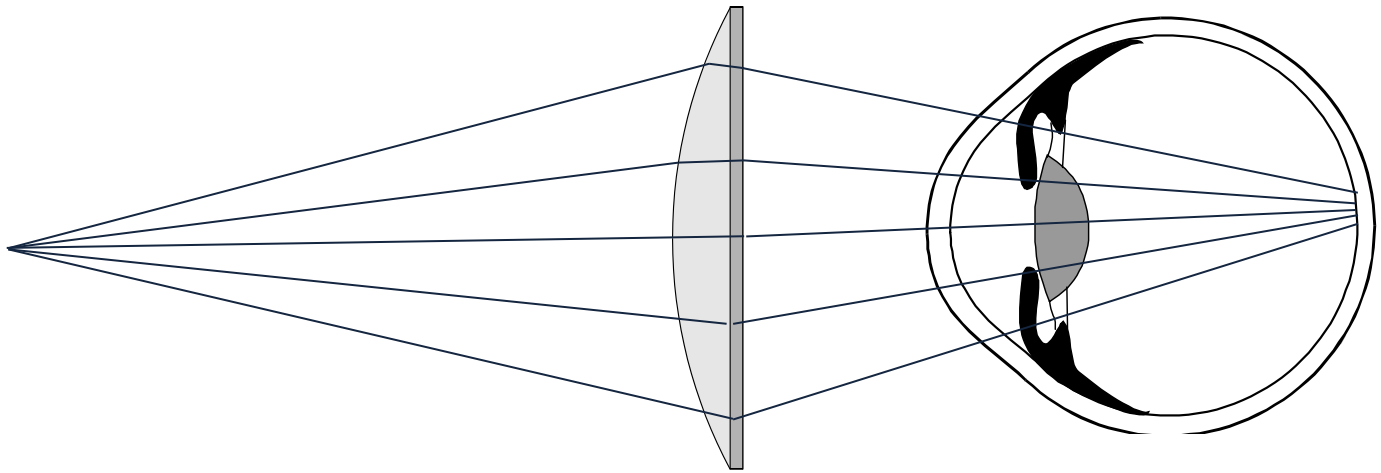
2021-11-24



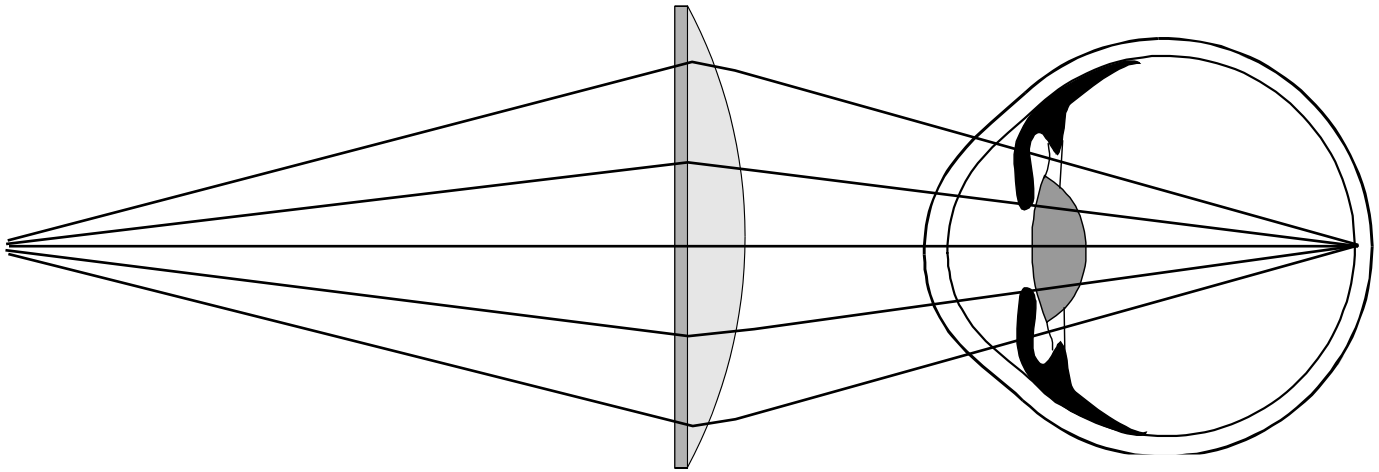
Spherical optics gives some optical errors for the peripheral areas.



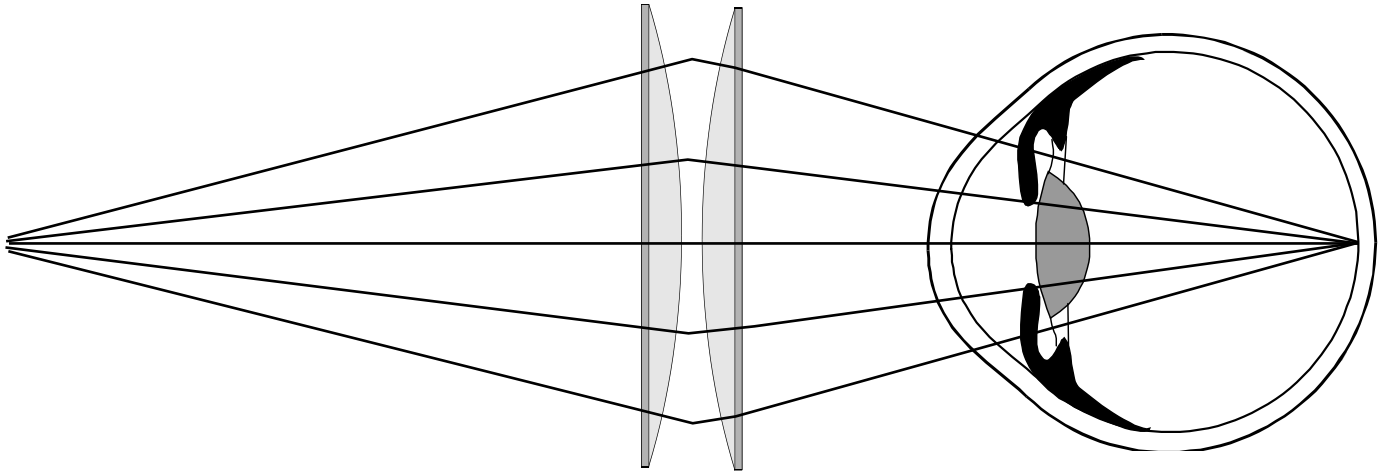
Aspherical optics with lower peripheral curvature corrects this error.



A disadvantage with the aspherical optics is that it’s sensitive for being off the optical centre.



Also a lens turned backward could correct this error.



By dividing the power into two lenses and using the plano surface towards eye and object you create an optical system that gives the best optical image AND it is not less sensitive for being off optical centre!

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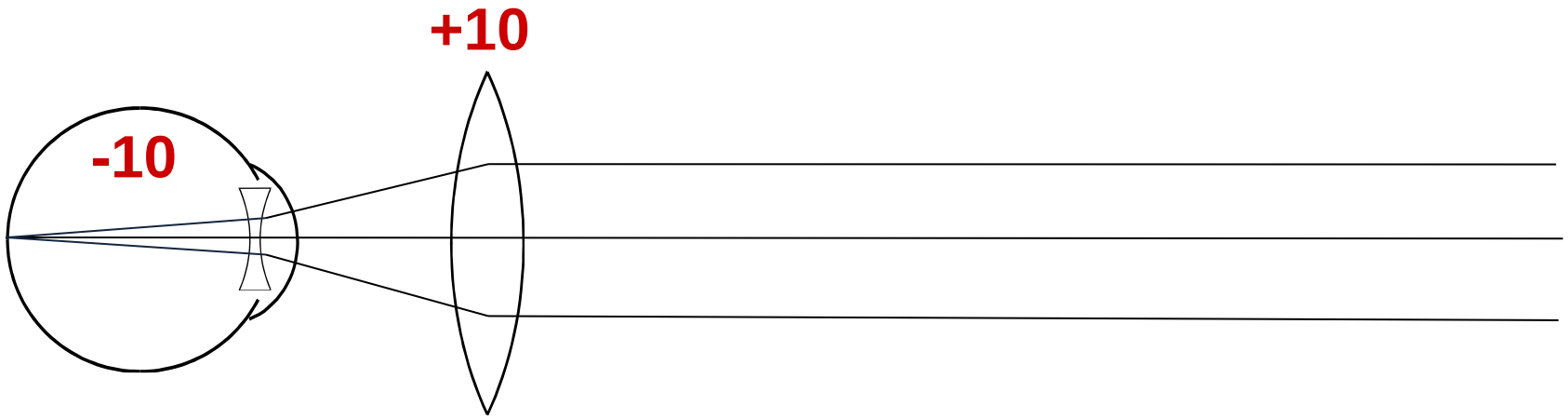
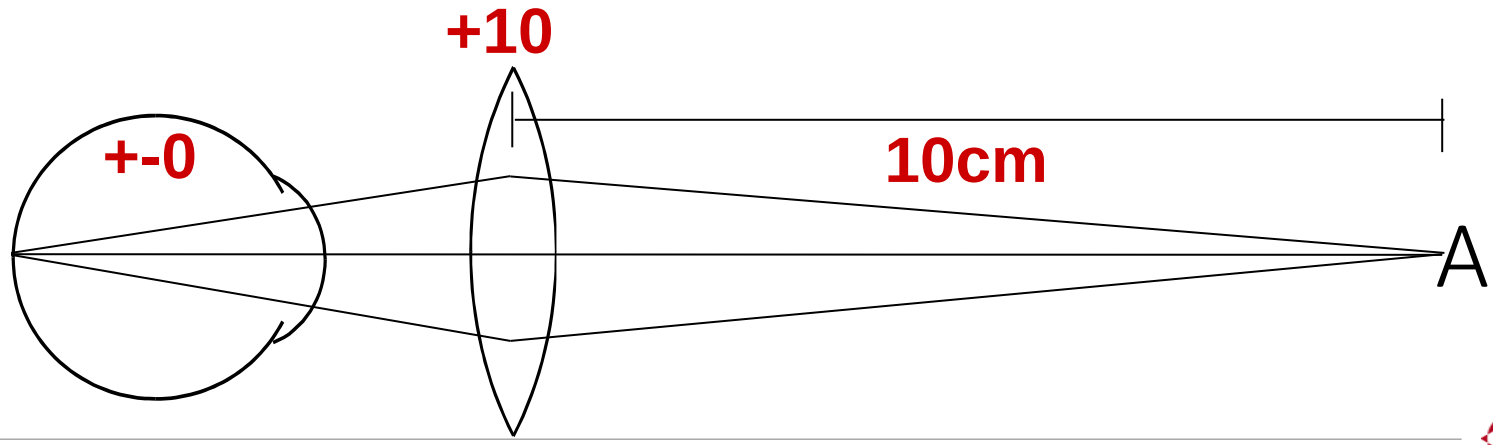
Back vertex power (Correction power)

To describe the power needed to correct an optical error in the eye, for infinity distance



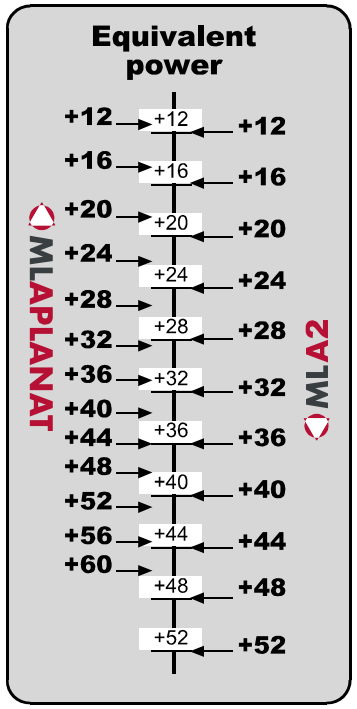
Equivalent power (Magnification power)

To describe the power needed for an emmetropic eye, to focus on an object on a specific distance



Up to now our Aplanat system was measured/specified in Back vertex power (BVP) and A2 in Equivalent power (EP).

This did cause problems if someone wanted to go from one system to the other as the power, e.g. +20, would not mean the same!



The table to the left shows that +20 BVP is equal to aprox +18.5 in EP.

+32 BVP is equal to aprox +28 in EP.

Equivalent power (EP)
Back vertex power (BVP)
Magnification (X)

OLD BVP VERSION

BVP +8
EP +7.75
1.9X

BVP +12
EP +11.25
2.8X

BVP +16
EP +14.8
3.7X

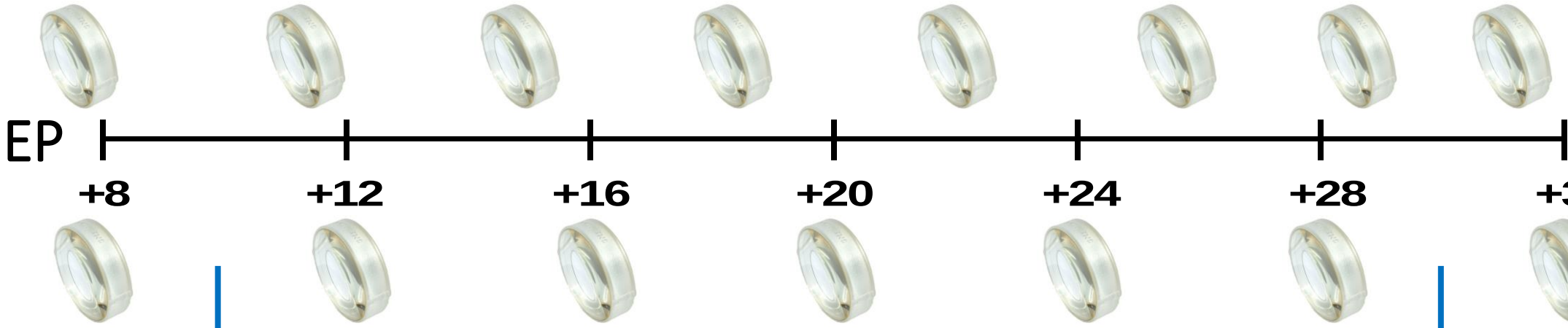
BVP +20
EP +18.3
4.6X

BVP +24
EP +22.00
5.5X

BVP +28
EP +25.5
6.4X

BVP +32
EP +28.5
7.1X

BVP +36
EP +31.0
7.7X



BVP +8.25
EP +8.0
2.0X

BVP +12.75
EP +12.0
3.0X

BVP +17.0
EP +16.0
4.0X

BVP +21.5
EP +20.0
5.0X

BVP +26.5
EP +24.0
6.0X

BVP +31.5
EP +28.0
7.0X

BVP +36.5
EP +32.0
8.0X

NEW EP VERSION

NEW TESTBOX

MULTILENS OPTICAL SOLUTIONS

Order mapping
BVP Aplanat to EP Aplanat

This is a recommended chart how to order the new EP Aplanat still using an old test box with BVP Aplanat.

The difference could in some cases be slightly different in magnification but still there is a possibility to fine adjust (if really necessary) with a correction lens.

For example BVP +14 (EP +13) is just in between +12 or +14. In magnification a choice between 3.0X or 3.5X. In practice either 0.25X less or 0.25X more.

BVP APLANAT			EP APLANAT
EP	BVP		EP
(+7.7)	+8	→	+8
(+9.5)	+10	→	+10
(+11.2)	+12	→	+12
(+13.0)	+14	→	+14
(+14.8)	+16	→	+14
(+16.4)	+18	→	+16
(+18.3)	+20	→	+18
(+20.2)	+22	→	+20
(+22.0)	+24	→	+22
(+23.8)	+26	→	+24
(+25.5)	+28	→	+26
(+28.5)	+32	→	+28
(+31.0)	+36	→	+32

Pros and cons for Aplanat / A2

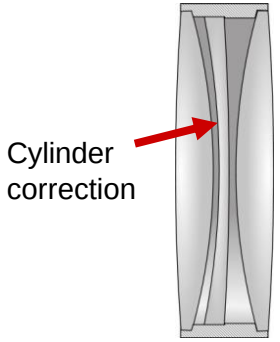
APLANAT

Pros

- Hi image quality
- Large visual field
- Possible to adjust vertex distance
- Weight balanced in middle of frame
- Correction placed inside the system

Cons

- Needs a large frame size
- Max power +28 (Equivalent)



A2

Pros

- Hi image quality
- Max power +52 (Equivalent)
- Easy to fit into any frame
- Easy to fit individual correction

Cons

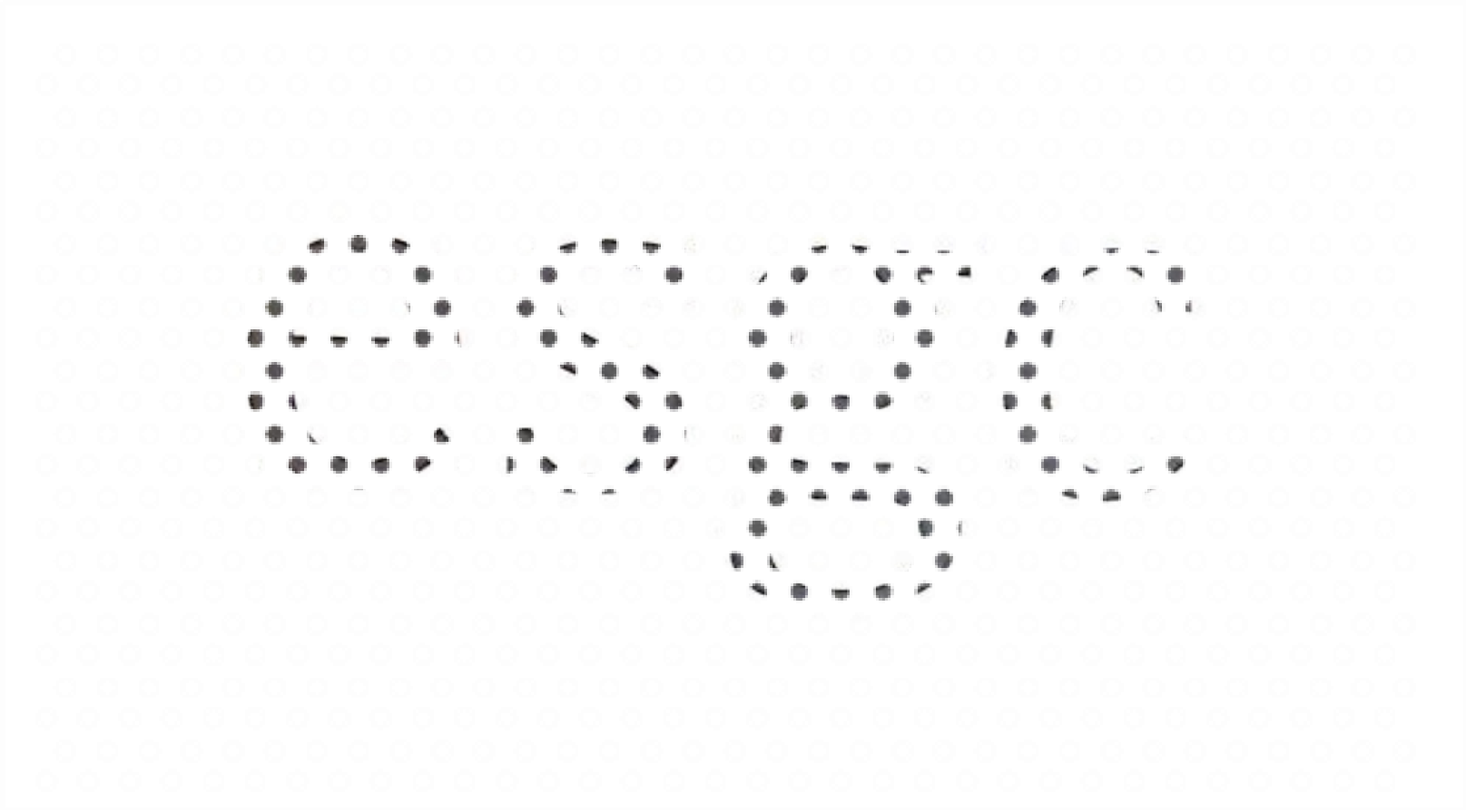
- Fixed vertex distance
- Slightly smaller visual field

IMAGE QUALITY

2021-11-24

MULTILENS
OPTICAL SOLUTIONS

IMAGE



Check the refraktion !!!

In order to avoid over-magnification

COMBINATIONS

2021-11-24

MULTILENS
OPTICAL SOLUTIONS

10 CM

Add +10

6X

MULTILENS
OPTICAL SOLUTIONS

10 CM

6X

MULTILENS
OPTICAL SOLUTIONS

DON’T PRESCRIBE A PRODUCT!
PRESCRIBE A SOLUTION!