IAVIEW SUNGLASSES QUALITY TESTS

All the tests were performed on a sampling of the collection that covered the different types of materials, shapes and lenses in it.

The tests were performed following ISO standards- 12311-1 and ISO-12870.

OBTAINED RESULTS AND EVALUATION

a) EVALUATION OF THE CONSTRUCTION and OF THE MATERIALS OF THE GLASSES

This test is used to determine if defects in the construction and in the materials of the glasses are detected at plain sight.
The test consists in detecting if at a distance of 30 cm and with an adequate background there are defects observed in the construction of the glasses and the lenses.

None of our samples displayed defects or visible alterations.

b) MEASURMENT OF THE SPECTRAL TRANSMITTANCE/DETERMINATION OF THE VISIBLE TRANSMISSION FACTOR (Tv).

In this test, the transmittance capacity of visible light through the lens is determined, which is the amount of visible light going through the lens. There must not be a result under 85% or a difference between both lenses higher than 15%.

All our glasses meet this test.

c) DETERMINATION OF THE UV, UVA, UVB -(Tv), (TUVB) and (TUVA) TRANSMISSION FACTOR

The amount of UV (280 nm-380 nm), UVA (315 nm-380nm) and UVB (280nm-315nm) going through the lenses is calculated. Depending on the type of rad. The values must be under 1%.
All our glasses meet this test.

d) DETERMINATION OF THE BLUE LIGHT TRANSMISSION FACTOR

The amount of blue light going through the lenses is calculated. The values must be under 5%.
All our glasses meet this test.

e) DETERMINATION OF THE FILTER CATEGORY.

In accordance with the transmission factor values in visible (T_v) and the transmission factors in UVB (T_{UVB}) and UVA (T_{UVA}),the category of the filter for each of the filters is determined.

Our lenses, according to the results of the tests, are Category 3, fir for use as Lenses in general use glasses.

f) DETERMINATION OF THE RELATIVE VISUAL ATTENUATION QUOTIENT

What we measure with this test is how the colours perceived through the lenses are attenuated or distorted. No result of this test must be over 40% distortion and all our lenses meet it widely; the colours are not substantially changed, which will give a great quality for their perception.

This test has to be taken into account in lenses that are used for tasks requesting good perception of the colours such as driving.

g) DETERMINATION OF THE SPHERICAL, ASTIGMATIC AND PRISMATIC REFRACTION POWERS

This test will determine the optic quality in terms of geometry. The closer to neutrality and the lower difference between both lenses with respect to the spheric, astigmatic and prismatic power, the better the lenses will be.

The values obtained by our lenses are always lower than 0.1D in all those powers, which indicates a high optical quality of the lens.

h) DETERMINATION OF THE DEGREE OF PORALIZATION

The sun light is not polarized, but when it is specularly reflected by the surface of a material it is transformed in partially or totally polarized, depending on the angle of incidence and on the nature of the reflecting material.

The materials that polarize better the light through reflection are generally non-conductive, which means dielectrics such as glass, pavements, sand or snow.

The usefulness of a polarizing filter is suppressing the reverberation, the reflection of light in a reflecting surface since, because as we already said, it is polarized (in road, with water, snow). This filter makes the user comfortable (a normal colouring of the lens does not suppress reflection).

To determine the degree of polarization, which is the degree to avoid the inadequate reflection of light, the spectral transmittance in the range of 380 nm to 780 nm is measured every 5 nm of the surface of the lens for the two orientations of the polarization plane that are perpendicular between them.

The value of the factor of visible transmission parallel and perpendicular to the transmission plane is calculated. Said value must be at least 78%.

All our lenses offer high polarization results of around 99%; they avoid uncomfortable reflections of light in 99%.

i) FILTERS MINIMUM ROBUSTNESS

It is a test to determine the robustness of the lenses and if they are capable of enduring hits and deforming forces that may alter their integrity and the integrity of the holder of the glasses.

For it, a 22 mm diameter steel ball is thrown with a force of (100±2)N during at least 10 seconds.

The results show that the lenses do not break or are displaced within the glasses, which means that they are not broken or removed from the glasses despite the hit they take.

j) RESISTANCE TO DEFORMATION AND RETENTION OF THE FILTERS

With this test it is seen if applying a deforming force, the lens is capable of withstanding it with the filters remaining unaltered. All our glasses meet this test.

k) RESISTANCE TO SUN RADIATION

It is another resistance test consisting in the exposition of the lenses to 50 hours of radiation generated through a xenon lamp. After the 50 hours, the spectral transmittance is measured and the visible and ultraviolet transmission factors are calculated.

For the Category 3 filter, the relative variation of the transmission factor in visible is ≤(±10%).

After the exposition to sun radiation the filter keeps meeting the requirements to be classified as Category 3.

l) RESISTANCE OF THE FRAME TO SUN RADIATION

The right temple is exposed to radiation of the xenon lamp during 25 hours. After the radiation, the colour of the temple is visually evaluated on a matte black background comparing it to the left temple that was not subject of radiation (witness).

The obtained Results do not offer any visible alteration, which indicates that the frame is made of a quality material that will withstand the exposition to sun radiation in an optimal way.