

# DETERMINATION OF PHYSICAL COMPATIBILITY OF CONTACT LENS CARE PRODUCTS WITH CONTACT LENSES

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ISO 11981:2017

ISO 18369-1:2017

ISO 18369-2:2017

ISO 18369-3:2017

# REFERENCE STANDARDS

- ISO 11981:2017  
Ophthalmic optics - Contact lenses and contact lens care products
  - ISO 18369-1:2017  
Ophthalmic Optics - Contact Lenses - Part 1: Vocabulary, classification system and recommendations for labeling specifications.
  - ISO 18369-2:2017  
Ophthalmic Optics - Contact lenses - Part 2: Tolerances
  - ISO 18369-3:2017  
Ophthalmic Optics - Contact Lenses - Part 3: Measurement Methods



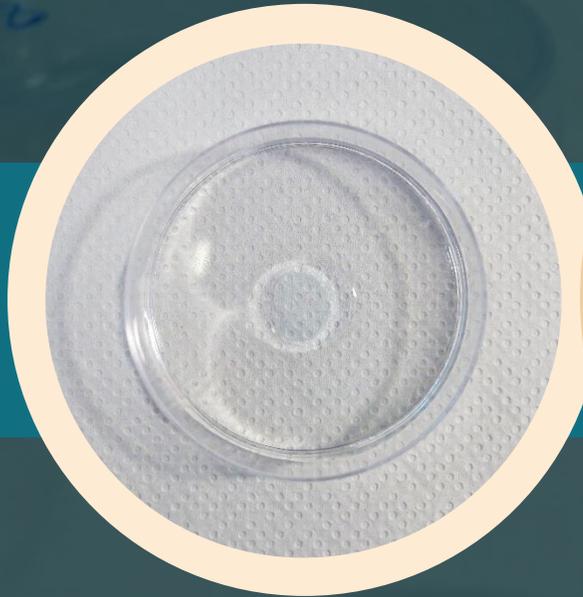


## EXAMPLES OF OPHTHALMIC SOLUTIONS

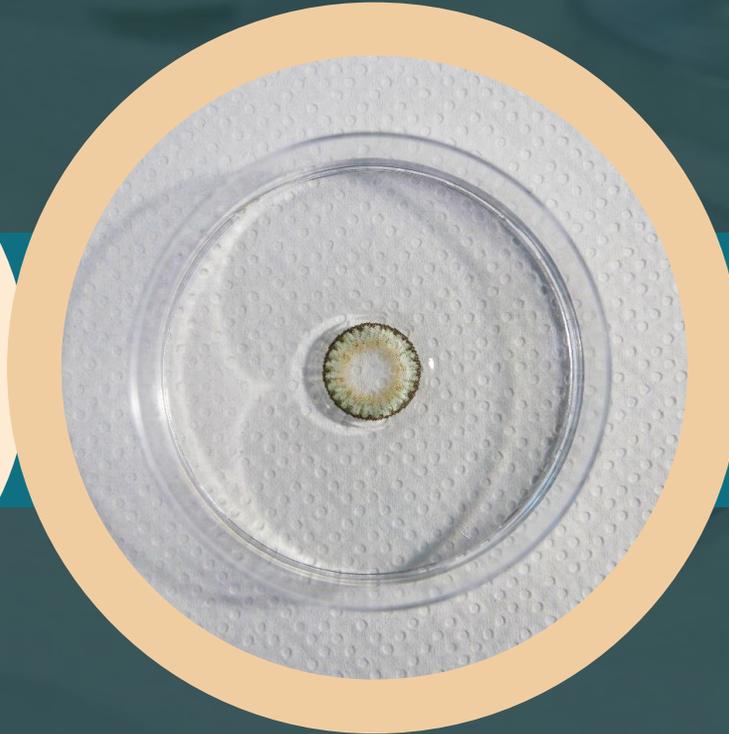
- *Ocular drops*
- *Contact lens care products*

# CLASSIFICATION OF LENS MATERIALS

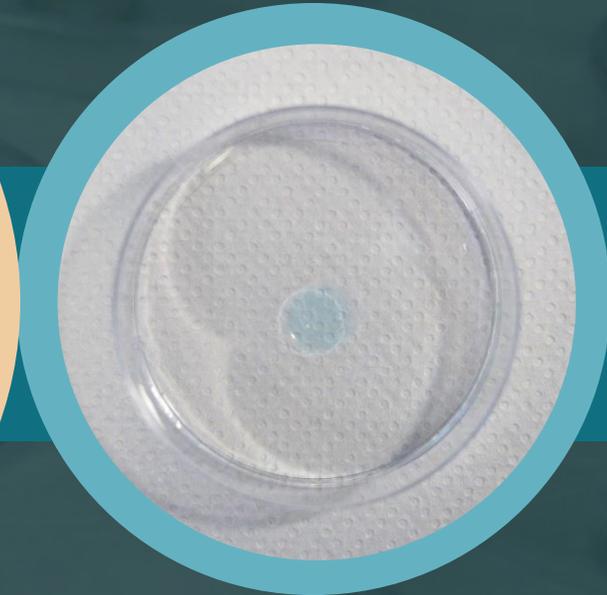
ISO 18369-1:2017



**Hydrogel**  
*Group 1 and 4*

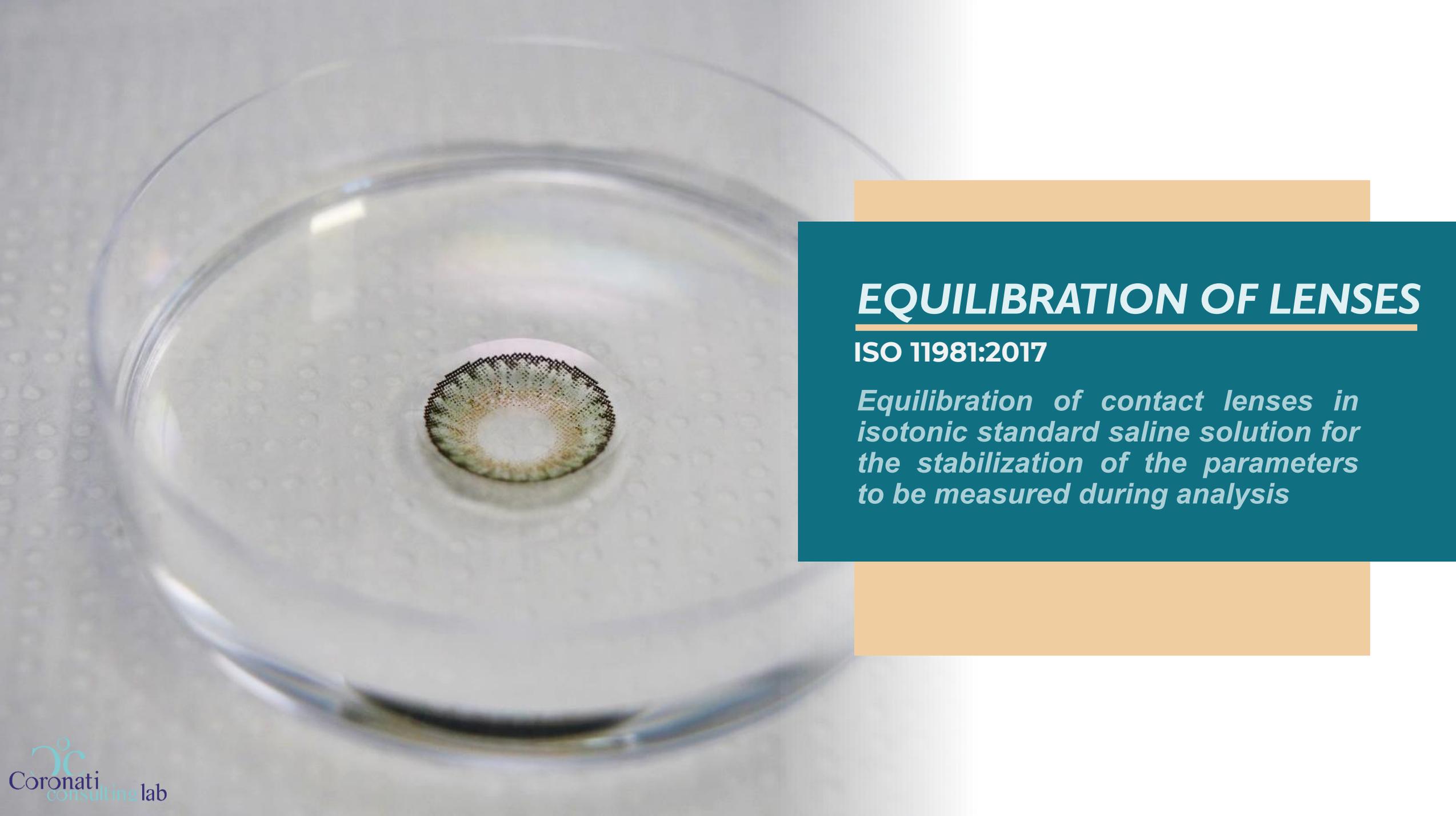


**Silicone Hydrogel**  
*Group 5A, 5B and 5C*



**Non Hydrogel**  
*Group 1, 2 and 3*

The ophthalmic solutions are tested with different types of contact lenses made of materials defined in accordance with the classification of the ISO 16369-1 standard.

A close-up photograph of a contact lens resting on a white, textured paper towel inside a clear glass petri dish. The lens is circular and has a complex, multi-colored pattern of green, yellow, and brown, suggesting it might be a specialized or multi-focal lens. The background is a plain, light-colored surface.

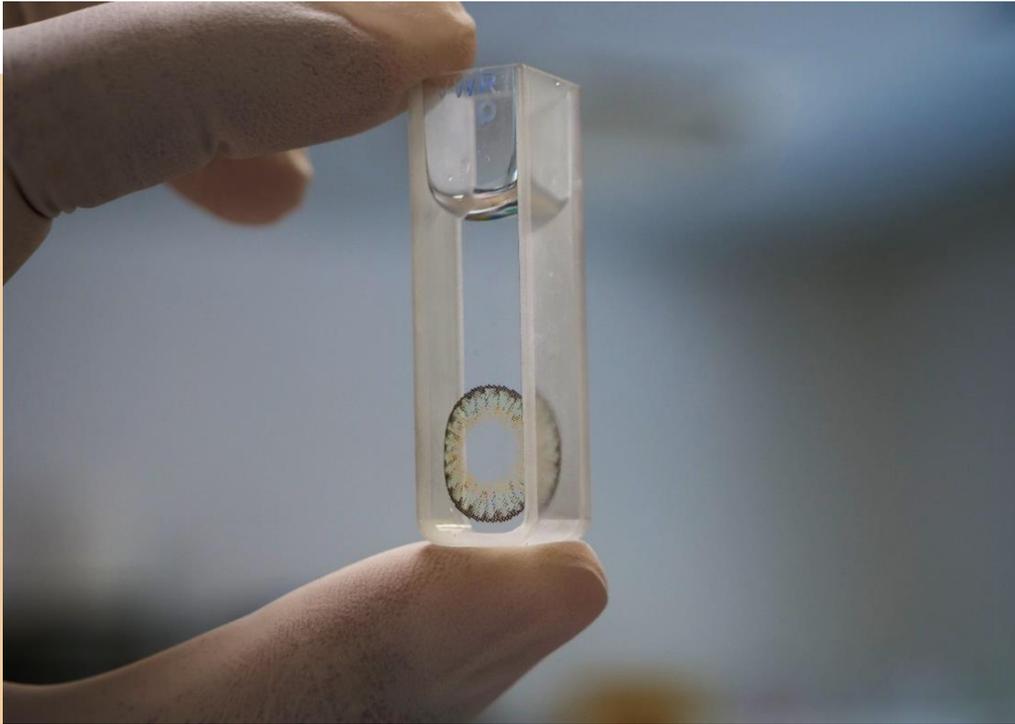
## ***EQUILIBRATION OF LENSES***

**ISO 11981:2017**

*Equilibration of contact lenses in isotonic standard saline solution for the stabilization of the parameters to be measured during analysis*

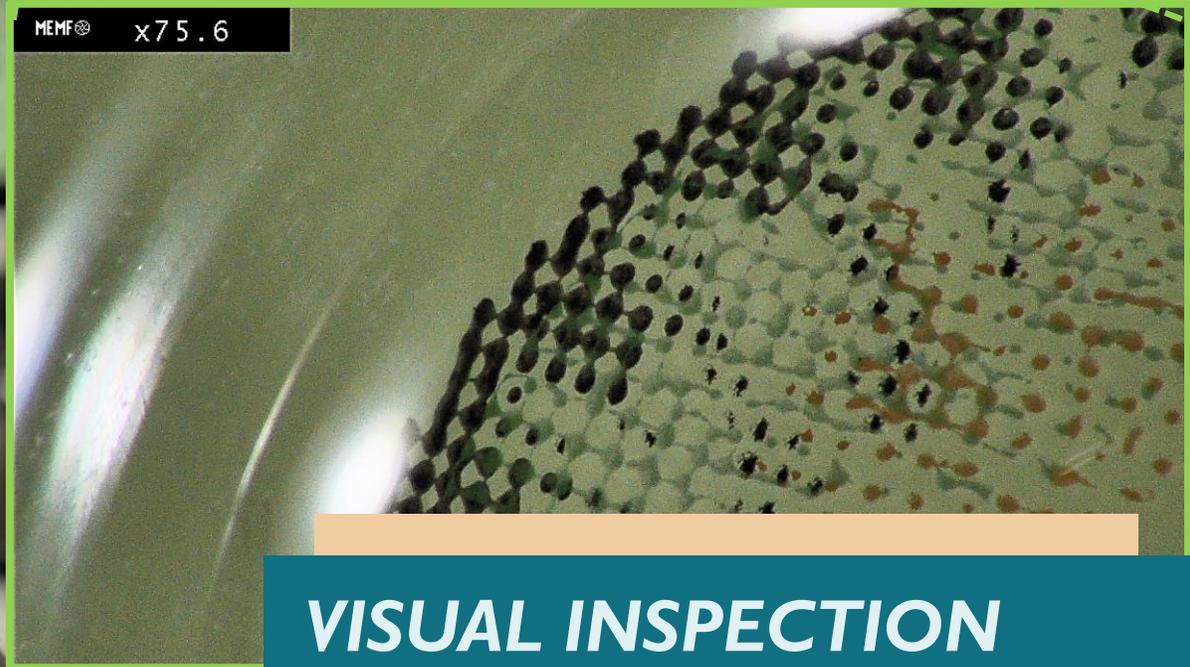
# TEST METHOD

ISO 18369-3:2017



Physical analysis of lenses performed before and after contact with the ophthalmic solution:

- ✓ Visual Inspection
- ✓ Transmittance UV-VIS
- ✓ Dimensional analysis



## **VISUAL INSPECTION**

**ISO 18369-3:2017**

*Detection of surface imperfections,  
opacity or undefined edges*

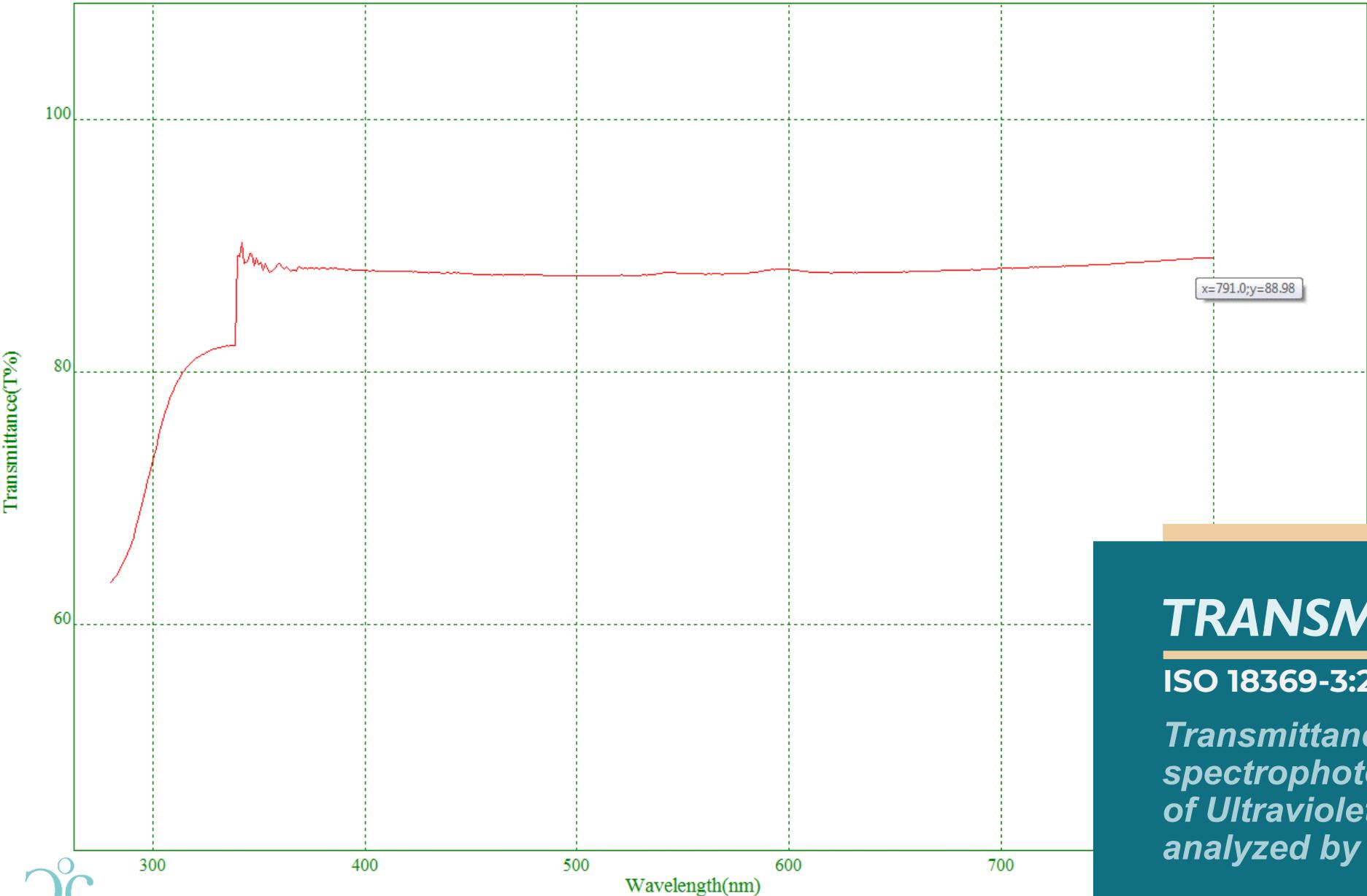


## **TRANSMITTANCE UV-VIS**

**ISO 18369-3:2017**

*UV-VIS transmittance of lenses is measured in the spectra region between 380 nm to 780 nm*

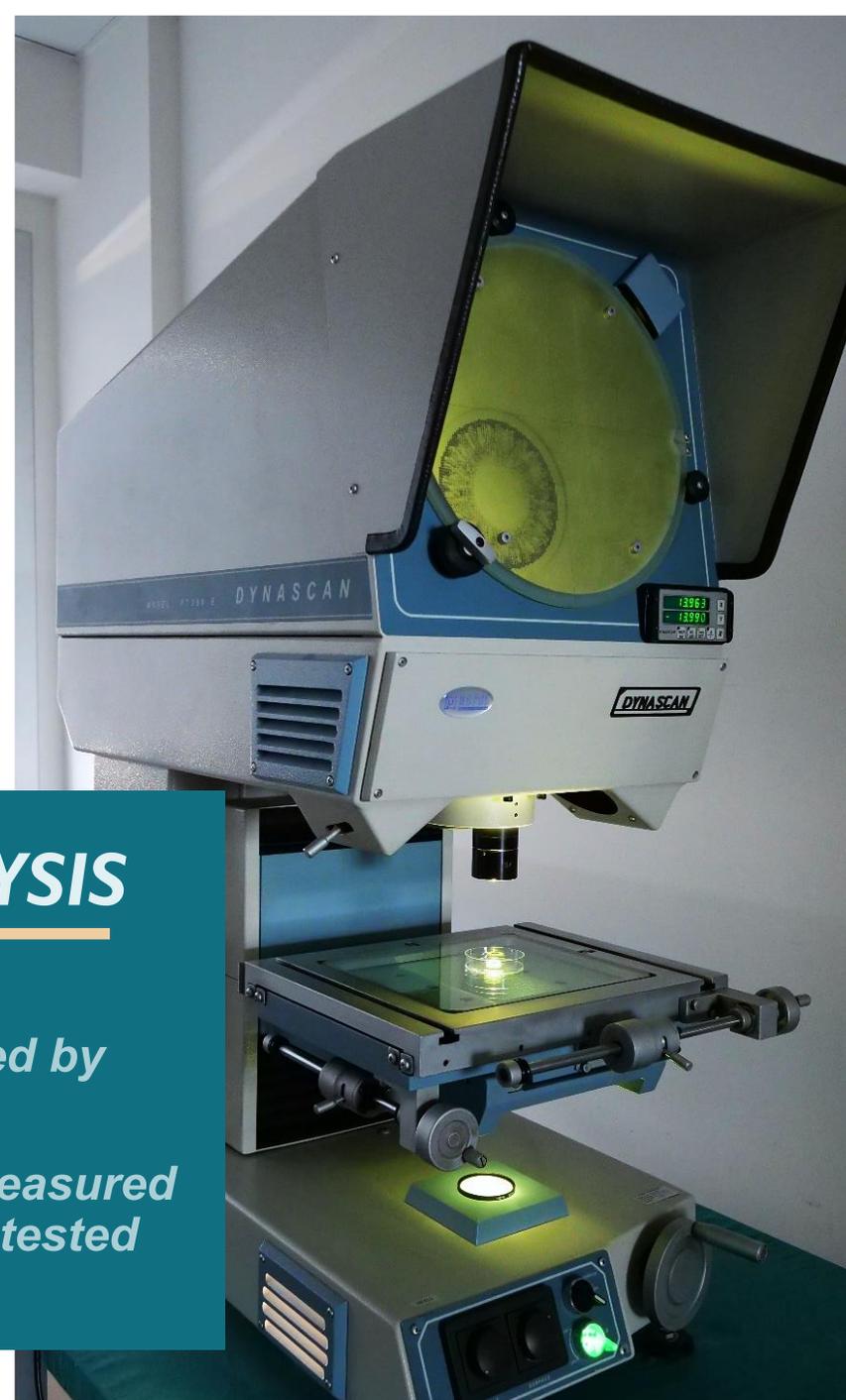
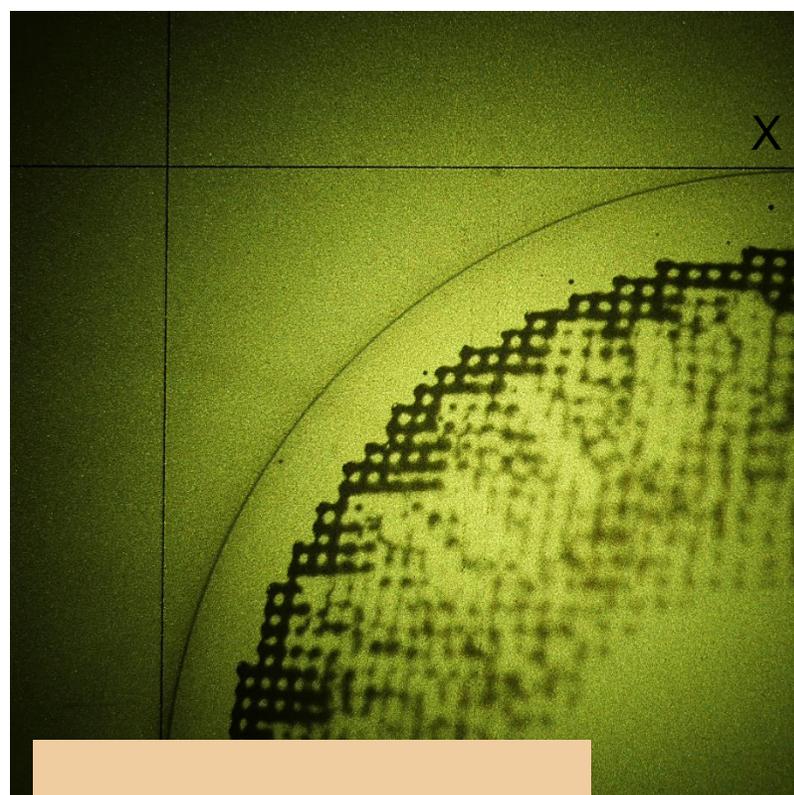
Lambda(...	T(%)	FW...
280.0nm	43.98	
281.0nm	44.09	
282.0nm	44.27	
283.0nm	44.55	
284.0nm	44.90	
285.0nm	45.30	
286.0nm	45.75	
287.0nm	46.23	
288.0nm	46.74	
289.0nm	47.30	
290.0nm	47.95	
291.0nm	48.65	
292.0nm	49.44	
293.0nm	50.32	
294.0nm	51.26	
295.0nm	52.25	
296.0nm	53.30	
297.0nm	54.38	
298.0nm	55.44	
299.0nm	56.50	
300.0nm	57.51	
301.0nm	58.50	
302.0nm	59.49	
303.0nm	60.46	
304.0nm	61.39	
305.0nm	62.31	



# TRANSMITTANCE UV-VIS

ISO 18369-3:2017

*Transmittance values are detected by spectrophotometer in the spectrum of Ultraviolet and Visible light and analyzed by a software*

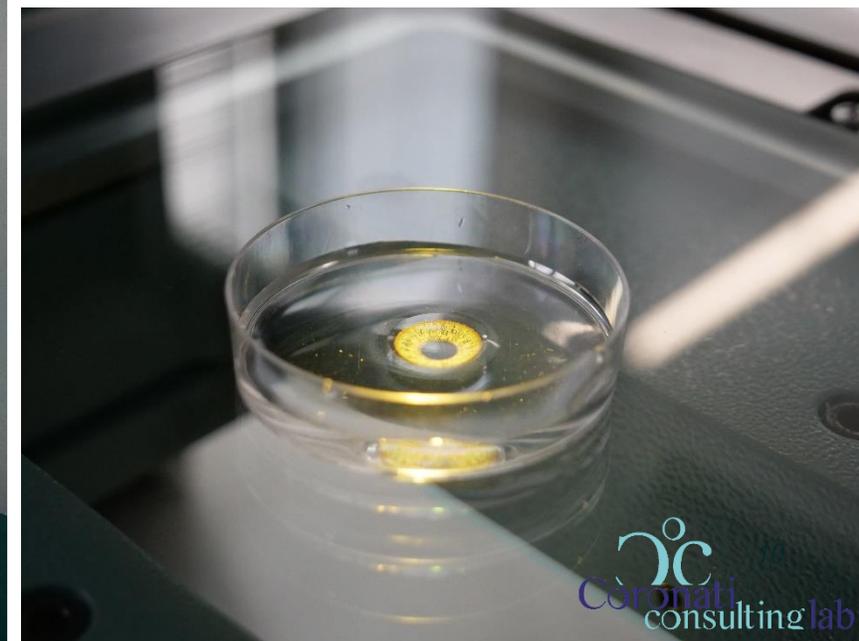


## ***DIMENSIONAL ANALYSIS***

**ISO 18369-3:2017**

***Dimensional analysis is performed by projector comparator method***

***Variations in lens diameter are measured before and after contact with the tested solution***





## INTERACTION WITH OPHTHALMIC SOLUTION

### ISO 11981:2017

*Contact lenses are immersed in the test solution and incubated for a defined period at specific controlled temperature.*

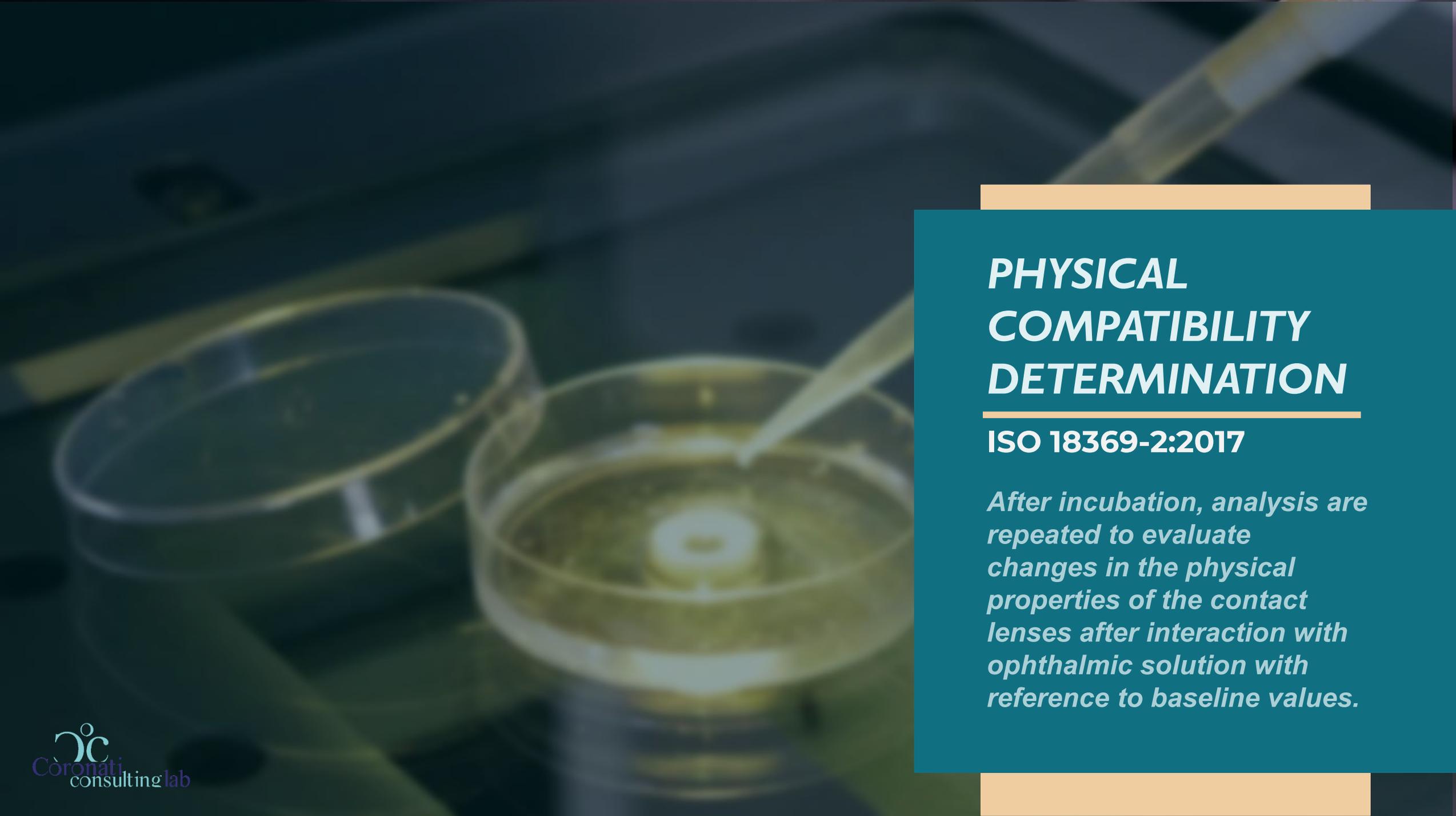
*Simultaneously, control lenses of the same type are maintained in the original liquid for the same period under the same conditions of temperature.*



## ***INCUBATION***

**ISO 11981:2017**

*The lenses are kept in contact with the test solution for a defined period and temperature with the aim of representing the simulated use of the test product*



# **PHYSICAL COMPATIBILITY DETERMINATION**

**ISO 18369-2:2017**

*After incubation, analysis are repeated to evaluate changes in the physical properties of the contact lenses after interaction with ophthalmic solution with reference to baseline values.*

# FOR MORE INFO CONTACT US!

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