

ISO 18369-4:2017-08 (E)

Ophthalmic optics - Contact lenses - Part 4: Physicochemical properties of contact lens materials

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Physicochemical properties of contact lenses	1
4.1	Repeatability, test methods and units of measure	1
4.2	Extractables	2
4.2.1	General	2
4.2.2	Principle	2
4.2.3	Apparatus	2
4.2.4	Reagents	3
4.2.5	Test samples	4
4.2.6	Test procedure	4
4.2.7	Calculation of results	5
4.2.8	Test report	5
4.3	Rigid lens flexural deformation and rupture	5
4.3.1	Principle	5
4.3.2	Sampling	5
4.3.3	Preparation of samples	6
4.3.4	Apparatus	6
4.3.5	Procedure	8
4.3.6	Test result	8
4.4	Oxygen permeability	9
4.4.1	General	9
4.4.2	Common elements of the methods	9
4.4.3	Polarographic method	10
4.4.4	Normalization of the corrected oxygen permeability using reference lenses	18
4.4.5	Test report	19
4.5	Refractive index	19
4.5.1	General	19
4.5.2	Abbe refractometer	19
4.5.3	Test samples	20
4.5.4	Procedure	20
4.5.5	Expression of test results	21
4.5.6	Test report	21
4.6	Water content	22
4.6.1	General	22
4.6.2	Gravimetric determination of water content/absorption by loss on drying using an oven	22
4.6.3	Test report	24
5	Test report	24
Annex A (informative) Determination of oxygen permeability using the coulometric method		25
Annex B (informative) Determination of water content by refractive index		32

Annex C (informative) Calculation of oxygen permeability of hydrogel lenses based on water content	33
Annex D (informative) Measurement of refractive index using a prism coupling device	34
Bibliography	36