



ACCREDITATION DOCUMENT

TEST 002

**Nordisk Institutt for Odontologiske Materialer AS (NIOM as),
Sognsveien 70 A
0855 OSLO**

The scope of accreditation is in accordance with the specifications on the following pages in this document.


The accreditation was initially granted 01.09.1992. The accreditation is given according to "Law on the free exchange of goods in the European Economic Area" of 14.04.2013.
The organisation complies with the requirements in NS-EN ISO/IEC 17025 (2005)

The accreditation requires regular surveillance, and is valid until 19.10.2021.
The decision of accreditation made by Norwegian Accreditation implies that the organisation has been found to fulfil the requirements for accreditation within the scope.
The organisation itself is responsible for the results of performed measurements.

NORWEGIAN ACCREDITATION

28.10.2016

Date


Norwegian Accreditation

Administrative/geographical unit:
Nordic Institute of Dental Materials (NIOM)
Sognsveien 70 A
0855 OSLO

Permanent facility

P15 Metallurgy

Object	Parameter	Reference standard	Identity of internal method	Comments
Notched-edge shear bond strength test	Adhesion	ISO 29022	4-7	Measuring principle: Shear testing apparatus, universal testing machine
Metal-ceramic dental restorative systems	Metal ceramic bond characterization	NS-EN ISO 9693-1	6.4	Measuring principle: Three-point bending (force), micrometer (length)
Dentistry - Water-based cements - Part 2: Resin-modified cement:	Flexural strength	NS-EN ISO 9917-2	Annex C	Measuring principle: Three-point bending (force), micrometer (dimension)
Dentistry - Water-based cements - Part 2: Resin-modified cement:	Shade and colour stability	NS-EN ISO 9917-2	Annex E	Measuring principle: Xenon irradiation, visual inspection of colour difference and shade
Denture base polymers	Packing plasticity	ISO 20795-1	8.2	Measuring principle: Micrometer (depth)
Denture base polymers	Colour	ISO 20795-1	8.3	Measuring principle: Visual inspection of shade
Denture base polymers	Colour stability	ISO 20795-1	8.4	Measuring principle: Xenon irradiation, visual inspection of colour differences
Denture base polymers	Translucency	ISO 20795-1	8.5	Measuring principle: Visual inspection
Denture base polymers	Ultimate flexural strength	ISO 20795-1	8.5	Measuring principle: Three-point bending (force), micrometer (dimension)
Denture base polymers	Flexural modulus	ISO 20795-1	8.5	Measuring principle: Three-point bending (force), micrometer (dimension)
Denture base polymers	Polishability	ISO 20795-1	8.5	Measuring principle: Polishing, visual inspection
Denture base polymers	Bonding to synthetic polymer teeth	ISO 20795-1	8.7	Measuring principle: Tensile testing, visual inspection
Denture base polymers	Solubility	ISO 20795-1	8.9	Measuring principle: Gravimetry
Denture base polymers	Water sorption	ISO 20795-1	8.9	Measuring principle: Gravimetry
Polymer-based filling, restorative and luting materials	Sensitivity to ambient light, class 2 materials	ISO 4049	7.9	Measuring principle: Illumination, visual inspection
Polymer-based filling, restorative and luting materials	Depth of cure, class 2 materials	ISO 4049	7.10	Measuring principle: Metric determination micrometer
Polymer-based filling, restorative and luting materials	Flexural strength	ISO 4049	7.11	Measuring principle: Three-point bending (force), micrometer (dimension)
Polymer-based filling, restorative and luting materials	Water sorption and solubility	ISO 4049	7.12	Measuring principle: Gravimetry
Polymer-based filling, restorative and luting materials	Shade and colour stability	ISO 4049	7.13	Measuring principle: xenon irradiation, visual inspection of colour difference and shade

28.10.2016

Date


Norwegian Accreditation

Accreditation document
Accreditation no. TEST 002

Administrative/geographical unit:
Nordic Institute of Dental Materials (NIOM)
Sognsveien 70 A
0855 OSLO

Permanent facility

P15 Metallurgy

Object	Parameter	Reference standard	Identity of internal method	Comments
Ceramic materials	Flexural strength, three-point	ISO 6872	7.3	Measuring principle: Three-point bending (force), micrometer (dimension)
Ceramic materials	Flexural strength, biaxial	ISO 6872	7.3	Measuring principle: Biaxial bending (force), micrometer (dimension)
Ceramic materials	Linear thermal expansion	ISO 6872	7.4	Measuring principle: TMA (Thermal Mechanical Analyses)
Ceramic materials	Glass transition temperature	ISO 6872	7.5	Measuring principle: TMA (Thermal Mechanical Analyses)
Ceramic materials	Chemical solubility	ISO 6872	7.6	Measuring principle: Gravimetry, micrometer (dimension)
Polymer-based crown and bridge materials	Sensitivity to ambient light	ISO 10477	7.3	Measuring principle: Homogeneity, visual inspection
Polymer-based crown and bridge materials	Surface finish	ISO 10477	7.5	Measuring principle: Polishing, visual inspection
Polymer-based crown and bridge materials	Flexural strength	ISO 10477	7.6	Measuring principle: Three-point bending (force), micrometer (dimension)
Polymer-based crown and bridge materials	Solubility	ISO 10477	7.8	Measuring principle: Gravimetry
Polymer-based crown and bridge materials	Water sorption	ISO 10477	7.8	Measuring principle: Gravimetry
Polymer-based crown and bridge materials	Colour stability	ISO 10477	7.9	Measuring principle: Xenon irradiation, visual inspection of colour differences
Polymer-based crown and bridge materials	Shade consistency	ISO 10477	7.9	Measuring principle: Visual inspection of shade
Orthodontic base polymers	Colour	NS-EN ISO 20795-2	8.2	Measuring principle: Visual inspection of shade
Orthodontic base polymers	Ultimate flexural strength	NS-EN ISO 20795-2	8.3	Measuring principle: Three-point bending (force), micrometer (dimension)
Orthodontic base polymers	Flexural modulus	NS-EN ISO 20795-2	8.3	Measuring principle: Three-point bending (force), micrometer (dimension)
Orthodontic base polymers	Polishability	NS-EN ISO 20795-2	8.3	Measuring principle: Polishing, visual inspection
Orthodontic base polymers	Water sorption and solubility	NS-EN ISO 20795-2	8.7	Measuring principle: Gravimetry
Artificial teeth for dental prostheses	Dimensions of teeth	ISO 22112	7.2	Measuring principle: Caliper
Artificial teeth for dental prostheses	Comparison with shade guide	ISO 22112	7.3	Measuring principle: Visual inspection of shade
Artificial teeth for dental prostheses	Surface finish	ISO 22112	7.5	Measuring principle: Polishing, visual inspection
Artificial teeth for dental prostheses	Porosity and other defects	ISO 22112	7.7	Measuring principle: Visual inspection

28.10.2016

Date


Norwegian Accreditation

Administrative/geographical unit:

Nordic Institute of Dental Materials (NIOM)

**Sognsveien 70 A
0855 OSLO**

Permanent facility

P15 Metallurgy

Object	Parameter	Reference standard	Identity of internal method	Comments
Artificial teeth for dental prostheses	Bonding	ISO 22112	7.11	Measuring principle: Tensile testing, visual inspection
Artificial teeth for dental prostheses	Resistance to blanching, distortion and crazing	ISO 22112	7.12	Measuring principle: Microscopy, visual inspection
Artificial teeth for dental prostheses	Colour stability	ISO 22112	7.13	Measuring principle: Xenon irradiation, visual inspection of colour differences
Artificial teeth for dental prostheses	Dimensional stability	ISO 22112	7.14	Measuring principle: Caliper
Metallic materials for fixed and removable restorations and appliances	Proof strength of 0,2% non-proportional extension	ISO 22674	8.3.3	Measuring principle: Universal testing machine, force/length
Metallic materials for fixed and removable restorations and appliances	Percentage elongation after fracture	ISO 22674	8.3.4	Measuring principle: Universal testing machine, force/length
Metallic materials for fixed and removable restorations and appliances	Density	ISO 22674	8.4	Measuring principle: Gravimetry
Metallic materials for fixed and removable restorations and appliances	Sample preparation	ISO 22674	8.5	Quantification with ICP by sub-contractor
Metallic materials for fixed and removable restorations and appliances	Linear thermal expansion	ISO 22674	8.8	Measuring principle: TMA (Thermal Mechanical Analyses)

Permanent facility

P25 Biology

Object	Parameter	Reference standard	Identity of internal method	Comments
Medical devices	In vitro cytotoxicity	ISO 10993-5	Annex C	Measuring principle: MTT cytotoxicity test

28.10.2016

Date



Norwegian Accreditation



Accreditation document
Accreditation no. TEST 002

Administrative/geographical unit:
Nordic Institute of Dental Materials (NIOM)
Sognsveien 70 A
0855 OSLO

Internal method number is referring to paragraph in the standard

28.10.2016

Date


Norwegian Accreditation