



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Lucideon M+P
2210 Technology Drive
Schenectady, NY 12308

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2017

while demonstrating technical competence in the field of

TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

L2287

Certificate Number


ANAB Approval

Certificate Valid Through: 04/21/2023
Version No. 004 Issued: 03/12/2020



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Lucideon M+P

2210 Technology Drive
Schenectady, NY 12308
David Behnke
518 382 0082

TESTING

Valid to: April 21, 2023

Certificate Number: L2287

Chemical

Table with 4 columns: Specific Tests and/or Properties Measured, Specification, Standard, Method, or Test Technique, Items, Materials or Product Tested, Key Equipment or Technology. Rows include Inductively Coupled Plasma - Optical Emission Spectroscopy (ICP-OES), Carbon/Sulfur Combustion Analysis, Fourier Transform Infrared Spectroscopy (FTIR), Ion Chromatography, Thermo-mechanical Analysis (TMA), and Differential Scanning Calorimetry (DSC).



Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Thermo-gravimetric Analysis - Differential Scanning Calorimetry (TGA-DSC) Thermo-gravimetric Analysis - Differential Thermal Analysis (TGA-DTA)	ASTM E1356 CHM1093	Organics Polymers Elastomers Metals Composites	
Viscosity: Brookfield	ASTM D446 ASTM D1824 ASTM D2196 CHM1072	Liquids	
Density	ASTM D792 CHM1002 CHM1028	Liquids	
pH (0 to 14)	ASTM E70 ASTM D664 CHM1007	Liquids	
Copper Purity (Electrodeposition, Gravimetry) (99.99999%)	ASTM E53 CHM1024	Copper Metal	
Solids (Dissolved, Total, Suspended)	NCASI Technical Bulletin No. 291, National Council of the Paper Industry for Air and Stream Improvement CHM1045; CHM1046 CHM1052	Liquids	
Beilstein Qualitative Halides Test	D.J. Pasto, C.R. Johnson, Organic Structure Determination- Prentice-Hall + R.L. Shriner, The Systematic Identification of Organic Compounds, 6th Ed., John Wiley & Sons CHM1017	Solid + Liquid Organics	
SEM/EDS	SEM1001 ASTM E986 ASTM E1508	Metals, Alloys	

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Shore Hardness (20 to 90) A, D (0 to 100) M	ASTM D2240 CHM1058	Polymers Elastomers	
Rockwell Hardness (63 to 82) A (50 to 94) B (25 to 63) C (77 to 97) E (61 to 95) F (90 to 118) M	ASTM E18 ASTM D785 MCH1006 MCH1058	Metals, Alloys Polymers	
Brinell Hardness (48 to 99) Full Scale	ASTM E110 MCH1005	Metals, Alloys	
Room Temperature Tensile (Up to 120) kip	ASTM E8 ASTM D638 ASTM D3039 MCH1001; MCH1016 MCH1049; ELM1072	Metals, Alloys Polymers Composites Thermoset Laminates	
Elevated Temperature Tensile (Up to 120) kip	ASTM E21 MCH1000	Metals, Alloys Polymers Composites	
Charpy Impact (Up to 264) ft-lbs	ASTM E23 MCH1002	Metals, Alloys	
Bend Testing of Welds	ASTM E190 ASME B&PVC, Sect. IX MCH1008	Metals, Alloys	
Flexural Testing (Up to 50) kip	ASTM D790 ASTM D6272 ASTM C1161 MCH1012 MCH1063 MCH1064	Metals, Alloys Polymers Ceramics	

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Compression Testing (Up to 120) kip	ASTM E9 ASTM D695 MCH1004; MCH1042	Metals, Alloys	
Shear Testing (Up to 10 000) lbf	ASTM D5379 ASTM D3518 MCH1043	Metals, Alloys Polymers	
Knee Implant Wear Testing Axial Load: (Up to 1 000) lbf Axial Displacement: (+/- 1) in Flexion/Extension: (+/- 100) degrees Flexion/Extension Torque: (Up to 700) in-lbs IE Rotation: (+/- 20) degrees IE Torque: (Up to 350) in-lbs AP Displacement: (+/- 1) in AP Load: (Up to 450) lbf ML Translation: (+/- 6) mm Valgus Rotation: (+/- 7) degrees	BS ISO 14243-1 BS ISO 14243-2 BS ISO 14243-3	Metals, alloys, polymers, ceramics	

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
<p>Hip Implant Wear Testing</p> <p>Axial Load: (Up to 1 000) lbf Axial Displacement: (+/- 0.75) in Flexion/Extension: (+/- 50) degrees Flexion/Extension Torque: (Up to 180) in-lbs IE Rotation: (+/- 20) degrees IE Torque: (Up to 70) in-lbs Abduction/Adduction: (+/- 20) degrees Abduction/Adduction Torque: (Up to 180) in-lbs</p>	<p>ISO 14242-1, -2 MCH1099 MCH1081</p>	<p>Metals, alloys, polymers, ceramics</p>	
<p>Endurance Properties of Partial and Total Hip Joint Prostheses (Up to 5 000) lb</p>	<p>ISO 7206-4 MCH1094</p>	<p>Hip stems</p>	
<p>Surface topography Surface roughness</p>	<p>ASTM F2791 I&A 1002</p>	<p>Metals, alloys, polymers, ceramics</p>	<p>White Light Interferometry</p>
<p>Microindentation Hardness Knoop, Vickers</p>	<p>ASTM E384 MLG1008</p>	<p>Metals, Alloys</p>	
<p>Effective Case Depth</p>	<p>SAE J423 MLG1016</p>	<p>Metals, Alloys</p>	<p>Knoop, Vickers</p>
<p>Macroetch / Evaluation</p>	<p>ASTM E340 MLG1025</p>	<p>Metals, Alloys</p>	
<p>Metallographic Preparation</p>	<p>ASTM E407 ASTM E3 MLG1003 MLG1049</p>	<p>Metals, Alloys</p>	
<p>Microstructural Evaluation</p>	<p>ASTM E407 ASTM E3 SAEJ423 MLG1016</p>	<p>Metals, Alloys</p>	



Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Grain Size	ASTM E112; ASTM E930; ASTM E1181; MLG1017	Metals, Alloys	
Intergranular Attack / Intergranular Oxide	P3DAG1 P29TF73; MLG1029	Metals, Alloys	
Digital Image Correlation	MCH1093		
Weld Evaluation	AWS D17.1; MLG1058	Metals, Alloys	
Failure Analysis	ASM Metal Handbook, 9th Ed., Vol 11	Utilizing Test Methods in this Scope of Accreditation	

Electrical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Volume + Surface Resistivity <math>< 500 \times 10^{12}</math> ohm	ASTM D257 ELM1024	Plastic Laminates	
Dielectric Breakdown <math>< 150</math> kV	ASTM D149 ELM1025	Plastic Laminates	
Permittivity	ASTM D150 ELM1041	Plastic Laminates	
Conductivity	GE A50A268 ELM1065	Suppressor Tape SiC Powder	
Dissipation Factor	ASTM D149 GE A50A555 ELM1076 ELM1082	Stator Bars	
Electrical Breakdown ≤ 150 kV	ASTM D149 ELM1077 ELM1081	Stator Bars	

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2287.
2. This laboratory offers commercial testing service.

 Vice President