



# X1 LUMIA DENTAL MATERIAL GUIDE

## Hi-Speed SLA

Eliminate all tradeoffs between throughput, accuracy, feature resolution, and surface finish while printing 20x faster than conventional SLA.

The Lumia X1 Dental is a Hi-Speed SLA system that encompasses patented Hybrid PhotoSynthesis (HPS) printing, TruLayer technology, and an industry-wide material ecosystem. HPS Technology uses multiple energy sources to simultaneously image both expansive flat areas and intricate details. TruLayer technology facilitates rapid detachment of the active print layer, seamlessly transitioning to the next. Achieving diverse geometries is now possible with 2X-20X higher throughput compared to current technologies.

Our unique industry material ecosystem allows for pre-established solutions from leading material providers. See specific solution on the back.

Axtra3D is also proud to partner with Oqcam and exocad for superior workflow planning for every production run, achieving diverse geometries is now possible with 2X-20X faster than current technologies.

HPS

4K DLP / 4K LCD

## KeyModel Ultra™ - Light Grey & Ivory

### Applications

Dental and orthodontic models

### Tech-Specs

Ultimate Tensile Strength: >50 MPa  
Tensile Modulus: 1700 MPa  
Elongation at Break: 5%

### Features

- Ultra-fast printing
- Integrated thermoforming quick-release agent
- Flawless detail
- Carve-able without chipping
- Impressive surface detail

## KeyGuide®

### Applications

Surgical guides

### Tech-Specs

Ultimate Flexural Strength: 106 MPa  
Flexural Modulus: 2400 MPa  
Elongation at Break: 6,3%

### Features

- Biocompatible capable per ISO10993-5 and ISO10993-10
- Autoclave sterilizable
- High strength and stiffness for withstanding typical forces during use
- Exceptional accuracy ensuring consistent fit of the guide and sleeves

## KeySplint Hard® Clear

### Applications

Rigid orthodontic and dental devices.  
Bite planes, flexible nightguards, splints, repositioners and retainers.  
Post-trauma tooth immobilization

### Tech-Specs

Ultimate Flexural Strength: 100 MPa  
Flexural Modulus: 2300 MPa  
Elongation at Break: 9,0%  
Shore Hardness: 89 D

### Features

- Biocompatible capable per ISO10993-1
- United States FDA 510k-Cleared
- CE Marked (Class IIA)
- Unmatched Strength
- Stain resistant
- Highly abrasion-resistant
- Easy to polish

## KeySplint Soft® - Clear & Violet

### Applications

Orthodontic and dental appliances  
Bite planes, mouthguards, Nightguards, splints and repositioners

### Tech-Specs

Ultimate Flexural Strength: 45 MPa  
Flexural Modulus: 1200 MPa  
Ultimate Tensile Strength: 52 MPa  
Tensile Modulus: 1790 MPa  
Elongation at Break: >110%  
Shore Hardness: 80-85 D

### Features

- Biocompatible capable per ISO10993-5 and ISO10993-10
- Enhanced patient comfort
- Not brittle
- Fracture and abrasion resistant
- Flexible
- Highly abrasion-resistant
- Transparent

## NextDent Denture Base

### Applications

Full removable dentures  
Partial removable dentures

### Tech-Specs

Fracture Work: > 2000 J/m<sup>2</sup>  
Stress Intensity Factor: >= 1.5 N/mm  
Charpy Impact: >= 8.0 kJ/m<sup>2</sup>  
Water Sorption: <= 32 ug/mm<sup>3</sup>  
Water Solubility: <= 8 ug/mm<sup>3</sup>

### Features

- Biocompatible capable per ISO10993-1
- High break resistance
- Flexibility for partial dentures
- Accurate and repeatable printability



## Printodent® GR-19.1 OA | MSI - Ocean Blue

### Applications

Hard-elastic orthodontic splints with reduced biofilm adhesion

### Features

- Reduced biofilm adhesion due to MSI® technology
- Hard flexible
- Highest wearing comfort due to thermo effect

### Tech-Specs

Ultimate Flexural Strength: 56 MPa  
Flexural Modulus: 1550 MPa  
Water Sorption: <= 32 ug/mm<sup>3</sup>  
Water Solubility: <= 5 ug/mm<sup>3</sup>  
Total Fracture Work: >= 250 MPa/m<sup>2</sup>

## Printodent® GR-19.1 OA | MSI - Clear

### Applications

Hard-elastic orthodontic splints with reduced biofilm adhesion

### Features

- Reduced biofilm adhesion due to MSI® technology
- Hard flexible
- Highest wearing comfort due to thermo effect

### Tech-Specs

Ultimate Flexural Strength: 56 MPa  
Flexural Modulus: 1550 MPa  
Water Sorption: <= 32 ug/mm<sup>3</sup>  
Water Solubility: <= 5 ug/mm<sup>3</sup>  
Total Fracture Work: >= 250 MPa/m<sup>2</sup>

## Printodent® GR-14.2 HI | MSI - Orange-Pink

### Applications

Denture bases or applications requiring high fit accuracy

### Features

- Reduced biofilm adhesion due to MSI® technology
- High Impact
- High accuracy of fit

### Tech-Specs

Ultimate Flexural Strength: 82 MPa  
Flexural Modulus: 2100 MPa  
Water Sorption: <= 24.8 ug/mm<sup>3</sup>  
Water Solubility: <= 1.5 ug/mm<sup>3</sup>  
Total Fracture Work: >= 1700 J/m<sup>2</sup>

## Printodent® GR-17.1 - A2 & B2

### Applications

FDA approved for temporaries and denture teeth

### Features

- Biocompatible
- Double indication (temporary and denture teeth)
- Easy to clean
- Radiopaque

### Tech-Specs

Flexural Stress: 169 MPa  
Flexural Modulus: 5528 MPa  
Water Sorption: <= 31.1 ug/mm<sup>3</sup>  
Water Solubility: <= 1.1 ug/mm<sup>3</sup>  
Shore Hardness: 80 D

**Additional Product Information**  
**888-315-5103, or sales@axtra3d.com**

