3D Systems Solutions for Clear Aligner Thermoforming Tools



Digital Dentistry Solutions for Accurate, Scalable, Repeatable Models for Thermoformed Aligners

3D SYSTEMS

SLA 825 Dual

Bigger Builds. Faster Throughput. Reliable Results.

The SLA 825 Dual is a next-level, industrial, large frame SLA 3D printing solution designed for high volume, time-intensive industries developing complex parts, the SLA 825 Dual combines the largest build volume in its class, ultra-high speed scanning technology, and a full-solution workflow.

Large-format productivity

- Largest build volume in its class enables more parts per fun
- Breakthrough print speeds driven by dual 4W lasers and HyperScan™ technology accelerate production without sacrificing quality
- Lower total production costs by requiring fewer machines and less labor



First-article success

- Industry-leading dimensional accuracy and repeatability ensure consistent results across large and complex builds
- Fine resolution delivers sharp details on both small features and large geometries
- Uniform accuracy across the entire build platform through kinematically driven build modes and dynamic beam focus

Production-Grade SLA Ecosystem

- Integrated workflow combining printer, 3D Sprint® software, materials, post-curing systems, and application support
- Dedicated post-curing solutions (incl. PostCure1050) ensure maximum mechanical performance, dimensional stability, and long-term durability

Printer	SLA 825 Dual
Parts per build	270 models
Print time	~4 hrs 11 min

PSLA 270

Precision Performance.
Scaled to Fit.

The **PSLA 270** delivers industrial-grade SLA accuracy and material efficiency in a **compact, modular system**—perfect for aligner producers looking to scale smart and fast.

Clinical-Grade Accuracy

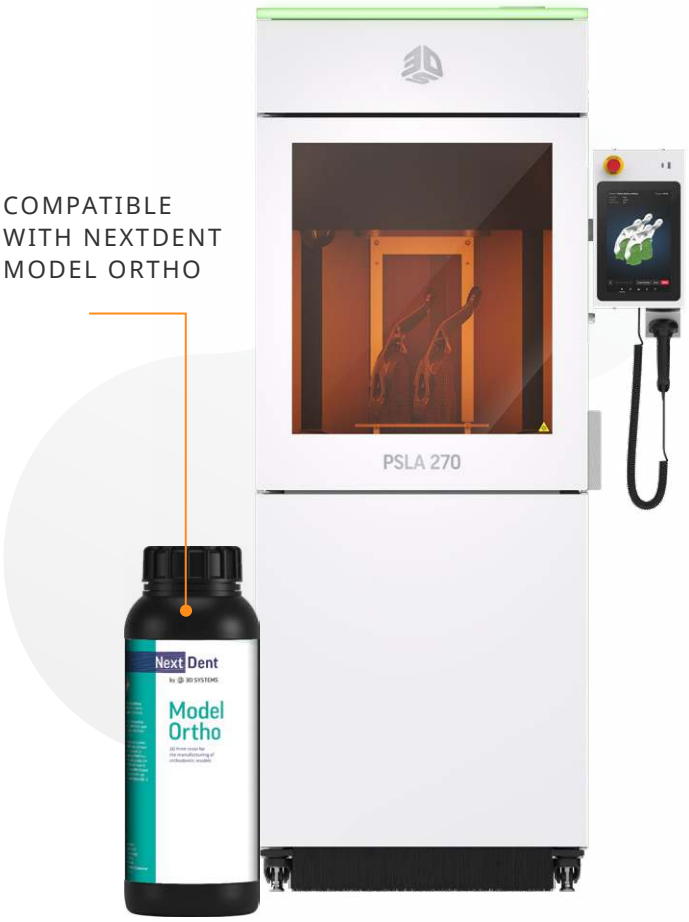
- Vat-based non-contact process uses high-resolution, dual projection to deliver high yield and consistency
- Fast printing of dental models with optimized surface structure and minimal layer lines
- Easy post-processing due to platform size and number of models per run

High Yield. Low Waste.

- High accuracy and part yield
- Low maintenance, non-stop continuous production
- Fast nesting of dental models using proprietary 3D Sprint software

Modular & Scalable

- Compact footprint, ideal for lab-based scaling
- Add units as demand grows — expand capacity without downtime
- Short run batches to streamline your aligner process



Printer	PSLA 270
Parts per build	25 models
Print time	~30 min

NextDent 5100

Fast. Flexible. Formulated for Dentistry.

The **NextDent 5100** is purpose-built for **rapid, chairside or lab-based dental production**. With industry leading print speeds, affordable workflows, and certified dental materials, it's the smart solution for agile aligner manufacturing and more.

High-Speed Precision

- Powered by Figure 4™ technology for ultra-fast build speeds
- Fine detail resolution for accurate aligner models and appliances
- Minimal post-processing time for faster turnaround, fewer bottlenecks

Certified Material Versatility

- Compatible with a wide range of NextDent biocompatible materials
- Easily switch between materials and applications
- Optimized for dental workflows

Affordable, Scalable Access

- Compact system perfect for chairside, small labs, or multi-site scaling
- Low total cost of ownership with efficient resin usage
- Ideal entry point into digital dental production without compromise



Printer	NextDent 5100
Parts per build	30 models
Print time	~2 hrs

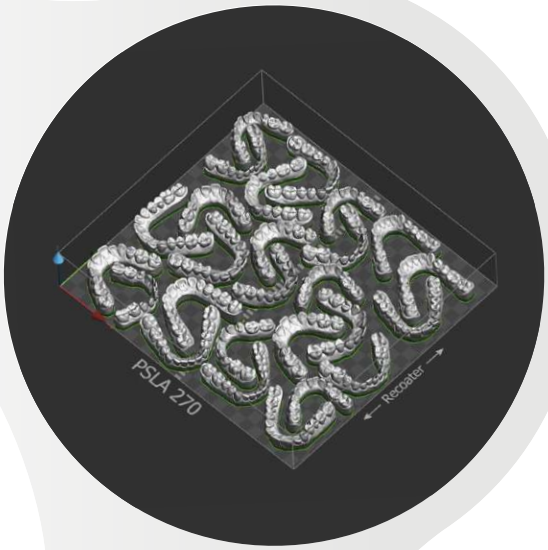
Our Solutions starts with our Software

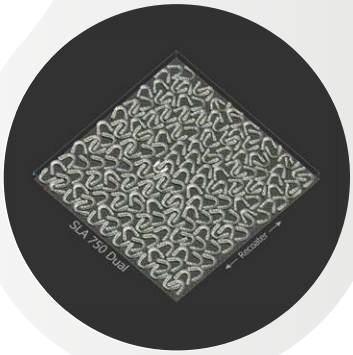
3D Sprint

From scan to print—streamlined, simplified, scalable.

3D Systems' proprietary **3D Sprint®** software streamlines preparation, optimization, and production management, providing efficiency and precision while reducing reliance on high-cost external software.







3D Sprint® – Advanced Print Preparation Software

- **One platform** for file repair, nesting, support generation, and slicing
- **Optimized for dental workflows**, reducing print prep from hours to minutes
- Seamlessly integrates with SLA 825 Dual, PSLA 270, and NextDent 5100
- **Improves throughput** and part consistency at scale

3D Sprint TruShell™

Single-click optimization of orthodontic dental models.

Developed specifically for **orthodontic thermoforming workflows**.

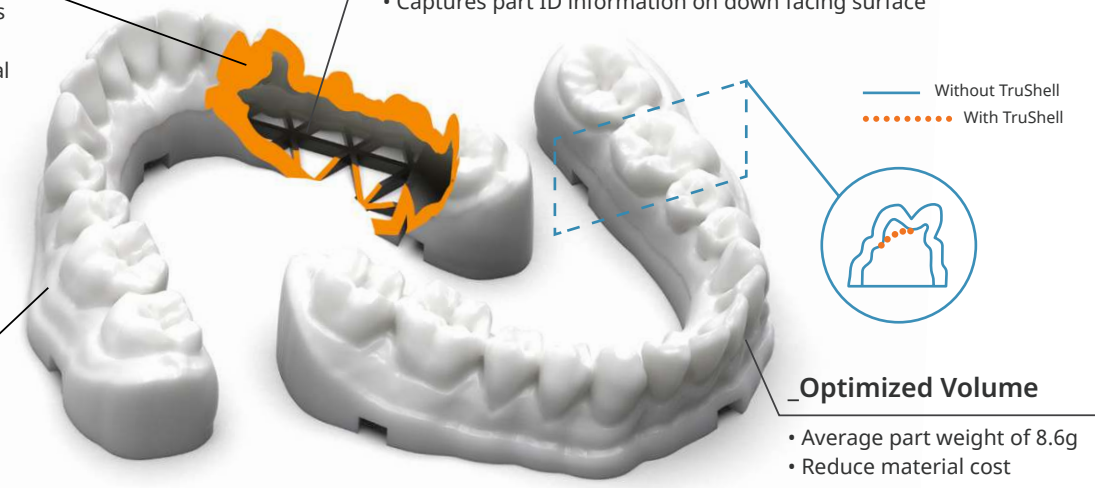
- Automatically generates **shell geometries** tailored to material performance
- Eliminates the need for manual optimization or in-house custom scripting
- Reduces variability and improves fit — **every print, every time**

_Self-Supporting _Uniform Shell

- Definable wall thickness
- Gusset feature ensures self-supporting internal structure

_Scaffold

- Optimized single vector triangulated grid
- Resists deformation during thermoforming
- Captures part ID information on down facing surface



_High Efficiency

- Optimized single-click workflow
- Shelling, scaffold and support generation

_Optimized Volume

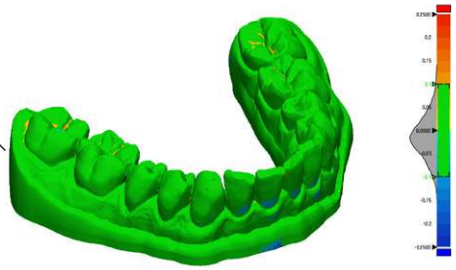
- Average part weight of 8.6g
- Reduce material cost

	SOLID ARCH	vs	TRUSHELL	→	COMPARISON*
Weight (Average):	14.3 g		8.6 g		40% Reduction

*Based on 2mm wall thickness of hollowed model with integrated scaffolding. Results vary based on geometries and specifications.

_High Precision

- +90% Accuracy ±100 µm*



Notes

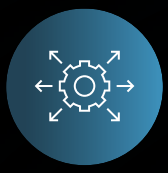
3D SYSTEMS

Your success is our priority, our team is here to help.

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