

Carbon®

**MORE THAN
A PRINTER,
A PARTNER**



One Platform for Every Lab Application



M2 PRINTER



L1 PRINTER



CASSETTE



SMART PART WASHER

Carbon has the right end-to-end solutions for any dental application.

Start with our M2d or M2 printer, add the Smart Part Washer and grow into our C6 cassette. For the clear aligner market, choose the L1 Production Solution for high-volume model production. Our open approach means you can now scan, design, and print using your preferred digital workflow. By going with Carbon, your lab will increase productivity, efficiency, and ROI.

M2d Printer

With a smaller build area, lower throughput laboratories now have access to Carbon DLS technology with the same quality and reliability of the M2. To provide a scalable solution, Carbon can perform a simple software update, enabling access to the entire M2 build area. The M2d is ideal for entry-level labs because it accommodates increasing throughput and growth with no downtime or additional printers.

M2 Printer

The M2 provides a build area measuring 189 mm x 118 mm, advanced manufacturing features, and groundbreaking Carbon DLS technology. This printer supports higher throughput of large parts and includes a connector expansion port for smart accessories. The M2 is well suited to mid-to-large size laboratories.

Smart Part Washer

The Carbon Smart Part Washer (SPW) is a fully connected smart device that pairs with the M2 and M2d. The SPW software generates the ideal wash profile based on dental model geometry and DPR 10 resin and automates the manual washing of printed models. The SPW consistently cleans parts with less manual contact of uncured parts in a 7–8 minute wash cycle. A notification occurs when it is time to change the solvent (approximately every 30 washes).

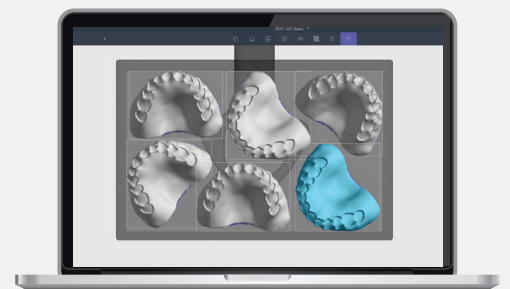
C6 Cassette

The C6 cassette is an option to M2 printers and enables printing DPR 10 models up to twice as fast as the stock cassette. With a lower print time, the C6 cassette is an excellent option for labs looking for higher volume from their M2 printer.

L1 Production Solution

The L1 is our end-to-end solution specifically designed for high-volume production of orthodontic models for clear aligner production. This solution is built around the L1 printer, offering a build area five times larger than an M2 for exceptional throughput. Print an entire case - 30 models in just 35 minutes. The L1 Production Solution is a complete factory-in-a-box.

- A validated workflow from resin to finished models in under an hour
- Pre-processing software for auto-nesting and product tracking
- Custom racks and training
- Solvent-less post-processing with proprietary Carbon spinner technology
- Massive scalability to tens of thousands of models per day



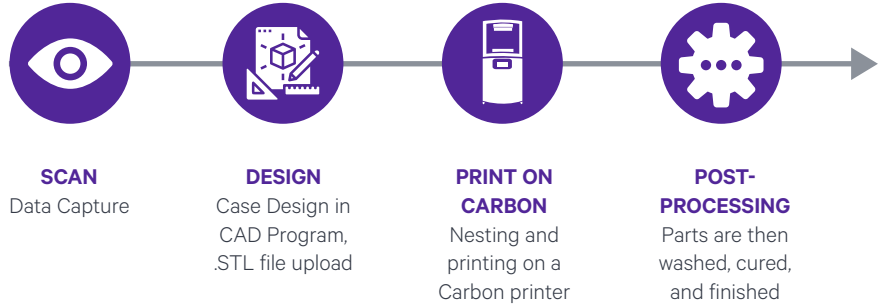
INTUITIVE USER INTERFACE

RESIN	APPLICATIONS
Dreve FotoDent® Cast	Castables
Dentca™ Base II Denture teeth	Denture (base + teeth)
*Lucitone Digital Print™	Premium denture base material
Dreve FotoDent Tray	Impression trays
Dreve FotoDent IBT	Indirect bonding trays (IBT)
Carbon DPR 10	Models and dies
*Keystone KeySplint Soft Clear	Splints
Whip Mix®	Surgical guide
Dreve FotoDent Gingiva	Gingiva masks

**Exclusive to the Carbon Platform*

Always Current Software and Validated Workflows

Carbon provides an intuitive user interface and software platform, which enables over-the-air updates, branded parts, and personalized account support. Our platform supports a simple and open workflow so dental products can be digitally produced from any .STL file, and our innovative software provides for autonesting, part traceability and serialization, which are essential in a highly regulated environment. In addition, we have validated workflows with 3Shape, exocad and AvaDent, with more on the way.



Top Materials with Broad Application Support

Carbon delivers the broadest range of 3D printed applications for dental labs because we prioritize materials. We invest in the best resins, all available on the M2 and M2d, including the first FDA-cleared (Class II) 3D printed denture solution comprised of both a denture base and teeth. Also, adding to our denture offering is Lucitone Digital Print™ from Denstply Sirona, the first printable denture base resin which exceeds ISO requirements for high impact resistance and is exclusively for the Carbon platform.. We are always researching and working with our partners on resins that are optimized for speed and accuracy in our printers to keep on the forefront of dental technology, while ensuring patient safety. As a result, we have an exclusive with Keystone for KeySplint Soft™ Clear.



SURGICAL GUIDE



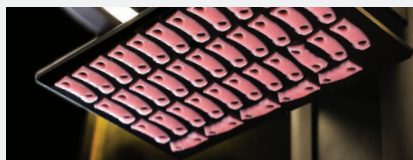
DENTURE BASE



DENTURE TEETH



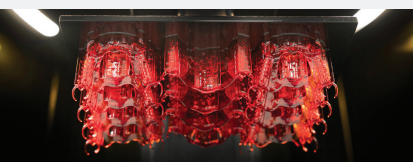
IMPRESSION TRAY



GINGIVA MASK



MODELS AND DIES



CASTABLE



INDIRECT BONDING TRAY



SPLINT
EXCLUSIVE ON KEYSPLINT SOFT CLEAR

3D PRINTING APPLICATIONS

“I didn’t believe that 3D printed dentures would ever be good enough to meet our standards. After seeing the new Dentsply Sirona Lucitone Digital denture from Carbon, I ordered a Carbon printer on the spot”

CONRAD RENSBURG

Owner and Head of Digital Implants at Absolute Dental Services

Shifting Perceptions of Digital Manufacturing with Premium Dentures

Established in the Triangle area of North Carolina in 1994, Absolute Dental Services supplies dentists with consistent, functional, and highly aesthetic fixed prosthetics and high-end removable products. Absolute’s mission is to provide high-quality dental prosthetics with unquestioned integrity to its customers. Crafting artisan dentures since 2008, Absolute was looking for a solution to automate and shorten the fabrication process without compromising quality or aesthetics.

Digital production of dentures has been growing the last few years as 3D printing has become more popular given its scalability versus milled or traditional approaches, which have limited throughput and high costs from labor and tooling. However, Absolute wasn’t impressed by the quality of materials and 3D technologies that it had seen at the time. Absolute’s perceptions shifted when it saw the digital dentures printed on the Carbon M2 printer using the Dentsply Sirona Lucitone Digital Print™ resin.

Dentures created with Lucitone Digital Print provide a more natural look than other 3D print resins. They are also the first to exceed ISO high impact and flexural strength standards

— making them high strength, fracture-resistant, and stain-resistant. Absolute knew it had finally found the right combination of innovation and materials to make digital dentures that it could be proud to offer customers.

Before going digital, Absolute’s workflow was antiquated and labor-intensive. Carbon allowed the dental lab to speed up processes like tooth set-up, wax-up, and processing and cut the time needed to finish the final product.

Creating denture replacements for customers has also become easier since Absolute transitioned to digital. Clinicians and technicians can now scan an existing denture and import the data, streamlining the process and saving time. This has eliminated the need for bite rims and offers a valuable starting point for creating a new prosthesis. Absolute can now instantly print a new set from a digital file, resulting in less patient chair time and faster turn-around.

As the dental industry continuously shifts at a rapid pace to digital and automated workflows and products, Absolute sees Carbon as a significant partner well into the future.

KEY TAKEAWAYS

- Reduced material cost by over 30% vs. milled
- Reduced processing turnaround time by up to 50%
- Increased labor efficiencies compared to milled and traditional hand processing



L1 PRODUCTION SOLUTION FOR CLEAR ALIGNERS



PRINT

SPIN

CURE

MODEL

Opening New Business with Clear Aligners

In the spring of 2018, Derby Dental Lab added their Smile Shapers® aligner division, working with dental labs new to the clear aligner market who were looking to quickly grow in the category. With a sharp focus on partnering with dental labs to offer the Smile Shapers Clear Aligners to their customers, Derby initially invested in one Carbon M2 printer to produce tens of thousands of printed models for thermoforming.

To succeed in the clear aligner business, Derby forecast printing 320 models per 10-hour day or between 5,000 and 6,500 models per month, so they needed a technology that produces models reliably without downtime. In the past, they would purchase redundant equipment to make up for equipment downtime, with an end goal of keeping staff from becoming frustrated. Of course, no lab wants the added costs of redundant hardware, so Carbon's reliability was very important.

Poor product quality can triple the cost of an individual dental model due to the expense of repeat work, opportunity costs

associated with employee time and equipment resources, and shipping cost. Losing recurring business due to quality issues is always a risk. Of all the benefits derived from the Carbon solution, the most significant benefit is printing large numbers of quality, accurate models. With one Carbon M2, Derby Dental opened new business printing hundreds of models per day at very high quality with no redundant hardware needed.

Derby Dental Lab's venture into clear aligner was an 18-month process as they received FDA and 510k approvals for their clear aligner business using Carbon's technology. Within a short time, they worked with their Carbon account manager to arrange for another M2 printer to support their growing business.

To support their continued growth, in 2019 Derby added the Carbon Smart Part Washer to improve post-processing and acquired the L1 Production Solution for high-volume model production to support their thermoforming business.

We partner in success with each of our customers. Our dental product line is designed to deliver **high reliability, accuracy and instant ROI** to dental labs of all sizes.

Built in Silicon Valley and powered by **Digital Light Synthesis™ (DLS) technology**, the Carbon platform delivers top materials, regular software updates and validated digital lab workflows. Our customers embrace technology and enjoy unparalleled uptimes with unprecedented service and support.

Carbon Means Top Reliability

Dental labs making the transition to digital production need reliability. Production disruption leads to cases not being finished on time and missed delivery dates. On-time case delivery consistently ranks as one of the most important attributes of a high quality dental lab among dentists, and unreliable case delivery is one of the top reasons dentists will leave a lab to find a new one. Carbon printers set the standard for reliability, with many Carbon Partner labs reporting over 98% uptime with their printers.

Setting the Standard for Accuracy

Accuracy is the most crucial factor to consider when adopting 3D printing into a dental lab for applications from crown and bridge models to digital dentures. Dental restorations are custom tailored with precision to each individual patient. With no room for error in the highly competitive dental lab industry, inaccurately printed models and other restorative products can lead to fit failures in the mouth, unhappy patients and unsatisfied dentists. With accuracy often within +/- 50 µm, Carbon printers enable labs to consistently deliver the highest quality restorations.

Trust Your Success to Carbon

Carbon is more than a printer, we are a partner committed to the success of each of our lab customers. Your Carbon printer reports over one million datapoints each day that we analyze to make sure your printer is running at peak efficiency, along with monitoring key statistics such as print hours, jobs and resin usage to allow you to track your productivity.

The Benefits of a Carbon Subscription

Technology has never evolved faster. Dental labs making large investments know this and have gotten used to purchasing equipment that is state of the art and then obsolete within a few short years. Carbon has reimagined and solved this frustration with a subscription business plan so that our printers improve over time. Your Carbon subscription includes all scheduled maintenance and a proactive approach to service with remote monitoring and service notifications before something goes wrong. Carbon is committed to your success and our proactive maintenance is just another way we are much more than a 3D printer.



Carbon offers the best resins available for models and dies, gingiva masks, surgical guides, impression trays, splints and dentures.

ONLY WITH CARBON

BEST-IN-CLASS OFFERINGS

- Business Growth and Partnership
- Speed and Productivity
- Access to the Latest Offerings
- Simple, Validated Workflows
- On-Site Training and Predictive Maintenance

RELIABLE HARDWARE

- Tailored to Suit Your Business Needs
- Unmatched Uptimes with Excellent Consistency
- Proven and Accurate

INNOVATIVE SOFTWARE

- Data and Analytics
- Over-the-air Upgrades and Support
- Branded Parts
- Upgradeable Throughput
- Serialization and Traceability of Parts

DIGITAL DENTISTRY PRINTING APPLICATIONS

- Models and Dies
- Denture Base and Teeth
- Surgical Guides
- Impression Trays
- Thermoforming
- Gingiva Masks
- Castables
- Indirect Bonding Trays
- Splints and Night Guards

Revolutionize your lab today.

LEARN MORE AT WWW.CARBON3D.COM

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