SprintRay

THE DENTAL 3D PRINTING COMPANY

MIDAS RESTORE™

Glass ceramic and zirconia-filled restorative resin for the Midas Digital Press

If we could 3D print enamel, this is it.

For decades we've had to over-engineer restorative materials. Glass ceramics and zirconia are brittle – their only defense against crack propagation is bulk strength, which means more reduction, more stiffness, and mechanical properties far beyond what is actually required.

Midas Restore takes the opposite approach. Its resin matrix arrests cracks rather than simply resisting them, and its flexural modulus sits closer to dentin than to a glass ceramic. When adhesively bonded to remaining tooth structure, the restored tooth distributes function as a single unit – instead of concentrating stress at the interface.

Indicated for definitive full single crowns, definitive partial crowns (inlays and onlays) in the anterior and posterior, and single veneers.

Available in five natural shades – A1, A2, A3, B1, and C2 – Restore resin capsules are validated for use with Midas Digital Press.

STRENGTH WHERE IT COUNTS
Flexural strength maximum of
215 MPa
The highest of any SprintRay definitive restorative material[1]

RESISTS WEAR
5x The Wear Resistance of SprintRay Ceramic Crown
Wear performance comparable to a milled hybrid ceramic.[2]

HOLDS ITS POLISH
98%
Gloss Retained
After 5,000 Brushing Cycles[3]

ENAMEL-LIKE OPTICS
13.5
Translucency Parameter[4]

1 - Maximum value. ISO 6872, piston-on-three-balls. Mean 180 MPa. 2 - Internal testing on specimens, 200,000 cycles. No ISO standard exists for this method. 3 - Simulated toothbrush abrasion in water. 4 - Shade A1; Other shades may vary.

Key Benefits

- Cleared for definitive use, radiopaque, >75% filled
- Holds its anatomy and its polish – no glaze to chip or wear
- Four-minute post-cure, two-minute polish – deliver same visit
- One material for the whole quadrant — crowns, inlays, onlays, veneers

SprintRay Midas Restore
A1 – SRI-0204039
A2 – SRI-0204040
A3 – SRI-0204041
B1 – SRI-0204042
C2 – SRI-0204044
Available to order in the USA, Sept. 1, 2026

Midas Restore is designed to restore natural tooth structure opposing natural tooth structure. Consider material selection carefully when the antagonist is monolithic zirconia.

SPRINTRAY MIDAS RESTORE TECHNICAL DATA

Composition
More than 75% filler by weight – a dual filler system combining glass ceramic and zirconia powder in a light-curable methacrylate resin matrix.

Test conditions
Unless otherwise noted, all values were measured on specimens pressed on the Midas Digital Press and post-processed per the validated SprintRay workflow.

Regulatory Status
FDA 510(k) – K260661 · Class II · 21 CFR 872.3690, Tooth Shade Resin Material · Rx only
CE marked – Class IIa medical device under Regulation (EU) 2017/745 (EU MDR)

MECHANICAL

Property	Midas Restore	Test Method	What It Means Clinically
Biaxial flexural strength	215 MPa max. 180 MPa mean	ISO 6872, piston-on-three-balls	Resistance to fracture under occlusal load. Crown HT 203 max/ 168 mean; Ceramic Crown 205 max / 170 mean.
Flexural modulus	10.5 GPa max. 10.0 GPa mean	ISO 4049, 3-point	Closer to dentin (17.5 ± 3.8 GPa*). A bonded restoration that flexes with the tooth transfers load through the interface rather than concentrating stress at it. Crown HT 7.4 GPa; Ceramic Crown 5.8 GPa.
Surface hardness	81.9 ± 6.4 HV	Vickers microhardness, ISO-referenced protocol, independently measured at the University of Alabama at Birmingham School of Dentistry.	Statistically equivalent to a leading nanofilled direct composite, and roughly double the hardness of previous-generation printed restorative resins (20–39 HV). Contributes to wear resistance and polish retention.

SURFACE & OPTICAL

Property	Midas Restore	Test Method	What It Means Clinically
Gloss retention	98% of initial gloss at 5,000 cycles	Simulated toothbrush abrasion in water.	A surface that holds its polish through daily brushing resists staining and biofilm accumulation.
Wear resistance	5x SprintRay Ceramic Crown; comparable to a milled hybrid ceramic	Internal testing on specimens, 200,000 cycles. No ISO standard exists for this method.	Wear performance in the range of a milled restoration, and five times that of our previous-generation definitive material.
Translucency parameter (TP)	13.5 (shade A1)	Higher TP = more translucent. All materials measured under the same protocol.	• Milled lithium disilicate HT 13.9 • SprintRay Crown HT 13.4 • SprintRay Ceramic Crown 10.9 (varies by shade).
Shade and color stability	Pass	ISO 10477, after irradiation and water sorption	Shade does not change under accelerated aging.
Polishability	Polish to final	ISO 10477 surface finish	Green state zirconia or hybrid ceramic polishing systems. No glaze required.

PHYSICAL & SAFETY

Property	Midas Restore	Test Method	What It Means Clinically
Water sorption	22–24 µg/mm³ (limit <40)	ISO 10477	Dimensional and optical stability in the oral environment.
Solubility	1.0–2.5 µg/mm³ (limit <7.5)	ISO 10477	Resistance to dissolution in the oral environment.
Free monomer (Methyl methacrylate)	Not detectable	ISO 20795-1	No detectable residual methyl methacrylate.
Radiopacity	Radiopaque – equivalent to aluminum	ISO 10477	Margins and recurrent caries are assessable radiographically.
Shear bond strength	Pass	ISO 10477	A restoration only works if it stays attached. Measures how firmly the material holds to the tooth once cemented. A crown that debonds fails the patient just as surely as one that fractures.
Biocompatibility	Pass	ISO 10993-3, -5, -10, -11, -23; ISO 7405	Tested for tissue contact exceeding 30 days.

*Plotino et al., Dental Materials 2007. Human root dentin, 3-point flexure.

CLINICAL HANDLING NOTES

Shade selection: Midas Restore is a high-translucency material. Expect value to drop after delivery. Select one to two shades brighter than your target, and use a try-in paste for anterior cases. **The substrate is part of the result:** Preparation shade, underlying tooth color, and cement shade and opacity all influence final value and chroma. Evaluate the restoration in the context of the whole optical system, not in isolation. **Opposing dentition:** Midas Restore is designed to restore natural tooth structure opposing natural tooth structure. Consider material selection carefully when the antagonist is monolithic zirconia. **Polishing:** Use a green state zirconia or hybrid ceramic polishing system. Do not use diamond-impregnated polishers intended for fully sintered zirconia. **Cementation:** Adhesive cementation with a fully bonded resin cement.

Learn More.
SprintRay.com/Restore

Descriptions and data constitute no warranty of attributes. Data on file with SprintRay Inc., 2026, unless otherwise noted. 20260831

sales@sprintray.com