LuxaCore Z Dual

The power of Zirconia at its core.
What Makes A Good Core Material?

Excellent physical properties including:

- Great delivery system
- High compressive strength
- High tensile strength
- High flexural strength
- Flexural modulus close to dentin
- Cuttability close to dentin
- Good flow characteristics
- High radiopacity
How About a GREAT Core Material?

- Dentin-like physical properties
- Exceptionally high compressive strength and stability under the crown
- Excellent flow characteristics for optimal adaption
- Flexural modulus very close to dentin.
- Ideal cuttability, very similar to dentin.
- Reliable curing: no layering required.
- Dual-curing: flexible treatment options
- Film thickness of 20µ
LuxaCore Z Dual: At a Glance

- The new LuxaCore cuts like natural dentin and offers superior physical properties to match natural tooth structure closer than any other core build-up material
- The first material in its category
- Increased compression strength and polishing values thanks to DMG’s patented nanotechnology
- Excellent flow properties guarantee optimal adaptation to the cavity walls and root posts
- Ultra thin film thickness (20µm) is ideal for cementing root posts
What’s This Zirconia Stuff?

- A ceramic material

- Nonmetallic-biocompatibility with no danger of adverse reactions

- 1,000 times stronger than steel but much lighter in weight
Benefits of Nano Particles

- Tougher, more durable, resilient “glue” to hold the composite together

- Improves the composite’s physical properties and flow characteristics

- Affects the surface tackiness of the composite thus the workability of the material
Zirconium and Nano-Particles

- Vastly improved compressive strength of 380 MPa

- Flexural modulus close to that of natural tooth structure allows LuxaCore Z Dual and tooth structure to react nearly identically to load forces

- Result: fewer micro-cracks
Cuttability

- Critical property in resin core materials

- A dentin-like cutting rate and feel is highly desirable

- “Substance Removal” tests determine a material’s cutting rate

- **LuxaCore Z Dual** has a cutting rate virtually identical to natural dentin
LuxaCore Z Dual – DMG Polishability Study
Cutting Characteristics & Compressive Strength

**Cutting characteristics**

- 1. Clearfil Photo Core (Kuraray Dental)
- 2. Relisys DC (VOCO)
- 3. Dentin
- 4. LuxaCemZ-Dual (DMG)
- 5. LuxaCore (DMG)
- 6. Core Paste (American Dental Systems)
- 7. FlexiCore 2 (Caulk)

**Compressive strength**

- 1. Clearfil Photo Core (Kuraray Dental)
- 2. CompCore Af (American Dental Systems)
- 3. Relisys DC (VOCO)
- 4. MultiCore Flow (Vivadent)
- 5. Core Paste (American Dental Systems)
- 6. FlexiCore 2 (Caulk)
- 7. LuxaCemZ-Dual (DMG)
Filler Particles Effect Film Thickness

Film Thickness \( \mu m \)

- Harvard Zement
- Ketac Fil Plus
- MultiCore Flow
- Core Paste
- LuxaCore
- LuxaCore Z

29 \( \mu m \)!
Perfect Flow
LuxaCore Z
as a core build-up material

LuxaPost

LuxaCore Z
as post cement

Few materials

Similar mechanical properties
Case One

Photos shown in this case are courtesy of Dr. Gary Radz
Case Two

Photos shown in this case are courtesy of Dr. Gary Radz
Photos courtesy of Dr. Gary Radz
LuxaBond Total Etch

- Compatible with self-curing and dual-curing composite resin materials
- Better adhesion with more reliable total bond strength
- Pre-Bond facilitates quicker curing in the dentine for superior retention and deeper penetration
- Indicated for bonding of posts, cores, crowns, bridges, inlays and onlays
- Easy root canal application with special Endobrushes
- Acetone-free
- Flexible working time
LuxaBond-Total Etch Helps You Get It Right The First Time

Apply Pre-Bond: Activator; facilitates superior adhesion properties of the system
- Pre-Bond penetrates deeply into dentin and allows for a longer processing time

Mix Bond A + B:
- Reaction starts very slowly
- Good flowability into dentin

Apply Bond A + B to tooth structure:
- Quick setting reaction with Pre-Bond
- Improved hybrid zone for higher SBS
- Reliable adhesion between tooth and resin
LuxaPost

- Dentin-like elasticity
- High flexural modulus, good stability
- Post taper confirms easily to post preparation to mimic tooth structure and minimize fracture risk
- Only one drill per size (no pre-shaping drill necessary)
- User-friendly, color-coded system
- Retention grooves improve mechanical retention
- Transparent for highly esthetic results
- Compatible with self-curing and dual-curing materials
Monoblock: The Ideal Restorative System

- LuxaBond
- LuxaPost
- LuxaCore Z - Dual

As post cement
As core-build up material
Monoblock System Advantages

- Good physical properties: light transmission, flexural strength, elasticity modulus
- Stress reduction
- Reduced risk of root fractures
- Minimized tension peaks
- Anatomical form for substance saving treatments
- Protection against bacterial leakage (coronal and apical)
- Long lasting and beautiful restoration
- High esthetics
- Cost saving
## LuxaCore Z-Dual Product Information

<table>
<thead>
<tr>
<th>Product &amp; Contents</th>
<th>DMG America Item #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LuxaCore Z-Dual Automix Intro Kit-Natural/A3 (1-48gm Cartridge, 35 each-Automix &amp; Intraoral Tips)</td>
<td>213330</td>
</tr>
<tr>
<td>LuxaCore Z-Dual Automix Intro Kit-Blue(1-48gm Cartridge, 35 each-Automix &amp; Intraoral Tips)</td>
<td>213331</td>
</tr>
<tr>
<td>LuxaCore Z-Dual Automix Intro Kit-Light Opaque(1-48gm Cartridge, 35 each-Automix &amp; Intraoral Tips)</td>
<td>213332</td>
</tr>
<tr>
<td>LuxaCore Z-Dual Smartmix Intro Kit-Natural/A3 (2-9gm Syringe, 10 each-Smartmix &amp; Intraoral Tips)</td>
<td>213334</td>
</tr>
<tr>
<td>LuxaCore Z-Dual Smartmix Intro Kit-Blue(2-9gm Syringe, 10 each-Smartmix &amp; Intraoral Tips)</td>
<td>213335</td>
</tr>
<tr>
<td>LuxaCore Z-Dual Smartmix Intro Kit-Light Opaque (2-9gm Syringe, 10 each-Smartmix &amp; Intraoral Tips)</td>
<td>213336</td>
</tr>
<tr>
<td>Product &amp; Contents</td>
<td>DMG America Item #</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>LuxaPost Intro Kit (5 each of 1.25mm Posts, 1.375mm Posts, 1.5mm Posts, 1 each of 1.25mm Drill, 1.375mm Drill, 1.5mm Drill, 30-Silicone Stops, 1-Measuring Card)</td>
<td>110780</td>
</tr>
<tr>
<td>LuxaPost Refill Kit-1.25 mm (5-1.25mm Posts)</td>
<td>110781</td>
</tr>
<tr>
<td>LuxaPost Refill Kit-1.375 mm (5-1.375mm Posts)</td>
<td>110782</td>
</tr>
<tr>
<td>LuxaPost Refill Kit-1.5 mm (5-1.5mm Posts)</td>
<td>110783</td>
</tr>
<tr>
<td>LuxaPost Refill Drill-1.25 mm (1-1.25mm Drill)</td>
<td>110784</td>
</tr>
<tr>
<td>LuxaPost Refill Drill-1.375 mm (1-1.375mm Drill)</td>
<td>110785</td>
</tr>
<tr>
<td>LuxaPost Refill Drill-1.50 mm (1-1.5mm Drill)</td>
<td>110786</td>
</tr>
</tbody>
</table>
## LuxaBond Total Etch Product Information

<table>
<thead>
<tr>
<th>Product &amp; Contents</th>
<th>DMG America Item #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LuxaBond Total Etch Intro Kit (1-1.5ml Pre-Bond, 1-1.5ml Bottle Bond A, 1-1.5ml Bottle Bond B, 1-2ml Syringe Etch Gel Medium Viscosity, 25-Red Endobrushes, 25-Black Endobrushes, 3-Luer Lock Tips, 1 Mixing Palette)</td>
<td>212384</td>
</tr>
<tr>
<td>LuxaPost Refill Kit-1.25 mm (5-1.25mm Posts)</td>
<td>212385</td>
</tr>
</tbody>
</table>
Product Images