Fast Facts About Light Curing

- Half of all dental income relies on the successful use of light-cured dental materials.
- Every brand and shade of light-cured composite requires a specific “dose” of blue light to polymerize.
- Incomplete polymerization leads to increasing clinical problems (e.g., fracture, secondary decay, de-bonding, discoloration) and post-op sensitivity.

Light Curing Improvement Opportunities

A study of 915 curing lights in 422 dental clinics found that 73% of test results identify the need for changes to clinical protocol:

- 30% delivered less than half of the energy dose required by the selected dental material.
- 43% used extended curing times (to ensure an adequate cure), unknowingly risking heat damage.
- Curing times ranged from 3–90 seconds, regardless of the material selected by the dentist.

These dentists needed to modify their light-curing protocols, even between operatories, to reduce recall rates. Some needed at least one new curing light.

Illustrative costs in a $200 filling*

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages and benefits</td>
<td>$120</td>
</tr>
<tr>
<td>Overhead (rent, phones)</td>
<td>$60</td>
</tr>
<tr>
<td>Restorative materials and disposables</td>
<td>$19</td>
</tr>
<tr>
<td>Curing light</td>
<td>$18.60</td>
</tr>
<tr>
<td></td>
<td>$0.40</td>
</tr>
</tbody>
</table>

*$ADA 2012 Estimates

Contact your 3M Representative to book the checkMARC Service today.

Provided for 3M by:

checkMARC® from BlueLight Analytics is the leading professional service (NIST standard) that provides evidence-based information to determine the curing time needed based on the curing lights and materials used in your clinic.
Advantages of the checkMARC® Service from BlueLight Analytics

**Scientifically Accurate**
The spectrometer-based checkMARC® is accurate to within 2% of an Integrating Sphere, the gold standard in laboratory equipment, according to a study published in the leading scientific journal, *Dental Materials*. This accurate measurement is then compared to the curing light manufacturer’s specification (the light is just below manufacturer specification in the example at the right).

**Clinically Relevant**
A checkMARC® test provides evidence as to how well the curing light performs when used intraorally on a larger restoration (e.g., 6mm diameter) where the surface of the resin composite is at a clinically relevant distance (e.g., 6mm away from the light tip). The example provided is very common and illustrates that curing light intensity often drops by 50%+ over this 6mm distance.

**Clinic Specific**
The checkMARC® report provides minimum curing times for resin composites used in that dental clinic. It also warns as to when heat management techniques should be employed. The report can be retained as a reference that this curing light was performing within specification and that the light-curing protocols selected by the dentist are aligned with the requirements of the specific dental materials used.

---


www.3M.com/CuringLights

3M is a trademark of 3M or 3M Deutschland GmbH. Used under license in Canada. checkMARC is a trademark of BlueLight Analytics Inc. Please recycle. Printed in USA. © 3M 2017. All rights reserved.