February 6, 2018

RE: Hilti HIT-RE 100 Adhesive Anchoring Systems substitution comparison

To Whom it may concern,

Hilti provides a wide range of adhesive anchoring products to suit various application needs. For performance and installation reliability, Hilti offers industry leading slow cure adhesive anchor systems with SafeSet Technology, Hilti HIT-RE 500 V3 and Hilti HIT-RE 100.

This submittal / substitution comparison shows various aspects of the superior performance and versatility of Hilti HIT-RE 500 V3; and in those situations, where superior performance and versatility are not needed, we offer this request to evaluate the performance of Hilti HIT-RE 100 as a direct substitution for a competitive product.

Hilti HIT-RE 100 is ICC-ES approved for use in cracked concrete and all seismic zones. In addition, Hilti SafeSet Technology may also be used to more reliably set Hilti HIT-RE 100 by eliminating the most load-effecting and time consuming variable in the chemical anchoring installation process; the hole cleaning step.

For anchoring and doweling applications, Hilti’s HIT-RE 100 Adhesive Anchoring System has similar published load performance as compared to many competitive alternatives. For your reference, the attached table provides a load comparison for threaded rods in cracked concrete seismic conditions with Hilti HIT-RE 500 V3, Hilti HIT-RE 100, and commonly used competitive products.

For additional information, please refer to the Hilti website or contact the Hilti Engineering Technical Services Department

Hilti HIT-RE 100 product page: https://www.hilti.com/r4929723
Hilti Technical Design Center: www.hilti.com/engineering

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Regards,

Business Unit Anchors
Hilti North America
Hilti HIT-RE 100 and HIT-RE 500 V3 Tension Load Comparison vs. Competitive Solutions

All data taken from websites, ICC-ES reports, MSDS or published catalogs, as of 03/13/2018
Load comparison based on a single anchor with no edges, 4000 psi cracked concrete, SDC C-F, temperature range A, hammer drilled dry hole, periodic inspection, and long term loading. Steel design values are not considered for this comparison.
Product data calculated using ACI 318-11 App D design methods

Hilti HIT-RE 100 and HIT-RE 500 V3 Competitive Comparison

<table>
<thead>
<tr>
<th>Code Approval</th>
<th>Competitor S</th>
<th>Competitor D</th>
<th>Competitor I</th>
<th>Hilti HIT-RE 100</th>
<th>Hilti HIT-RE 500 V3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cracked Concrete</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Seismic (A-F)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Hollow Drill Bit</td>
<td>Yes</td>
<td>Yes (Dry concrete only)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Manual Hole Cleaning</td>
<td>4 sec. compressed air</td>
<td>2x compressed air</td>
<td>2x compressed air</td>
<td>2x compressed air</td>
<td>2x compressed air</td>
</tr>
<tr>
<td></td>
<td>4x brush</td>
<td>2x brush (drill mounted)</td>
<td>2x brush</td>
<td>2x brush</td>
<td>2x brush</td>
</tr>
<tr>
<td>Diamond Coring</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Min. Install Temperature</td>
<td>50°F / 10°C</td>
<td>50°F / 10°C</td>
<td>50°F / 10°C</td>
<td>41°F / 5°C</td>
<td>23°F / -5°C</td>
</tr>
<tr>
<td>Gel Time @ 68°F / 20°C</td>
<td>45 minutes</td>
<td>25 minutes</td>
<td>18 minutes</td>
<td>30 minutes</td>
<td>25 minutes</td>
</tr>
<tr>
<td>Cure Time @ 72°F</td>
<td>24 hours</td>
<td>8 hours</td>
<td>8 hours</td>
<td>12 hours</td>
<td>6.5 hours</td>
</tr>
</tbody>
</table>

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