

## Concrete Patching Guide

Maintenance personnel often select a material for patching concrete based on what they have used in the past. However, each patching job has particular demands, which may be different from what was required in past applications. Also, the list of available products changes often with manufacturers producing new patching materials, discontinuing some products, changing the name of products, and adjusting the formulation of others. A state's qualified products list (QPL) is supposed to incorporate the changes into a list of products that can be used for patching. However, the QPL typically does not have much information to assist personnel in selecting an appropriate product for a particular job.

ODOT recognized the difficulty in selecting the correct patching material and developed a patching guide to help maintenance personnel determine which product to use. The selection tool, based on a Microsoft Excel spreadsheet, matches the attributes of specific products to the needs of a particular patching job. Material manufacturers were asked to complete questionnaires for specific products in order to develop a matrix of product attributes. To use the guide, a user checks off on a list of spreadsheet statements that describe the requirements for a particular patching job. The patch descriptors



include what material the patch will be in contact with, the orientation, the size, the needed working time, the amount of time before the patch is exposed to further construction or traffic, the need for formwork, and others. The selection tool compares the requirements of the user to the attributes of the various patching materials to find matches.

The output report includes qualified products from the QPL and conditional products, which require field experience before being listed as qualified. In Oregon, personnel are asked to submit product performance feedback for any conditional products that are used. The output report from the

patching selection guide reminds the user to provide the QPL Administrator with feedback for any conditional products listed.

The selection tool resides as a read-only file on ODOT's intranet. This arrangement allows ODOT personnel to use the file, but they can not make any changes to it. However, users may provide feedback to the QPL and patching guide administrator by using an email link embedded within the guide.

The Concrete Patching Selection Guide is available on the ODOT Intranet for internal use at: <http://intranet.odot.state.or.us/tsconstruction/ConcreteRepair.htm>

**Check all that apply:**

Help

Feedback

Vendor Contacts

- The patch will touch existing magnesium phosphate patches.
- The patch will touch existing epoxy patches.
- The patch will touch existing microsilica concrete.
- The patch will touch existing latex modified concrete
- The substrate will be completely dry.
- The substrate will be saturated with a dry surface.
- The substrate will be saturated and wet to the touch.
- The patch will be applied horizontally without formwork.
- The patch will be applied vertically without formwork.
- The patch will be applied overhead without formwork.
- The patch will use formwork.
- It will be necessary to spray the patch into place.
- It will be necessary to pump the patch into place.
- The depth of the patch will be less than 6mm (1/4 inch).
- The depth of the patch will be between 6mm and 50mm (1/4 to 2 inches).
- The depth of the patch will be between 50mm and 250mm (2 to 10 inches).
- The depth of the patch will be greater than 250 mm (10 inches).
- The repair area will be less than 0.5 square meters (5 sq ft).
- The repair area will be between 0.5 and 2 square meters (5 to 20 sq ft).
- The repair area will be more than 2 square meters (20 sq ft).
- The patch will cover exposed steel reinforcement.
- The patch will be exposed to freeze/thaw conditions.
- The patch must be nearly the same color as portland cement concrete.
- The patch will be overlaid with portland cement concrete.
- The patch will be overlaid with microsilica concrete.
- The patch will be overlaid with latex modified concrete.
- The patch will be overlaid with asphalt concrete.

How much working time will be needed to place the patch after the product is mixed?

- No more than 15 minutes
- Up to 45 minutes
- More than 45 minutes

How much time is available before the patch is exposed to traffic or construction operations?

- 3 hours
- 24 hours
- More than 24 hours

How much time is available for curing?

- 3 hours
- 24 hours
- More than 24 hours

27 product(s) match the selected conditions.

Report

Reset Form

Products Last Updated: 7/3/2003

*User input form*

Manufacturer	Product
ITW Resin Technologies	Permatop Liquid Binder
Sika Corporation	SikaTop 111
Sika Corporation	SikaTop 122 Repair Mortar
The products listed below are conditionally approved. If a conditional product is used, the user must complete a form describing the performance of the product. The form is available from Mike Dunning (503-986-3059) at the Materials Lab.	
Burke by Edoco	Burke Fast Patch 928
ChemRex a division of Degussa	Thoroc 10-61 Rapid Mortar
CTS Cement Company	Rapid Set D.O.T. Repair Mix
CTS Cement Company	Rapid Set Mortar Mix
CTS Cement Company	Rapid Set Non Shrink Grout
<input type="checkbox"/> The patch will touch existing magnesium phosphate patches. <input type="checkbox"/> The patch will touch existing epoxy patches. <input type="checkbox"/> The patch will touch existing microsilica concrete. <input type="checkbox"/> The patch will touch existing latex modified concrete <input type="checkbox"/> The substrate will be completely dry. <input checked="" type="checkbox"/> <b>The substrate will be saturated with a dry surface.</b> <input type="checkbox"/> The substrate will be saturated and wet to the touch. <input checked="" type="checkbox"/> <b>The patch will be applied horizontally without formwork.</b> <input type="checkbox"/> The patch will be applied vertically without formwork. <input type="checkbox"/> The patch will be applied overhead without formwork. <input type="checkbox"/> The patch will use formwork. <input type="checkbox"/> It will be necessary to spray the patch into place. <input type="checkbox"/> It will be necessary to pump the patch into place. <input type="checkbox"/> The depth of the patch will be less than 6mm (1/4 inch). <input checked="" type="checkbox"/> <b>The depth of the patch will be between 6mm and 50mm (1/4 to 2 inches).</b> <input type="checkbox"/> The depth of the patch will be between 50mm and 250mm (2 to 10 inches). <input type="checkbox"/> The depth of the patch will be greater than 250 mm (10 inches). <input type="checkbox"/> The repair area will be less than 0.5 square meters (5 sq ft). <input checked="" type="checkbox"/> <b>The repair area will be between 0.5 and 2 square meters (5 to 20 sq ft).</b> <input checked="" type="checkbox"/> <b>The repair area will be more than 2 square meters (20 sq ft).</b> <input type="checkbox"/> The patch will cover exposed steel reinforcement. <input type="checkbox"/> The patch will be exposed to freeze/thaw conditions. <input type="checkbox"/> The patch must be nearly the same color as portland cement concrete. <input type="checkbox"/> The patch will be overlaid with portland cement concrete. <input type="checkbox"/> The patch will be overlaid with microsilica concrete. <input type="checkbox"/> The patch will be overlaid with latex modified concrete. <input type="checkbox"/> The patch will be overlaid with asphalt concrete.	<p>How much working time will be needed to place the patch after product is mixed?</p> <p><b>[Up to 45 minutes]</b></p> <p>How much time is available before the patch is exposed to traffic or construction operations?</p> <p><b>[More than 24 hours]</b></p> <p>How much time is available for curing?</p> <p><b>[More than 24 hours]</b></p> <p>8 product(s) match the selected conditions.</p> <p>Products Last Updated: 7/3/2003</p>

*Product list based on user's input. The output includes the user's responses to the questions.*

Burke by Edoco  
15613 SE 42nd  
Bellevue, WA 98006  
Attn: Bill Pavitt  
bpavitt@lmcc.com  
Phone: 425-562-6076  
FAX: 425-562-6149

CFB  
PO Box 1459  
Warm Springs, OR 97761  
Attn: Ted Brunoe  
tebru@mtjeff.com  
Phone: 541/475-1019  
FAX: 541/475-1019 \* 51

Chemrex a division of Degussa  
3812 Monterey Place NE  
Renton, WA 98056  
Attn: Bruce Jackson  
BruceJ@chemrex.com  
Phone: 425-235-7216  
FAX: 425/235-7398

Chemtron Polymers  
1105 Terminal Way, Suite 202  
Reno, NV  
Attn: Tim Rayburn  
Tim@asenw.com  
Phone: 425-822-3530  
FAX:

Conspex a division of Dayton Superior  
4226 Kansas Ave  
Kansas City, KS 66101  
Attn: John Hukey  
johnhukey@daytonsuperior.com  
Phone: 877-266-7732  
FAX: 913-279-4806

CTS Cement Company  
Unavailable  
Unavailable,  
Attn: Tony Tomasini  
Unavailable  
Phone: 360-607-3553  
FAX: Unavailable

Dayton Superior  
4226 Kansas Ave  
Kansas City, KS 66101  
Attn: John Hukey  
johnhukey@daytonsuperior.com  
Phone: 877-266-7732  
FAX: 913-279-4806

Degussa  
2 Tumer Place  
Piscataway, NJ 8855  
Attn: Chris Armstrong  
chris.armstrong@degussa.com  
Phone: 737-981-5339  
FAX: 732-981-5108

*The user can get a list of vendor's contact information for the selected products.*

*For more information about the Qualified Products List, contact Mike Dunning, Product Evaluation Coordinator, at 503-986-3059, or via e-mail at [mike.d.dunning@odot.state.or.us](mailto:mike.d.dunning@odot.state.or.us)*

*For more information about the creation of the guide, contact Steve Soltesz, Research Coordinator, at 503-986-2851, or via e-mail at [steven.m.soltesz@odot.state.or.us](mailto:steven.m.soltesz@odot.state.or.us)*



**Oregon Department of Transportation**

**Research Unit  
200 Hawthorne Ave. SE, Suite B-240  
Salem, OR 97301-5192**

**Telephone: 503-986-2700  
FAX: 503-986-2844**

***For more information on ODOT's Research Program and Projects,  
check the website at***

**<http://www.odot.state.or.us/tddresearch/>**