

# Advantages & Specifications for the Use of Perma-Patch® for the Repair of Potholes



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[www.permapatch.com](http://www.permapatch.com)

made in the U.S.A.

## PERMA-PATCH: THE POTHOLE SOLUTION

Perma-Patch is an all season, all weather, permanent asphalt patching material. Perma-Patch is easy to use and requires no mixing or special repair area preparation. Perma-Patch can be placed directly in water-filled holes, displacing the water and bonding well to any wet repair areas. Perma-Patch® can be used in a temperature range of 0°F to over 100 °F and accepts immediate traffic.

**PERMA-PATCH CAN BE APPLIED QUICKLY WITH MINIMAL EQUIPMENT AND LABOR, ELIMINATING THE NEED TO DISRUPT TRAFFIC. USING PERMA-PATCH ALLOWS FOR A FAST RESPONSE AND PERMANENT REPAIR. THIS GREATLY REDUCES LIABILITY FOR DAMAGE TO MOTOR VEHICLES AND REDUCES FURTHER DETERIORATION OF ROADWAYS AND PAVING.**



**PERMA-PATCH requires little or no preparation.**

**Perma-Patch** can be applied directly into water-filled holes by displacing water and adhering to undisturbed surrounding paving.

**Perma-Patch** maintains an excellent watertight bond to adjoining pavement, unlike standard cold and hot patches, which invariably separate from the surrounding surface.

**Perma-Patch** does not shrink because of its self-sealing properties.

**Perma-Patch**, when properly applied, will outlast the surrounding pavement.

**Perma-Patch is rated most durable for the repair of potholes by the National Research Council's SHRP study. (see pg. 7 for details)**

**Perma-Patch** is used throughout the United States and internationally with extraordinary success.

**PERMA-PATCH has a minimum shelf life of two years.**

**EASY TO USE • NO MIXING OR TACK COATING  
PERMA-PATCH ACCEPTS IMMEDIATE TRAFFIC**

**Perma-Patch is available in convenient, water-resistant  
60 lb. bags & 50 lb. and 30 lb. pails.**



## SPECIFICATIONS FOR APPLYING PERMA-PATCH FOR THE REPAIR OF POTHOLES



Clean out only large, loose aggregate from pothole. Place Perma-Patch in hole and compact by driving over the patch with a truck, hand tamper or use a vibratory plate compactor. For deep potholes, place Perma-Patch in 3" lifts and compact each lift.

The seal between the surrounding, existing pavement and Perma-Patch is tight and will remain in place for the life of the surrounding pavement. No further sealing of the edges is required.

**The repaired area can be immediately open to traffic.**

If desired, in areas of light traffic or walkways, surface hardening can be accelerated by applying a light dusting of dry Portland Cement to the finished Perma-Patch surface and tamped again with a vibratory plate compactor.



## MINIMIZE RISK WITH SAFER ROADWAYS AND PARKING LOTS

**If due to improper compaction or unforeseen conditions, depressions develop, repairs can be made simply by applying a layer of Perma-Patch directly to depressed surface.**

## USING PERMA-PATCH IN SEVERE WEATHER



### Understanding the Advantages

- Perma-Patch provides immediate relief to damaged roadways and parking lots, improving drive-ability and limiting risk to drivers and pedestrians.
- Perma-Patch can be applied effectively in all weather conditions, in temperatures as low as 0°F, making it the perfect choice for winter repairs.
- Perma-Patch can be placed directly in water-filled holes and bonds permanently to surrounding pavement.
- Perma-Patch can be applied quickly with minimal equipment (a pickup truck with a rake or shovel) by unskilled labor. In many cases the entire repair job can be completed by a single person.

### MARSHALL STABILITY & FLOW TEST ASTM D1559 FOR PERMA-PATCH

SAMPLES	STABILITY (LBS)	FLOW (0.01")*
	<b>Perma-Patch</b>	
A, B, C, D, E, F	4620 avg.	8.7
G, H	4120	14
<b>Average</b>	<b>4370</b>	<b>11.35"</b>

\* Results are based on 2,700 lbs/sq. inch of applied pressure.

## FREQUENTLY ASKED QUESTIONS

### How is Perma-Patch different from a standard cold patch?

Perma-Patch is a unique type of paving material which cannot be compared to the standard “cold patch” that sets up by evaporation of the hydrocarbon solvents in it. Cold patch is only for temporary repairs lasting from several hours to several months, at most. Perma-Patch is not a temporary pavement, but a permanent paving. It adheres so strongly that placing a thin layer on the street surface can level even a slight shallow dip, and it stays there. Perma-Patch can be used even in standing water with no adverse effects. No tack coat or any other type of adhesive is required as a bonding agent between the existing paving and the Perma-Patch material.

### Why do customers find Perma-Patch to be a superior patch material?

Experience shows that wherever repairs to potholes, utility cuts or roads are made using hot mix asphalt, within three months to three years after a standard repair, there will be a gradual separation of the old paving from the new paving. This separation is due to the difference in thermal coefficient of expansion between dissimilar materials. This separation allows water to penetrate under the paved area, causing degradation of the base and sub-base. The only solution to this observable problem is to substitute Perma-Patch for the repair. Perma-Patch eliminates this separation because underlying the hard surface layer of Perma-Patch is a pliable layer of Perma-Patch. In effect, Perma-Patch acts like a large expansion joint, continuously sealing the interface between the surrounding paving and the new Perma-Patch repair.

### Why should I use Perma-Patch from a bag instead of from a stockpile?

Unlike loose asphalt material in a dump truck...

- a. Perma-Patch is **environmentally friendly** with little or no waste when poured from a bag. If all material is not used, the bag can be re-closed and used at a later date.
- b. Perma-Patch bags can be easily transported in small vehicles, using only one driver/worker, which is extremely helpful during emergency and non-standard work hours.
- c. Perma-Patch can be stored in a small warehouse or under tarpaulins, saving space and the cost of a large bulk storage site.
- d. Perma-Patch in bags eliminates the possibility of contamination from stone, sand, dirt, etc. that would affect the performance of the product.

### Once Perma-Patch is placed, how long must we avoid driving over the area?

Immediately after the repair is made, Perma-Patch is ready for traffic. Since Perma-Patch sets up through compaction, the greater the amount of traffic, the faster Perma-Patch hardens.

# National Research Council Strategic Highway Research Project Finds Perma-Patch® Best In Durability\*

*\* "The most important indicator of performance for the repair placed during the project is the percent surviving."  
(SHRP-H-353)*

## *"Materials And Procedures For The Repair Of Potholes In Asphalt-Surfaced Pavements"*

**Perma-Patch, a permanent cold patch for instant repair of potholes, is a material that was used in the extensive tests and reports undertaken in Project H-106, "Innovative Materials Development and Testing".**

In an important decision; necessitated because of the need to repair roads economically, rather than completely rebuilding them; the Federal Department of Transportation obtained five million dollars from Congress on the advice of the National Research Council, to study the best materials and equipment for repairing potholes. This resulted in publication of SHRP-H-348 (Strategic Highway Research Project) under the auspices of the National Academy of Sciences, United States Government, and the American Association of State Highway and Transportation Officials, known as Project H105 and H106.





## EXCERPTS FROM STRATEGIC HIGHWAY RESEARCH PROGRAM SHRP-H-348 OF THE NATIONAL RESEARCH COUNCIL

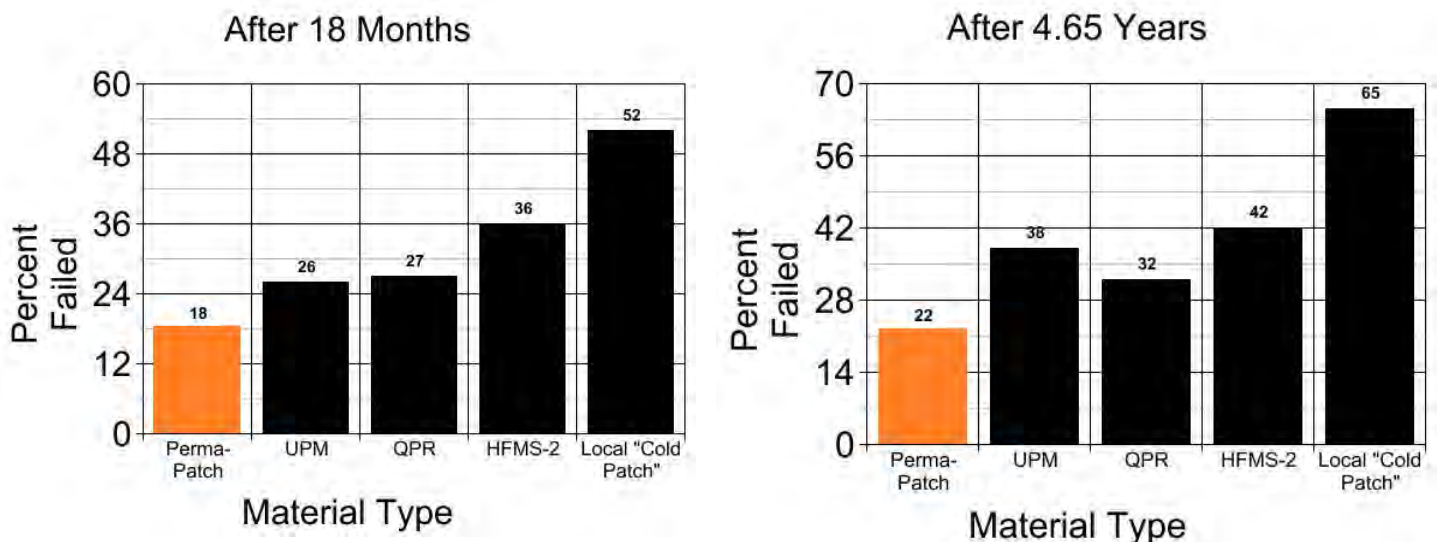
In project H-105, "Innovative Materials and Equipment for Pavement Surface Repair", the researchers conducted a massive literature review and a nationwide survey of highway agencies to identify potentially cost-effective repair and treatment options. The information and findings from this study were then used in the subsequent field experiments conducted under project H-106, "Innovative Materials Development and Training".

In the H-106 project, the installation and evaluation of many different test sections were conducted to determine the cost-effectiveness of maintenance materials and procedures. Test sections were installed at 22 sites throughout the United States and Canada between March, 1991 and February, 1992, under the supervision of SHRP representatives. The researchers collected installation and productivity information at each site and periodically evaluated the experimental repairs and treatments for 18 months following installation.

As asphalt pavements age and deteriorate, the need for corrective measures to restore safety and rideability increases. Funding for rehabilitation and overlay of these pavements is not likely to keep up with the demand, requiring more agencies to use the most cost-effective methods when patching distressed areas. The patches will also be expected to survive longer and carry more traffic loadings.

The cost most commonly associated with pothole patching is the cost of purchasing material. This is usually one of the least significant contributors to the overall cost of a patching operation. However, the material used for patching does impact the cost of the overall operation when there are differences in performance. More expensive materials that are placed with less effort and last longer can reduce the cost of the initial patching effort, as well as the amount of re-patching needed. This reduces the labor and equipment cost for the overall operation.

### SHRP shows Perma-Patch with lowest failure rate among commercially available material types tested



#### FAILURE RATE OF COMMONLY USED POTHOLE PATCH MATERIAL

This chart shows Perma-Patch to have the superior durability of all the innovative materials tested.



- Pour Perma-Patch directly from the bag or pail into the pothole.
- Use Perma-Patch instead of hot mix asphalt for repair of potholes, manholes, utility cuts, cable trenches and in test pits.
- Perma-Patch accepts traffic immediately after completion of repair.
- Perma-Patch does not shrink and because of its self-sealing properties maintains an excellent watertight bond to adjoining pavement, unlike standard cold and hot patches, which invariably separate from the surrounding surface.
- Perma-Patch can be applied as thin as one stone thickness because of its excellent bonding strength. It easily fills potholes and utility cuts.
- Perma-Patch can be easily transported in a small work vehicle and applied by a single crew member.
- Perma-Patch is **environmentally friendly** with little or no waste when poured from the bag.



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