



PRODUCT SUBMITTAL PACKAGE

Perma-Patch Aqua™

Water-Activated Permanent Asphalt & Concrete Repair Material

Submitted by: Perma-Patch, LLC · 6123 Oakleaf Ave, Baltimore, MD 21215

Prepared for: _____ (reviewing agency / engineer)

Date: June 22, 2026 · **Revision:** 1.0



June 22, 2026

To: _____

Re: Product Submittal — Perma-Patch Aqua™ Water-Activated Cold-Mix Asphalt Repair

To Whom It May Concern:

Perma-Patch, LLC is pleased to submit Perma-Patch Aqua™ for your review and approval. Perma-Patch Aqua is a water-activated, cold-applied asphalt mixture engineered for permanent repair of asphalt and concrete pavements. Unlike conventional cold patches, the material is activated with water on site, cures to a hard, durable repair, and may be opened to traffic immediately after compaction — in conditions ranging from dry pavement to rain, snow, and standing water.

This package documents the product's composition, physical and application properties, and independent laboratory performance results. All performance testing referenced herein was conducted by Asphalt Testing Services (ATS) of Loveland, Colorado, an AASHTO-accredited laboratory, and by Black Rock Material & Supply. The data presented reflects the current production formulation of Perma-Patch Aqua.

The following items are enclosed:

- Manufacturer profile and product description
- Physical and application property data sheet
- Independent laboratory performance summary and detailed results
- Particle coating and moisture-susceptibility testing
- Safety Data Sheet summary (HazCom 2024 / GHS)
- Product warranty, shelf life, storage, and ordering information

We welcome the opportunity to provide a project- or specification-specific conformance statement, additional test data, or product samples upon request. Please contact us with any questions.

Respectfully submitted,

Drew Taylor

Director of Products · Perma-Patch, LLC
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CONTENTS

Table of Contents

Perma-Patch Aqua™ Product Submittal Package · Revision 1.0

1	Manufacturer Profile
2	Product Description & Intended Use
3	Physical & Application Properties
4	Performance Summary (Independent Laboratory Testing)
5	Detailed Laboratory Results & Test Methods
6	Particle Coating & Moisture Susceptibility
7	Safety, Health & Regulatory (SDS Summary)
8	Warranty, Shelf Life, Storage & Ordering
A	Appendix — Referenced Laboratory Reports & SDS

About this submittal

This package presents the current production formulation of Perma-Patch Aqua and its independently measured performance. Where an agency or project specification governs, Perma-Patch can issue a line-by-line conformance statement mapped to that specification on request.

SECTION 1

Manufacturer Profile

Manufacturer	Perma-Patch, LLC
Headquarters	6123 Oakleaf Avenue, Baltimore, Maryland 21215, USA
Product line	Cold-mix asphalt pavement repair materials
Telephone	(800) 847-5744
Email	pothole@permapatch.com
Website	permapatch.com
Where to buy	permapatch.com/where-to-buy
Emergency contact (24 hr)	Chemtrec 800-424-9300

Perma-Patch manufactures cold-applied asphalt repair products for municipal, DOT, distributor, and contractor markets. Perma-Patch Aqua™ is the company's water-activated permanent repair material, formulated and produced at the Baltimore, Maryland facility.

Independent testing laboratories

Asphalt Testing Services (ATS) — 475 N Denver Ave, Loveland, CO 80537 · AASHTO-accredited. Performed asphalt content, gradation, specific gravity, Marshall stability/flow, Ideal-CT cracking, tensile strength ratio, Hamburg wheel-tracking, and particle-coating testing.

Black Rock Material & Supply — 5301 Bannock St, Denver, CO 80216 · Performed boiling-water binder-retention testing.

Product Description & Intended Use

Perma-Patch Aqua™ is a water-activated, cold-applied asphalt mixture for the permanent repair of asphalt and concrete pavements. The material is supplied ready to use — no heating, mixing, or tack coat is required. Once placed, compacted, and activated with water, it cures to a hard, durable repair that bonds permanently to both asphalt and concrete.

Recommended applications

- Permanent pothole and pavement repair on roadways, parking areas, and intersections
- Utility cuts, edge repairs, and transition patching on asphalt or concrete
- High-stress turning and braking areas where conventional cold patch displaces
- Repairs required in rain, snow, standing water, or cold ambient conditions

Key performance advantages

~5%

COMPACTED AIR VOIDS
(VS. 10–15% TYPICAL
COLD PATCH)

168.6

IDEAL-CT CRACKING
INDEX (ASTM D8225)

2,852

MARSHALL STABILITY
(LBF)

100%

PARTICLE COATING
(AASHTO T195)

- **Water-activated cure** — develops a hard, hot-mix-like repair rather than remaining soft.
- **Immediate trafficking** — open to traffic immediately after compaction and water activation.
- **All-weather placement** — may be applied from 0°F to 120°F, including in rain, snow, and standing water.
- **Permanent bond** — adheres to asphalt and concrete substrates.
- **Exceptional density** — compacts to far lower air voids than conventional cold patch, reducing moisture infiltration and improving durability.

SECTION 3

Physical & Application Properties

Physical properties

Physical state	Solid, granular
Appearance / color	Dark granules
Material type	Water-activated cold-mix asphalt
Binder system	Asphalt cement
Max. theoretical density	157.1 pcf (Gmm 2.518)
Package	50 lb pails or bags

Application & cure

Activation water	Min. 1 pint (12 oz) per 50 lb pail or bag
Excess water	Does not impair performance
Set time	Approx. 30 minutes
Full cure	24 hours
Trafficking	Immediately after compaction
Working temperature	0°F to 120°F (incl. rain & snow)
Lift thickness	Compact & activate in 3" lifts

Installation procedure

- Remove organic material, debris, and loose aggregate; clean edges and sidewalls for proper bonding.
- Place material directly from the pail — no heating or pre-mixing required. Slightly overfill to allow for compaction.
- For repairs deeper than 4", place and compact in lifts.
- Compact thoroughly with a hand tamper, plate compactor, vibratory roller, or vehicle tire.
- Apply a minimum of 12 oz of water per 50 lb of material used to activate the cure; open to traffic immediately.
- May be placed in any weather from 0°F to 120°F, including rain, snow, and standing water.

Storage

Store in a cool, dry location. Reseal partially used pails or bags completely — ambient humidity will activate exposed product. Shelf life is guaranteed for one (1) year in unopened packaging.

SECTION 4

Performance Summary

Independent laboratory testing · current production formulation

Property	Test method	Result	Notes
Asphalt cement content	AASHTO T308 (CDOT CP-L5120)	5.66%	
Aggregate gradation	ASTM D5444 / AASHTO T30	See gradation table below	
Maximum theoretical specific gravity (G_{mm})	AASHTO T209 (CDOT CP-51)	2.518 (157.1 pcf)	
Bulk specific gravity (G_{mb})	AASHTO T166 (CDOT CP-44)	2.384	
Compacted air voids	Marshall-compacted specimens	5.3%	Exceptionally dense for a cold patch
Marshall stability	AASHTO T245 / ASTM D6927	2,852 lbf	25°C, conditioned
Marshall flow	AASHTO T245 / ASTM D6927	0.17 in	
Tensile strength ratio (moisture)	AASHTO T283	78%	Retained strength after conditioning
Cracking resistance (Ideal-CT index)	ASTM D8225	168.62	Higher = more crack-resistant
Rutting resistance (Hamburg wheel)	AASHTO T324	2.88 mm @ 20,000 passes	No stripping inflection point
Degree of particle coating	AASHTO T195	100%	
Boiling-water binder retention	TxDOT 530-C / CP-2213	99.7% retained — Pass	

Aggregate gradation — percent passing (ASTM D5444 / AASHTO T30)

Sieve	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	92	55	33	23	17	12	8.0

Interpreting the results

Perma-Patch Aqua compacts to roughly **5% air voids** — well below the 10–15% typical of conventional cold-mix patches. Lower voids reduce water and air infiltration, which drives both the high cracking resistance (Ideal-CT 168.6) and the strong rutting performance (2.88 mm at 20,000 Hamburg passes with no stripping inflection point). The boiling-water test retained 99.7% of binder on the aggregate.

Testing performed by Asphalt Testing Services (AASHTO-accredited), Loveland, CO, and Black Rock Material & Supply, Denver, CO. Results reflect laboratory-prepared specimens activated with water prior to compaction. Field results vary with substrate preparation, compaction, and water dosage.

SECTION 5

Detailed Laboratory Results & Test Methods

Marshall stability & flow — AASHTO T245 / ASTM D6927

Conditioned specimens at 25°C.

Specimen	Stability (lbf)	Flow (in)	Height (in)
1	2,882	0.18	2.46
2	2,710	0.17	2.45
3	2,963	0.16	2.45
Average	2,852	0.17	2.45

Volumetrics — T166 / T209

Bulk sp. gravity (G_{mb})	2.384
Max theo. sp. gravity (G_{mm})	2.518
Max theo. density	157.1 pcf
Air voids (compacted)	5.3%
Compaction	94.7%
Asphalt cement content	5.66%

Ideal-CT cracking — ASTM D8225

Specimen 1	100.7
Specimen 2	148.1
Specimen 3	257.0
Test temperature	25°C
CT Index (avg.)	168.62

Hamburg wheel-tracking — AASHTO T324

25°C, 158 lb wheel load. Rut depth (mm) by pass count.

1,000	5,000	10,000	15,000	20,000	Stripping infl. pt.
1.3–1.7	1.9–2.5	2.3–2.9	2.5–3.1	2.88 avg	None

Tensile strength ratio — AASHTO T283

Dry strength (avg.)	12 psi
Conditioned strength (avg.)	10 psi
Tensile strength ratio	78%

Supporting technology data — water-activated cold mix

Independent Ideal-CT testing of Perma-Patch's water-activated technology (ATS, 2024) confirmed the mixture consistently reaches a ~7% compacted air-void target, where typical cold mix measures near 15%. This density advantage is the basis for the durability characteristics documented above.

Particle Coating & Moisture Susceptibility

Degree of particle coating — AASHTO T195

ATS determined the degree of asphalt particle coating on Perma-Patch and Perma-Patch Aqua materials produced in Baltimore, MD. Both products achieved **100% particle coating** on the material received (ATS, May 20, 2026).

Boiling-water binder retention — TxDOT 530-C / CP-2213

A boiling-water test (10 minutes) performed by Black Rock Material & Supply measured a binder loss of only **0.27%**, with **99.7% of binder retained** on the sample. The result is a **Pass** for binder and aggregate adhesion.

Moisture damage resistance

The combination of high particle coating, strong boiling-water binder retention, low compacted air voids (~5%), and a tensile strength ratio of 78% indicates good resistance to moisture-induced stripping — a key performance factor for a water-activated repair material.

100%PARTICLE COATING
(T195)**99.7%**BINDER RETAINED (BOIL
TEST)**78%**TENSILE STRENGTH
RATIO (T283)**~5%**

COMPACTED AIR VOIDS

Safety, Health & Regulatory

Safety Data Sheet summary · HazCom 2024 / GHS · SDS v1.0, issued Sept 30, 2025

Classification & hazards

GHS classification	Skin sensitization, Cat. 1B
Signal word	Warning
Hazard statement	May cause an allergic skin reaction
Recommended use	Permanent asphalt & concrete repair

Composition

Asphalt (CAS 8052-42-4)	1–5%
Portland cement (CAS 65997-15-1)	0.1–1%

Regulatory status

DOT / TDG / IMDG / IATA	Not regulated for transport
TSCA inventory	All components listed / exempt
SARA 313	No reportable chemicals above de minimis
California Prop 65	No listed substances

Recommended PPE

- Impermeable protective gloves (ISO 374-1)
- Eye protection / face shield (ISO 16321-1)
- Long-sleeved protective clothing
- Adequate ventilation

Emergency & first aid

Emergency contact (24 hr): **Chemtrec 800-424-9300**. Skin contact — flush with water for at least 15 minutes and remove contaminated clothing. Eye contact — rinse with water for 15 minutes. The complete Safety Data Sheet is provided as an attachment and governs all health, safety, and handling requirements.

SECTION 8

Warranty, Shelf Life, Storage & Ordering

Shelf life & warranty

Perma-Patch warrants Perma-Patch Aqua™ to remain workable and to perform as described for **one (1) year from date of manufacture** when stored unopened in a cool, dry location in the original sealed container. The product is guaranteed to be free from defects in material and manufacture.

Storage requirements

- Store in a cool, dry location in the original container.
- Keep containers closed when not in use; reseal partially used pails or bags completely.
- Ambient humidity will activate exposed product — protect from moisture until use.
- Keep away from strong oxidizing agents, strong acids, and strong bases.

Packaging

Container	50 lb pail or bag
Shelf life	1 year (unopened)
Activation	Water (min. 12 oz per 50 lb)

Ordering & contact

Telephone	(800) 847-5744
Email	pothole@permapatch.com
Where to buy	permapatch.com/where-to-buy

Referenced Laboratory Reports & Safety Data Sheet

The following source documents support the data presented in this submittal and are available as attachments:

Document	Source / Laboratory	Date
Perma-Patch Aqua — Safety Data Sheet (HazCom 2024)	Perma-Patch, LLC	Sep 30, 2025
Installation Instructions	Perma-Patch, LLC	—
Pilot production testing & recommendations	Asphalt Testing Services	Nov 11, 2025
Particle coating (AASHTO T195)	Asphalt Testing Services	May 20, 2026
Boiling-water binder retention	Black Rock Material & Supply	Sep 23, 2025
Ideal-CT (water-activated technology)	Asphalt Testing Services	May 10, 2024
AC content & gradation (production run)	Asphalt Testing Services	Aug 22, 2025
Comparative testing report	Asphalt Testing Services	Oct 2, 2025

Comparative performance data versus competing water-activated products is available on request. Perma-Patch can also provide a specification-specific conformance statement, QPL/DOT approval documentation, and product samples as needed for your evaluation.

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