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Where Science  Meets the Earth

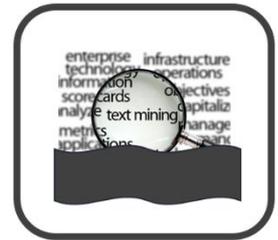
(PHF) Pothole Fill Cold Premix

Investigation, Design and Specification

Step 1

Primary works
 Investigation
 Testing

Investigate the pavement for subgrade failure, strength and pavement condition.



Inspect the site and calculate the amount of PHF Pothole Fill Cold Premix that will be required (see calculation sheet below)



Step 2

Product selection and Design

Evaluate the needs of the client and use product selection guide to select product to achieve maximum performance and desired outcomes.



Create a scope of works.



Pre Works and site conditions

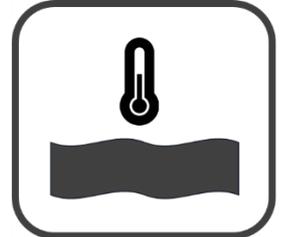
Step 3

Pre works application

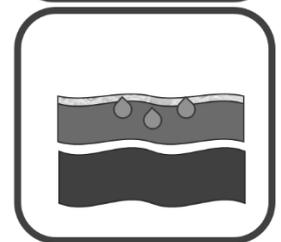
Product is not weather dependent it can be installed in all weather conditions.



Below 30C use PHF Temperate
Above 30C use PHF Extreme



Remove as much of the water/liquid as possible from the pothole before application of the product.



Clean the hole of any debris and remove any loose pieces around the hole (and if possible give yourself a vertical edge around the hole for the PHF Cold Mix to butt up against - it lengthens the life of the repair)



Fill the hole with PHF Cold Mix (make middle slightly higher than the sides - this is called crowning - depending on the size of the repair give yourself a 5-10mm crown - this counteracts the subsidence caused by compacting



Compact a compactor is recommended for larger holes or timber post for ramming can be used on smaller holes very effectively



Driving back and forth over the crowned PHF Cold Mix in a vehicle will provide sufficient compaction in most pot holes



Equipment required

Shovels, Rakes, Broom, Wacker Packer, Asphalt saw or similar. (*portable pump if you have one)

Step 4

Pot Hole Pre-Mix

1. Set up traffic control



2. For best results saw cut edges to create a uniform edge. If possible give yourself a vertical edge around the hole for the PHF to butt up against as it lengthens the life of the repair. If saw is not available, prepare the pothole by remove any loose pieces around the hole.



3. Fill the hole with PHF, making it slightly higher than the pavement, this is called crowning. Depending on the size of the repair give yourself a 5-10cm crown as this counteracts the subsidence caused by compacting.



4. Compact the PHF. A compactor or roller is recommended for larger holes whilst driving back and forth with a vehicle can be used on smaller holes very effectively.



Notes:

Stockpiles need to be in a dry covered area – in the pre blended form PHF Coldmix Pothole Fill can be bagged and stored.



Prepare pothole for filling, removing all loose debris and excess water



Fill the potholes 5-10mm higher than the pavement



Compact pothole with a wacker packer. Deep potholes will have to be applied in layers and compacted.

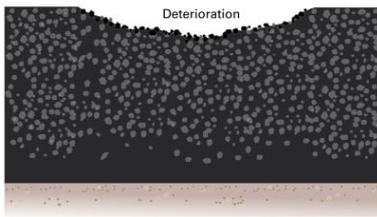


Slurry, sweep and make sure there are no boney areas.

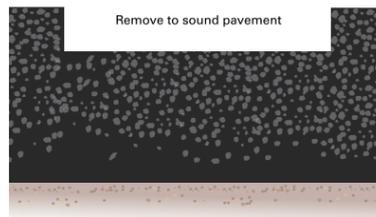


For larger holes and overlaying pavements

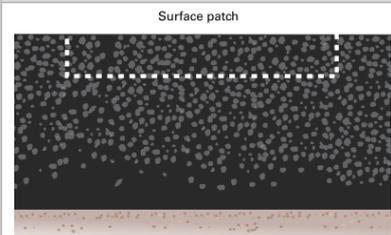
Mark and identify pothole



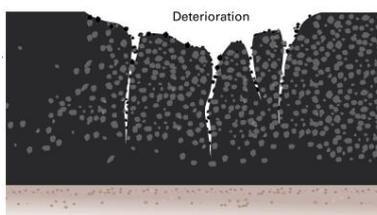
Saw cut and remove uneven edges



Patch and fill



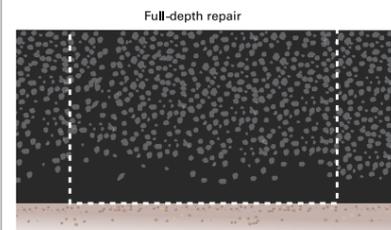
Mark and identify pothole



Saw cut and remove uneven edges



Full depth repair completed in 100mm layers



Glossary

Applicate	To apply the product to the ground.
Blade Mixing	Using a grader blade or similar to uniformly blend and mix the product to the aggregate. No streaks, clumps or uneven colouring of blended material.
Boney Area	A piece of the pavement which lacks in fines or small aggregate that hold the larger stones in place.
Clay Content	The percentage of clay in the material.
CSC	Co-Polymer Soil Cement
Cut depth/Design depth	Thickness of the stabilization layer and should be measured ever 200mtrs along the cut length.
Decanting	To remove liquid from one container to another.
Drag Broom	A towing mechanism made from coarse bristles brooms that are set on 90 and 45 degree angles. Its purpose is to move the slurry around and fill all boney areas and small voids in the pavement.
Equipment	What machinery you will need to apply products correctly
FCM	Flexi-C-Ment: Gravel Locks Co-Polymer additive
Final Design	Scope of works and specification and design of pavement.
Fines	Small particles of less than 5mm.
Flooding Pavement	Use enough water to saturate the pavement, creating a slurry but not enough to run off into the water tables.
HSC	Hygroscopic Soil Cement
IBC Totes	Intermediate bulk container. A reusable industrial container. Designed for the transport and storage of bulk liquids.
Initial Compaction	Primary compaction to form a uniform, dense layer.
Injection	Where the pre-mixed liquid products are injected into the mill of the pulverizer.
Insitu	Existing material
Loose Material	Unbound stones or asphalt.
Matt Test/Weigh Product	To weigh the product applied with a canvass and scales.
Maximum Life Depth	Maximum depth that effective compaction can be applied to in a single layer.
Methodology	Written instructions.
Mill/Pulverizer	Construction Equipment
OWC or OMC	Optimum Water Content. Adding water to the Material so that it becomes self-compacting. OMC of the Material shall be determined by NZS 4402 test 4.1.3 NZ vibrating hammer compaction test.
Optimum Water Content	
Percentage (%)	By weight measurement: for example – if 2kgs is added to

	20kgs this = 10%
Portable Pump	A pump that is transportable. For FCM the pump should have sufficient capacity to transfer 1700UPM viscosity fluid (very thick liquid).
Pothole	Surface deterioration of the pavement that holds water causing further deterioration.
Pre-Grade	Shape the road, removing corrugations and potholes.
Product Selection Guide	Gravel Lock Product Guide for selection of suitable product for treatment of your pavement.
Quarry	Source of aggregate.
RDC	Road Dust Control
Scarify	To rip the road longitudinally using rippers or picks on the grader.
Slaking	Wetting the product to ensure thorough penetration of the product.
Slurry/Slurrying	To create a paste out of the fine particles of the material being treated to the point where it is free flowing.
Specified Depth	The depth measured in cm or mm of the stabilized, treated pavement.
Stabilizing Agent/Dry Powder	A powdered product: HSC, RDC and Portland Cement (shall be tested in accordance with as 2350.2 or appendix B of NZS3122, it must have less than 3% of loss of ignition.
Stock Pile	A large pile of pre-sized aggregate.
Sufficient Liquid	To bring the material up to the optimum water content.
Tolerance	Allowable variance either side of the set measurement.
Traffic Control	Road traffic management.
Uniformly Mixed	Where the product has been blended sufficiently to create homogeneous (uniform) mix.
Untreated Material	Material without any product in it.
Viscosity	Measurement of fluid thickness and flow rate.
Wacker Packer	An engine driven plate compactor used for the compaction of materials.
Weather Forecast	A guide to determine upcoming weather in your region
Winrow	When the gravel is mounded in a longitudinal inverted "V" shape by the grader.