

Rokiln Systems FloMix Asphalt Rapid Repair

FloMix combines polymers with a specially treated aggregate to create a rapid setting, easy to apply, long lasting and durable asphalt repair. Repairs can be done in minutes, using 4 simple steps. Originally developed for the military as a rapid runway repair material, FloMix is an inexpensive alternative to traditional asphalt restoration procedures. FloMix rupture strength is 3 times stronger than concrete. This innovative, patented process provides a modern solution for an age old problem. FloMix repairs are sure to perform.

FloMix asphalt repair kit includes coated sand, bottles of "A" & "B" liquids, and a high traction topping. FloMix is mixed in its own bucket using an electric hand drill and/or a mixer. It reacts quickly after mixing, yet remains workable with a lute, squeegee or trowel for several minutes prior to thickening and setting. Repairs are completed in minutes and cure quickly with no shrinkage.

FloMix is virtually unaffected by the environment, with durability surpassing other repairs. It is Waterproof, Non-Flammable, and Unaffected by Gasoline, Diesel, Motor Oils, Jet Fuel, Anti-Freeze or De-Icing Fluids.

FloMix is also safe. The liquid polymers are odorless and non-flammable, with no fumes, caustics, acids, solvents, oxidizers, flammables, dust or heating. However, protective eye wear and gloves are required to prevent skin contact and to avoid sensitization to the liquid polymer.

> Distributor BREWER COTE OF ARIZONA INC ® 'THE PAVEMENT MAINTENANCE SPECIALISTS' 5226 W. MISSOURI AVENUE, GLENDALE, ARIZONA \$5301



Roklin Systems

FloMix can be applied in 4 simple steps

Clean Surface - apply to stable, clean, uncoated, dry surface Prepare FloMix – Mix polymers and sand using pail mixer and/or heavy Drill Apply FloMix – Pour or Trowel FloMix over deteriorated area Add Topping Sand – and after FloMix sets up, open to traffic

Packaging – FloMix is available in a 5 gal Kit which is made up of equal volume of "A" & "B" Polymer, 30 lbs. of a 2-12 and 60 mesh blend of treated aggregate and a 12 lb. bag of treated Topping sand. The entire contents come in the 5 gal pail and the material is mixed with a $\frac{1}{2}$ Hp drill. Shelf life is 12 mo. In unopened container stored indoors. Bulk distribution is also Available with the Roklin strong Arm polymer and aggregate dispensing system.

Additional Aggregate – Up to 25 lbs. of additional 3/8" aggregate may be added to enhance The mechanical properties of the finished product, increase the load bearing ability and Deliver more product per kit. Roklin supplies the 25 lb. bag 3/8" polymer coated basalt that Will increase output from .4 of a cubic foot to over .6 of a cubic foot per 5 gal kit. The Aggregate can be added directly into pail, once FloMix is fully mixed. Minimum spall depth of ½" is required to utilize additional aggregate. Roklin recommends a motorized pail mixer to Ensure a good dispersion of polymers and aggregates.

Physical / Chemical Characteristics

| Boiling Point | 428° F, 536° F | | |
|-----------------------------------|---|--|--|
| Vapor Pressure (mm Hg) | NE | | |
| Vapor Density (AIR=1) | 9.9 | | |
| Specific Gravity (H2O=1) | 1.084, 0.9420948 | | |
| Melting Point | N/A | | |
| Evaporation Rate (Butyl Ac | etate = 1) NE | | |
| Solubility in Water | Insoluble, reacts with water to form carbon dioxide gas | | |
| Appearance / Odor | Pale Amber Color / Odorless Liquid | | |
| Reactivity | Stable, under normal, recommended conditions | | |
| Conditions to Avoid | Open Flame and Storage Temperatures above 120° F | | |

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Table 1 TX DMS – 6170 Type I Physical Requirements

| Test | Ag | e at Test | Method | Requirement | Result |
|------------------------------|-------|-------------|-------------------|-------------------|----------|
| Gel time Min. | | | Tex-614-J | 5 to 60 min | 9 min |
| Wet Bond Strength psi | | 7 days | Tex-618-J | ≥ 100 psi | 176 psi |
| Compressive Strength | psi | 24 hrs. | ASTM C579 B | B ≥ 200 psi | 1710 psi |
| Compressive Strength | psi | 7 days | ASTM C579 B | ≥ 200 psi | 1820 psi |
| Compressive Strength | psi | 28 days | ASTM C579 B | ≥ 200 psi | 2140 psi |
| Compressive Stress at | .1 in | 7 days | Tex-618-J | ≥ 200 psi | 733 psi |
| Resilience, % | | 7 days | Tex-618-J | ≥ 90 % | 97.2%* |
| Resilience, % | | 7 days | Tex-618-J | ≥ 90% | 82.0% |
| Thermal compatibility | | 7 days | ASTM C884 | no delamination | Pass |
| | | | | or cracking after | |
| | | | | 9 cycles | |
| | *Te | st from ear | lier batch of Mat | terial | |

est from earlier datch of Material

| Table 1 C | T 551 Results | |
|----------------------------|----------------|---------|
| Material Property Test | Age at Test | Results |
| Compressive Strength (MPa) | 1 hr* | 4.25 |
| Compressive Strength (MPa) | 3 hr.* | 7.00 |
| Compressive Strength (MPa) | 6 hr.* | 7.45 |
| Compressive Strength (MPa) | 24 hr. | 11.80 |
| Compressive Strength (MPa) | 7 days | 12.55 |
| Compressive Strength (MPa) | 28 days | 14.75 |
| Flexural Strength (MPa) | 24 hr. | 5.10 |
| Flexural Strength (MPa) | 28 days | 6.95 |
| Bond Strength (MPa) | 24 hr. | 1.40 |
| Bond Strength (MPa) | 28 days | 2.45 |
| Modulus (MPa) | 28 days | 163.0 |
| Specific Gravity | - | 1.84 |
| Absorption % | | .33% |
| *Stross at 10 m | m Displacement | |

Stress at 10 mm Displacement

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Some Important Facts about FloMix Asphalt Repair

- FloMix is a cold-applied, liquid and aggregate slurry that hardens in minutes to provide a long-lasting repair, without the need for removal of damaged asphalt or dig-outs of any kind.
- FloMix utilizes our patented, coated aggregate, which contributes to flowability and ease of installation.
- FloMix can be finished precisely to grade, resulting in a smoother ride over the repaired areas.
- FloMix is easily feathered into the surrounding asphalt to form a repair that blends in visually with the existing pavement.
- FloMix restores aggregate interlock and pavement strength by promoting adhesion between the repaired area and the existing asphalt.
- FloMix can be used anytime the need arises. No need to wait for hot asphalt or heavy equipment.

Listed below are some of the advantages that FloMix offers vs. conventional materials

Simple-to-apply Unaffected by extreme hot or cold Fast set-up, less than 10 minutes Supports heavy roadway traffic Seals & Waterproofs Shortens road closure time; saves labor costs Self-compacting High-traction surface

Asphalt Repair Applications

Asphalt Pavement Repair Asphalt Highway Shoulder Repair Broken Asphalt Repair Asphalt Crack Repair Asphalt Ramp Repair Asphalt Parking Lot Repair Asphalt Manhole Repair Level Uneven Asphalt Repair Asphalt Pothole Repair Asphalt Walkway Repair Asphalt Playground Repair Asphalt Highway Repair Asphalt Loading Dock Repair

Asphalt Patch Repair Alligator Repair in Asphalt Asphalt Sidewalk Repair Asphalt Parking Deck Repair Asphalt Equipment Bases Foundation Asphalt Driveway Repair

Distributor

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ROKLIN'S ASPHALT REPAIR SYSTEM

| | Hot Mix | Cold Mix | FloMix |
|--------------------------------|--|---|---|
| Before Repairs | Obtain Hot mix | Potholes only | Minimal surface preparation |
| Surface | Smooth ride requires skilled crew | Poor ride | Excellent match to grade sample |
| Main Use | New construction, overlays, not designed for repairs | Hot mix alternative skin patching, winter repairs | Rapid permanent repairs |
| Equipment | Asphalt truck plus specialized equipment and crew for application and compacting | Shovel/compactor | Simple mixing equipment and hand tools |
| Application Temperature | Ideal - 70° F to 95° F | 60° F minimum | Any temperature 30° F and up |
| Repair Depth | 1" to full depth | Potholes and skin patches | Feathered to full depth |
| Compaction | Must be compacted to attain strength | Compacted by traffic | Self-compacting non-shrinking, flowable |
| Availability | Must be purchased just prior to use and maintained hot, subject to schedules of hot mix plant, not available nights or weekends | Can be inventoried but dries out and has limited shelf life | Can be inventoried with shelf life of 1 plus year |
| Potholes | Requires removal, squaring off, base repair prior to repair | Temporary repair, poor match to grade | Minor preparation; No removal; Excellent match to grade |
| Cracks & Cold Joints | No | No | Yes |
| Mismatched Grades | No | No | Yes |
| Rutting Raveling | No | No | Yes |
| Base Damaged Asphalt | Removal of asphalt and base repair prior to repair | No | Skin patch on asphalt over damage |
| Alligatoring, Block Cracking | No | No | Yes |
| Water Proofing, Fuel Proofing | No | No | Yes |
| Traffic Loops | No | No | Yes |
| Utility Cuts | First repair with cold mix and then replaced with hot mix later | Temporary repair | Any width 1/2" and up One step repair |
| Manholes | Must be removed prior to repair | Temporary repairs only | No removal required |
| Mechanical Strength | Excellent compressive strength with proper compaction | Low strength, works in potholes only | High tensile, compressive and rupture strength |
| Edge Strength | Very low | Very low | Excellent |
| Flexibility | Yes | Yes | Yes |
| Adhesion | Must be tack coated and compacted | Mainly mechanical interlock | Excellent |
| Fuel/Chemical/Water Resistance | No | No | Yes |
| Memory | No | No | Yes, recovers to original shape after loading |
| Manpower Requirements | Skilled crew familiar with special equipment | No special skill set required | No special skill set required |



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ROKLIN STEP-BY-STEP ASPHALT REPAIR

Roklin Systems Inc. introduces FloMix, the rapid asphalt repair. With no saw-cut or demolition required, prep is quick and easy, usually just blown air. Damaged areas can be returned to traffic in a fraction of the time required for traditional repair methods. The polymer-based repair works in areas where there is a lot of movement, damaged base, where heavy rolling equipment is not available or where other asphalt repair materials have failed.



To begin, use a wire brush and compressor to sweep and blow the dirt out of the hole.



Put on Nirtrile gloves and saftey goggles. Also, make sure you have on long sleeves and pants to protect from any possible splatter.



Pour the bottle marked "A" into the bucket. Pour slowly so as not to splash.



Mix the FloMix in bucket with egg-beater style mixer or pail mixer.



Shake "B" bottle for 30 seconds. Pour into bucket. Mix for 2 minutes.



Flow material into damaged area to just-blow grade.



Use a screed to spread the material evenly.



Broadcast topping sand over entire surface until you cannot see liquid.



When set, sweep or blow away excess sand and your repair is ready for traffic.



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These pictures are of Projects that were done on I-17, Loop 202 and Loop 101 and now the Broadway Curve up-grades. Brewer Cote is Pleased to be involved with these ADOT Projects

- Two-Component Urethane Rapid Setting Patch Material
- Hand Mix or Bulk Applicator supplied by Brewer Cote at "No additional charge"
- Available in Black / Gray
- Open to Traffic in 20 Minutes

Contact Us!

Samples and Demonstrations Gladly Provided

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POLYFLEX

City of Phoenix' Sky Harbor Airport ...

Williams Gateway, Deer Valley and Goodyear Airports Have been using **FlexSet** and **PolyFlex** for more than 10 Years! Pima County, Oro Valley and various others use **PolyFlex** Black for their Asphalt repairs.

PolyFlex re-bonds cracked Concrete, it is used to strengthen Roads, Bridges, Slabs and Parking Structures. It seals Concrete to stop freeze, thaw, spawling and chemical attack



Packaging - **PolyFlex** equal volume 'A' & 'B' components are packaged in 5 gal pail kits or bulk 30 gal or 100 gal kits. Shelf life is 12 mo. in unopened containers stored indoors. Brewer Cote keeps both the 5 gal and the bulk kits in stock. (Including the application equipment)

Instructions – PolyFlex performs well in extreme temperatures. In excessive heat (100° F or higher). Do not leave product outside overnight. Do not apply during rain or on wet surfaces. Co-reactive A & B components are transferred from 5 to 50 gal containers, through proportioning pumps (1:1 ratio) to dispensing gun. Mixed material is dispensed into repairs. Read safety data sheet & installation instructions before using product.

| Typical Properties | 5 | | | Applicatio | on Tests | Procedure | Results |
|-----------------------------|------------|-----------------------|------|---------------------|--------------------|-------------------------|------------|
| Component | 'A' | 'B' | | Resili | ence | ASTM C579-01 | Pass |
| Ratio A : B | 1 | 1 | 5 h | r. Compres | sive Strength | n ASTM C579-01 Mod | 2100 psi |
| Viscosity 73° F cps | 24 | 57.5 | 24 I | hr. Compres | ssive Strengt | h ASTM C579-01 Mod | 3800 psi |
| Appearance | Amber | Black/Gray | | 7 Day Te | ensile | ASTM D638 | 500+ psi |
| Flash Point in F | 245 | 360 | | 7 Day 1 | ear | ASTM D624 | 200 lb f/n |
| Specific Gravity @ 73° F | 1.09 | 1.01 | | Pot Li | ife (| Gardeo GT-S Gel polymei | rs 5 min |
| | | Temperati | ure | Set Time | Return to S | ervice | |
| | | 80° - 100 60°- 80° | - | 5-6 min. 10 min. | 20 min 30 min | | |



PolyFlex DS – Black

PolyFlex DS – **Black** Re-Bonds Cracked and Rutted Asphalt. This thin Penetrating Polymer is applied with the Roklin Vari-Flo Polymer Dispensing System. PolyFlex DS restores Asphalt Strength by penetrating and re-bonding cracks. Large cracks are sand filled then saturated with PolyFlex DS to form High Strength Polymer Concrete.

PolyFlex DS – Black restores Asphalt strength for Roads, Bridges, Parking Structures and Pot Holes. It Seals Asphalt to prevent further breakdown and repairs are fast. Traffic can resume within 20 minutes.

Penetrates / Re-Bonds

Penetrates and Re-Bonds thin, wide or deep cracks to restore Asphalt Strength Seals / Protects Waterproofs, protects from freeze, thaw or spalling. Smooths rough surfaces. Restores traction surfaces Fast Repairs / Cures Solidifies in less than 5 minutes. Ready for traffic in 20 minutes Repairs Year Round Successful Repairs in Cold or Hot Weather Safe to Use / Low Odor Non-Flammable, there are no peroxides or heavy metals. There is little odor on application and is safe to use. (See product safety data for more information) Chemically Resistant Resists dilute acids and alkalis. Unaffected by salt, gasoline, diesel fuel, lubricating oils, or anti-freeze.

Fuel and Oil drips from vehicles will not penetrate treated areas.

INSTRUCTIONS

Roklin PolyFlex DS Black performs well in Temperature Extremes. For best performance, Install at 10°F to 100° F ambient temperature and 50°F to 75° F material temperature. Do Not apply during rain or on wet surfaces. Read Material Safety Data and Installation Instructions before using product.

BULK APPLICATION EQUIPMENT

Roklin Vari-Flo Polymer dispensing equipment transfers, meters, mixes and applies Roklin PolyFlex DS. Co-reactive "A" and "B" components are transferred from 5 to 50 gal containers, Through proportioning pumps (1:1 ratio), to the dispensing gun. Mixed material is dispensed Into repairs.

SMALL JOBS

Apply from 21 oz cartridge kits with hand operated air powered dispensing guns.

PACKAGING

Roklin PolyFlex DS equal volumes of "A" and "B" components are packaged in kits of 5 gal, 30 gal and 100 gal. Shelf Life is 12 mo. In unopened containers stored indoors.



Large Crack repair Remove loose and unsound material Blow crack clean with dry compressed air Fill crack with 30 mesh or larger sand Flood crack with Roklin PolyFlex DS

Spider Cracks

Shot blast or sand blast deck surface Flood deck with PolyFlex DS at the rate of 1 gal per 100 sq./ ft. Immediately broadcast sand to refusal into the cured liquid. When cured sweep off excess sand. Hairline Crack Repair Blow out cracks with dry compressed air Flood with Roklin PolyFlex DS. Broadcast clean, dry uniform graded sand on cured liquid for high traction surface

Restoring Traffic With Roklin PolyFlex DS, traffic can resume within 20 minutes of completion of work reducing the time of crews' exposure to on coming traffic

Typical Properties: Application

| Component | "A" | "B" |
|-------------------------|-------|-------|
| Ratio A:B Volume | 1 | 1 |
| Viscosity @ 73°F cps | 24 | 57.5 |
| Appearance | Amber | Black |
| Specific gravity @ 73°F | 1.09 | 1.01 |
| Flash Point °F | 245 | 360 |

Mixed

Pot Life, Minutes @ 73°F 3 Cure Time Minutes @ 73°F 10 Cured Color Black

Typical Cured Properties

| Specific Gravity | ASTM D792 | 1.07 |
|---------------------------------|-------------------|------|
| Hardness, Durometer D | ASTM D2240 | 70 |
| Tensile Strength, psi | ASTM D412 | 4300 |
| Elongation at Break % | ASTM D412 | ≤10 |
| Tear Strength | ASTM D624 | 275 |
| Compression Strength psi | ASTM C39 | 4250 |
| Bond Strength psi | | 500 |

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PolyFlex DS – Gray

PolyFlex DS – **Gray** Re-Bonds cracked concrete. This thin, penetrating polymer is applied With Roklin Concrete Welder Polymer Low Pressure Dispensing System. PolyFlex DS restores Concrete strength by penetrating and re-bonding cracks. Large cracks are sand filled then Saturated with PolyFlex DS to form a High Strength Polymer Concrete.

PolyFlex DS Gray restores concrete strength for Roads, Bridges, Slabs, Parking Structures, Roofs and floors. It seals concrete to stop freeze, thaw, spalling and chemical attack. PolyFlex DS repairs fast. Traffic can resume within 20 min.

Penetrates / Re-Bonds Penetrates and Re-Bonds thin, wide or deep cracks to restore Asphalt Strength **Seals / Protects** Waterproofs, protects from freeze, thaw or spalling. Smooths rough surfaces. Restores traction surfaces **Fast Repairs / Cures** Solidifies in less than 5 minutes. Ready for traffic in 20 minutes **Repairs Year Round** Successful Repairs in Cold or Hot Weather Safe to Use / Low Odor Non-Flammable, there are no peroxides or heavy metals. There is little odor on application and is safe to use. (See product safety data for more information) **Chemically Resistant** Resists dilute acids and alkalis. Unaffected by salt, gasoline, diesel fuel, lubricating oils, or anti-freeze. Fuel and Oil drips from vehicles will not penetrate treated areas.

INSTRUCTIONS

Roklin PolyFlex DS Gray performs well in Temperature Extremes. For best performance, Install at 10°F to 100° F ambient temperature and 50°F to 75° F material temperature. Do Not apply during rain or on wet surfaces. Read Material Safety Data and Installation Instructions before using product.

BULK APPLICATION EQUIPMENT

Roklin Vari-Flo Polymer dispensing equipment transfers, meters, mixes and applies Roklin PolyFlex DS. Co-reactive "A" and "B" components are transferred from 5 to 50 gal containers Through proportioning pumps (1:1 ratio), to the dispensing gun. Mixed material is dispensed Into repairs.

SMALL JOBS

Apply from 21 oz or 53 oz cartridge kits with hand operated air powered dispensing guns.

PACKAGING

Roklin PolyFlex DS equal volumes of "A" and "B" components are packaged in kits of 5 gal, 30 gal and 100 gal. Shelf Life is 12 mo. In unopened containers stored indoors.



Large Crack repair Remove loose and unsound material Blow crack clean with dry compressed air Fill crack with 30 mesh or larger sand Flood crack with Roklin PolyFlex DS

Spider Cracks

Shot blast or sand blast deck surface Flood deck with PolyFlex DS at the rate of 1 gal per 100 sq. ft. Immediately broadcast sand to refusal into the cured liquid. When cured sweep off excess sand. Hairline Crack Repair Blow out cracks with dry compressed air Flood with Roklin PolyFlex DS. Broadcast clean, dry uniform graded sand on cured liquid for high traction surface

Restoring Traffic With Roklin PolyFlex DS, traffic can resume within 20 minutes of completion of work reducing the time of crews' exposure to on-coming traffic

Typical Properties: Application

| 1 | 1 |
|--------|-------------|
| 24 | 57.5 |
| mber (| Gray |
| .09 | 1.01 |
| 45 | 360 |
| | |
| | mber .09 |

Pot Life, Minutes @ 73°F 3 Cure Time Minutes @ 73°F 10 Cured Color Gray

Typical Cured Properties

| Specific Gravity | ASTM D792 | 1.07 |
|---------------------------------|-------------------|------|
| Hardness, Durometer D | ASTM D2240 | 70 |
| Tensile Strength, psi | ASTM D412 | 4300 |
| Elongation at Break % | ASTM D412 | ≤10 |
| Tear Strength | ASTM D624 | 275 |
| Compression Strength psi | ASTM C39 | 4250 |
| Bond Strength psi | | 500 |

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