



# FlexSet Technical Specification Sheet

## SYSTEMS INCORPORATED

**PRODUCT DESCRIPTION:** FLEXSET polymer concrete repair kit is for restoring cracked and spalled concrete slabs quickly and easily.

FLEXSET is packaged in 5 gallon sealed, plastic pails. Each kit contains 1/2 gallon each of “A” and “B” polymers, 30 pounds of polymer coated sand, and 12 pounds of uniformly graded polymer coated topping sand.

FLEXSET cures to a flexible composition that supports heavy loading yet can tolerate shock, vibration, and thermal movement to withstand heavy truck volume as encountered on interstate highways and bridges.

**Table 1. TX DMS-6170 Type I Physical Requirements**

Test	Age 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
Compressive strength, psi	24 hrs.	ASTM C579, B	> 200 psi	1,710 psi
	7 days		-	1,820 psi
	28 days		-	2,140 psi
Compressive stress at 0.1 in.	7 days	Tex-618-J	> 200 psi	733 psi
Resilience, %	7 days	Tex-618-J	> 90 %	97.2%*
				82.0%
Thermal compatibility	7 days	ASTM C884	No delam. or cracking after 9 cycles	Pass

\* from earlier batch of material

### Physical/Chemical Characteristics

<b>Boiling Point:</b>	428° F, 536° F	<b>Specific Gravity: (H<sub>2</sub>O)=1)</b>	1.084, 0.942-.948
<b>Vapor Pressure (mm Hg.):</b>	NE	<b>Melting Point:</b>	N/A
<b>Vapor Density: (AIR=1)</b>	9.9	<b>Evaporation Rate: (Butyl Acetate=1)</b>	NE
<b>Solubility in Water:</b>	Insoluble, reacts with water to form carbon dioxide gas.		
<b>Appearance and Odor:</b>	Pale amber, odorless liquid		
<b>Reactivity:</b>	Stable, under normal, recommended storage conditions.		
<b>Conditions to avoid:</b>	Open flame and storage temperatures above 120°F.		

**PACKAGING:** Roklin FlexSet is available in a 5 gallon kit which made up of equal volume "A" and "B" polymer, 30 pounds of a 2-12 and 60 mesh blend of treated aggregates and a 12 pound bag of treated 2-12 topping sand. The entire contents come in a 5 gallon bucket which the material is mixed in with a 1/2 HP drill. Shelf life is 12 months in unopened containers stored indoors. Bulk distribution is also available with the Roklin Strong Arm Polymer and Aggregate dispensing system.

**Table 1. CT 551 Results**

Material Property Tested	Age at test	Result
Compressive strength (MPa)	1 hr.*	4.25
	3 hr.*	7.00
	6 hr.*	7.45
	24 hr.	11.80
	7 day	12.55
	28 day	14.75
Flexural strength (MPa)	24 hr.	5.10
	28 day	6.95
Bond strength (MPa)	24 hr.	1.40
	28 day	2.45
Modulus (MPa)	24 hr.	84.6
	28 day	163.0
Specific gravity	-	1.84
Absorption	-	0.33%

\* stress at 10 mm displacement

A **FlexSet** concrete repair kit includes coated sand, bottles of "A" and "B" liquids, and a high-traction topping. **FlexSet** is mixed in its own bucket using an electric hand drill and 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.

**FlexSet** 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.

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

**DIRECTIONS:** FlexSet can be applied in 4 simple steps:-

**CLEAN SURFACE** Apply to stable, clean, uncoated, dry surfaces.

**PREPARE FLEXSET** Mix polymers and sand, using a simple pail mixer and heavy-duty drill.

**APPLY FLEXSET** Pour and trowel FlexSet over deteriorated concrete.

**ADD TOPPING SAND** and after FlexSet sets up open to traffic.

**ADDITIONAL AGGREGATES** - Up to 25 pounds of additional 3/8" aggregate maybe added to enhance the mechanical properties of the finished product, increase the load bearing ability and deliver more product per kit. Roklin supplies a 25 pound bag of 3/8" Polymer Coated Basalt that will increase the output from .4 of a cubic foot to over .6 of a cubic foot per 5 gallon kit. The aggregate can be added directly into the pail, once the polymeric concrete slurry is fully mixed. Minimum spall depth of 1/2" is required to utilize additional aggregate. Roklin recommends a motorized pail mixer to ensure a good dispersion of polymer and aggregates.



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