REMR Material Data Sheet CM-PC-1.3
Concrete Patching Material: Deco-Rez TPM 722

1. NAME

Deco-Rez Topping and Patching Mortars 722

2. MANUFACTURER

General Polymers Corporation
9461 Le Saint Drive
Fairfield, OH 45014

3. DESCRIPTION

Deco-Rez TPM 722 is a specially formulated co-polymer mortar designed for repair and patching of horizontal and vertical concrete and masonry surfaces.

4. USES & LIMITATIONS

Uses: TPM 722 is typically used as a structural repair mortar for industrial plants, bridges, tunnels, sidewalks, driveways, parking structures, and ramps. Because of its exceptional wear-resistant properties, up to 6 times greater than conventional concrete, it is ideal for use in areas subjected to abnormal wear and heavy traffic. Once in place, the material will develop extremely high early strengths--suitable for foot traffic in 3 to 4 hr--with final compressive strengths beyond 6,000 psi. It is resistant to oils, grease, mild acids, alkali, and aliphatic hydrocarbons (such as gasoline). It has excellent adhesion and superior bonding. It is resistant to cycles of freezing and thawing and to deicing salt. This versatile mortar can also be applied overhead in thin, multiple coat applications.

Limitations: Deco-Rez TPM 722 is not recommended for applications less than 1/8 in. thick. For repairs greater than 1-1/2 in. deep, 38 to 42 lb (up to 3.5 gal) of 3/8-in. aggregate should be added to each unit during mixing. Solvent-based curing compounds should not be used. The substrate must be clean and sound. TPM 722 can and should be applied over damp surfaces, but it should not be applied when the temperature is below 45° F or when it is expected to fall below 40° F within 48 hr.

5. MANUFACTURER'S TECHNICAL DATA

Packaging: TPM 722 is packaged in convenient, premeasured quantities for ease of mixing and handling. The kit contains 1 gal of polymer and 61 lb of selected powders, wetting agents, and aggregates. The packaging eliminates the need for onsite batching, which alleviates blending errors and ensures constant composition. A total package will yield approximately 0.5 cu ft.

Physical properties:

Weight per gallon		
Co-polymer		8.4 lb
Cured color		Cement gray
Shelf life:	Polymer	1 yr in original container
	Dry blend	6 mo in original package

Conditions for storage: Polymer should be stored at temperatures between 65° F and 80° F. It must be kept from freezing. Dry blend should be stored between 65° F and 80° F. It must be kept dry.

Performance Properties	Results
Compressive strength, psi	
7 days air cured	5,800
28 days air cured	6,600
Bond strength, to wet cement after aging 28 days, min, psi	300
Flexural strength, 28 days, psi	1,700
Wear resistance	5-6 times better than concrete

6. MANUFACTURER'S GUIDANCE FOR APPLICATION

Preparation: TPM 722 can be applied to clean concrete and cementitious masonry surfaces. All oil, dirt, paint, adhesives, loose material, and waxes must be removed. Areas to be repaired should be no less than 1/8 in. in depth.

The surface should be prepared by mechanical means to provide a profile of 1/16 in. or more. The surface should be damp, but not wet with standing water, during the application of the TPM 722.

Mixing and application: TPM 722 can be mixed manually or mechanically. Manual mixing can be done in a mortar box or wheelbarrow. Mechanical mixing should be done in a conventional mortar mixer or with a drill and paddle in a suitable vessel. The first step in mixing is to pour approximately four-fifths of the liquid component into the mixing vessel. While the mixer is rotating, the entire package of dry blend should be added; mixing should continue until the consistency is uniform. (The ratio of liquid to dry blend must be kept constant.) The remaining liquid may be added for a more fluid consistency. Recommended mixing time is 3 min. If manual mixing requires more than 3 min, smaller quantities should be mixed at a time. For less than a full unit, the dry blend should be premixed before it is added.

Priming is generally not required; however, if the surface is porous or if the material is to be applied to vertical or overhead surfaces, the remaining one-fifth of the liquid component should be used as a prime coat. The prime coat should be applied with a brush immediately before the mixed mortar is placed. The prime coat must not dry before the mortar is placed.

The mortar for patching areas greater than 1-1/2 in. deep should be prepared by first mixing all of the liquid and dry blend and then, while the mixture is rotating, adding the coarse, dry, 3/8-in. aggregate to achieve the desired slump.

The surface to be repaired should be damp but free of standing water. A scratch coat of mortar should be forced into the surface to fill all voids and pores. The coat should be applied from the edge of the repair to the center. The remaining material necessary to fill the area should be dumped and spread with a screed. Once the material has set to the desired stiffness, it can be finished with a wood or sponge float to achieve a smooth surface. An extremely smooth finish can be achieved by sprinkling water on the surface and then leveling it with a steel trowel. A rough finish can be obtained with a broom or a burlap bag dragged across the surface.

Curing is generally not required; however, under conditions of high heat, low humidity, or strong winds, special curing procedures may be necessary to

7. CORPS OF ENGINEERS' EVALUATION

Technical data:

Properties	Test Method	Results
Compressive strength, psi	ASTM C 39	
	24 hr	3,370
	3 days	5,070
	7 days	5,740
	28 days	6,900
Modulus of elasticity, psi	ASTM C 469	
	24 hr	1.98×10^6
	3 days	2.98×10^6
	7 days	2.96×10^6
	28 days	3.37×10^6
Flexural strength, psi	ASTM C 78	
	24 hr	640
	3 days	680
	7 days	990
	28 days	1,370
Bond to concrete, psi	ASTM C 882	
	24 hr	780
	3 days	1,840
	7 days	1,830
	28 days	2,100
Shrinkage, percent	GR-83-10*	
	(Unconfined Condition)**	0.023
	(Concrete Patch)†	0.004

* Bureau of Reclamation Technical Report Standard.

** An exotherm of 7° F was reported on the shrinkage specimen using a mixture proportion of 61 lb of material, 35 lb of aggregate, and 1 gal of polymer.

† An exotherm of 7° F was reported on this specimen using the same mixture proportion as above.

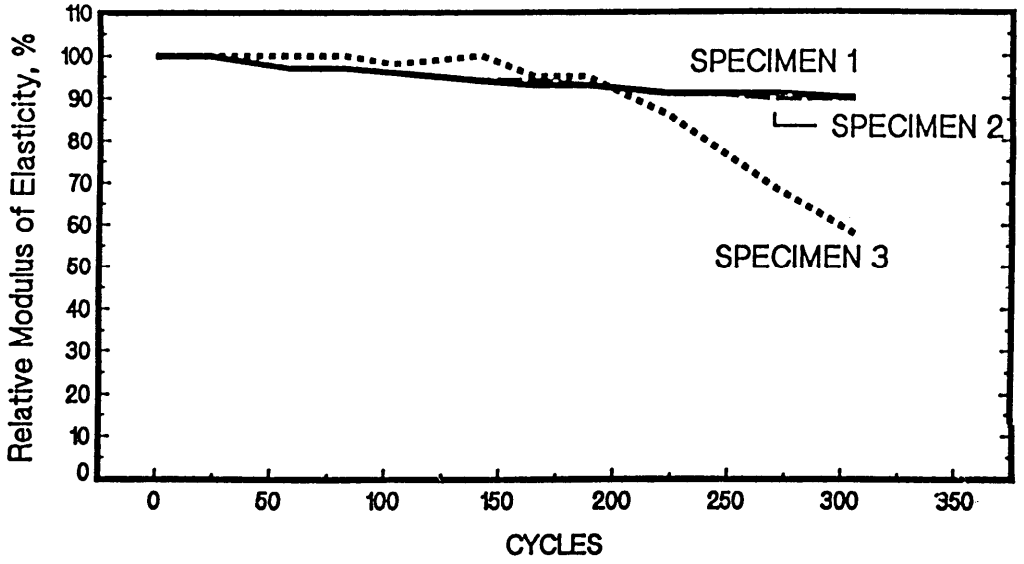
prevent the surface's drying too rapidly. If any of these conditions exist, the surface can be kept damp by misting it with water, covering it with wet burlap, or using a solvent-free curing compound. If rain is imminent, the newly repaired area should be covered. If freezing occurs, insulating material should be used to protect the patch.

Tools and equipment must be cleaned with water immediately after use; hardened material has to be mechanically removed.

8. ENVIRONMENTAL CONSIDERATIONS

Reasonable caution should guide the preparation, repair, and cleanup phases of sealant activities involving potentially hazardous and toxic chemical substances. Manufacturer's recommendations to protect occupational health and environmental quality should be carefully followed. Material safety data sheets should be obtained from the manufacturers of such materials. In cases where the effects of a chemical substance on occupational health or environmental

Rapid Freezing and Thawing, ASTM C 666, Relative Dynamic Modulus of Elasticity, %:



quality are unknown, chemical substances should be treated as potentially hazardous toxic materials.

9. AVAILABILITY & COST

Availability: Deco-Rez TPM 722 is normally marketed throughout the United States.

Cost: Cost information is available on request.

10. TECHNICAL SERVICES

Complete problem-solution or custom-system information for project requirements can be obtained by calling 513-874-5980.