

# E.L.S. PRODUCTS CORP. TECHNICAL DATA

110PT

E.L.S. PERMANENT PATCH P.T. (Power Trowel)

1-800-528-4861 ~ www.elsproducts.com

## PRODUCT DESCRIPTION:

ELS PERMANENT PATCH P.T. is a three component 100% solids epoxy mortar specifically formulated with power trowel applications in mind. The aggregate supplied has been engineered to specifically make applications quicker and easier than conventional blends. In addition, this product provides excellent wear characteristics and strength.

## RECOMMENDED FOR:

Recommended for heavy traffic areas, forklift traffic and high volume production areas.

## NOT RECOMMENDED FOR:

Immersion applications for all acids and chemicals.

## SOLIDS BY WEIGHT:

100%

## VOLATILE ORGANIC CONTENT:

zero pounds per gallon

## STANDARD COLORS:

Light gray, red, dark gray, and natural.

## RECOMMENDED THICKNESS:

Apply at 3/16" to 3/8" to yield 1/8" to 1/4" after application by the power trowel. The standard application would involve the placement of 1/4", which would result in a nominal thickness of about 3/16" after the power trowel application.

## COVERAGE PER UNIT:

Coverage will vary according to the liquid to sand ratio. Accordingly, one 37# bag of aggregate when mixed with 1/2 gallon of the mixed liquids will resurface approximately 19 square feet.

## PACKAGING

Liquids are available in any type package size desired. The aggregate blend is supplied in 37# bags only. Standard packaging is available in: (37.0#A to 8.75#B, ie, 5 gallon mix) and (7.4#A to 1.8#B, ie, 1 gallon mix). However, 0.40 gallons in a gallon can plus 0.10 gallons part B in a pint can be supplied for ease of use on small job applications. All weights and volumes are approximate.

## MIX RATIO:

A typical mix ratio for this system is a 37# bag of aggregate with 1/2 gallon of the mixed liquids. (1/2 gallon of the mixed liquids consists of 0.40 gallons part A to 0.10 gallons part B, ie 4:1 by volume approximate). We do not recommend that the liquid to sand ratio be made any dryer than the 1/2 gallon mixed liquids to 37# of aggregate as this could cause loss of physical strength. More liquid (10-15%) can be added to the 37# of aggregate and still have a very suitable consistency for power trowel applications.

## SHELF LIFE:

2 years in unopened containers

## FLEXURAL STRENGTH:

15,150 psi @ ASTM D790

## YIELD COMPRESSIVE STRENGTH:

11,150 psi @ ASTM D695

## TENSILE STRENGTH:

6,800 psi @ ASTM D638

## ULTIMATE ELONGATION:

4.65%

## IMPACT RESISTANCE:

excellent

## DOT CLASSIFICATION:

Part A & C "not regulated"

Part B "CORROSIVE LIQUID N.O.S., 8, UN1760, PGIII"

## ABRASION RESISTANCE:

Excellent

## VISCOSITY:

Part A= 450-750 cps, Part B=290-500 cps

## HEAT DEFLECTION TEMP:

70.5 degrees C @ ASTM D648

## WEATHERING:

Good (chalks)

## CURE SCHEDULE: (70°F)

(1/2 gallons mixed liquid and 37# aggregate)

pot life ..... 30-40 minutes

recoat or topcoat.....7-8 hours

light foot traffic.....14-16 hours

full cure (heavy traffic)...2-7 days

## APPLICATION TEMPERATURE:

55-90 degrees F

## CHEMICAL RESISTANCE:

REAGENT	RATING
xylene	B
1,1,1 trichloroethane	C
MEK	A
methanol	B
ethyl alcohol	B
skydrol	B
10% sodium hydroxide	C
50% sodium hydroxide	C
10% sulfuric acid	B
70% sulfuric acid	A
10% HCl (aq)	C
5% acetic acid	B

Rating key: A - not recommended, B - 2 hour term splash spill, C - 8 hour term splash spill, D - 72 hour immersion, E - long term immersion. NOTE: extensive chemical resistance information is available through your sales representative.

## PRIMER:

ELS162 power trowel primer recommended.

## TOPCOAT:

For increased performance and reduced porosity, topcoat with ELS94 or ELS95

## LIMITATIONS:

\*Color stability may be affected by environmental conditions such as high humidity or chemical exposure.

\*Colors may vary from batch to batch due to variations in the silica filler.

\*Mortar colors are not from our standard color chart.

\*Substrate temperature must be 5°F above dew point.

\*For chemical exposure areas, we recommend a suitable topcoat to reduce porosity and chemical migration.

\*All new concrete must be cured for at least 30 days prior to application.

\*See reverse side for application instructions.

\*Test data based on neat resin. The addition of sand will decrease physical properties.

When aggregate to mixed liquid ratios are higher than 7:1, it is advisable to apply a suitable tie coat such as our NP94 or NP95 to reduce porosity (37# of aggregate and 1/2 gallons of mixed liquids have a sand to liquid ratio of about 8:1).

\*Physical properties are typical values and not specifications.

\*See reverse side for limitations of our liability and warranty.

## MIXING AND APPLICATION INSTRUCTIONS (110 power trowel)

- 1) **PRODUCT STORAGE:** Store product in an area so as to bring the material to normal room temperature before using. Continuous storage should be above 55<sup>0</sup> F to prevent product crystallization.
- 2) **SURFACE PREPARATION:** All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble free bond to the substrate. We recommend that an aggressive shot blast be performed prior to the application of this product. A less adequate method would be acid etching, but the etch should properly profile the substrate. All edges and around columns or beams should be mechanically scarified. All termination points should not be feather edged, but should be saw cut with the termination ending at the saw cut to prevent applications below 1/8" thickness. All large cracks should be V cut and filled with an appropriate crack filler. All expansion joints should be filled with an appropriate joint filler. When overlaying an expansion joint, a single saw cut through the epoxy overlay will prevent random fracturing. A test should be made to determine that the concrete is dry; this can be done by placing a 4'X4' plastic sheet on the substrate and taping down the edges; if after 24 hours, the substrate is still dry below the plastic sheet, then the substrate is dry enough to start coating. The plastic sheet testing is also a good method to determine if any hydrostatic pressure problems exist that may later cause disbonding.
- 3) **PRIMER:** Prime the surface with ELS162 power trowel primer. Do not let this primer become tack free. Apply the mortar directly over the power trowel primer while still wet. If the primer dries, it must be cleaned and re-applied before replacement of the power trowel mortar. Apply the primer at 150 to 250 square feet per gallon.
- 4) **PRODUCT MIXING:** Mix the liquids to be used in the power trowel mortar system at the recommended mix ratio. Thoroughly mix the combined components A and B with a jiffy mixer or other suitable equipment. Continue to mix for a couple of minutes to insure the material is mixed well. After the liquids are thoroughly mixed, pour the liquids into a Koel mixer, mud mixer or other suitable mixer (depending on batch size). After the liquids are in the mixer, immediately add the special aggregate blend into the mixer. The amount of aggregate should not exceed 37 pounds of the aggregate to 1/2 gallon of mixed liquids. For best results, we recommend a 7:1 aggregate to liquid ratio. Mix the aggregate in thoroughly to insure it is wetted out and uniform in saturation. Improper mixing may result in product failure.
- 5) **PRODUCT APPLICATION:** The material can be spread by using a screed box, rake or other suitable equipment. Spread the mixed mortar directly over the wet power trowel primer. Keep in mind that a 3/16 inch depth of power troweled mortar will only yield a nominal compacted depth of 1/8 inch and 3/8 inch depth of power troweled mortar will yield a nominal finished depth of 1/4 inch. We do not recommend a finished depth below 1/8 inch. Power trowel the mortar mix with a slow speed power trowel. When hand troweling the edges, use sufficient downward force to compact the mortar and blend in with the power troweled sections. **PRECAUTIONARY STATEMENT:** (a) Do not over trowel the mortar as this can cause blistering. (b) Air currents directly across or above the mortar can cause blistering. Always use materials (liquids) from the same batch or (especially when using colored systems) properly box the material prior to using.
- 6) **RECOAT OR TOPCOATING:** (If topcoating the power troweled mortar) After the power troweled mortar is applied and sufficiently cured (about 8 hours at 70-80<sup>0</sup>F), grind off all high spots and trowel marks before placing any topcoats. Topcoats can be grout coats, texture coats, high builds or UV stable urethanes, etc.
- 7) **CLEANUP:** Use xylol
- 8) **FLOOR CLEANING:** Caution! Some cleaners may affect the color of the floor installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.
- 9) **RESTRICTIONS:** Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured (see technical data under full cure). It is best to let the floor remain dry for the full cure cycle.

### NOTICE TO BUYER: DISCLAIMER OF WARRANTIES AND LIMITATIONS ON OUR LIABILITY

*We warrant that our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our products for your particular purpose. Listed physical properties are typical and should not be construed as specifications. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, REGARDING SUCH OTHER INFORMATION, THE DATA ON WHICH IT IS BASED, OR THE RESULTS YOU WILL OBTAIN FROM ITS USE. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, THAT OUR PRODUCT SHALL BE MERCHANTABLE OR THAT OUR PRODUCT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. NO WARRANTY IS MADE THAT THE USE OF SUCH INFORMATION OR OUR PRODUCT WILL NOT INFRINGE UPON ANY PATENT. We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Our products contain chemicals that may CAUSE SERIOUS PHYSICAL INJURY. BEFORE USING, READ THE MATERIAL SAFETY DATA SHEET AND FOLLOW ALL PRECAUTIONS TO PREVENT BODILY HARM.*