GLOSSARY OF TERMS
OFTEN USED IN WORKING WITH EPOXIES

ADHESIVE CONTACT TIME

The period of time in which an adhesive, such as an epoxy, will remain in the tacky condition after application, under specified conditions of temperature and humidity. It is the time available before the adhesive "dries" to stick something else to it such as fresh concrete or a second coating.

COMPRESSIVE MODULUS

It is the modulus of the material under compression. (See Modulus)

COMPRESSIVE STRENGTH

The ability of a material to support a load for instance, concrete, it usually has a compressive strength of 3000-4000 psi.

ELONGATION

The amount a product will stretch under tension before it breaks. Expressed in percent of its original length, i.e., a tensile elongation of 10% means the product stretched 10% more than its original length before breaking.

EPOXY RESIN

A special chemical formulation liquid, that is capable of conversion to a solid form, when mixed with a curing agent. Usually called Part A.

EXOTHERM

This is a chemical reaction which generates heat. It is the type of reaction which occurs when epoxies cure.

FINAL CURE

The time required for an epoxy to reach 100% of its rated physical properties. It usually is expressed in hours of days. (See Initial Cure)

FINES

Very small particles (usually under 200 mesh) accompanying larger grains.

FLEXURAL STRENGTH

The ability of a material to withstand bending before it breaks. It is usually measured in psi.

GEL

Gel is an epoxy formulation that is in the form of a paste consistency. It is capable of being applied on overhead or vertical applications.

HARDNESS

Hardness is the relative resistance of a material to indentation. In the plastics industry it is measured on a standard scale known as Shore.

HIGH MODULUS

High strength material but is rigid. Used where high strength is needed in adhering together closely matching surfaces such as broken concrete of flat base plates against a flat surface. (See Modulus)

IMPACT RESISTANCE

Impact Resistance is the ability of a material to withstand breaking due to a sharp blow.

IMPREGNATION

Impregnation is the process of thoroughly soaking a material such as; wood, paper or concrete, with a synthetic liquid resin so that the resin gets within the material.

INITIAL CURE

Is the stage where a reacting liquid epoxy, having become solid has reached the majority (80%) of its ultimate physical properties. It is usually expressed in hours or days. (See Final Cure)

LOW MODULUS

Material is flexible and resilient. Used where resilience will withstand expansion and contraction, vibration, impact and the like. (See Modulus)

MODULUS

It is the value of the ratio of stress (load divided area) to the strain (such as elongation) of a material. It is a measure of the relative flexibility and resilience of a material, i.e., rubber has a low modulus and steel has a high one. Modulus is expressed in psi.

pH

It is an expression of acidity or alkalinity of a substance. Neutral is pH 7 – acid solutions are under 7 and alkaline solutions over 7.

POLYMER

A broad class of chemicals, such as epoxy, polyester, nylon, acrylics, polyurethane's, usually made by causing a chemical reaction between more basic chemicals called monomers.

POT LIFE

Time between mixing the two parts of an epoxy of other system and the time the mixture hardens. It depends on temperature, quantity and volume of the mixture. For instance, a 2 oz. Sample of a fast curing material will harden in 2 ½ minutes at 75º F but a 1/16 film takes 60 minutes.

PRIMER

A coating applied to a surface prior to the application of an epoxy system or any other coating to improve its adhesion.

SHEAR STRENGTH

It is the ability of a material to withstand shearing.

TACK

It is the stickiness of an adhesive.

TENSILE STRENGTH

It is the ability of a material to withstand a load under tension, i.e., when being pulled apart. It is expressed in psi.

THIXOTROPIC

Material that is gel-like at rest, but fluid when agitated.

VISCOSITY

It is a measurement of the flow-ability of any liquid system – such as curing agents and resins. It's expressed in a scale called centipoises (CPS). Water has viscosity of 1, whereas mixed epoxies usually range from 500 cps – 3000 cps.