



TuffTex Materials
RESTORATION MADE EASY

SEALANTS Dictionary

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A

Accelerated Aging

Laboratory conditions designed to produce in a short time the results of normal aging. Usual factors included are temperature, light, oxygen, and water.

Adhesion

The bonding in which two surfaces are held together at the interface.

Adhesive Failure

Failure of the adhesive or sealant loose from the substrate.

Aging

The progressive change in the chemical and physical properties.

Alligatoring

Cracking or checkering of a surface into segments.

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B

Bead

A sealant or compound after application in a joint.

Backer

A compressible material used at the base of a joint opening to provide the proper shape factor in a sealant and prevent three point sticking.

Bond

The contact between substrate an adhesive, or sealant.

Bond Breaker

Thin layer of material (e.g., bond breaker tape) used to prevent the sealant from bonding to the bottom of the joint.

Bond Strength

The force per unit area necessary to rupture a bond.

Butt Joint

A joint in which the structural units are joined to place the adhesive or sealant into tension or compression.

Buttering

Application of a compound to the flat surface of some member before placing the member in position.

Butyl Rubber

A sealant that has low recovery and slow cure, but good tensile strength and elongation.

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C

Catalyst

Substance added to promote a reaction, while remaining unchanged itself.

Caulk (noun)

A sealant with a relatively low (less than 20%) movement capability.

Caulk (verb)

To fill the joints in a building with a sealant.

Chalking

Formation of a powdery surface due to weathering.

Checking

The formation of breaks or cracks in the surface of a sealant.

Chemical Cure

Curing by the crosslinking of a polymer.

Coefficient of Expansion

The coefficient of linear expansion is the ratio of the change in length per degree to the length at 0°C.

Cohesion

The internal strength which holds the body of a sealant together.

Cohesive Failure

The failure characterized by pulling the body of the sealant or adhesive apart.

Crazing

Fine cracks through a layer of sealant or coating.

Creep

The deformation of a material with time under constant load.

Cross-Linked

Molecules that are joined side by side as well as end to end.

Cure

To set up or harden by means of a chemical reaction.

Cure Time

Period required to effect complete cure at a given temperature.

Curing Agent

A chemical which is added to effect a cure in a polymer.

Curtain Wall

Any building wall, of any material, which carries no superimposed vertical loads.(i.e., any non-bearing wall)

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E

Elasticity

The ability of a material to return to its original shape after removal of a load.

Elastomer

A rubbery material which returns to approximately its original dimensions in a short time after a relatively large amount of deformation.

Extrusion Failure

Occurs when a sealant is forced too far out of the joint.

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E

Fatigue Failure

Failure of a material due to rapid cyclic deformation.

Flashing

Strips of sheet metal, to waterproof the junctions of buildings.

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Gasket

Pre-formed shapes, such as strips, grommets, etc.

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H

Hot Melt

A sealant which will soften when heated (approx. 375°F) and can be pumped when hot, gains strength when cooled.

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Joint

The opening between the component parts of a structure.

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L

Lap Joint

A joint in which the component parts overlap so that the sealant or adhesive is placed into shear action.

Latex Caulks

Latex caulks are polyvinyl acetate or vinyl acrylic.

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M

Mastic

Any sealant or adhesive which are gunned, poured, or troweled into place.

Modulus

The ratio of stress to strain.

Monomer

A material composed of single molecules.

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N

Non-Sag

A material placed in a joint in a vertical wall and maintain its shape without sagging during the curing process.

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O

Open Time

Interval between material applied and no longer workable.

Oxidation

Formation of an oxide due to the action of oxygen or ozone.

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P

Peel Test

A test of an adhesive or sealant using one rigid and one flexible substrate. The flexible material is folded back (usually 180°) and the substrates are peeled apart. Strength is measured in pounds per inch of width.

Poise

The measurement unit of viscosity. Thickness.

Polymer

A compound consisting of long chain-like molecules.

Polysulfide

Synthetic rubber usually obtained from sodium polysulfide. Polysulfide rubbers make very good sealants.

Preformed Sealant

A sealant which is preshaped by the manufacture before being shipped to the job site.

Primer

A material applied to joint faces in order to improve adhesion.

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R**Resilience**

A measure of energy stored and recovered during a loading cycle. It is expressed in percent.

Resins

Solid organic materials, generally not soluble in water, which have little or no tendency to crystallize. Example: Epoxy and polyester resins.

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S

Sealant

Any material used to seal joints or openings against the intrusion or passage of any foreign substance such as water, gases, air, or dirt.

Sealer

A surface coating generally applied to fill or seal cracks, pores, or voids in the surface.

Self-Leveling Sealant

A sealant which is fluid enough to be poured into horizontal joints. It forms a smooth, level surface without tooling.

Shear Test

A method of deforming a sealed or bonded joint by forcing the substrates to slide over each other.

Shear

Strength is reported in units of force per unit area (psi).

Shelf Life

The length of time a sealant or adhesive can be stored and still retain its properties.

Shore A & D Hardness

A measurement of a material's hardness on a durometer scale. Both the Shore A and Shore D instruments are made by the Shore Instrument Manufacturing Company.

Shrinkage

Percentage weight loss under specified conditions.

Silicone Rubber

A synthetic rubber based on silicone, carbon, oxygen and hydrogen. Silicone rubbers are widely used as sealants and coatings.

Solvent

Liquid in which another substance can be dissolved.

Substrate

The surface to which a sealant or coating is bonded.

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I**Tackiness**

The stickiness of the surface of a sealant or adhesive.

Tear Strength

The load required to tear apart a sealant specimen. ASTM test method D-624 expresses tear strength in pounds.

Tensile Strength

Resistance of a material to a tensile force (a stretch). The cohesive strength of a material, expressed in psi.

Thermoplastic

A material which can be repeatedly softened by heating. Thermoplastics generally have little or no chemical cross linking.

Thixotropic

Non-sagging. A material which maintains its shape unless agitated.

Toxic

Poisonous or dangerous to humans by swallowing, inhalation, or contact resulting in eye or skin irritation.

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U

Ultimate Elongation

Elongation at failure.

Ultraviolet Light

Part of the light spectrum. Ultraviolet rays can cause chemical changes in rubbery materials.

Urethane

A family of polymers ranging from rubbery to brittle. Usually formed by the reaction of a diisocyanate with a hydroxyl; also called polyurethane.

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V

Viscosity

A measure of the flow properties of a liquid or paste. Example: Honey is more viscous than water. Water (the standard of comparison) has a viscosity of 1/100 of a poise.

Vulcanization

Improving the elastic properties of a rubber by a chemical change.

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W

Weatherometer

An environmental chamber in which specimens are subjected to water spray and ultraviolet light.

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