



## SHEET RUBBER GLOSSARY

**Adhesion:** (1) Basically, the adhering, clinging, bonding or sticking of two material surfaces to one another, such as rubber to rubber, rubber to glass, rubber to metal, rubber to wood, rubber to fabric, rubber to cord, rubber to wire, etc. (2) Refers to the strength of bond between cured rubber surfaces or cured rubber surface and a non-rubber surface.

**Aging:** To undergo changes to physical properties with age or lapse of time.

**Aging, Air Oven:** A means of accelerating the change in physical properties of rubber compounds by exposing them to the action of air at an elevated temperature.

**Ambient Temperature:** The environment temperature surrounding the object under consideration.

**Blemish:** A mark, deformity, or injury which impairs the appearance.

**Blisters:** A raised spot on the surface or a separation between layers usually forming a void or air-filled space in the vulcanized article. (See bubbles, sinks and voids.)

**Bloom:** A coating or efflorescence creating a discoloration or change in appearance of the surface of a rubber product caused by the migration of a liquid or solid to the surface. Examples: Sulfur Bloom, Wax Bloom. Not to be confused with dust on the surface from external sources.

**Calendered:** Continuously sheeted or plied up rubber compound or fabric that is frictioned or coated with rubber compound on a machine equipped with three or more heavy internally heated or cooled rolls revolving in opposite direction.

**Checking:** Short, shallow cracks on the surface, generally due to effect of destructive action of environmental conditions.

**C. I. (Cloth-inserted):** An abbreviation used to indicate a sheet of rubber containing one or more plies of cloth or duck, in which the cloth is completely covered with rubber.

**Cloth Impression:** Same as fabric impression.

**Coating:** A layer of material covering a surface.

**Compression Set:** The deformation which remains in rubber after it has been subjected to and released from a specific compressive stress for a definite period of time at a prescribed temperature. Compression set measurements are made for the purpose of evaluating the creep and stress relaxation properties of rubber.

**Cracking:** A sharp break or fissure in the surface. Generally due to excessive strain.

**Crazing:** A surface effect on rubber articles characterized by multitudinous minute cracks.

**Cure:** The act of vulcanization.

**Curing Temperature:** The temperature at which the rubber is vulcanized.

**Diaphragm Sheet:** Sheet (generally fabric-reinforced rubber) from which flat diaphragms may be cut.

**Die Cut:** Shaped articles punched from a sheet of rubber with a die.

**Dielectric Strength:** The measure of electric potential strength of a rubber product. Measure of its ability as an insulating compound to resist passage of a disruptive discharge produced by an electric stress. Measure as volts per mil of thickness.

**Durometer:** An instrument for measuring the hardness of rubber. Measures resistance to the penetration of an indenter point into the surface of the rubber.

**Durometer Hardness:** An arbitrary numerical value which measures the resistance to penetration of the indenter point of the durometer. Value may be taken immediately or after a very short specified time.

**Elastomer:** Macromolecular material that returns rapidly to approximately the initial dimensions and shape after substantial deformation by a weak stress and release of stress.

**Elongation:** Increase in length expressed numerically as a fraction or percentage of initial length.

**Filler:** (1) A material incorporated into a rubber compound to increase its bulk. (2) A compound built into a rubber product to increase its bulk and/or improve its appearance. (3) Sometimes erroneously used to mean "filling" in textiles.

**Finish, Fabric:** Same as impress, fabric.

**Finish, Paper:** Finish resulting from curing in contact with paper.

**Finish Plate or Platen:** Same as plate finish (sheet).

**Foreign Material:** Any extraneous matter such as wood, paper, metal, sand, dirt or pigment that should not normally be present in a particular rubber product or composition.



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**Gauge:** (1) The measure of thickness of the individual elements making up a rubber product. (2) A device for measuring. (See thickness.)

**Grain:** The effect on a rubber compound due to processing it through a tubing machine, calender, or mill.

**Hardness:** Property or extent of being hard. Measured by extent of failure of the indenter point of any one of a number of standard hardness testing instruments to penetrate the product.

**Homogeneity:** Uniformity of composition throughout the material.

**Homogeneous:** Of uniform composition throughout.

**Impression:** Design formed during vulcanization in the surface of any rubber article by a method of transfer, such as fabric impression or molded impression.

**Impression, Fabric:** Impression formed during cure by fabric wrap.

**Laminated:** Built up from thinner layers.

**Modulus:** In the physical testing of rubber, it is the ratio of stress to strain; that is, the load in pounds per square inch or kilograms per square centimeter of initial cross sectional-area necessary to produce a stated percentage elongation. It is a measure of stiffness.

**Non-blooming:** The absence of bloom.

**Oxidation:** The reaction of oxygen on a rubber product, usually detected by a change in the appearance or feel of the surface, or by a change in physical properties.

**Ozone Cracking:** Surface cracks, checks or crazing caused by exposure to an atmosphere containing ozone. (See also ozone resistant.)

**Ozone Resistant:** Withstands the deteriorating effects of ozone, generally cracking.

**Plate Finish (Sheet):** A commercially smooth surface, the usual result of vulcanization between press plates (platens).

**Ply:** (1) A layer of rubberized fabric. (2) A layer consisting of multiple strands of cord or wire close spaced. (3) A single yarn in a composite yarn. (4) Used in processing as a layer of unvulcanized rubber compound.

**Polymer:** A very long chain of units of monomers, prepared by means of an addition and/or condensation polymerization. The units may be the same or different. There are copolymers, di-polymers, tri or ter polymers, quadri-polymers, high polymers, etc. Natural rubber is a polymer of Isoprene.

**Press Length:** The length of a product which can be vulcanized at one time in a press, limited to the length measurement of the press.

**Random Length:** A unit of material which does not fall into any current classification for standard length.

**Relative Humidity:** The ration of the quantity of water vapor actually present in the atmosphere to the greatest amount possible at the given temperature.

**Roll:** Sheet rubber and gasket material of a uniform width rolled up on itself from which gaskets and other products of lesser dimensions and various shapes may be cut.

**Rubber:** A material that is capable of recovering from large deformations quickly and forcibly, and can be, or already is, modified to a state in which it is essentially insoluble (but can swell) in boiling solvent, such as benzene, methyl ethyl ketone, and ethanol-toluene azeotrope.

**Sinks:** A collapsed blister or bubble leaving a depression in the product.

**Slab:** Thick sheet, generally laminated.

**Specific Gravity:** The ratio of the weight of a given substance to the weight of an equal volume of water at a specified temperature.

**Tacky (Rubber Surface):** Tending to adhere.

**Tensile Strength:** The maximum tensile stress applied during stretching a specimen to rupture.

**Viscosity:** A manifestation of internal friction opposed to mobility. The property of fluids and plastic solids by which they resist an instantaneous change of shape, i.e., resistant to flow.

**Volume Swell:** Increase in physical size caused by the swelling action of a liquid.

**Vulcanization:** Act or process of treating an elastomer or compound of same to improve its useful properties, usually accomplished by application of heat.

**Warp:** The yarns that run lengthwise in a woven fabric.

**Waft:** The crosswise threads in a fabric; filling threads. The threads or yarns running at right angle to the warp.