



JET Rubber, Inc.

WC-72-02-03	Glossary of Rubber Terminology		
Process Owner: Engineering / Quality	Effective Date: 7/16/2015	Rev. A	Pg. 1 of 7

- **Accelerator**

A substance, which hastens the vulcanization of an elastomer, causing the vulcanization process to take place in a shorter time or at a lower temperature.

- **Adhesion**

The tendency of rubber materials or compounds to bond or adhere to a contact surface.

- **Aging**

The characteristic of rubber to undergo changes in physical properties with age or lapse of time.

- **Antioxidant**

An organic substance that inhibits or retards oxidation.

- **Antiozonant**

A substance which retards or prevents the appearance of cracks from action of ozone when the elastomer is exposed under tension, either statically or dynamically, to air containing ozone.

- **Bond**

The term commonly used to denote the attachment of a rubber material or compound to adhere on substrate-like metal, plastic, fabric, etc.

- **Bond, Mechanical**

Physical attachment of rubber material or compound to a substrate accomplished through holes, depressions, projections, riveting, etc.

- **Bond, Chemical**

Adhesion of a rubber material or compound to a previously primed (with adhesive) substrate surface using heat and pressure to vulcanize the rubber material or compound to the substrate in the same process.



- **Bond, Cold**

Adhesion of a previously vulcanized rubber material or compound to another material or substrate using suitable contact cements or adhesives.

- **Closure Dimension**

Dimensions of a molded rubber part that are affected by flash thickness and mold closure variation, also called the axial dimension.

- **Compound**

A term applied to a mixture of polymers and other ingredients to produce a usable rubber formulation, material, or compound.

- **Compression Set**

The amount by which a rubber specimen fails to return to its original shape after release from a compressive load.

- **Conductive Rubber**

A rubber material or compound capable of conducting electricity. Generally used in rubber products used to conduct static electricity.

- **Creep**

The progressive relaxation of a rubber material or compound while it is under stress. This relaxation eventually results in a permanent deformation or “set”.

- **Crossing-Linking Agents**

A chemical, or chemicals, used to “bond” the polymer chains together to form a thermoset rubber component.

- **Cross-Section**

A rubber component as viewed, if cut, at right angles to the molding or parting line, showing the internal structure of the component.

- **Dampening**

The quality of a rubber material or compound to absorb forced vibration energy.



- **De-flashing**

Process used to remove the flash extension or waste edge from a molded rubber part.

- **Durometer**

An instrument for measuring the hardness of a rubber specimen that measures the resistance to penetration of an indenter point into the surface of the rubber specimen. Also a numerical scale of rubber hardness, i.e., Shore A Durometer.

- **Durometer, Dual**

A rubber part or component with two distinct rubber hardnesses.

- **Elongation**

The percent increase in the original length of a rubber specimen when it breaks also known as ultimate elongation.

- **Fixed Dimension**

The dimensions on a rubber part or component not affected by flash thickness or mold closure variation. Also known as radial dimension.

- **Flame Resistant**

The resistance to burning of a rubber material or compound under ordinary conditions.

- **Flash**

Excess rubber material left on a rubber part or component after molding. Flash is the result of the rubber material or compound migrating through the mold surface finish and mating surfaces. Flash can be removed by tear-trimming, cryogenic de-flashing, tumbling, and other post molding operations.

- **Flex Resistance**

The ability of a rubber part or component to withstand dynamic bending stress.

- **Flex Strength**

The ability of a rubber part or component to flex without permanent distortion or breaking.



- **Gas Permeability**

The degree to which a rubber material or compound resists permeation of gases under pressure.

- **Gates**

The openings in a transfer or injection mold that ensure the even flow of the rubber material or compound into the mold cavity-also known as a gate or sprue.

- **Gate Mark**

A raised spot or small depression on the surface of a transfer or injection molded rubber part or component where the gates or sprues interface with the mold cavity also known as a sprue mark.

- **Hardness**

Resistance to a disturbing force. It is measured by the relative resistance of a rubber material or compound to an indenter point of any of a number of standard hardness testing instruments.

- **Heat Aging**

A test that qualifies the degradation of rubber physical properties.

- **Modulus**

Tensile stress at a specific elongation; usually 100% elongation for rubber materials and polymers.

- **Mold Cavity**

Hollow spaces, or cavity, in the mold to produce the desired form or shape of the rubber or component being molded.

- **Mold Finish**

The uninterrupted surface produced by the intimate contact of the rubber material or compound with the mold and cavity surface at vulcanization.

- **Mold Register**

The accuracy of the mold alignment or fit of the mold sections or plates.



- **Nominal Dimension**

Nearest fractional equivalent to an actual decimal dimension.

- **Oil Resistance**

The ability to formulate a rubber material or compound to be molded and vulcanized to resist the swelling and deteriorating effects of various types of oils.

- **Oxidation**

The reaction of oxygen on a rubber material or compound, usually detected by a change in the appearance and feel of the rubber part or component surface, or by a change in the physical properties of the rubber material or compound, or a combination of both.

- **Ozone Resistance**

The ability of the rubber material or compound to withstand and resist the deteriorating effects of ozone.

- **Parting Lines**

The line on the surface of a molded rubber part or component where the mold plates meet.

- **Permeability**

The rate at which a liquid or gas, under pressure, passes through a rubber material or compound by diffusion and solution.

- **Permeation**

The diffusion of a liquid or gas through a rubber part or component.

- **Plasticizer**

A substance added to a rubber material or compounds to decrease stiffness, improve low temperature properties, and improve processing.

- **Post Cure**

The second step in the vulcanization process for selective specialized elastomers. Provides stability of the rubber material or compound in its molded shape and drives off



decomposition products resulting from the vulcanization process.

- **Pot**

The chamber in the transfer or injection mold, where the rubber material or compound is placed before it is transferred or injected into the mold cavity.

- **Rebound**

The measure of the resilience of the rubber material or compound. Usually measured as a percentage of the vertical return of a body.

- **Register**

The accurate machining of the plates in a mold.

- **Resilience**

Ability of a rubber part or component to return to its original size and shape after deforming forces is removed.

- **Shrinkage**

The ratio between a mold cavity and the size of the rubber part or component molded in the cavity. Decreased volume of a rubber component usually caused by extraction of soluble constituents by fluids followed by air drying.

- **Sprue**

The primary feed channel that runs from the “pot” of a transfer mold and “runners” of an injection mold to the mold gates in single and multiple cavity molds.

- **Sprue Marks**

Marks left on the surface of a rubber part or component. Normally elevated or depressed after removal of the sprue or gate on a vulcanized part produced in a transfer or injection mold.

- **Surface Finish**

A numerically averaged value of surface roughness. Measured in units of micro inches or micrometers.



- **Tear Strength**

The force required to rupture a rubber sample of a stated geometry.

- **Tear Resistance**

Resistance to growth of a cut or nick when tension is applied to the cut rubber specimen. Measured as pounds per square inch thickness.

- **Temperature Range**

Maximum and minimum temperature limits in which a rubber material or compound will function in a given application.

- **Tensile Strength**

The force (in pounds per square inch) required to cause the rupture of a specimen of rubber material or compound.

- **Total Indicator Reading (TIR)**

A system that measures the roundness of a rubber part or component in relationship to the centerline of the rubber part or component.

- **Undercut**

A groove on either the outside or the inside of a molded rubber part or component.

- **Vibration Dampening**

The ability of a rubber material or compound to absorb vibration or shock energy.

- **Vulcanization**

A thermosetting reaction involving the use of heat and pressure, resulting in the increased strength and elasticity of rubber materials or compounds.

- **Weather Resistance**

The ability of a rubber material or compound to withstand weathering factors such as: oxygen, ozone, atmospheric pollutants, erosion, temperature cycling and ultraviolet radiation.