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**RUBBER PRODUCTS,
TERMS FOR VISIBLE DEFECTS OF**



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PAPER PRODUCTS, TERMS FOR VISIBLE DEFECTS OF
MIL-STD-177A

1 This Military Standard is mandatory for use by all Departments and Agencies of the Department of Defense

2. Recommended corrections, additions, or deletions should be addressed to the Naval Ship Engineering Center, Center Building, Prince George's Center, Hyattsville, Maryland 20782

FOREWORD

Government material procurement specifications primarily concern themselves with detailing composition, construction, and necessary physical requirements. In such a diverse industry as that of rubber manufacturing, individual plants vary considerably in their production and quality control techniques. Defects are likely to occur from many causes such as variation in the quality of the basic materials, manufacturing processes, finishing operations, and stowage conditions. This document has been prepared to define terms and meanings used to describe visible defects in rubber products.

This standard should not be considered all-encompassing in its coverage of visible defects in rubber products, because new terms and new meanings are constantly evolving and because many words have special interpretations limited to local application.

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1. SCOPE

1.1 Scope. This standard covers a glossary of terms describing visible defects in rubber products. It includes words currently in general usage with a unique meaning in the rubber industry. Where the term "Rubber" is used it includes the synthetic elastomers as well as natural rubber.

1.2 Purpose. The primary objective of this document is to present definitions of visual defects in rubber products. It is not the purpose of this standard to classify defects as being major or minor.

2. GLOSSARY OF TERMS

2.1 Introduction. Synonymous and similar terms are cross referenced, "See . . .".

2.2 Definitions.

Abrasion (a) The damaging or wearing away of a surface by friction. (b) In latex goods, thin or picked off spot due to touching another object before dry.

Accordion-fold. Folded in alternate directions, producing a wavy condition of the fabric strip in the cross-section

Acid cut. In latex goods, a run, fault or thin spot.

Adhesion failure Weakness of bond between materials or bond separation.

Adhesion, faulty or poor. (a) Failure of one material to adhere to another. (b) Detachment where adhesion is desired. See also "Delamination".

Adhesion insufficient. See "Adhesion failure"

Agglomeration. Unification of small particles into groups Loosely refers to undispersed material

Aggregation The tendency of small particles to cluster loosely together Incomplete dispersion in a liquid or plastic medium such as rubber.

Air cell Sealed pockets or bubbles in article causing protrusion on surface

Air check, mark, lock, shot, or trap Surface marking and despression due to trapped air in curing.

Air chute Surface depression, of a pattern indicated by the name See also "Air check".

Air pocket A void, usually in footwear due to ply separation. See "Air check" and "Channel".

Air spot. In molded goods, surface unevenness due to failure of stock to fill mold. See also "Fill" and "Air check"

Alligatoring Surface crazing or checking of a pattern indicated by the name, usually caused by aging or weathering

Anchorage. Adhesion of rubber to base cloth, metal or other material.

Atmospheric cracking. Surface fissures deeper than crazing, caused by aging or weathering. The principal cause for deterioration is atmospheric oxygen and ozone See "Ozone cracking"

Backflash or backflow Distortion at the mold line, usually in the form of wrinkles, folds, tears, or indentations Severe cases may cause overall dimensional changes.

Backrinding See "Backflash"

Bad corner In cellular rubber, usually void or lack of proper fill in the corners.

Bald spot Uncoated area in the fabric.

Band, Defective Defects in a strip of rubber or rubberized fabric

(a) Torn - A cut or tear

(b) Pinched - A deformation or contraction

(c) Wrinkles - A ridge, furrow, or crease

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Bar A mark caused when coating machine is stopped. See "Stops"

Bar mark Surface mark or indentation by the bars of a festooning oven or chamber used for suspension of the coated fabric during vulcanizing or similar operation.

Bare back A textile or duck face which is free of any coating or covering.

Bare tread See "Light tread".

Bead In later goods, a surface protrusion caused by excess latex. See "Run"

Bias Usually used as an adjective for fabrics, denoting diagonal placement at an angle of less than 90° to the principal axis, in this sense it is not a defect. However, it may denote a defect in the sense of an article being "awry"

Bleeding (a) Migration of an ingredient to surface to form an oily film, or beads, term usually used for liquid materials. (b) When certain ingredients in vulcanized rubber tend to migrate into an adjacent piece of rubber of different composition, causing discoloration. For example the staining of white sidewalls by carcass stock in tires.

Blemish Surface imperfection which does not affect performance

Blister A void or hole in article, causes protrusion on surface when hot, may not show on surface when cold, may be covered or open.

Blister, crotch In gloves, an open void, pit or blister occurring where the fingers and thumb fork from the palm part of the glove.

Blisters, railroad Blisters in a definite pattern, as indicated by name

Bloat Swelling, more particularly as in bulging of a cement container.

Blocking Adhesion between touching layers of material

Block mark Scar or mark on a molded article showing general contour of the original raw biscuit or preform.

Bloom (a) Material migrating to surface, term usually used for solid materials (liquids usually referred to as "bleeding") (b) To form a blush or discoloration. For example - sulfur bloom, wax bloom. Not to be confused with dust on the surface from external sources.

Blow A soft area caused by porosity below the surface.

Blow hole A void, blister, or boil.

Blow-up A blister between plies of an article.

Blow, strong In cellular rubber, over-expansion

Blow, weak In cellular rubber, too little or insufficient expansion.

Blowing (a) Porosity or sponginess (b) In latex goods, a permanent deformation caused when the deposit leaves the form during curing or drying

Blush Whitish surface appearance where moisture has condensed before solvent is evaporated. See "Bloom"

Boardy In coated fabrics, stiff or tippy effect, also too close-textured stock. In raw stock, very stiff material

Boil A sealed pocket, bubble or trapped gas causing a protrusion on the surface of the article

Bonding, faulty or poor See "Adhesion"

Bortlegging Progressive ply delamination. Term particularly used in belts of separate plies

Bulge (a) Depression in surface, may describe a collapsed blister (b) Curve or displacement in milking threads in fabric

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Braid photographing Bas-relief or outline of the reinforcement showing on the surface. Not specifically a defect but may indicate an undergage cover.

Braid stop An unevenness or neckdown in a braid reinforcement, due to application of one or more ends at a greater tension than the rest.

Braided smash A break in one or more ends in a braided reinforcement.

Branchings (a) Lines, cracks or fissures of a definite pattern as indicated by the name. See "Flow marks" and "Knit marks". (b) In latex see "Sunburst" and "Treeing".

Brand mark The mark used to establish the identity of the finished rubber product.

Break A crack or split.

Breakdown In electrical testing, puncture of an insulation by an applied voltage, usually expressed as volts per mil. thickness.

Breakthrough Tear or hole, as a puncture in a hose wall or a split in cellular rubber skin

Brittleness Tendency to crack or snap when subjected to deformation.

Broken pick See "Mispick".

Bruise (a) In latex and coated goods, a scar caused by an uncured rubber article striking an object. See "Touch". (b) Damage to a cured article, as in a sidewall in tires

Bubble Small covered hole, usually near surface. See "Boil"

Buckling Wrinkling, folding or buckling where one layer of rubberized fabric or rubber compound is not adhering smoothly to another See also "Dog leg".

Buckled ply See "Buckling"

Buckshot A group of circular thin spots or surface depressions See "Pock mark"

Buffing mark Nick, undergage spot, or mark caused by excessive buffing

Bulge A protrusion which may be caused by ply separation in plied goods, or undercure in thick articles.

Bump mark: (a) Surface indentation or imperfection caused by excessive or improper bumping (closing and opening press to secure proper flow of stock) (b) Surface mark from the raw article striking something before cure

Bump wet In latex dipped goods, a crease or mark occurring in uncured film. Also sometimes known as "bumping crease", "bruise" or "touch".

Bursted An internal separation or void, generally causes a surface protrusion or dimensional malformation

Calender blisters Small air bubbles often in sheeted rubber when it is running on the calender. Usually disappear on the subsequent curing process but sometimes persist and cause porosity or large blisters in the finished product See "Blisters, railroad".

Calender flow marks Surface marks and lines other than design, usually parallel to direction of calendering.

Calender mark Usually a low or thin spot across the full width of the sheet, caused by a stop or pause during the calender operation

Calender pick-off Material missing from surface of a coated fabric caused by adherence to calender roll

Calender pick-up See "Calender pick-off"

Calender shrinkage Kick or decrease in dimensions of sheet, usually in direction of calendering of grain

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Cat eye Undissolved particle in cement

Cavity In tires, a surface depression at rib or sidewall usually caused by air trapped in cure.

Cementing, poor Inadequate adhesion in goods where an adhesive is used See "Adhesion, poor"

Chalking Loosening of surface layer or pigment, a surface graying or whitening.

Channel Long air pocket or blister (usually in footwear).

Charge mark In general, a surface blemish caused by the stopping of a process. Example - The mold mark in a lead press hose cover caused by the stopping of the lead press to add another lead billet to the press See "Stops"

Chatter mark Defect on calendered sheeting consisting of transverse narrow bands of alternately thicker and thinner material

Checks Rough surface, short shallow cracks, fissures, or lines

Chewback See "Backflash".

Chicken-skin A type of checking or surface cracking in a pattern indicated by the name.

Chip In footwear, an outsole not firmly stuck to upper during manufacture, or pulled away from the upper for a short distance during vulcanization See "Started sole".

Chipped area (a) Material missing where surfaces appear as if they had been chipped. (b) In tires, material knocked off the edges of ribs, bars or buttons, usually during removal from mold.

Coagulant cut See "Acid cut"

Coagulation In rubber latex, clotting of dispersed rubber globules to form a coherent irreversible jelly-like mass

Coagulum The undried jelly-like product of coagulation The wet soft clot of rubber formed when latex is coagulated

Coating rough Uneven or lumpy surface See "Calender flow marks"

Cohesion See "Adhesion"

Coiling, soup In coating or spreading operations, a defect caused by the curling or turning motion of a bank of lacquer or other "soup" compound in an application device, wherein streaks form on the coated fabric surface due to uneven application of the soup

Cog, defective In V-belts, wrong size, irregularly shaped or irregularly placed indentations in the inner face

Cold A dull, flat surface where a bright, lustrous one is desired

Cold checks A rough surface seen on calendered sheet when the temperature of the calender rolls or the feed stock is too low

Collapse (a) In cellular rubber, contraction of an article on cooling (b) In extruded hollow sections, permanent distortion of cross-section

Color variation Non-uniformity of color

Combining, faulty Poor bond or joining of two materials by an intervening rubber layer

Contact roughness In extruded goods, surface unevenness where the extrusion rested on the curing bar

Contact scar In later goods, a surface irregularity caused by contact between two dipped articles before curing

Contamination Presence of foreign material

Convolution Fold, coil, or annular mark in material.

Cord Heavy string on surface in dipped goods.

Cord, defective May refer to a missing, loose, broken, or poorly positioned string in rubber or fabric.

Cord, pinched Cord displaced in manufacture. See "Pinch".

Cord, wavy Misalignment of threads or cords in fabric.

Core cut Cleft, gash, slit, or notch resulting from the core of a mold

Corkscrew twist In a yarn or cord, a spot where an uneven twist gives a corkscrew-like appearance.

Corona, checking Cracks on the surface caused by ozone, generated by a high potential discharge usually appearing at right angles to a stress.

Corona, internal In electrical cable, fault due to ionization of air between conductor and insulation

Corona cracking See "Corona checking"

Corona cutting See "Corona checking".

Corrugated cover In hoses, a ribbed or wavy exterior surface

Cover lap, heavy Overlapping at joint causing excessive thickness or a protrusion

Cover lap, short or open Failure of two plies or parts to meet at a joint.

Cover pushback In insulated wire a slipping back of insulation forming a bunch in the insulating wall See "Pullback".

Cover seam (Heavy, extended, open, bad, light) Improper mark, line or overlap resulting from the joining of laps or plies at joint

Cover splice See "Cover seam".

Cover wear The result of use in hoses and conveyor belts

Cracking (a) Fissured surface condition, generally due to weathering, light, heat, or repeated bending or stretching See also "Ozone cracking" (b) Treatment of rubber by passing it through moving corrugated rolls to disintegrate

Cracking, radial Cracking occurring on the surface of a tire tread and sidewalls Cracking generally produced by ozone

Cracks (a) In tires, (at chafer or at shoulder) failure of stock to knit together properly (b) Fissures caused by excessive strain.

Cracked eye In heels, small split, or knit mark at the nail hole on heel face. Same as "Split eye".

Crawl Shrinkage of raw stock after milling and calendering, sometimes creating a curl effect.

Crazing The formation of a network of very fine lines (other than design) which disrupts the continuity of an exposed surface See "Alligatoring"

Crease (a) The adhering together of a surface, causing wrinkles or overlaps, generally occurring in latex or thin sheet goods (b) In gloves a crease is a fold mark, like a pleat, where surfaces are not stuck together See "Pinch"

Cracking The staining of a white cloth by rubbing lightly over a colored surface b A migration to the surface of pigments or fillers contained in a rubber compound See "Bloom"

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Crossover In insulated wire, diagonal indentation in the insulation where one turn of wire has overlapped others before curing

Crow's feet Radial lines and marks of a pattern indicated by the name. See also "Cold checks" and "Calender flow marks"

Cure over Vulcanizing to the point that physical properties are impaired.

Cure under Less than optimum are evidenced by tackiness, loginess, or inferior physical properties.

Curling (a) See "Coiling soup". (b) Excessive warping of sheet goods, or distortion by uneven shrinkage. See "Crawl"

Cut(s) See "acid cut, die cut, trim cut, core cut, and soap cut".

Cut outs Removal of defects by cutting.

Dead milled rubber Rubber that has been milled until it has lost its elastic recovery, usually used for porous or cellular rubber products (sponge or expanded rubber)

Defective mold mark Distortion or excessive backrinding as where mold is off register Also pit or protrusion caused by damage to the mold

Deformation Any defective change of form or shape

Delamination Separation, usually lack of adhesion between layers.

Depression Hollow in a surface See "Dished" and "Bow".

Die cut (a) Cleft, gash, slit or notch in the material, left from the punching out operation. (b) In extruded items, from foreign material in the extruding die. (c) Shaped items punched from sheet with a die; an operation not considered a defect

Diffusion (a) Running or "striking" through as in frictioning

Dimple Small surface depression. May describe a collapsed blister.

Dirt Foreign material, usually internal

Discoloration Staining Also any change in color from the standard or original See also "Fading"

Dished Surface with a spherical or spheroid concave depression. Antonym of "domed"

Dispersion, poor Compounding or filler material non-homogenous with base matrix See also "Filler speck"

Doctor mark or streak Streak or ridge in coated fabrics caused by damaged doctor blade

Dog ear Surface slit of a pattern indicated by the name. Particularly describing a squeezed-out blister in thin gage conveyor belt covers

Dog-leg (a) In V-belts, a fold, pleat or doubling back of cord members (b) In lead press cured hose, a bend

Dogskin Very small surface irregularities of a pattern indicated by the name

Domed Surface with a convex spherical or spheroid protrusion Opposite of "dished".

Doubling Folding of material surfaces against each other during processing See "Combining, faulty"

Drag-down (a) Thinning in gage or narrowing in width of a sheet by tension in windup. (b) In tires, bead cut position or distortion of surrounding fabric (c) In dipped goods, excess material

Drift See "Creep"

Drop out Omission of a reinforcing layer of fabric

Unstuck Lack of tackiness

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Dry joint Lack of adhesion, more specifically poor contact of adhering surfaces.

Duck on edge Exposed threads through cover stock of reinforcing fabric

Dull finish. Lack of lustre or gloss.

Ear Unadhered fold-in surface. May refer to cured-down blister.

Eccentric (a) Off center (b) In packing, having an axis not coincident with the axis of the moving member.

Eccentricity (a) Off center condition where more material is on one side than on the other where evenness is desired. Defect most common in insulated wire (wire off-center) and in hoses (wall thickness not uniform). (b) In packing, radial distance between axis and that of the moving member.

Embedded material See "Foreign material".

End scrap Most commonly used in lathe-cut goods to describe undergage material at end of the run.

Excessive buffing Flat spots or nicks producing out of tolerance cross-section, caused by excessive buffing or trimming of flash.

Excessive lubricant Residues of mold lubricant giving surface an oily or waxy appearance, and sometimes causing poor knitting or poor adhesion where adhesion is desired.

Excessive trimming See "Excessive buffing"

Extrusion mark In extruded items, a cleft, gash, slit, or notch See "Die cut"

Exudation See "Bleeding"

Fabric broken or misplaced Fabric ruptured or not positioned as specified.

Fabric exposed Processing defect, where spots of fabric reinforcement show due to lack of rubber coating or covering

Fabric impression or mark Surface imprint caused by cloth used in curing or processing. Not necessarily a defect

Fading Loss of color strength due to the deteriorating effect of chemicals, moisture or light

Fatigue Deterioration caused by a repetition of stress or strain

Fill, non or unfilled Improper contour due to lack of material or flow See "Light stock" or "Short"

Filler speck (a) Small particle of undispersed compounding or foreign material. (b) Dirt in fabric

Fin Material protruding from the surface, usually appearing at mold parting line or mold vent points. See "Flash" and "Rind"

Finish, poor (a) Blemished surface (b) Incomplete or faulty finishing operations, such as trimming, buffing, and tumbling

Fish eye See "Cat eye".

Fish scaling Overlap of thin unadhered surfaces of a definite pattern as indicated by the name.

Flaking In footwear, separation of the edges of heavy gage outsoles

Flash Spew-out of material at mold parting line, forming an attached layer or skirt, which is usually removed from the product.

Flashback See "Backflash"

Flash pickout Material missing at mold parting line See also "Backrimming".

Flat spot Level area not following prescribed contour

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Flatting or flattening Distorted contour, thinness or weakness, usually occurring prior to or during cure, due to lack of stiffness of raw stock. See "Deformation"

Flex cracking A surface cracking produced by repeated bending or flexing

Floating A misplaced internal item in the finished product, such as a floating washer in a heel.

Floating fabric The condition where a reinforcing fabric is not in the correct position.

Flocculation (a) The tendency of particles of certain finely divided powders to gather into loose flakes or flocs when dispersion of the substances in a liquid or plastic medium such as rubber is attempted. (b) Incomplete dispersion when the disperse component is not properly wetted by the dispersion medium. In latices, usually caused due to insufficient ball milling of dispersions. (c) Denotes coagulation of colloid sols See "Dispersion, poor" and "Filler speck"

Flow distortion Twisted or misshapen.

Flow cracks Surface imperfections due to improper flow and failure of stock to knit or blend with itself during molding operation.

Flow marks or lines Similar to flow cracks but the depressions are not quite as deep.

Flow-over A surface crack sometimes not apparent until article is bent or flexed. See also "Knit mark"

Flowery In cut sheet or lathe-cut gaskets, frost-like flowers due to poor dispersion in compound.

Fog, foggy See "Cold".

Fold A crease or pleat. See "Dog leg" and "Foldback".

Foldback Overlap of material on itself or another material. Also edge turnover or doubled edge.

Foldover See "Foldback".

Foreign material Any extraneous matter such as wood, paper, metal, sand, dirt or pigment that should not normally be present.

Friction, poor Results in poor adhesion, see "Adhesion, poor" In general scanty, rough or uneven application in the frictioning operation

Frosting Dulling of a smooth, shiny surface of rubber. It is frosted in appearance and different from bloom, and it cannot be removed by solution. It is caused by atmospheric deterioration (warm, humid, or ozonized air), which produces a maze of minute cracks.

Fuzzy surface A surface with lint or small threads embedded in it

Gas pocket or trap Large void in cellular rubber See "Air check"

Gelation Jelly-like condition In colloidal solutions, change from sol to gel.

Grease mark See "Excessive lubricant".

Growth In tires, any dimensional increase during service.

Hazing Dulling of the finish See "Bloom", "Chalking" or "Frosting"

Heater damage Defects like "bump marks" occurring during an air or open steam curing operation Also defects from faulty operation of heater

Heat mark In semi-continuous curing as in press-cured belts, mark of the overlap area from one heat to the next See "Charge mark"

Heavy Overgage or overweight material.

High spot A protrusion above the general surface of an object

Holiday In coated fabrics, or products, a place not covered by coating compound

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Hooding, poor. A condition occurring, particularly in footwear during assembly, resulting in an off center condition.

Horseshoe Surface slit of a definite pattern as indicated by the name. See "Dog ear".

Hot mold: Defects, usually cracks and cavities, caused by putting uncured material in too hot a mold. Particularly in reference to autoclave curing of tires.

Imbibition. Absorption of a liquid by a gel accompanied by expansion of the gel, e.g., swelling of rubber by oil

Impression top: Surface with ridges or projections. May or may not be a defect.

Inclusion. Foreign material in the finished material. See "Dirt"

Indentation Permanent recess or deformation in a surface area formed by an applied force.

Internal void. See "Blister", "Boil", and "Ply separation".

Kick or kickback Shrink of extruded or sheeted stock in the direction of extruding or sheeting

Kinking Temporary or permanent distortion of a hose or extruded product, induced by winding or doubling upon itself.

Knife mark: See "Doctor mark".

Knit mark A fissure or crack where raw stock did not unite during the cure.

Knockout Surface damage in removal from mold.

Knot In coated fabrics, a protrusion caused by tying two ends of fabric warp or filling.

Knotted ring. In latex goods, a lumpy ring or bead.

Lacquer stop A defect caused by temporary halt in the application of lacquer or other "soup" to the embossed surface of a coated fabric. Excessive penetration of base film by the solvent occurs, and sometimes excessive deposition of lacquer or soup occurs due to longer time of dwell.

Lake Surface depression. See "Air check".

Lap See "Cover lap"

Lap short open spot where two or more plies should be joined. See "Cover splice".

Lasting, poor Any defect occurring during construction of footwear upon a last.

Lay separation Detachment where adhesion is desired in a plied article See "Adhesion" and "Delamination"

Lead chip mark Nick or mark in the surface usually on hose cured in a lead press.

Lead dent An indentation in the surface usually found on hose cured in a lead press.

Lead discoloration A dark discoloration in the cover of colored lead press hose caused by a chemical reaction of the lead with the rubber compound.

Lead pop A surface protrusion or blister usually referring to hose cured in a lead press.

Lead press joint A mark caused by temporary halt in lead curing operation See "Charge mark".

Leaker (a) In footwear, a foot that shows air bubbles in air pressure under water test (b) In hose, an assembly which leaks at coupling or fitting.

Let-go An area of no adhesion where adhesion is desired. See "Delamination", "Adhesion", and "Ply separation"

Lifting Raising and wrinkling of a coating. Usually caused by a solvent or plasticizer from an external source

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Light bead Insufficient material around a reinforcing ring

Light blanks or stock (a) Usually insufficient material to fill the mold. (b) Also undergage material in sheet goods or underweight articles See "Short" and "Fill"

Light tread In tires, failure of tread stock to completely fill mold, especially at edge of ribs, bars, or buttons

Line See "Air check" and "Cold check"

Liner mark Surface marking caused by liner used in curing or processing. For defect, see "Wrinkle".

Lint (a) Inclusion of a small fiber where not desired. (b) A hole in thin latex goods caused by an entrapped fiber

Livering Gelling in cements giving a liver-like appearance.

Logy Sluggish, low snap or recovery of a material

Loose Separation or lack of adhesion where adhesion is required.

Low spot Depression below prime surface, an undergage area See "Dished" and "Dimple"

Lubricant bloom See "Excessive lubricant"

Lumps Surface protrusions, usually of the basic material as distinguished from foreign material

Machining mark Surface imperfection or mark on a molded article due to a machine mark or poor finish of mold cavity See "Mold mark"

Malformation (a) Structural deformation (b) In gloves, failure of glove to fit the human hand

Mark-off Imprint of the back of the material onto the face when the material is rolled

Melted rubber A soft sometimes tacky condition usually indicates excessive chemical degradation rather than tackiness from a physical cause such as oil immersion

Mica specks Specifically, a spotty surface from excess mica dust used as a lubricant Loosely, any spotty surface appearing like excess mica dust

Microporous Presence of a number of very small voids.

Migration The transfer of an ingredient in a rubber compound from one layer to an adjacent layer or to the surface. See "Bloom" and "Bleeding"

Misidentification Incorrect, missing, or illegible identification

Mismatch (a) Poor matching, or meeting in splice (b) In molded goods such as O-rings where one-half of the finished article is out of line with the other half due to dimensional differences or shifting of mold halves. (c) Non-identical pairs as in footwear or gloves

Mispick In coated fabrics, misplaced weft thread or a missing filler yarn.

Misweave A general term describing any defect in a fabric occurring in the weaving operation such as mispick, snag, or broken end

Moisture pocket Surface void Usually caused by moisture during cure

Mold marks Deformities appearing on finished molded rubber products, caused by defects present in the mold

- (a) Locked Mold - Malformation due to mismatch of mold
- (b) Damaged Cavity - Deformity due to damaged mold cavity
- (c) Deposit - Irregularities caused by build up of hardened deposits in the mold cavity
- (d) Dirty -blemished surface due to dirty mold
- (e) Pinch - See "Pinch"
- (f) Scratch - A small groove in the surface

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Mottle· Marble-like appearance caused by diffused stocks feeding into calender bite at the same time. May or may not be a defect.

Multiporous Presence of many internal holes or voids. See "Microporous".

Neck-down· Too narrow, below specified dimensions.

Nick Small cut.

Non-fill· See "Air spot" and "Light stock".

Notch, defective See "Cog, defective".

Nozzle end: An end of hose in which both the inside and outside diameters are reduced (where not designed).

Off center See "Eccentric"

Off color· Nonmatching shade. See "Color variation" and "Discoloration".

Off gage Not conforming to thickness specified.

Off height In footwear, pairs not of the same height, not a visible defect, but can be determined by visual examination.

Off section splice· Out of line joining of laps or plies. See "Cover seam".

Oiliness or Oil spots See "Bleeding".

Open lap or seam. See "Lap short".

Orange peel Surface unevenness of a pattern indicated by the name. Refers to uneven drying of rubber cements.

Overbuffed Removal of too much material by buffing or grinding.

Overcure· Vulcanizing longer than necessary. It is manifested by softness or brittleness.

Overflow See "Flash".

Ozone cracking Cracking which develops on the surface of stressed rubber exposed to the atmosphere. Ozone cracks occur at right angles to the direction of stress in the rubber and are caused by ozone in the atmosphere or formed by corona discharge.

Pairing faulty In gloves and footwear, wrong sizes, an uneven number of rights and lefts or different types in the package unit. These are not visible defects but they can be determined by visual examination

Parting line indentation A shallow, saucer like recess located on the parting line, caused by a deformity in mold edge

Parting line projection A continuous ridge of material situated on the parting line, caused by worn or otherwise excessively rounded mold edges.

Pebbles (a) Bumpy surface. (b) Small bubbles in cements See "Orange peel".

Peeling Stripping of rubber coating from a base material See also "Delamination"

Pepper Minute protrusions or surface blisters.

Pickoff A missing portion of coating on spreaded or calendered goods. See "Calender pickoff"

Pickout In coated fabrics, mark due to a pull-out of an original pick.

Pickup See "Pickoff"

Pimple A small, conical protrusion on the surface. Also small surface blister

Pinch A crease or pleat where surfaces adhere.

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Pinch green A crease or pleat where surface adheres before cure. See "Bump wet".

Pinched coating In coated fabric, a ridge or wrinkle in the coating

Pinch-out (a) To narrow, taper, terminate, or stop (b) Squeeze out of fabric through a mold parting line See "Drag-down"

Pinhole Minute circular void or solvent blow hole

Pipe seam Longitudinal tubular void or calendered strip articles of a pattern indicated by the name.

Piping See "Dimple" and "Dished"

Pit (a) A spherical depression, usually small (b) In latex gloves, a small open void in the surface, that is, an open air blister or a "Crotch blister" causing a circular void See "Pock mark".

Placing, poor (a) Faulty placement of plies as in tire building (b) Non-conformity of finished article with design dimensions due to mold misalignment during cure (c) Improper spotting of inserts (d) Incorrect placement of parts during assembly See "Flow distortion"

Plucked fabric See "Pick-off"

Plugged vent In molded goods, failure to obtain proper fill of the article due to trapped air See "Air check"

Ply separation Lack of adhesion between plies See "Lay separation" and "Delamination"

Ply wrinkled See "Buckling"

Pock mark A circular depression, indentation, or thin spot See "Pit" and "Buckshot"

Pocket, surface Usually a surface defect such as a depression caused by entrapped air during the molding process See "Delamination" and "Air check"

Pore Minute opening in surface of cured goods May refer to minute bubble within the article See "Pinhole".

Porosity Presence of numerous minute voids in cured material

Press change, lap, mark or overlap See "Heat mark".

Prick mark Hole caused by pricker roll or hand prick in puncturing blisters in raw stock or by a hand tool in removing article from mold.

Printing improper Incorrect placement of or off-register coloring

Protrusion Raised portion of surface May indicate an internal void or blister

Puckered Usually in footwear or plied goods, wrinkled, or ridged.

Pull Separation of component parts, usually in footwear. See "Delamination" and "Chip"

Pullback In hose a bunching and slipping back of the cover stock, sometimes forming knit marks in the covers

Pulldown, poor Lack of wrapping tension in wrap curing, causing porosity, overage or delamination See "wrap, defective"

Pull-up See "Delamination" and "Pull"

Pushback See "Pullback"

Rag mark See "Fabric impression"

Rail marks In latex fabric, depressions in surface forming a pattern indicated by the name

Rears Layers of non-pierced material parallel to the surface in a transparent or translucent material or article

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Register, off or uneven: Non-conformity of finished article with design dimensions due to mold misalignment during cure.

Release mark: Deformity caused by improper removal from mold. May also refer to "Backrind" or deformation due to inadequate mold pressure.

Reversion: Softening, or other impairment, such as tackiness or decreased strength of vulcanized article.

Rind. See "Flash".

Ring. In latex goods, undergag area. See "Dog ear".

Ring hole. In latex goods, hole at the bead line.

Roll back. See "Horseshoe" and "Pullback".

Roll, defective. In gloves, the presence of defects on the roll at the cuff.

- (a) Blistered - Bubble in the roll.
- (b) Bunched - Squeezed spot on the roll (flat spot).
- (c) Blown - Bubble in the roll usually where condition is larger than blistered.
- (d) Loose - Lack of proper adhesion.

Rolling, poor. See "Roll, defective". See "Stitching, poor".

Ropiness. In cements, gelled or solidified parts resembling rope.

Rough top. See "Impression top".

Rough trim. Usually refers to removal of flash by pulling or picking. May or may not be a defect.

Rugosity. Surface roughness.

Run. In latex goods, small ridges usually formed by downward flow of excess latex.

Run-off stitching. Improper placement of stitching, usually in footwear. Not a defect unless adhesion is impaired.

Runover. In footwear, bulging of upper above heel or sole. See also "Undershot".

Sags. In mandrel curing, off center or out of shape from raw stock drifting on mandrel.

Scoreline. Longitudinal groove or raised line accidentally formed on an extrusion.

Scuff mark or scuffing. Damage to surface due to rough handling.

Sealed. Surfaces, supposed to be separate, which are stuck or cured together.

Seed. (a) Small surface protrusions. (b) Fine bubbles in cement. (c) In fabrics, hulls of seeds remaining after weaving. See "Pebbles".

Separation. See "Delamination".

Setting, poor. In footwear, sole or heel too short, too narrow, or misplaced.

Settling. In latex and cement, internal separation or breaking of a suspension or emulsion.

Short. (a) Unfilled, insufficient stock. (b) Low elongation and elastic limit. (c) In cements, immediate pre-gel stage. See "Fill".

Short finish. Dull surface.

Short ply. See "Lap, short".

Shrinkage. Decrease in dimensions of an article. See "Kick".

Shrinkage mark. In coated fabrics, surface markings, depressions, creases and wrinkles.

Sink blisters or mark. See "Dimple" and "Dished".

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Skip Missing portion of coating usually in spreader goods. See "Calender pick-off".

Skim Streaks of dense small protrusions or depressions on surface. See "Pit", "Seed", and "Pebbles".

Skin, defects in cellular rubber

- (a) Folded - Wrinkles or pinches
- (b) Heavy - Coarse, sometimes thick surface layer.
- (c) Loose - Separation of surface layer from base material
- (d) Poor - Rough or irregular surface layer
- (e) Thin - Underage surface layer.

Skiving, poor Improper beveling of edges of a lapped joint causing poor union or appearance

Sleazy In coated fabrics, a poor grade of woven fabric.

Slick tube Glossy surface caused by low adhesion between tube and adjacent fabric ply or layer

Slide (a) In latex goods, surface skinning or sliding, may cause a pinch (b) In sheet goods, see "Calender mark" (c) In coated fabrics, hole caused by a missing thread

Slip See "Slide"

Sloughing Surface deterioration of rubber after solvent immersion.

Slub In coated fabric, an abruptly thickened place

Slug In coated fabric, an enlarged section of yarn or a bunch of lint entangled in the fabric

Smash In coated fabric, area of missing or ruptured coating

Snag In coated fabric, rupture caused by an external puncture followed by a tear

Snapback In latex gloves, a thin line in the form of a slight ridge or depression caused by entrapped latex between digits

Soap cut Surface fissure caused by excess mold lubricant See "Knit mark"

Soapstone mark Surface roughness caused by excess dusting powder.

Soft center Undercured center portion (usually in thick molded items)

Soft end In hose, an end in which the rigid reinforcement of the body is omitted Usually not used to denote a defect

Soft top Closed end of a prophylactic due to tackiness

Soup skip In coated fabrics, an unlacquered or two-toned area.

Soup streak In coated fabrics, a streak or scratch in the surface See "Doctor mark"

Speck See "Filler speck"

Spew Cement runback at splice. See "Flash"

Spider mark A cleavage or delamination caused by failure of compound to reunite after passing the spoke of the spider in an extrusion machine

Spitting Small globules of bene past on coated cloth surface

Splice, effective See "Cover seam"

Splice core Broken splice core in heels

Splice eye See "Cricket eye"

Splice separation In a splice, a clear space, such as a hole or separation

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Splitting (a) Fissures, usually caused by poor flow or knitting during molding. (b) Cords poorly spaced; that is spread and sometimes bunched in cord fabric.

Sponginess Numerous small to medium size voids. Usually a more severe defect than "porosity".

Spotting A series of spots or blemishes. See "Placing, poor".

Spread cord In tires, uneven distribution of cords, usually in the inside ply.

Sprue mark In injection or transfer molding, the protrusion or mark left at the mold charging point.

Stain, contact Discoloration of surface by direct contact with a rubber article

Stain, migration Discoloration of surface from an adjacent rubber article.

Started sole In footwear, separation of sole from upper.

Starved (a) See "Short", "Light stock". (b) Insufficient adhesive compound where adhesion is desired.

Steam-pitting: Small surface cavities from an open steam cure. See "Pock mark".

Sticking (a) In heater or autoclave curing, defect caused by one article striking another before being cured (b) May also refer to tear or hole in a molded article caused by material sticking to the mold See "Heater damage" and "Bump mark".

Sticking lead Adhesion of material to lead during lead-molded cure.

Sticky (a) Tackiness. (b) In latex goods, adhesion of surface from fold over with powder.

Stitching, poor (a) Missing or defective stitching or rolling, especially where adhesion is impaired. See "Run-off stitching". (b) Improper placing of stitching.

Stones Opaque inclusions in a transparent or translucent article.

Stops (a) Calender - Mark caused by pausing or stopping calender operation. See "Calender mark". (b) Gainer - Mark caused by temporary halt in the operation of an embossing roller, wherein the design is embossed more deeply. (c) Lacquer - Excessive penetration of base film by lacquer solvent, sometimes excessive lacquer caused by a temporary halt and longer, dwell in application. (d) Lead - See "Lead press joint" (e) Soup - See "Lacquer stop".

Stopover In coated fabrics, mark caused by temporary halt in process of coating. See "Stop"

Streak compound Line or strip of undispersed pigment, see also "Filler speck".

Striated cover Drawn or pinched surface lines, generally in longitudinal direction due to drawing or transfer of irregularities from contact with the curing or forming equipment.

Strike through In coated fabric, rubber compound coating which has penetrated through the fabric.

String (a) Threadlike appearance in a transparent or translucent article (b) A thread or cord. See "Cord".

Stripper cut or mark In lead press cured hose, longitudinal cuts in surface caused by improper setting of the lead stripping knife

Stuck (a) In heater or autoclave curing, defect caused by one article striking another before being cured (b) Refers to a tear, void, or hole in an article caused by material sticking to another such as noted on liner. See "Bump mark" and "Heater damage".

Sub-permanent set Temporary deformation of an article after distortion, as distinguished from permanent set.

Suck back See "Backrinding"

Sunburst Small surface streaks, lines, or voids of a pattern indicated by the name

Surface checking Surface cracks, checks, or crazing caused by exposure to direct or indirect sunlight

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Sweating Leaking or oozing of liquid. See "Bleeding".

Sweep A curving of or a continuous arc in the material. Most frequently found in fabric insert items.

Tackiness Adhesive or sticky condition

Tear drop A surface blemish of a pattern indicated by the name

Temporary set See "Sub-permanent set".

Tendering (a) In coated fabrics, weakening by improperly neutralized acid cure, overheating, or other chemical rather than mechanical means (b) Weakening of fabric due to micro organisms.

Thick spot Overgage area.

Thin spot Undergage area See also "Weak spot" and "Window".

Thread in cover In golf balls, a thread protruding into or through the cover May be out-of-round core, or cover, or a poor thread tieoff

Tie coat, poor, missing, etc Defect in an adhesive layer between surfaces.

Tight braid See "Braid stop"

Tinny See "Boardy"

Tooling mark (a) See "Release mark". (b) Mark in mold from tool used in opening mold

Torn tread In tires, section of the tread pulled loose, usually by the extraction of tire from the mold

Touch In latex goods, see "Abrasion" and "Bump, wet"

Touched Partially set-up stock.

Trapped air Air which is trapped in a product or in a mold during cure Usually causing a loose ply or cover, or a surface mark, depression or void

Treeing In latex goods, uneven buildup in dipping operation See "Branchings"

Trim cut Removal of too much material or a nick, cleft, slit or gash in trimming by cutting operations.

Tuck under Delamination in a cover ply as in the chafer strip in tires.

Tumbling, excessive or insufficient A process of finishing, by placing articles in a rotating barrel with or without added finishing materials such as wooden pegs or dry ice Excess tumbling roughens surface, destroys contours, etc Insufficient tumbling leaves flash, on the article

Twist Non-symmetry due to improper molding

Undergage A dimension less than that desired or specified

Undershot In footwear, sole wider or tread surface than at midsole surface See "Runover"

Underweight Under specified weight tolerances

Undispersed material See "Dispersion, poor"

Unfilled stock Failure to fill mold to proper depth See "Light bead, stock and tread", "Fill" and "Short"

Union, poor See "Adhesion, poor", "Ply separation", "Lap, short" and "Delamination"

Unleached stock Reduced fiber strength when stretched under pull away from coarse fillers

Unregulation Marble like appearance, commonly referred to as Sea mottle

Unset See "Plugged, vent" and "Air check"

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Void (a) Hole. (b) In cellular materials, a cavity unintentionally formed and substantially larger than the characteristic individual cells. (c) Face stock missing from rubberized fabric.

Warping Dimension distortion

Washoff In latex goods, a thin or weak spot, or a void due to improper processing.

Water mark Surface blemish from steam condensation in open steam cure.

Wavy plies Askew or nonparallel plies.

Weak spot Usually an area where material is missing or undergage. See "Slide"

Webbing Formation of film between contacting or nearby parts in latex dipping process. May cause a "snapback".

Weld mark More particularly denotes a fissure where two components should be joined. See also "Knit mark".

Well Surface depression deeper than "dished" or larger than "pit". See "Weld mark".

Whitening Blooming or chalking to the extent that surface appears white or milky.

Wild blow In cellular rubber, large, uneven cells or voids.

Window In coated fabrics, void in the coating, of a pattern indicated by the name See "Weak spot"

Wire, defective In wire-reinforced articles or insulated wire, any flaw such as a snag, break, or misplacement.

Wire, looped In wire-reinforced articles, a doubling or folded back of a wire strand.

Wire throw-out In wire-reinforced articles, a broken end of reinforcement protruding through the surface.

Worm tracks A series of connected surface indentations of a pattern indicated by the name.

Wrap, defective In goods cured by fabric wrapping, over or undergage, surface irregularities, protrusions, wrinkles or creases due to improper wrapping.

Wrapper mark An impression in the surface caused by the material used to wrap the product during vulcanization. See "Fabric impression".

Wrinkle Crease, ridge, furrow, or fold on the surface.

Yellowing The development or increase in saturation of a yellow hue. Darkening of light-colored or translucent, materials or articles

Custodians

Army - MR
Navy - SH
Air Force - 11

Preparing activity

Navy - SH
(Project 9320-0093)

Review activities

Army - MR, GI, MU, WC
Navy - SH, YD, AS
Air Force - 11

User activities

Army - AT
Navy - MC

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