



Designation: D3990 – 12 (Reapproved 2020)

Standard Terminology Relating to Fabric Defects¹

This standard is issued under the fixed designation D3990; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This terminology covers defects in both woven and knit fabrics. Descriptions of the defects, illustrations, and related material are given under the most frequently used terms; synonym(s) are listed in parentheses and cross referenced.

1.2 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*

D1776 Practice for Conditioning and Testing Textiles

3. Terminology

3.1 *Definitions:*

abrasion mark, *n*—an area damaged by friction. (*Syn.* chafe mark)

apron mark—See **decating mark**.

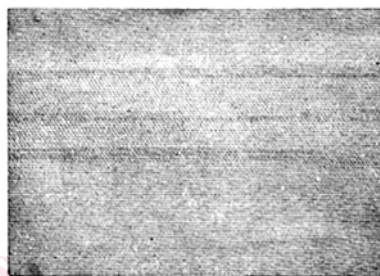
baggy cloth—See **wavy cloth**.

baggy selvage—See **slack selvage**.

balling up—See **fuzz ball**.

barré, *n*—an unintentional, repetitive visual pattern of continuous bars and stripes usually parallel to the filling of woven fabric or to the courses of circular knit fabric. (Compare **warp streak**, **mixed filling**)

DISCUSSION—The term “barré” is sometimes used as a synonym for “warp streaks” in warp knit and woven fabrics. Barré can be caused by physical, optical, or dye differences in the yarns, geometric differences in the fabric structure, or by any combination of these differences.



Barré

beaded selvage—See **loopy selvage**.

bias—See **skew**.

birdseye, *n*—*in knitted fabrics*, an unintentional tuck stitch.

blanket mark—See **sanforizing mark**.

blotch, *n*—an offcolored area of any shape caused by grease or oil. (*Syn.* **oil spot**)

bow, *n*—a fabric condition resulting when filling yarns or knitting courses are displaced from a line perpendicular to the selvages and form one or more arcs across the width of fabric. (See also **double bow**)

bow, double—See **double bow**.

box mark—See **shuttle mark**.

break-out—See **smash**.

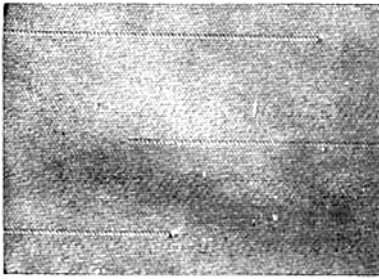
broken end, *n*—*in woven fabrics*, a void in the warp direction due to yarn breakage.

broken filament, *n*—*in multifilament yarn*, breaks in one or more filaments. (*Syn.* strip back, skin back)

broken pick, *n*—*in woven fabrics*, a discontinuity in the filling direction caused by a break or cut in the filling yarn.

¹ This terminology is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.59 on Fabric Test Methods, General.

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Broken Pick



Crack Marks

broken selvage—See **cut selvage**.

bruise, *n*—*in fabrics*, an area that has been subjected to impact or pressure, that differs from the adjacent normal fabric. (*Syn.* **pressure mark**.)

bunch—See **slug**.

chafe mark—See **abrasion mark**.

clip mark, *n*—a visual deformation near the edge of a fabric parallel with the lengthwise direction caused by pressure exerted by a clamping device on a clip tenter frame. (See also *pin mark*.)

coarse end, *n*—a larger than normal diameter warp end. (*Syn.* heavy end) (Compare **fine end**)
coarse filling—See **coarse pick**.

coarse pick, *n*—*in woven fabrics*, one or more picks of larger diameter than the normal filling yarn in the fabric. (*Syn.* thick filling)

cockles, *n*—*in yarns*, irregular thick, uneven, lumps.

color bleeding, *n*—the loss of color from a dyed fabric when immersed in water, dry-cleaning solvent, or similar liquid medium, with consequent coloring of the liquid medium. (Compare **color staining**.)

color staining, *n*—the undesired pickup of color by a fabric: (1) when immersed in water, dry-cleaning solvent, or similar liquid medium, that contains dyestuffs or coloring material not intended for coloring the fabric, or (2) by direct contact with other dyed material from which color is transferred by bleeding or sublimation. (Compare **crocking**, **color bleeding**)

corded selvage—See **loopy selvage**.

crack mark, *n*—an open place causing a streak of variable length approximately parallel to the length or width. (*Syn.* open place, thin spot)

crease, *n*—a fabric defect evidenced by a break, line, or mark generally caused by a sharp fold. (*Syn.* mill wrinkle)



Crease

crease mark, *n*—a visible deformation left in a fabric after a crease has been incompletely removed during fabric processing.

crocking, *n*—a transfer of color from the surface of a colored fabric to an adjacent area of the same fabric or to another surface principally by rubbing action. (Compare **color staining**)

crowsfeet, *n*—*in fabrics*, fine wrinkles of varying degrees of intensity, size, and shape.

DISCUSSION—Crowsfeet may occur during wet processing and on finished goods after folding.

curl—See **kink**.

curled selvage, *n*—self-descriptive. (*Syn.* rolled selvage, turned-over edge)

cut pick—See **broken pick**.

cut selvage, *n*—cuts or breaks that occur in the selvage only. (*Syn.* broken selvage, damaged selvage)

damaged selvage—See **cut selvage**.

dead cotton, *n*—a small nep of cotton fibers which is gathered on the surface of the fabric and which is different in color from the surrounding fabric.

decating mark, *n*—a crease mark or impression extending across the cloth near the beginning or end of a piece due to the thickness of the fabric leader seam. (*Syn.* apron mark, leader mark)

doctor streak, *n*—*in printed cloth*, a wavy white or colored streak in the warp direction of printed cloth caused by a defective doctor blade.

double bow, *n*—two fabric bows, arcing in the same direction, as in a flattened *M* or *W* depending on the viewing angle. (See also **bow**) (Compare **double reverse bow**)

DISCUSSION—In tubular knits, there may be differential bowing between the top and bottom of the tube.

double hooked bow, *n*—one hooked bow at each side of the fabric that arc in opposite directions. (See also **hooked bow**)

double pick, *n*—*in woven fabrics*, two picks wrongly placed in the same shed. (See also **mispick**) (Compare **jerk-in**)

double reverse bow, *n*—two fabric bows arcing in opposite directions. (See also **bow** and **double hooked bow**) (Compare **double bow**)

draw-back, *n*—a weave distortion characterized by tight and slack places in the same warp yarn. (*Syn.* hitch-back)

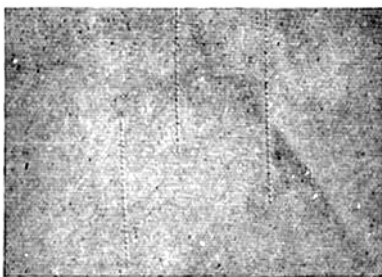
dropped stitch, *n*—*in knitted fabrics*, an unknitted stitch.

dye spot—See **dyestain**.

dyestain, *n*—an area of unintended discoloration due to uneven absorption of a colorant.

dye streak, *n*—an unintended irregular stripe in a fabric due to uneven absorption of a colorant.

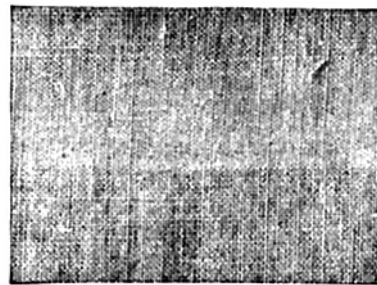
end out, *n*—a void caused by a missing warp yarn. (*Syn.* missing end)



End Out

filling band, *n*—*in woven fabrics*, a visual defect across the width due to a change occurring in the yarn for a large number of picks. (Compare **filling bar**)

filling bar, *n*—*in woven fabrics*, a visual defect across the width which contains a limited number of picks of different appearance than normal. (Compare **filling band**)



Filling Bar

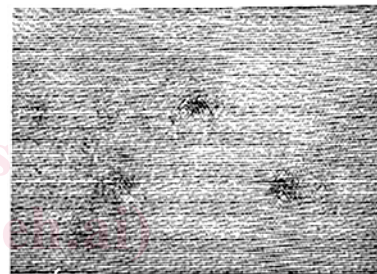
filling run-out—See **broken pick**.

fine end, *n*—a smaller than normal diameter warp end. (*Syn.* light end, thin end) (Compare **coarse end**)

fine filling—See **thin filling**.

fine pick—See **thin filling**.

finger mark, *n*—an irregular spot showing variation in picks per inch for a limited width.



Finger Mark

finishing bar, *n*—an uneven appearance across the entire fabric width.

float, *n*—*in woven fabrics*, that portion of a warp or filling yarn that extends unbound over two or more warp or filling yarns; *in knitted fabrics*, that portion of a yarn that is not knitted into loops.



Float

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DISCUSSION—If intentionally introduced, floats are a constructional characteristic of knit or woven fabrics. If unintentionally present, they are considered to be defects.

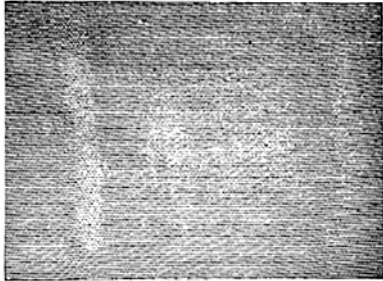
flyer—See **loom fly**.

frosting, *n*—a change in color in a limited area of a fabric caused by abrasive wear.

DISCUSSION—Frosting may be the result of differential wear, as in multicomponent blends in which the fibers do not match in shade, or of the abrasion of single-fiber constructions in which there is some variation in penetration, or incomplete penetration, of dye-stuff. The use of the terms “differential wear” and “fibrillation” as substitutes for the concept of frosting is undesirable.

fuzz ball, *n*—loose and frayed fibers that have formed into a ball and have then been woven or knitted into the fabric. (*Syn.* lint ball, snow ball) (Compare **pills**)

fuzzy, *adj*—characterized by a hairy appearance due to protruding broken fibers or filaments. (*Syn.* hairy)



Fuzzy

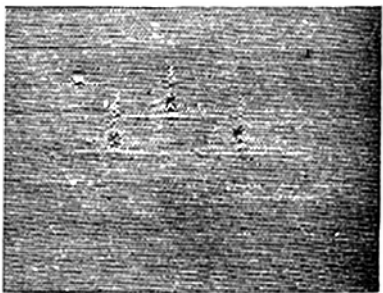
gout, *n*—foreign matter trapped in a fabric by accident, usually lint or waste. (See also **slug**)



Gout

hairy—See **fuzzy**.

hang pick, *n*—a pick, caught on a warp yarn knot for a short distance, producing a triangular-shaped hole in the fabric. (*Syn.* hang shot)



Hang Pick

hang shot—See **hang pick**.

hard end—See **tight twist end**.

hard size, *n*—sections of cloth containing an excessive quantity of sizing. (*Syn.* starch lump)

harness skip—See **float**.

heavy end—See **coarse end**.

heavy filling—See **coarse pick**.

heavy pick—See **coarse pick**.

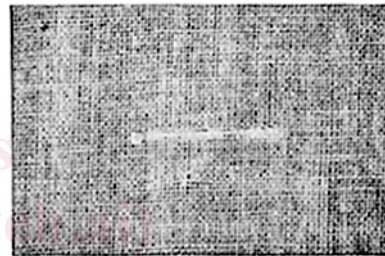
hitch-back—See **draw-back**.

hole, *n*—*in fabric*, an imperfection where one or more yarns are sufficiently damaged to create an aperture.

hooked bow, *n*—a fabric condition in which the filling yarns or knitted courses are in the proper position for most of the fabric width but are pulled out of alignment at one side of the fabric. (See also **double hooked bow**)

jerk-in, *n*—*in woven fabric*, an extra filling thread dragged into the shed with the regular pick and extending only part of the way across the cloth. (*Syn.* lash-in, pull-in) (Compare **double pick**)

kink, *n*—*in fabric*, a short length of yarn that has spontaneously doubled back on itself to form a loop. (*Syn.* curl, kinky thread, looped yarn, snarl)



Kink (Filling Snarl)

kinky thread—See **kink**.

knitted fabric, *n*—a structure produced by interlooping one or more ends of yarn or comparable materials.

ladder—See **run**.

lash-in—See **jerk-in**.

leader mark—See **decating mark**.

let-off mark, *n*—*in woven fabrics*, a corrugated defect pattern distributed across the fabric width. (Compare **shier**)

DISCUSSION—Let-off marks are caused by badly adjusted let-off motions of a loom.

light end—See **fine end**.

light filling—See **thin filling**.

light pick—See **thin filling**.

lint ball—See **fuzz ball**.

long knot, *n*—*in raw silk*, knots which have loose ends from 3 to 25 mm in length.

long slug, *n*—*in raw silk*, a slug which exceeds 10 mm (½ in.) in length or which is very much larger in diameter than the yarn.

loom fly, *n*—waste fibers created during weaving that are woven into a fabric. (*Syn.* flyer)

looped yarn—See **kink**.

loopy edge—See **loopy selvage**.

loopy selvage, *n*—an improperly woven selvage of uneven width or a selvage containing irregular filling loops extending beyond the outside edges. (*Syn.* beaded selvage, corded selvage, loopy edge, rough selvage)

loose course, *n*— in *knitted fabrics*, a row of loops in the widthwise direction that is larger, looser, or longer than the stitches in the main body of the fabric.

loose edge—See **slack selvage**.

loose pick—See **slack pick**.

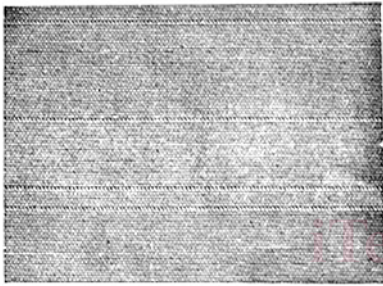
lump—See **slub, slug**.

mill wrinkle—See **crease**.

misclip—See **scalloped selvage**.

misdraw—See **wrong draw**.

mispick, *n*—in *woven fabrics*, a pick not properly interlaced which causes a break in the weave pattern. (*Syn.* wrong pick) (See also **double pick**)



Mispick

misprint, *n*—in *printed fabric*, colors or patterns, or both, either missed, or partially missed, or incorrectly positioned relative to each other.

misregister, *n*— in *printed fabric*, colors or patterns not correctly positioned. (Compare **misprint**.)

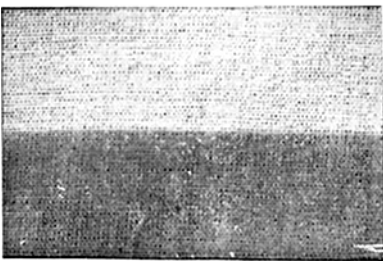
missing end—See **end out**.

missing pick—See **broken pick**.

miss-knit, *n*—in *knitted fabrics*, a deviation from the designated knitting pattern.

mixed end, *n*—in *woven fabrics*, a warp yarn differing from that normally being used in the fabric.

mixed filling, *n*—in *woven fabrics*, a filling yarn differing from that normally being used in the fabric. (See also **filling band**) (Compare **barré**)



Mixed Filling

mote trash—See **trash**.

mussiness, *n*—surface distortion in a fabric characterized by objectionable unevenness due to many minor deformations.

nep, *n*—a tightly tangled knot-like mass of unorganized fibers. (Compare **pill**.)

open place—See **crack mark**.

overshot—See **float**.

pick-out mark, *n*—a fillingwise band or bar characterized by a chafed or fuzzy appearance.

pick-out place—See **temple mark**.

piecing, *n*—a thick place in a spun yarn caused by poor splicing.

pill, *n*—bunches or balls of tangled fibers which are held to the surface of a fabric by one or more fibers. (Compare **fuzz ball**)

pin hole, *n*—in *fabrics*, a very small hole, approximately the size of the cross section of a pin.

pin mark, *n*—a series of holes near the edge parallel with the lengthwise direction of a fabric caused by the holding device on a pin tenter frame. (See also **clip mark**.)

press-off, *n*—in *knitted fabrics*, a condition in which the yarn fails to knit and either the fabric falls off the needles or the design is distorted or incomplete.

pressure mark, *n*—See **bruise**.

pull-in—See **jerk-in**.

reed mark, *n*—in *woven fabrics*, a crack between groups of warp ends, either continuous or at intervals.

reedy warp—See **reed mark**.

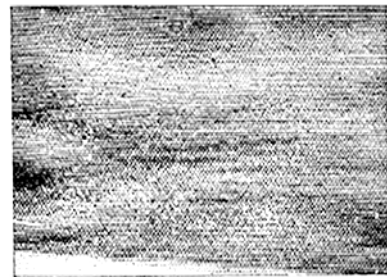
ring, *n*—in *hosiery*, a narrow, visually different horizontal band.

ripped selvage—See **cut selvage**.

rolled selvage—See **curled selvage**.

rope mark, *n*—in *dyed or finished fabrics*, a long irregularly shifting longitudinal mechanically induced streak.

rough, *adj*—a descriptive term for a fabric surface which has the feel of sandpaper.



Rough

rough selvage—See **loopy selvage**.

run, *n*—in *knitted fabrics*, a series of dropped stitches. (See **dropped stitch**) (*Syn.* ladder)