Designation: D6799 – 13 (Reapproved 2019)

Standard Terminology Relating to Inflatable Restraints[1]

This standard is issued under the fixed designation D6799; 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.

1. Scope

1.1 This standard covers terminology which is used in the evaluation of inflatable restraint fabrics, cushions, and modules.

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:*[2]
D123 Terminology Relating to Textiles
D3990 Terminology Relating to Fabric Defects

3. Terminology

3.1 *Definitions:*

abrasion, *n—for inflatable restraint fabrics,* a fuzzy cluster of broken filaments damaged by scraping.

accelerated aging, *n— in textile processing and testing*, the use of controlled environmental conditions to promote rapid physical or chemical change in a textile material.

DISCUSSION—For inflatable restraints, practices for conducting accelerated aging are designed to determine the aggravated effects on a fabric from exposures to heat, humidity, or ozone, or a combination thereof. These environmental conditions may also be cycled in combination. The four accelerated aging procedures of concern to the design and manufacture of inflatable restraints are referred to as cycle aging, heat aging, humidity aging, and ozone aging.

adhesive failure, *n—for inflatable restraint sealed and sewn seams*, a failure of seam sealant at the interface of two substrates where the sealant is sheared such that a portion of the sealant greater than 90 % of the original thickness of the sealant layer must remain attached to one of the two substrate surfaces, while a portion of the sealant less than 10 % of the original thickness of the sealant layer must remain attached to the other of the two substrate surfaces.

air splice, *n—for inflatable restraint fabrics,* the thicker portion of a yarn resulting from the entanglement of the filaments at the ends of two multifilament yarns to create a continuous yarn.

average dynamic air permeability (ADAP), *n—for inflatable restraints,* the average of all of DAP measurements within a specified range of pressure differentials.

bleedthrough, *n— for coated inflatable restraint fabrics,* the presence of coating material on the uncoated side, between two yarns, without covering either yarn.

blip, *n—for inflatable restraint fabrics,* any short, irregularly shaped or textured portion of an individual multifilament yarn that has been woven into the fabric, including slough offs, stripbacks, fuzz balls, snarls, and slubs.

breakout pressure, *n— for inflatable restraints*, the pressure level during deployment which ruptures the module cover.

broken filament, *n— for inflatable restraint fabrics,* an individual filament, separated from a multifilament yarn bundle, that lies on the surface of the fabric.

bruise, *n—for inflatable restraint fabrics,* a shift in the squareness of the weave pattern in an area that has been subjected to impact or pressure.

coated fabric, *n*—a flexible material composed of a textile fabric and an adherent polymeric material applied to one or both sides.

coating slub, *n— for coated inflatable restraint fabrics,* an irregularly shaped lump of coating material on the surface of the coated layer resembling a yarn slub.

coating streak, *n— for coated inflatable restraint fabrics,* minor variation in the color or opacity of the coated layer.

coating transfer, *n— for coated inflatable restraint fabrics,* the presence of coating material on the uncoated side, covering one or more yarns.

[1] This terminology is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.20 on Inflatable Restraints.

Current edition approved Jan. 1, 2019. Published March 2019. Originally approved in 2005. Last previous edition approved in 2013 as D6799 – 13ε1. DOI: 10.1520/D6799-13R19.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

cohesive failure, *n—for inflatable restraint sealed and sewn seams*, a failure of seam sealant at the interface of two substrates where the sealant is sheared such that a portion of the sealant greater than 10 % of the original thickness of the sealant layer must remain attached to both of the two substrate surfaces.

contamination, *n— for coated inflatable restraint fabrics,* the presence of non-coating material in the coated layer.

cushion, *n—for inflatable restraints,* the inflatable fabric envelope portion of a module.

cushion overpressurization, *n—for inflatable restraints*, the process of inflating a cushion at internal pressures greater than design deployment pressures; bag burst.

defect, *n—specific for inflatable restraints,* an imperfection in a cut piece of fabric that judgment and experience indicate is likely to result in either hazardous or improper deployment of the inflatable restraint module in which the imperfection is incorporated.

DISCUSSION—An example of a defect is a hole in the piece of fabric through which inflation gases can vent improperly.

deployment, *n—for inflatable restraints*, the sequence of events related to the activation of a module.

dynamic air permeability (DAP), *n—for inflatable restraints,* the dynamic air permeability measured at a single specified pressure differential.

edgecombing, *n— for inflatable restraints*, the separation of yarns from their normal orthagonal configuration in a woven fabric due to seam stress or similar action near the edge of a cut part

environmental conditions, *n—in textile testing*, the atmosphere in which specified moisture levels, temperature ranges, and concentrations of gases are controlled.

exponent of dynamic air permeability (EXP), *n—for inflatable restraints*, a descriptive factor used in a mathematical model integral to the apparatus software which relates the change in dynamic air permeability as the pressure differential changes.

extractable matter, *n— for inflatable restraint fabrics,*, non fibrous material in or on a textile, not including water, which is removable by a specified solvent or solvents, as directed in a specified procedure.

filling bar, *n— for inflatable restraint fabrics,* a temporary change in the filling-wise density of the weave pattern. (Syn: *stop/start mark.*)

finished, *adj—for inflatable restraint fabrics,* a descriptive term for fabric that has been treated after weaving and that is suitable for coating or piece cutting.

flat fabric, *n— for inflatable restraints,* fabric composed of a single woven layer. (See also one-piece woven).

fold over, *n—for inflatable restraint fabrics,* a hard ridge where a layer is overlapped upon itself where if applicable coating integrity is compromised.

foreign matter, *n— for inflatable restraint fabrics,* an extraneous interwoven fragment whose size, color, or texture indicates that it is not of the same material as the fibers in the base fabric.

grading, *n*—the procedure used to identify and quantify the number of imperfections in a roll of fabric detected during visual inspection.

hard contamination, *n— for coated inflatable restraint fabrics*, the presence of non-coating material within or on the coating layer, such material visibly appearing to be of large size, coarse or sharp in texture, and of a thickness that protrudes significantly above the surface of the coating layer.

DISCUSSION—Examples are metal filings, glass, plastic, or wood splinters.

DISCUSSION—Side lighting of fabric during fabric inspection may be used to determine how significantly contamination protrudes from the surface of the fabric.

heavy coating streak, *n— for coated inflatable restraint fabrics,* a narrow area of fabric, generally in the shape of a line oriented in the warp direction of the fabric, in which the coating layer is visibly at a higher rate of coverage than the surrounding material.

hole, *n—for inflatable restraint fabrics,* an opening not characteristic of the normal weave pattern where one or more yarns is cut, torn, or shifted.

imperfection, *n*—a departure of a quality characteristic from its intended level or state.

inflatable restraint, *n*—a vehicular safety device designed to cushion an occupant or equipment during collision; an airbag.

inflator, *n—for inflatable restraints*, a device for generating and directing expansion gases into a cushion.

ink stain, *n—for inflatable restraint fabrics,* presence of marking ink in an area of fabric not provided for identification by an applicable specification.

inspection, *n—in fabric grading*, the process of viewing, measuring, examining, or otherwise comparing the visual characteristics of a fabric with applicable requirements.

kinky filling, *n— for inflatable restraint fabrics*, an area of the fabric in which a short section of the weft yarn is folded back upon itself, causing the appearance of a thick or heavy section of yarn. This is contrasted to a loop in that the excess yarn does not protrude from the surface of the fabric.

light coating, *n— for coated inflatable restraint fabrics,* a localized amorphous area of fabric in which the coating layer is visibly at a lower rate of coverage than the surrounding material.

light coating streak, *n— for coated inflatable restraint fabrics,* a narrow area of light coating, generally in the shape of a line oriented in the warp direction of the fabric.

long float, *n—for inflatable restraints fabrics*, a small change in the weave pattern where a warp or filling yarn extends over six or more filling or warp yarns with which it should be interlaced.