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Standard Terminology Relating to Inflatable Restraints¹

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1. Scope

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

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.

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 July 1, 2008Jan. 1, 2013. Published July 2008February 2013. Originally approved in 2005. Last previous edition approved in 20072008 as D6799—07-D6799 – 08. DOI: 10.1520/D6799-08:10.1520/D6799-13.

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.

DISCUSSION—

ASTM D6799-13

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.

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.

edgcombing, *n*—*for inflatable restraints*, the separation of yarns from their normal orthogonal 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.