

DuPont Controlled Environments

TERMINOLOGY LIST



Hydrostatic Head (or Hydrohead)—Measures the water pressure the fabric can withstand before leakage occurs. Results are reported as a column height of water (cm). Higher numbers indicate better penetration resistance. (ASTM D751-00 AATCC 127, IST 80.6-01)

Frazier Porosity—Measures air flow through a standard area of fabric at a standard pressure drop giving a rough estimate of fabric “breathability”. Higher numbers indicate better breathability, but small differences are probably not noticeable to end users. (ASTM D 737-96, IST 70.1)

Trapezoidal Tear (or Trap Tear)—Measures the force needed to propagate a tear in the fabric in a stretching (elongational) action. Higher numbers indicate better tear propagation resistance. (ASTM D 5733-99, IST 100.2)

Particle Filtration Efficiency—Measures the ability of the fabric to filter out particles from room air over a range of particle sizes. Higher percentages indicates higher particle barrier. (IEST-RP-CC003.3)

Latex Particle Challenge—Measures the ability of the fabric to filter out particles of a specified size from a controlled aerosol challenge. Higher percentages indicate higher particle barrier. (Nelson Labs tests method)

Bacterial Filtration Efficiency—Measures the ability of the fabric to filter out bacteria (staphylococcus aureus) from a controlled aerosol challenge. (ASTM F2100, Military Spec MIL36954C, ASTM F2101)

Particle Shedding (Helmke Drum Test)—Measures particle shedding from a garment or accessory being tumbled in a small drum. Results are reported by category—the category requirements for coveralls are in the table below (IEST-RP-CC003.3):

The test is intended to be run on full garments, but some types of garments will not tumble properly in the drum due to stiffness, size or other factors. Testing on fabric swatches or cut garments may not be an accurate predictor of full garment performance due to edge effects.

Category	Particle Emission Rate (particles/min)	
	0.3 μm and larger	0.5 μm and larger
I	<2,000	<12,000
II	2,000 to 20,000	1,200 to 12,000
III	20,000 to 200,000	12,000 to 120,000

Tongue Tear—Measures the force needed to propagate a tear in the fabric in a ripping action. Higher numbers indicate better tear propagation resistance. (ASTM D2261-83)

Surface Resistivity (Log R)—Measures the resistance to the flow of electrical charge across the surface of an insulating material. Calculated by multiplying the surface resistance by the width to length ratio of the area tested. DuPont reported values are the base 10 logarithm of the surface resistivity (for example, a surface resistivity of 1011 will be reported as a Log R of 11.0). (ASTM D257-99)

Static Decay—Measures the time required for a material to dissipate 90% of a specified electrical charge (voltage). (NFPA99)

Basis Weight—Reports the weight (or mass) of fabric for a given area. (ASTM D751-00)

Thickness—Measures the separation created by the fabric between a movable plate and a parallel fixed plate at a specified pressure. (ASTM D1777-96)

Flammability—Provides an indication of the ease of ignition and speed of flame spread of textile fabrics. Garments are categorized as class 1 (normal), class 2 (intermediate), or class 3 (rapid and intense burning). (16 CFR 1610)

