

ANALYTICAL & PHYSICAL TESTING CAPABILITIES

The Nonwovens Institute at North Carolina State University offers more than 60 analytical & physical tests for nonwoven materials, with strict adherence to standard test methods.



"In addition to standard test methods, the lab also offers several characterization methods, including SEM, DSC and TGA, it is certified ISO 9001, and it operates according to GMP supported by a strong set of standard operating procedures."

NC STATE
UNIVERSITY

The expertise in NWI's Analytical & Physical Testing Lab is rooted in more than 20 years of work with rigorous test methods for fibers and fabrics in nonwoven applications. This deep testing knowledge, combined with the state-of-the-art instruments housed in NWI's Analytical & Physical Testing Lab, ensures precise and reliable results for our customers. And with the breadth of tests available, NWI offers the convenience of a trusted single-source provider for nonwovens testing.

NWI's Analytical & Physical Testing Lab performs many of the **ASTM and IST test methods**, with an emphasis on testing fibers and nonwoven structures. In addition to standard test methods, the lab also offers several characterization methods, including **SEM, DSC and TGA**, it is **certified ISO 9001**, and it operates according to GMP supported by a strong set of standard operating procedures.

Why test your nonwovens at NWI?

- Decades of in-house testing experience
- More than 60 testing instruments available
- Supports many ASTM & IST test methods
- ISO 9001 certified
- Strict adherence to GMP and SOPs
- Highly competitive pricing model
- Quick turnaround times

Unique capabilities include:

- Keyence digital microscope
- Optical fiber orientation analysis system
- Optical texture analysis system
- Optical fabric uniformity system
- Optical fuzz & pilling analysis system
- Full line of image analysis software

Analytical & Physical Testing Lab - Equipment Specifications

Absorbency	
Measure absorbency time, absorbency capacity and wicking rate	IST 10.1, EDANA 10.1.72, ASTM D1117-95
Bursting Resistance	
Diaphragm	IST 30.1 (ASTM D3786, TAPPIT403 om-91)
Bending Stiffness	
Cantilevel	IST 90.1
Friction	
Static and kinetic	IST 140.1
Abrasion Resistance	
Flexing & Abrasion	IST 20.2 (ASTM D3885)
Oscillatory Cylinder	IST 20.3 (ASTM D4157)
Rotary Platform	IST 20.4 (ASTM D3884)
Martindale	IST 20.5 (ASTM D4966)
Uniform Abrasion Method	IST 20.6 (ASTM D4158)
Inflated Diaphragm	IST 20.1 (ASTM D3886-92)
Permeability	
Air	IST 70.1 (ASTM D737)
Capillary Flow Porometer	
Water Vapor (Moccon)	ASTM D6701
Repellency	
Penetration By Water (Hydrostatic Test)	IST 80.4 (AATCC 127)
Tear Resistance	
Elmendorf	IST 100.1 (ASTM D5734)
Trapezoid	IST 100.2 (ASTM D5733)
Tongue	IST 100.3 (ASTM D2261)
Tensile	
Grab	IST 110.1 (ASTM D5034)
Seam Strength	IST 110.2 (ASTM D1683)
Strip	IST 110.4 (ASTM D5035)
Thickness	
Conventional Nonwovens	IST 120.1 (ASTM D5729)
Highloft Nonwovens : Compression & Recovery	IST 120.2 (ASTM D5736)
Weight	
Mass/Unit Area Of Conventional Fabrics	IST 130.1 (ASTM D3776)
Mass/Unit Area Of Nonwoven Fabrics	IST 130.2
Fiber Analysis	
Quantitative Analysis	IST 170.1
Fiber Crimp Measurement	ASTM D3937
Favimat	IST 180.1 (ASTM D4271)



Scan this QR code to ask questions and receive feedback from NWI's analytical and physical testing experts.

To learn more about NWI, please email us at nonwovens@ncsu.edu or visit www.TheNonwovensInstitute.com