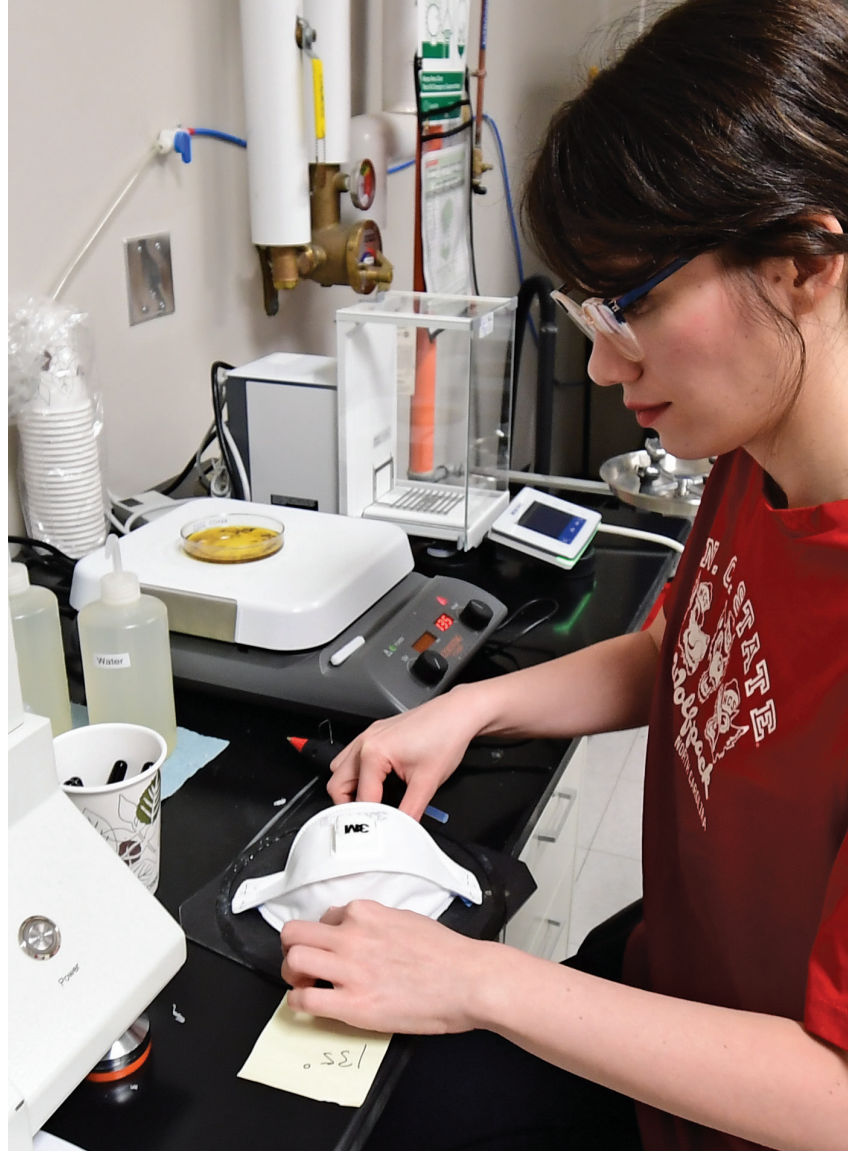


FILTRATION TESTING CAPABILITIES

The Nonwovens Institute offers a full range of filtration tests in its ISO 17025-accredited lab on the Centennial Campus of North Carolina State University.

NWI has expanded its filtration testing capabilities to include services for facemasks and respirators, along with filter media for automotive, HEPA and HVAC applications, among others. Importantly, NWI's Filtration Testing Lab is ISO/IEC 17025:2017 accredited, enabling it to meet NIOSH requirements for testing materials used in respirators, and it is outfitted with equipment to perform ASTM F2299 testing for the measurement of Particle Filtration Efficiency (PFE) at 0.1 microns.



"Importantly, NWI's Filtration Testing Lab is ISO/IEC 17025:2017 accredited, enabling it to meet NIOSH requirements for testing materials used in respirators."

**NC STATE
UNIVERSITY**

Testing equipment available in NWI's Filtration Testing Lab includes:

- PALAS MFP-3000-S fractional aerosol filter test
- Two TSI 8130 machines for filtration efficiency
- Two TSI 3160 machines for filtration efficiency
- Two offline charging and discharging units
- Two environmental chambers for aging and conditioning masks and filter media
- Testing apparatus for the measurement of fluid resistance for surgical masks
- Prototyping facility to produce masks for testing purposes per NIOSH Standard Test Protocol

Why test your filter media at NWI?

- Decades of in-house material testing experience
- ISO 17025 accredited
- ISO 9001 accredited
- ASTM F2299 testing capability
- Strict adherence to GMP and SOPs
- Highly competitive pricing model
- Quick turnaround times

ISO/IEC 17025:2017 test methods include:

- | | |
|-------------------------------|----------------------------|
| ■ TEB-APR-STP-0059 : N95 | ■ ASTM F1862 |
| ■ TEB-APR-STP-0058 : N99 | ■ ASTM F3407 |
| ■ TEB-APR-STP-0057 : N100 | ■ ASTM F1980 |
| ■ TEB-APR-STP-0056 : R Series | ■ ASTM F2299 |
| ■ TEB-APR-STP-0051 : P Series | ■ BS EN 14683:2019 Annex C |
| ■ ASTM F3502 | ■ 16 CFR Part 1610 |



Filtration Testing Lab - Equipment Specifications

Aerosol Filtration

TSI AFT Model 3160 No. 1	Filtration efficiency – Mono-disperse aerosol classification
TSI AFT Model 3160 No. 2	Modified for ASTM F2299
TSI AFT Model 8130A	Filtration efficiency – Poly-disperse aerosol generation method
TSI AFT Model 8130B	
Palas MFP-3000	Fractional aerosol filter test for flat filter media and small filter elements
TSI Portacount Respirator Fit Test Model 8048	Quantitative respirator fit testing

Static Charge

Static Analysis System	Maps a grid of surface of static charge
Static Charge System	Negative and positive ion charge
Static Discharge System	Electrostatic discharge; ISO 16890-4 compliant

Blood Penetration

Testex TN 139 Synthetic Blood Tester	Blood penetration resistance; ASTM F1862/ F1862M compliant
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Additional Capabilities

Beckman Coulter Multisizer 4	Benchtop analyzer for particle size distribution, volume & surface area
Espec BTL-344 Environmental Chamber	Temperature ranges of -20 C-180 C; humidity 10%-95%
45-Degree Flammability Tester TF310	Flammability test; 16 CFR 1610, ASTM D1230, ASTM F2100



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

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