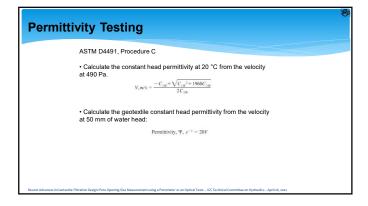
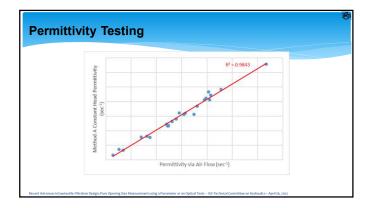
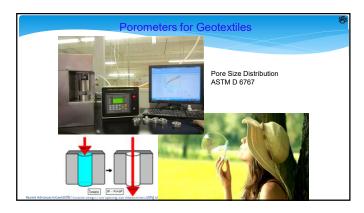


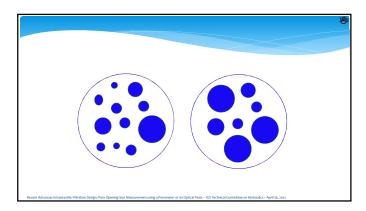
Permittivity Testing ASTM D4491, Procedure C • Measurements of flow rate at 250 and 500 Pa pressure • Resulting in two velocity and pressure values, P₂₅₀, V₂₅₀ and P₅₀₀, V₅₀₀, which are used to calculate the two coefficients for the air flow test: P = C₂₀V²+C₁₀V • Calculate C₁ and C₂ • Convert to water flow constants, C_{1W} and C_{2W} using: • 55.4 = ratio of dynamic viscosity of water to that of air at 20°C, and • 833 = ratio of mass density of water to that of air at 20°C.

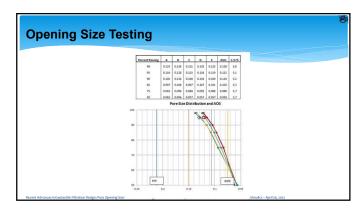




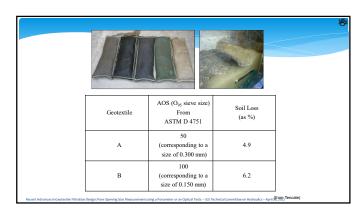


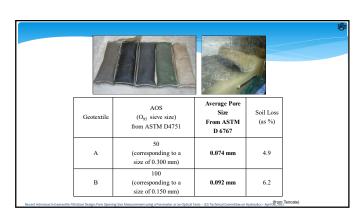
Opening Size Testing	162s
ASTM D4751, Standard Test Methods for Determining Apparent Opening Size of a Geotextile, Procedure B	
ASTM D6767, Standard Test Method for Pore Size Characteristics of Geotextiles by Capillary Flow Test	
O = C/P	
Recent Advances in Geotextile Filtration Design: Pore Opening Size Measurement using a Poremeter or an Optical Tests – IGS Technical Committee on Hydraulics – April 26, 2022	

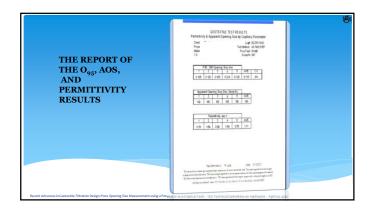


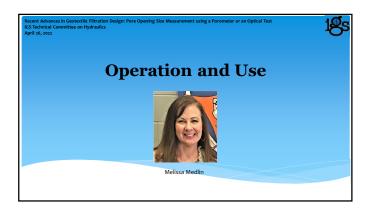








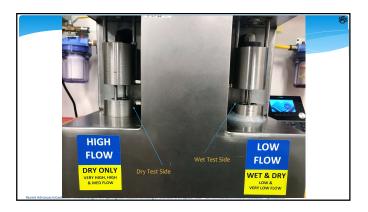


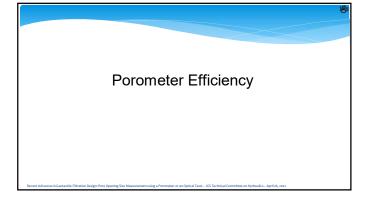












Apparent Opening Size – D4751 Procedure A: Glass Beads Procedure B: Porometer *Washing *No washing *No Drying *No Drying *Static *30-45 min./sample *0ils *2-3 days/sample

Permittivity– D4491	8
Procedure A, B: Water	Procedure C: Porometer
* 2 hr soak * Water quality * O ₂ * Timers? * 3-4 hrs/sample	*No soaking *No water quality issues *10-15 min./sample
Recent Advances in Castecilis Filtration Design: Pure Opening Stat Measurement using a Perumeter or an Opening	idiail Tests - 1/5 Technical Committee on Indicalics - Antilisis. 2022

- *At least two independent service labs
- * including Sageos
- *At least 8 GT manufacturers
- *Many Universities
- *More users acquiring porometers

Recent Advances in Geotextile Fitration Design: Pore Opening Size Measurement using a Porometer or an Optical Tests – ICS Technical Committee on Hydraulics – April 26, 2022

NOTES

- *Full gradations often require evaluation using more than one wetting fluid.
- *With permittivity and AOS, great utility with
- * most wovens
- * nonwovens between 135 and 500 gsm

Recent Advances in Geotextile Filtration Design: Pore Opening Size Measurement using a Porometer or an Optical Tests – ICS Technical Committee on Hydraulics – April 26, 2022

NOTE - Important

- *ASTM D4491 and ASTM D4751 results are governed by the hydraulic (permittivity) or (glass bead) versions.
- $*A\ correlation\ exercise\ in\ mandated\ if\ a\ porometer\ is\ used.$
- *Ongoing work to incorporate use porometer test results for filtration design.

Sprague, J., Sack, R., Geotextile Filtration Design based on Pore Size Distribution, GeoCongress 2020

