Welcome to

Advanced Textiles EXPO®

ORGANIZED BY ATA



DO IT RIGHT

Water Repellency Testing for Shade & Awning Fabrics



Things to Think About When Choosing an Outdoor Fabric

- **UV Exposure**
- **Rain**
- **Snow**
- **Air Pollutants**
- **Service Life**
- **Proper Fabric Selection (based on application and budget)**

A fabric must survive all of them.



Three Terms. Three Different Meanings.



Water Repellent
Water beads on the surface



Water Resistant
Water penetration will occur based on certain conditions



Waterproof
Water penetration is prevented

Superior Water Repellency Performance is Achieved by a Combination of Important Factors

Fiber → Construction → Finish → Coating = Performance

No single feature determines performance.



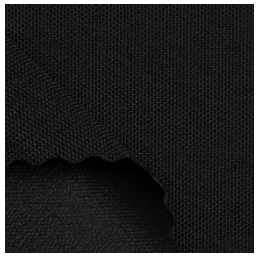
Today’s Test Fabrics



7.5 oz. Solution Dyed Polyester



5.5 oz. Solution Dyed Polyester



9.3 oz. Solution Dyed Polyester



500D Canopy Polyester



70D Ripstop

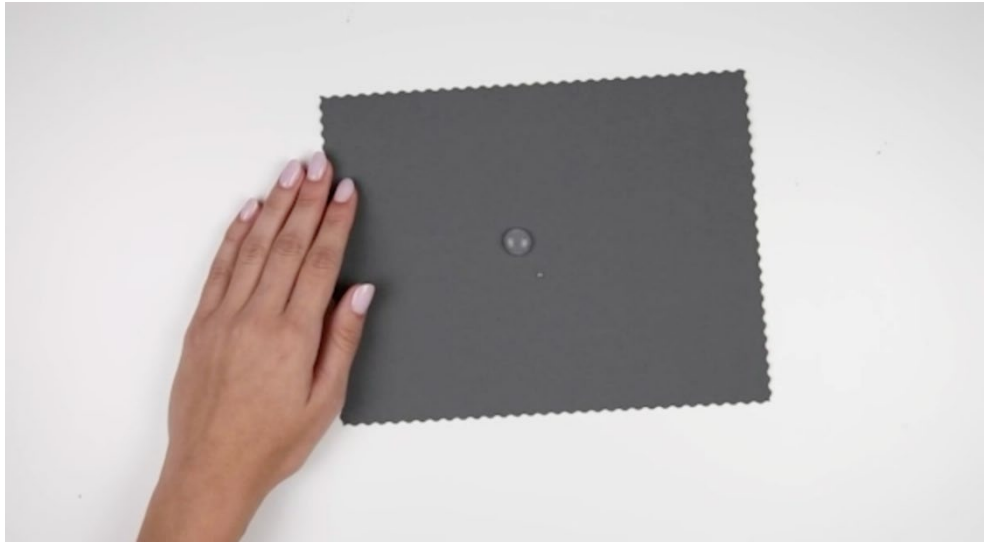


6x3 PVC-Backed Polyester

Let’s see how they perform.



Live Demo #1
Water Drop Test



What are we watching for?

- **Beading**
- **Migrating**
- **Wetting out**
- **Runoff**

More Beading = Better Repellency

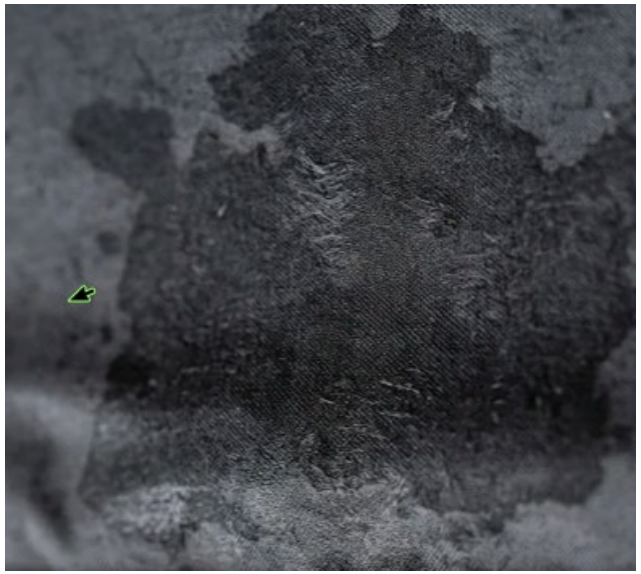
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What is DWR?
Durable Water Repellency

With DWR



Without DWR



DWR helps water shed. It does not make fabric waterproof.

Why Does Water Repellency Decrease?

1 → **2** → **3** → **4** → **5**

New Fabric

UV Exposure

Dirt & Pollutants

Abrasion

Wetting Out

Outdoor exposure can change performance.



Live Demo #2
Spray Rating Test



Industry Standard Method

Dropper Method

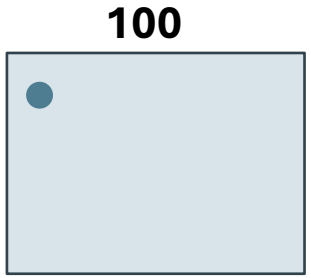
Observe Surface Wetting

Test Method: AATCC 22

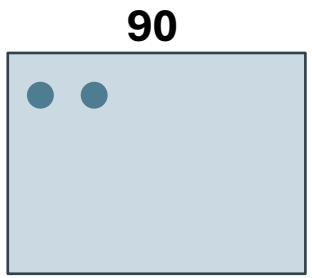
Consistency matters.

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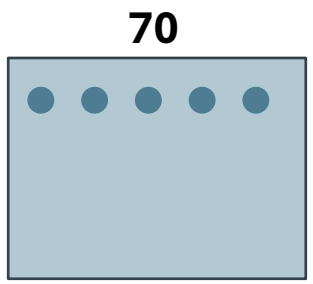
Reading Spray Test Results



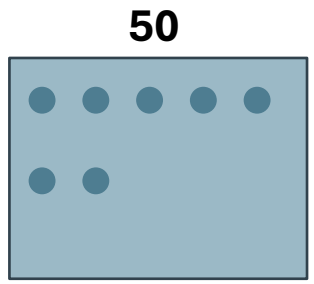
No Wetting



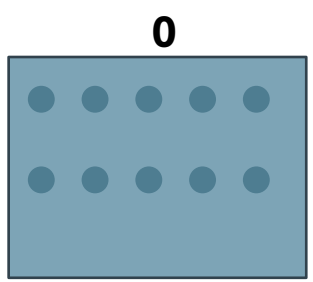
Slight Wetting



Partial Wetting



Significant Wetting



Complete Wetting

C6 vs C0

Higher Rating = Better Water Repellency



Can Water Repellency Be Restored?

1

Reduced Water Repellency

→

2

Apply Heat

→

3

Retest

Some DWR finishes can be reactivated with heat.
Post treatment spray can also be purchased.



DWR vs Coatings

DWR

Surface Treatment

Promotes Beading

Maintains Fabric Feel

Coating

Barrier Layer

Increases Water Resistance

Changes Fabric Composition

Different technologies. Different outcomes.



Choosing the Right Fabric

- **How much rain exposure?**
- **Is water proofing required?**
- **How much UV exposure?**
- **Expected lifespan?**
- **Weight limitations?**
- **Maintenance expectations?**

Start with the application.



Key Takeaways

1. Water Repellent ≠ Water Resistant ≠ Waterproof

2. Construction + Finish + Coating Technology = Performance

3. Testing reveals the differences



Questions?




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See you next year!

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