

WHEN IT RAINS, IT POURS

Protecting Outdoor Cushions
from the Elements

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During warmer weather, more people want to enjoy the outdoors while relaxing on their outdoor furniture. But sitting on soggy, moldy cushions is the opposite of relaxation. To keep cushions and outdoor furniture in impeccable condition, Easy Way Products recommends that all outdoor furniture be protected with furniture covers when not in use.

Depending on the desired performance, furniture covers can be made water resistant or waterproof and breathable.



DEFINITIONS

Before we get to the science behind water resistant and waterproof fabric, let's review the terminology. Below are some definitions that help distinguish the difference between water resistant and waterproof.

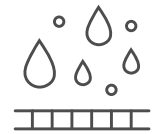
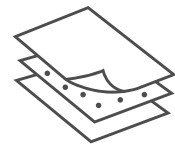
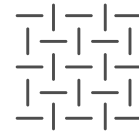
- **Breathability:** This refers to the ability of a fabric to allow moisture vapor to be transmitted through it.¹
- **Water Repellency:** This is the characteristic of a fabric that allows water to bead up on its surface following treatment with topical applications.²
- **Water Resistant:** This means that the fabric will resist the penetration of water.¹ However, the greater the force of the impact of water, the greater the likelihood that the water will penetrate the fabric.²
- **Waterproof:** This means that the fabric provides a complete barrier to liquid (rain), but allows water vapor to pass through.³ It can be inherent or treated. Some waterproofing materials include rubber, polyvinyl chloride (PVC), polyurethane (PU), silicone elastomer, fluoropolymers, and wax. Treatment may be applied to the fabric during manufacturing or added to the completed products, such as a waterproofing spray.⁴
- **Water Vapor Permeability:** This is the rate at which water vapor diffuses through a fabric.²
- **Wickability:** This is the property of a fiber that allows moisture to move rapidly along the fiber's surface and pass quickly through the fabric.³

THE SCIENCE

There is a surprising amount of science and testing that goes into making a fabric water resistant or waterproof. This process gets more complicated by the fact that most customers want to have a breathable fabric.

The following five factors determine how fabric can be waterproof and breathable²:

Factor	Description
Construction/structure of the fabric	To be water resistant or waterproof, a fabric must have a very tight weave.
Dimensions of the fabric (microfibers)	A microfiber is defined as a fiber that is less than 1 denier. ⁵
Microporous membranes	Made of many tiny, interconnected polymer pores, these membranes are hydrophobic and will resist water passing through them--even under high pressure. ⁶
Microporous coatings	A polyurethane-based solution is applied to the fabric to create a waterproof coating. ⁷
Monolithic films	Because these films have no pores for liquid to pass through, moisture vapor is instead transmitted by a solid-state diffusion process. ⁸



MEASURING WATERPROOF BREATHABILITY

Manufacturers typically describe the waterproof breathability of fabrics using two numbers. The first is in millimeters (mm) and is a measure of how waterproof a fabric is. The second number is a measure of how breathable the fabric is, and is normally expressed in terms of how many grams (g) of water vapor can pass through a square meter (m²) of the fabric from the inside to the outside in a 24-hour period.⁴

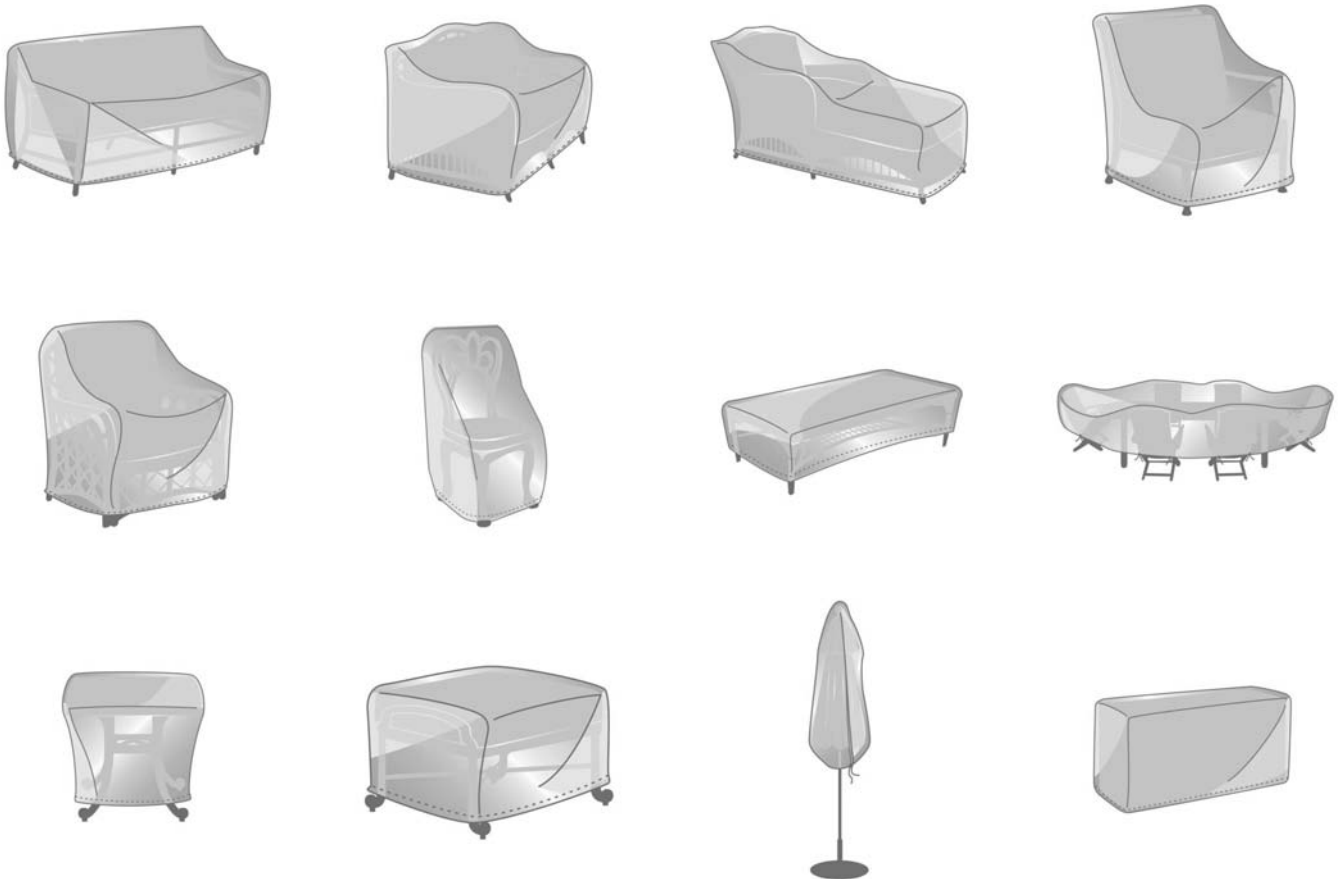
TESTING STANDARDS

ASTM D3393 laboratory testing protocols define the performance of water resistant fabrics. Water resistance is measured by the amount of water, in mm, which can be suspended above the fabric before water seeps through it. Breathability is measured by the rate at which water vapor passes through the fabric, in grams of water vapor per square meter of fabric per 24-hour period (g/m²/d), often abbreviated to just "g". Average fabrics have a water resistance value of 5,000 mm and breathability value of 5,000 g. High quality materials have values of 20,000 mm and 20,000 g, respectively.⁹ The following chart provides the waterproof rating and what conditions the fabric will endure.⁴

Waterproof Rating (mm)	Resistance Provided	Weather Conditions
0-5,000 mm	No moisture resistance to some moisture resistance	Light rainfall/dry snowfall/no pressure
6,000-10,000 mm	Rainproof and waterproof under light pressure	Light rainfall/average snowfall/light pressure
11,000-15,000 mm	Rainproof and waterproof except under high pressure	Moderate rainfall/average snowfall/light pressure
16,000-20,000 mm	Rainproof and waterproof under high pressure	Heavy rainfall/wet snowfall/some pressure
20,000 mm+	Rainproof and waterproof under very high pressure	Heavy rainfall/wet snowfall/high pressure

MOST POPULAR COVER STYLES

Outdoor covers come in a multitude of sizes and shapes, using many different fabrics with different performance outcomes. It all depends on customer preference. Easy Way Products manufactures a variety of covers to meet our customers' needs. Easy Way Products' lead time and quality are superb. Below are a few of our more popular styles for protecting furniture and cushions. Select from these universal options, or request custom-designed covers that can be tailored to fit your product line.



WE'RE HERE TO HELP

What type of furniture cover is right for your outdoor furniture lines? Easy Way Products offers customers good, better and best options. Their differences are outlined in the chart below.

Option	Fabric Description	UV Rating	Fabric Weight	Water Resistance (AATCC127)	Freeze Rating
Best	100% Solution-dyed Polyester Fabric	1500 Hours	~7oz/yd ²	90 CM	-40° F
Better	Solution-dyed Polyester Fabric with PVC Backing	500 Hours	11.1oz/yd ²	50 CM	-40° F
Good	Piece-dyed Polyester with PVC Backing	180 Hours	~9oz/yd ²	50 CM	-40° F

Our product design team can help you determine which option is best for you, and work with you to build the ideal assortment of universal or custom covers for your product lines.

No matter the shape or size, Easy Way Products has you covered.

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