

POOLING WATER

Water can pool on a cover for various reasons however our **Outer Armor** cover is designed to combat this by having the overall features & characteristics work in concert to maximize its resistance.

Prior to our cover design introduction in 1997 covers were poorly fit and strapped down to trailers or belly-bands were used along with “free-standing” anti-pooling poles.

Our background servicing the Power Sport industry provided the experience that allowed us to redesign our **Outer Armor** cover which maximizes performance & provides versatility while providing a complimentary look to the boat it covers.

To minimize pooling from occurring more than one aspect of the design had to be addressed.



Fabric Design | Tight Fit (Patterning) | Ratchet Tensioning | Self Standing APS system.

Each of these is individually critical but to be successful they must work together.



Fabric Design

The fabric choice requires it be lightweight, high-strength, coated, water repellent treated and “dimensionally” stable. This minimizes the fabric adding weight and its strength & stability allows for the necessary tight fit. The “face” surface is treated with a “water repellency” (like ScotchGard™) lowering the surface tension so water beads up and runs off. The “back” surface is urethane coated providing additional defense for water penetrating the cover. Two recent improvements covered on Technical Bulletin “Improved Mooring Cover Fabric” explains **SurLast BW+**. It’s a tighter weave with the best available water repellent treatment on the “face”. The new water repellent lowered the surface tension further over traditional treatments where the water beads move sooner joining with others making them run off the cover sooner & faster (very visible). It also increased hydrostatic water resistance (the ability of fabric to resist water penetration) from about 100 cm to 170 cm. All “face” water repellent treatments wear off and the “water beading” will lessen eventually allowing water to be absorbed by the fabric fibers but the “back side” urethane coating will provide the second defense of penetration. A traditional “face” treatment lasts about 6 to 9 months and tests on our new enhanced treatment (BW+) show it will last 3 to 4 times longer. In all cases durability of the treatment is very dependent on the environment & use the cover experiences. Providing the enhanced water repellent as a re-apply alternative isn’t possible because it requires a controlled bonding process to properly attach it to the fabric surface. There are various aftermarket repellents available however because they are “mechanically” attached they usually only last about 1 month or so. Like waxing your car! This is why we chose to provide the best & longest lasting treatment available.

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-  **Tight Fit (Patterning)**
The very custom fit (tight) adds to the covers ability to resist pooling. The “form-fit” eliminates baggy areas where water can begin to pool.
-  **Ratchet Tensioning (Elimination of “Tie-Down Straps”)**
The idea here is when tensioning (ratcheting) the cover is done properly the cover will walk down the Gunwale tightening the entire cover to look like a skin (form fit) eliminating the need for any “tie-down straps”. This helps immensely in allowing the fabrics water repellent features to work along with the strap supports from the APS (Anti-Pooling System).
-  **Common errors we notice are:**
Misunderstanding that the poles alone make water shed & prevent pooling so the cover is put on too loosely tensioned. Not pulling out all the slack in the hem webbing through the ratchet spool before ratcheting. This causes the ratchet to “over-spool” when tensioned which makes it feel tight but the cover is not. (Recent improvement are “hand Loops” to aid in pulling the slack out of the webbing)

Even with the slack pulled out, the other issue is ratcheting “tight”. There seems to be some fear of doing this but the cover works best when very tight. (New stronger stainless steel ratchet will allow for easier increased tensioning)
-  **APS Poles & Strap Assembly (Anti-Pooling System).**
The self-standing APS assembly we provide with each cover allows for poles that can’t fall and straps that help support the fabric aiding the ability of water to run off. It may be a little cumbersome the 1st few times it’s set up but it becomes much easier and is very effective.
-  **Summary**
Although no cover design is fool-proof for preventing pooling water our design addresses it in a broader way. The overall design features all work in concert to provide the highest ability to shed water.