

Material Specifications, Warranty, and Policies

Material Specifications

Fabric

- Shade fabric is made of UV stabilized cloth manufactured by Alnet Americas or approved equal
- The high density polyethylene material shall be manufactured with tensioned fabric structures in mind
- The fabric knit is to be made using monofilament and tape filler which has a weight of 9.38 to 10.32 oz. sq. yd. Material to be Rachel-knitted to ensure material will not unravel if cut
- Cloth meets fire resistance tests as follows:

Alnet Americas Extra Block: California State Fire Marshall Reg. #F-93501

Others: NFPA 701-99 (Test Method 2) and ASTM E-84

Fabric Properties

Stretch	Stentored
Tear Tests (lbs/ft)	WARP 44.8 WEFT 44
Burst Tests (lbs ft)	828 lbf (ASTM 3786)
Fabric Weight (oz/sqFT)	Avg 1.02 to 1.07 oz.
Fabric Width	9' 10"
Roll Length	150'
Roll Size	63" x 16 ½"
Weight	120 lbs.
Life Expectancy	10 Years
Fading	Minimum Fading After 6 years, 3 Years for Red and Yellow
Min. Temperature	-77°
Max. Temperature	+167°

Shade Protection and UV Screen Protection Factors

Color	Shade Cover	UVR Block Out
True Blue	93%	89%
Beige	97%	87%
Forest Green	96%	94%
Sun Blaze	94%	91%
Silver	95%	93%
Rivergum Green	88.7%	92.9%
Sky Blue	89%	92.2%
Navy Blue	93.6%	94.4%
Turquoise	86%	91.5%
Yellow	77.6%	95.5%

Thread

- Shall be 100% expanded PTFE fiber that is high strength and low shrinkage
- Shall have a wide temperature and humidity range
- Abrasion resistant and UV radiation immunity
- Shall be unaffected by non-hydrocarbon based cleaning agents, acid rain, mildew, chlorine, saltwater, and pollution
- Lockstitch thread – 1200 Denier or equal
- Chain stitch thread – 2400 Denier or equal



Steel Tubing

- All fabricated steel must be in accordance with approved shop drawings and calculations
- All steel is cleaned, degreased, or etched to ensure proper adhesion of Superdurable powder coat in accordance with manufacturer's specifications
- All Steel used on this project needs to be new and accompanied by the mill certificates if requested. Structural steel tubing up to 5"-7 gauge shall be galvanized per Allied Steel FLO-COAT specifications. Schedule 40 black pipe fabrications shall be sand-blasted and primed as described below
- All non-hollow structural shapes comply with ASTM A-36, unless otherwise noted
- All hollow structural steel shapes shall be cold formed HSS ASTM A-53 grade C, unless otherwise noted
- Plate products shall comply with ASTM A-36



Porter Corp Limited Warranty and Limitations

Porter Corp provides a 10-year pro-rated limited warranty from shipping date with the following limitations. Porter Corp limits its warranty to the supply of materials that will assemble according to sealed engineered drawings and installation instructions, and can be assembled with normal expertise and with tools required and found in the construction trades. It is expressly understood that Porter Corp's liability be limited to repair or replacement of nonconforming material at time of delivery.

Porter Corp does not warrant product for defects caused by erection, harsh site conditions, lack of maintenance, and/or other conditions beyond Porter Corp's control. Porter Corp will not be held responsible for any materials that were not properly stored prior to installation. Porter Corp reserves the right to void the limited warranty if it not installed per the installation instructions and/or unauthorized modifications.

Porter Corp shall not be held liable for field alterations. Porter Corp shall only be liable for meeting the building code indicated on the sealed engineered drawings.

Any replacement part under warranty is warranted for the remaining original warranty period or six (6) months, whichever is longer.

Under certain conditions (snow, wind, and the like), Fabric tops may be required to be taken down. The sealed engineered drawings and installation instructions will need to be referenced for design parameters. Porter Corp shall not be responsible to cover damage caused by failure to remove the top as required.

This Limited Warranty supersedes all other warranties expressed or implied.

The warranty on items not manufactured by Porter Corp (i.e. metal roofing, shingles, wood shelters, fabric and thread as applicable), will be as passed through Porter Corp's supplier as per their warranty; contact Customer Service for this Supplier Warranty.

This Limited Warranty is conditional upon payment in full to Porter Corp within terms. Liability under this Warranty is limited in that it shall not exceed the original sales price of the components as supplied by Porter Corp.



Poli-5000 Paint System 10 Year Limited Warranty for Structural Steel Shelters

This limited warranty is for the factory applied Poli-5000 powder coating. Poli-5000 powder coat paint system by Porter Corp of Holland, Michigan has been applied to steel entirely as an 'in-house' process. Poli-5000 finish has been applied over hot rolled structural steel parts and has been tested to meet or exceed the ASTM Standards illustrated in Figure 1.

This pro-rated limited 10 year warranty is intended to define the obligations and limitations of the purchaser as well as the obligations and limitations of the supplier. This limited warranty is only valid if Porter Corp has been paid in full for the cost of the shelter.

Damage occurring from shipping, erection, vandalism, accidents, or field modifications will require field touch-up immediately and periodically thereafter, which is not covered in this limited warranty.

Exposed nuts and bolts will either be supplied with a light plating or powder coating. It is the responsibility of the contractor to paint and/or touch up the nuts and bolts after erection and these must be maintained by the customer.

The 10-year limited warranty will exclude buildings erected at sites where salt air, corrosive environment, high humidity or sprinkler systems come in contact with the shelter.

Failure to maintain finish system with annual touch-up and documented maintenance procedures will void the limited warranty.

Not covered by this limited warranty are acute angles, end plates, and other accessories that are prone to minor defects on occasions and will require touch-up by owner.

Failure of the coating will be defined when at least 8% of the total coated surface has significant loss of performance or appearance characteristics when compared to the original finish. Rust stains from roof trim, screws, and screw holes do not constitute a failure.

If a claim is made for paint failure a complete document must be provided by the owner. If a site visit is required by Porter Corp the travel expenses will be covered by the customer prior to travel taking place. However, should the failure be determined to be under the limited warranty the customer will be reimbursed for these expenses.

In the case of a failed paint system, Porter Corp will repaint the structure with its best in-house system providing that the owner dismantles the structure and returns it to Porter Corp. Porter Corp will refinish the structure and ship it back to job site at their expense. The refinishing will not extend the original warranty of the paint system. The owner is responsible for erecting the building at their expense. As an alternative, Porter Corp will pay customer up to the cost of the original paint system on a pro-rated basis for time left of the 10 year limited warranty.

Poli-5000 Finish System Performance and Specifications

Figure 1

Test Description	Test Method	Poli-5000 Results
Salt Spray Resistance	ASTM B 117/ ASTM D 1654 Method 2 (scrapping)	10,000 hours, no creep from scribe line, rating of 10
Humidity	ASTM D2247-02	5,000 hours with no loss of adhesion or blistering
Light UV/ Resistance	ASTM G154-04 2000 hours exposure. Alternate cycles (4 hours UVC and 4 hours condensation)	a) No chalking b) 75% color retention c) Color variation-maximum 3.0 E variation CIE formula (before and after 2,000 hours exposure)
Stain Resistance	ASTM D1308-02e1 24 hours exposure with 10% concentration	No stain from following: Mustard, Tannic Acid, Catsup, Citric Acid, Coffee, Tartaric Acid, Pepsi Cola, Beer, Oleic Acid, Lactic Acid, Orange Juice
Scratch Resistance	Hoffman Scratch Hardness Tester	No substrate appearance with 1,000 gram load
Adhesion	ASTM D3359-02	ASTM Class 4B rating or better
Resistance Impact	ASTM D2794-93	10 in-lbs. w/o cracking
Hardness	ASTM D3363-92a	2H min-no indentation
Flexibility	ASTM D522-93a	1/8" no cracking/loss of adhesion at bend
Abrasion	Taber abraser CS10 Wheel (1,000 mg load)	14 mg. max weight loss per cycle
Solvent Resistance	50+ MEK rubs	Minimal to no dulling or color removal

Welds

- All shop welds shall be executed in accordance with the latest edition of the American Welding Society Specifications
- Welding procedures shall comply in accordance with the AWS D1.1-AWS Structural Welding Code-Steel
- All welds to be performed by a certified welder. All welds shall be continuous where length is not given, unless otherwise shown or noted on drawings
- All welds shall develop the full strength of the weaker member. All welds shall be made using E70xx.035 wire
- Shop connections shall be welded unless noted otherwise. Field connections shall be indicated on the drawings. Field welded connections are not acceptable
- All fillet welds shall be a minimum of ¼" unless otherwise noted
- All steel shall be welded shut at terminations to prevent internal leakage
- Internal weld sleeving is not acceptable
- On-site welding of any component is not acceptable

Sewing

- On-site sewing of a fabric will not be accepted
- All corners shall be reinforced with extra non-tear cloth and strap to distribute the load
- The perimeters that contain the cables shall be double lock stitched

Installation Hardware

- Bolt and fastening hardware shall be determined based on calculated engineering loads
- All bolts shall comply with SAE-J429 (Grade 8) or ASTM A325 (Grade BD). All nuts shall comply with ASTM F-594, alloy Group 1 or 2
- Upon request, Stainless Steel hardware shall comply with ASTM A-304
- 1/4" galvanized wire rope shall be 7x19 strand with a breaking strength of 7,000 lbs. for shades generally under 575 sq. ft. unless requested larger by the customer. For shades over 575 sq. ft., cable shall be 5/16" with a breaking strength of 9,800 lbs. Upon request, 1/4" Stainless Steel wire rope shall be 7x19 strand with a breaking strength of 6,400 lbs. 5/16" Stainless Steel wire rope shall be 7/19 strand with a breaking strength of 9,000 lbs.
- All fittings required for proper securing of the cable are hot dipped galvanized

Concrete

- Concrete work shall be executed in accordance with the latest edition of American Concrete Building Code ACI 318 unless specified by the governing municipality
- Concrete specifications shall comply in accordance with, and detailed as, per plans as follows:
 1. 28 Days Strength $F'_c = 2500$ psi
 2. Aggregate: HR
 3. Slump: 3-5
 4. Portland Cement shall conform to C-150

CONCRETE CONTINUED ON NEXT PAGE

5. Aggregate shall conform to ASTM C-33

- All reinforcement shall conform to ASTM A-615 grade 60
- Reinforcing steel shall be detailed, fabricated and placed in accordance with the latest ACI Detailing Manual and manual of Standard Practice
- Whenever daily ambient temperatures are below 80° F, the contractor may have mix accelerators and hot water added at the batch plant (see table)
- The contractor shall not pour any concrete when daily ambient temperature is below 55° F

Concrete Temperate Chart

Temperature Range	% Accelerator	Type Accelerator
75-80°	1%	High Early (non calcium)
70-75°	2%	High Early (non calcium)
Below 70°	3%	High Early (non calcium)

Footings

- All anchor bolts set in new concrete shall be ASTM A-307, or ASTM F-1554 if specified by engineer
- All anchor bolts shall be zinc plated unless specified otherwise
- Footing shall be placed in accordance with and conform to engineered specifications and drawings



Shade Warranty

Poligon Fabric warrants that its product will be free from defects in materials and workmanship as well as maintain structural integrity for the periods listed below from the date of invoice and once **Poligon Fabric** has been paid in full. This warranty is in effect only if the product has been assembled and installed strictly in accordance with the setup instructions provided by **Poligon Fabric** good construction practices, general maintenance and care is provided as per instructions in the customer packet, and has been subjected only to normal use and exposure. Product should be maintained per the instructions given at time of delivery.

LW Lifetime* Warranty on stainless steel hardware

10 10-Year Limited Warranty on fabric

10 10-Year Limited Warranty on powder coat

1 1-Year Limited Warranty on cables

1 1-Year Limited Warranty on materials not above

The Limited Warranty excludes abnormal conditions, contingent liability, cosmetic defects such as scratches, dents, marring, stripping, peeling, or fading; damage due to incorrect installation, vandalism, misuse, accident wear and tear from normal use; exposure to extreme weather, immersion in salt or chlorine water, damage due to sand, salt spray, or other abrasive and corrosive material; unauthorized repair or modification, abnormal use, or lack of maintenance. The warranty does not cover damages due to "acts of God" such as hail, flooding, lightning, tornadoes, sand storms, shifts of terrain, earthquakes, mudslides, and wind-storms.

Poligon Fabric does not warrant product for defects caused by erection, harsh site conditions, lack of maintenance, and/or other conditions beyond **Poligon Fabric's** control. **Poligon Fabric** will not be held responsible for any materials that were not properly stored prior to installation.

Poligon Fabric reserves the right to void the limited warranty if it not installed per the installation instructions and/or unauthorized modifications.

In the unlikely event of failure, **Poligon Fabric** reserves the right to alter the design, color, or contributing factors to rectify the condition and help prevent any future reoccurrence(s). **Poligon Fabric** has the option to repair or replace any defect in materials.

The warranty is void if any changes, modifications, additions, or attachments are made to the product without the written consent of the manufacturer.

No signs, objects, ornaments, fans, lights, fixtures, or decorations may be hung from the structure unless specifically designed and engineered by the manufacturer or has manufacturers written approval.

Poligon Fabric excludes any implied warranty of merchantability, fitness, or purpose, and there are no warranties which extend beyond the description of the face hereof. Under no circumstances will **Poligon Fabric** be responsible for any indirect, special, consequential, incidental, or liquidated damages due to breach of warranty and such damages are specifically excluded from the warranty.

The owner shall notify **Poligon Fabric** with original Sales Order Number issued from **Poligon Fabric** to arrange for an inspection within 30 days after discovery of any defect under this warranty and before any alteration or repair is made or attempted. This Limited Warranty shall be null and void if the owner makes any alterations in design.

This warranty is the only express warranty given by the company. No person has authority to change or add to these obligations and liabilities. The company reserves the right to determine whether the fault is caused by faulty workmanship, material, or the part that is defective.

Poligon Fabric will repair or replace at its discretion any defective part/s on an Ex-Works basis only. It is the responsibility of the customer to return the whole unit or the defective part/s at their own cost back to **Poligon Fabric** for inspection along with proof of the date of purchase. **Poligon Fabric** will not be liable for any costs incurred by the customer as a result of replacing the defective part/s, including but not limited to the costs of site visits and the labor costs involved with the removal and reinstallation of the whole unit or the defective part/s. Furthermore **Poligon Fabric** will not be liable for any claimed compensation while the unit is not working or not present at the site whatsoever. This guarantee does not entitle the customer to a complete new product due to a defective component.



Limited Warranty: Shade Fabric

Traditional shade fabric made with PTFE fiber that is high strength and low shrinkage and VALMEX® MEHATOP F 1 waterproof fabric carry a 10-year limited warranty. This warranties that the sewing thread used on the traditional shade fabric will be free from defects in material and workmanship and will not be damaged by exposure to sunlight, weather, and water. All other warranties are disclaimed.

Poligon fabrics carry a 10-Year Limited Manufacturer's Warranty from the date of delivery against failure from significant fading**, deterioration, breakdown, outdoor heat, cold, or discoloration. Should the fabric need to be replaced under the warranty, **Poligon Fabric** will manufacture and ship new fabric at no charge for the first six years, thereafter pro-rated at 18% per annum over the last four years. **The colors red and yellow are warranted against significant fading for only two years.

If the corners of the fabric are equipped with both holes in the fabric corner PLUS reinforcing straps, BOTH the strap and fabric hole must be placed over each corner hook or the fabric warranty is void.

Fabric curtains, valences, or flat vertical panels are not covered under the warranty.

Fabric is not warranted where it is installed on a structure that is not engineered and built by **Poligon Fabric** or its agents.

This warranty shall be void if damage to or failure to the shade is caused by contact with chemicals, chlorine, bleaching agents, hydrocarbons or hydrocarbon containing solvents, misuse, vandalism, or any act of God, including but not limited to wind in excess of the wind limitations set forth below.

All fabric tops are warranted for sustained winds up to 76 mph (Hurricane Force 1) and for gusts of up to 3 seconds duration up to 90 mph. Removal of the shade fabric is required if damaging winds are called for. Damage due to snow and/or ice accumulation is not covered by this warranty. Canopies should be removed during the "off season."

These structures have been designed to eliminate any friction between the rafters and the fabric. The warranty will, therefore, be voided if any modification (temporary or permanent) is made to the rafter, cross pieces, or ridge beams, or if the fastening apparatus or canopy are not secured accordingly.

Structures are warranted for winds up to 90 or 105 mph only if shade canopies have been removed as per requirement set forth above in the fabric paragraph. Removal and re-installation must be performed by a qualified person or authorized dealer.

For the purpose of this warranty, lifetime encompasses no specific term of years, but rather that seller warrants to its original customer for as long as the original customer owns the product and uses the product for its intended purpose that the product and all parts will be free from defects in materials and manufacturing workmanship. This warranty does not cover damage caused by vandalism, misuse or abuse, altered or modified parts, or cosmetic damage such as scratches, dents, or fading or weathering and normal wear and tear. This warranty is valid only if the structures are installed in conformity with instructions provided by **Poligon Fabric using approved **Poligon Fabric** parts. **Poligon Fabric** will deliver the repaired or replacement part or parts to the site free of charge, but will not be responsible for labor or the labor costs of replacement. Warranty claims must be filed within the applicable warranty period and accompanied by a sales order or invoice number.*



Appendix

Proper Care, Maintenance, and Safe Removal of the Shade Canopy

THINGS TO AVOID

SNOW, ICE, AND HIGH WINDS: Remove the canopy in winter conditions as ice and snow loads are not covered by the warranty. The same goes for winds in excess of hurricane force 1.

SHARP OBJECTS: Always avoid dragging the fabric across surfaces, etc. Roll or fold the fabric and carry it. Avoid sharp objects, bolts, snags, and other protrusions including mounting hardware.

OBSTRUCTIONS: Keep foliage, such as tree limbs, shrubbery, and bushes, trimmed back and away from fabric at least three to four feet.

SOURCES OF HEAT: Avoid contact with heat sources such as hot lights, torches, and avoid using grills, etc. under the fabric or fireworks near the fabric..

SLACK CABLE IN CANOPY: Canopies with loose cables can fail.

CLEANING THE FABRIC

The fabric itself is generally maintenance free with the exception of necessary removal due to weather or seasonal requirements. The fabric does not harbor mildew or mold, but residues such as tree sap, leaves, bird droppings, dust and dirt may need to be removed. To clean the fabric, use water and mild soap. A soft mop or soft broom may also be used. Cleaners that do not contain hydrocarbons, solvents, bleach or ammonia may be used. Use of solvents, hydrocarbons, bleach, and ammonia type cleaners will void the fabric warranty. A pressure washer may be used if necessary using a wide-spray nozzle.

CABLES AND HARDWARE

It is recommended that the cables be replaced every 3 to 4 years or if corrosion is visible, whichever comes first. Canopy cables that are not maintained at optimum tension will be subject to shorter lifespans and potential failures earlier than our recommend cable replacement scheduling. The cable ends must be wrapped with tape to secure any wires; thus, preventing the wires from tearing the fabric. Taping must be done when removing old cable as well as when installing new cable. Clamps should be replaced when the cable is replaced. If the cable appears slack on a still day (no wind), immediately have the cable and clamps re-tightened by a qualified person. The cable should not be slack.

GLIDE ELBOW™

Lubricate Glide Elbows™ annually and before operating. A waterproof grease is recommended such as a lithium-based grease or anti-seize thread lubricant.

STORAGE

Fabric must be stored in a clean, dry place free from snags, sharp edges, etcetera. The storage area must be rodent-free. Wrap all hardware fittings with rags or some other protector, as they can damage the fabric.

UNINSTALLING THE SHADE CANOPY

NECESSARY CARE: It is important to take necessary care when handling the fabric during removal and installation to prevent damage to the fabric as well as SAFE control of the fabric in a breeze or wind. The fabric is tough and engineered for use as a shade, but it can tear or cut when or if pulled over a snag or sharp item; it can puncture from bolts or other protruding objects; and it can melt from objects such as like cigarettes, matches, hot torch tips, sparks and the like. In addition, care must be exercised to avoid the fabric hooks after the fabric is unhooked from the elbow corners and sides of the structure where there are intermediate supports. It is best to wrap any connected mounting hardware to prevent it from harming the fabric.



PROPER AND SAFE: Based on the size of the canopy, several persons may be needed to properly and safely handle the fabric during the uninstalling process. You will need several commercial ladders or other means to work safely at heights such as scissor lifts, etc. It is advised that you pad the post side of the ladder and tie the ladder to the post. The pad is to protect the post finish. Also keep in mind that every 100 square feet of fabric (10' X 10') weighs approximately five pounds; a large canopy can get heavy fast. For proper control of the fabric, read below. It is best to remove the fabric on a still day. Do not attempt to remove the canopy in strong or gusty winds.

REMOVAL OF THE CANOPY: Do not attempt to remove the canopy in strong or gusty winds.

STANDARD ELBOWS: For shade structures with Standard Elbows, loosen the turnbuckle several turns in order to put enough slack in the cable to allow the fabric and cable to unhook from all the elbow hooks. Attach 3/8" or larger ropes to each corner of the fabric and cable before unhooking to secure and properly control the fabric from ground level. If uninstalling in breezy conditions, choose the windy side of the fabric and tie these corners to the posts with the ropes with enough slack to allow for unhooking the fabric from the structure. These ropes are to prevent the shade from flying away in the breeze and to help prevent injury to ground personnel. Once the corners have been secured to the posts, unhook the fabric and cables from each corner.

On the side away from the wind, release the corners of the fabric and cable and have a person hold on to each rope. It may help to wrap the rope around a column to help hold it from getting caught in the wind. Fold the fabric back away from the hooks. Now it will be necessary to remove the cable clamps to allow the cable to be free from the structure and the turnbuckle. If the cable ends are frayed, wrap them with tape. It is usually not necessary nor is it recommended that the cable be removed from the canopy. With a person on each rope, starting at the windy side, gently pull the canopy down in between the framework of the structure. The side away from the wind can be guided with the ropes toward the persons pulling the canopy down. It is important when reinstalling the canopy, that it is put back in its original orientation to the structure. Starting at the turnbuckle corner, the fabric and cable corners should be returned to their original positions.

GLIDE ELBOWS: For shade structures with Glide Elbows, remove the protective covers from the ends of the glide elbows. Then, using the proper wrench, turn the hex nuts on the end of the Glide Elbow to run the glide hooks to their top most position. Do not loosen the cable clamps, leave the cable intact. Attach 3/8" ropes to each corner of the fabric and cable before unhooking to secure and properly control the fabric from ground level. If uninstalling in breezy conditions, choose the windy side of the fabric and tie these corners to the posts with the ropes with enough slack to allow for unhooking the fabric from the structure. These ropes are to prevent the shade from flying away in the wind and to help prevent injury to ground personnel. Once the corners have been secured to the posts, unhook the fabric and cables. On the side away from the wind, release the corners of the fabric and cable and have a person hold on to each rope. Fold the fabric back away from the hooks. It is a good idea to put the Glide Elbow protective covers back in place. With Glide Elbow installations it is not necessary to loosen or remove the cable clamps nor to remove the cable from the canopy. If the cable ends are frayed, wrap them with tape. When uninstalling the canopy, mark or identify the corner of origin in such a way that when reinstalling the canopy, it is put back in its original orientation to the structure. The fabric and cable corners should be returned to their original positions when reinstalling the canopy. The cable and fabric should tighten properly when the glide elbows are adjusted down into their tension positions.

SHADE SAILS WITH FANS: For shade sails equipped with fans, loosen the adjustable threaded rod several turns in order to put enough slack in the cable to allow the shackle pin to be removed (do not remove the pins until the fabric corners have been secured with ropes). Attach 3/8" or larger ropes to each corner of the fabric and fan before unhooking to secure and properly control the fabric from ground level. If uninstalling in breezy conditions, choose the windy side of the fabric and tie these corners to the posts with the ropes with enough slack to allow for unhooking the shackle from the structure. These ropes are to prevent the shade from flying away in the breeze and to help prevent injury to ground personnel. Once the corners have been secured to the posts, unhook the shackles and lower the fabric and cable to the ground.

REINSTALLING HINTS

Using the same rope technique, install from the windy side (if it is breezy) making sure to secure these ropes to the posts. Then, throw the remaining corner ropes over the structure and gently pull the canopy into position. The cables and fabric corners can now be fastened on the hooks (and cable guides if so equipped). Next reinstall the clamps if applicable and tightened the cable with the turnbuckle or the Glide Elbows. Do not attempt to install the canopy in strong or gusty winds.