

PollyNet™ Bird Exclusion Netting System

Includes specifications for: PollyNet Bird Netting, Poly Hardware System and the Tensioned Perimeter & Support Cable System for PollyNet.

Nixalite's **PollyNet Bird Exclusion Netting** is an extruded, knotless bird netting that comes in two (2) grades; **Premium** and **Lightweight**. While both grades are made from the same UV resistant, black polypropylene, each grade has a very different purpose.

Premium PollyNet uses a ½" (12.7 mm) square mesh to keep out birds of all sizes. It comes 14 feet wide (4.3 m) and in several pre-cut lengths. This is a tough and resilient netting made to withstand the rigors of both indoor and outdoor bird netting installations. Premium grade PollyNet can be used for architectural, agricultural and aquacultural bird exclusion netting applications.

Lightweight PollyNet is intended for temporary installations. Use Lightweight when **low visibility** and **economy** are more important than **durability**. It comes in several pre-cut widths and lengths. Lightweight PollyNet has a ¾" (19 mm) square mesh. Lightweight grade PollyNet is often used to cover gardens and plantings and other short term applications.

Nixalite offers a matching system of mounting hardware called the **Poly Hardware**. Made of the same material as the netting (UV resistant polypropylene) the Poly Hardware provides quick, easy and versatile fastening. The Poly Hardware items can also be mixed with the Tensioned Perimeter and Support Cable system for long term fastening.

The following specification outline is presented in a modular format making it simple to include or exclude any combination of Nixalite's PollyNet Bird Exclusion Netting system as needed for each project.

List Nixalite PollyNet 3-part specifications in the following locations;

Master Format 1995 – 10290 – Bird & Pest Control

Master Format 2004 – 10 81 00 - Pest Control Devices

Master Format 2004 – 10 81 13 – Bird Control Devices

PART 1 - GENERAL

1.1 - SYSTEM DESCRIPTION:

- A. PollyNet Bird Exclusion Netting** is constructed of black, UV resistant polypropylene. The knotless mesh is effective in excluding birds of all sizes. PollyNet Bird Netting is available in two grades, **Premium** and **Lightweight**.
- B. Poly Hardware** fastens the PollyNet bird netting to all types of surface shapes and materials. A variety of netting installation tools and accessories are available to make the netting installation an efficient process.
- C. Surface Cleaning System:** surface disinfectants and deodorizers to neutralize potentially hazardous bird and/or animal wastes and properly prepare the surface for installation.

1.2 - QUALITY ASSURANCE

- A.** Installer to obtain, review and understand all of Nixalite of America Inc.'s planning guidelines, estimating worksheets and installation instructions for the PollyNet Bird Exclusion Netting.

- B. Installer must be completely familiar with the proper installation procedures for the PollyNet Bird Exclusion Netting and the specified mounting system.
- C. Installer must obtain and record **accurate and complete dimensions** that define the areas specified for enclosure by the PollyNet Bird Exclusion Netting. Accurate dimensions drive the bird netting and net hardware quantities. Accurate dimensions ensure accurate quotations and material orders.
- D. Installer should contact manufacturer for any updated or newly developed planning or procedural information that may be pertinent to the PollyNet installation.
- E. Installer to ensure that specified netting (PollyNet) is **MADE IN THE USA**.

1.3 - SUBMITTALS

- A. Manufacturer's literature including PollyNet Bird Exclusion Netting brochures and installation guidelines. All guides for installing the specified bird netting hardware system and the specified surface cleaning system.
- B. Sample of the PollyNet Bird Exclusion Netting. Sample to be not less than 4" square (10.16 cm. square).
- C. Contractor to complete estimate worksheet detailing the scope of the netting enclosure, and the mounting hardware type, location and spacing.

1.4 – STORAGE & HANDLING

- A. Provide storage to keep all PollyNet Bird Exclusion Netting system boxes dry, clean and undamaged. Do not stack or place other packaging or objects on the bird netting shipping boxes.
- B. Keep the PollyNet Bird Exclusion Netting system in original packaging until needed for installation.

PART 2 - PRODUCTS

2.1 – ACCEPTABLE MANUFACTURER

- A. Nixalite of America Inc
1025 16th Avenue, PO Box 727, Dept. NI, East Moline, Illinois 61244; U.S.A.
P: 800.624.1189 or 309.755.8771 - F: 800.624.1196 or 309.755.0077
E: birdcontrol@nixalite.com or planning@nixalite.com
www.nixalite.com
- B. ABC Advanced Bird Control – A division of Nixalite of America Inc.
PO Box 727, Dept. NI, East Moline, Illinois 61244, U.S.A.
P: 888.212.8682 or 309.755.4708 - F: 309.755.1865
E: info@abcbirdcontrol.com
www.abcbirdcontrol.com

2.2 – POLLYNET BIRD EXCLUSION NETTING

- A. **Material:**
Both **Premium** and **Lightweight PollyNet** are made from black, extruded polypropylene that is UV and rot resistant. Netting to be waterproof. Resulting netting is ideal for all bird exclusion applications.
- B. **Construction:**
Both **Premium** and **Lightweight PollyNet** are knotless, extruded and pre-stretched nets. All PollyNet nets are both seamless and borderless for clean edges and easier perimeter fastening.

C. PollyNet mesh size by grade (average):

Premium: ½” (1.3 cm) square. Keeps out all sizes of bird pest birds.

Lightweight: ¾” (19 mm) square. Keeps out birds of all sizes.

D. PollyNet Sizes by Grade:

Premium PollyNet:

Width - 14’(4.2 m)

Lengths - 50’(15.2 m), 100’(30.4 m), 200’(61 m) and 3,000’(914.4 m).

Lightweight PollyNet:

Width: 14’(4.2 m) & 28’ (8.4 m)

Lengths – 28’ (8.4 m), 50’(15.2 m), 100’(30.4 m), 500’(152.4.2 m) and 1,000’(304.8 m)

E. PollyNet Physical Properties:

Premium PollyNet:

Average strength – 219 lbs. per foot (97.5 kg).

Average strand count – 2 per inch.

Weight: 8.5 lbs. (3.8 kg) per 1,000 square feet.

Lightweight PollyNet:

Average strength – 68.5 lbs. per foot (31 kg).

Average strand count – 9 per 10” (25.4 cm)

Weight: 2.8 lbs. (1.2kg) per 1,000 square feet (92.9 m²).

F. PollyNet Thermal Properties:

Melting point (approximately) : 320+ degrees F.

Flash point (approximately) : 625 degrees F.

Remains flexible at very low temperatures.

Polypropylene is an inert compound and resistant to a wide range of chemicals.

G. Warranty:

5 year limited warranty on **Premium PollyNet ONLY**.

2.3 BIRD NETTING HARDWARE

- A.** Installer to contact manufacturer for up-to-date information and recommendations for bird netting hardware applications, item combinations as well as new items and procedures.
- B.** Available in **Poly Hardware**, the **Tensioned Support Cable Hardware** or a hybrid system that combines methods from both systems. Choose the hardware system that best suits the netting installation and conditions.
- C. Poly Hardware:** All poly hardware is made from UV stabilized black polypropylene. Hardware combinations can be mixed to suit changing surface materials and conditions.
- Poly Clip:** Perimeter fastening. Secure to perimeter with hardware recommended by manufacturer. Poly Clips is also used to attach the PollyNet Premium to an installed perimeter cable. Max center to center spacing between Poly Clips in a row is 12” (30.5 cm). O. C.
 - Twist Locks:** Seam fastening. Twist Locks are used to join two (2) overlapped pieces of the PollyNet at an overlap seam or to close up cuts or tears in the netting. Install every 3” (7.6 cm) along both sides of an overlapped seam. Can be installed, removed and reinstalled quickly to gain access to the areas behind the netting.
 - Net Ties:** Multi-purpose fastener. Military spec UV resistant Net Ties quickly fasten the netting to all types of objects. Use to prevent net sag or loose fitting net by securing the netting to objects above or behind netting enclosure. Three sizes to choose from.
 - Poly Cord:** Multi-purpose fastener. Reinforce seams, patch tears, close circular openings, use for overhead support. Do not use for perimeter fastening.

D. Tensioned Perimeter and Support Cable Hardware System: Choose the **Connection, Corner, Cable Guide** and **Finishing** hardware that best suits the installation surface. Net Hardware can be mixed to suit changing surface materials and conditions.

Net Cable & Connection Hardware:

- a) **Net Cable:** Aircraft grade, all stainless steel, 7 x 7 (49 strand), 3/32" (2.2 mm) diameter cable with 900 lb. (407 kg) breaking strength. Net Cable comes in 250' (76.2 m) and 500' (152.4 m) spools.
- b) **Turnbuckles:** Stainless steel, hook & eye turnbuckles. The size of the turnbuckle is determined by the maximum continuous cable length of any one cable run.
For one **Small Turnbuckle** the max continuous cable length is 25 ft. (7.6 m).
For one **Medium Turnbuckle** the max continuous cable length: 50 ft. (15.2 m).
For one **Large Turnbuckle** the max continuous cable length: 75 ft. (22.9 m).
- c) **Net Ferrules:** Zinc plated copper core crush ferrules for 3/32" (2.2 mm) dia. cable. Acceptable connection when the max continuous cable length is 25 ft. (7.6 m) **OR LESS**. Always use at least 2 ferrules per cable loop connection. Always use Nixalite's Cable Swaging Tool to crush the ferrules onto the cable at all loop connections. Always use a Cable Thimble with Net Ferrules.
- d) **Wire Rope Clamps:** Galvanized or stainless steel wire rope clamps for 3/32" (2.2 mm) diameter cable. Mandatory for all loop connections on cable runs of 25' (7.6 m) **OR MORE**. Always use 2 clamps per cable loop connection. Always use a Net Cable Thimble with wire rope clamps. Use the appropriate wrench or hex driver to tighten the Wire Rope Clamp around the Net Cable at all loop connections.
- e) **Cable Thimble:** Forged stainless steel Cable Thimble for 3/32" (2.2 mm) diameter cable. The Thimble prevents cable fraying and creasing when creating loop connections and/or tensioning the Net Cable after installation. One Thimble is required for each loop connection.

Corner Hardware (Anchoring):

- a) **Eyebolts:** Use as corner hardware in steel, thick sheet steel, cast iron, masonry and stone (with Machine Screw Anchors). Extreme duty stainless steel eyebolt, 2" (51 mm) long, 9/16" I.D. (14.3 mm) with 1/4-20 NC threads and stainless steel hex nut. Maximum distance between eyebolts: 50' (15.2 m).
- b) **To fasten to Steel:** If back of steel is accessible, drill clearance hole for stem, apply adhesive in hole, install eyebolt and use 1/4 - 20 NC hex nut to secure. If back of steel is not accessible, drill then tap the hole for 1/4 - 20 NC thread. Apply adhesive into hole, apply thread locker on eyebolt threads. Install the eyebolt.
- c) **To fasten to Masonry:** Drill the recommended hole diameter and depth in the masonry surface to receive the Machine Screw Anchors. Apply adhesive/sealer in the hole. Push Machine Screw Anchor into the hole and seat it properly with the Setting Tool. Thread eyebolt into the anchor threads until tight.
- d) **Screw Eyes:** Use as corner hardware in wood and wood core surfaces. Extreme duty stainless steel screw eyes 2" (51 mm) long, 17/32" I.D. (13.5 mm). Pilot holes recommended. Apply adhesive sealer into pilot holes before installing the Screw Eyes. Maximum spacing between screw eyes: 50' (15.2 m).
- e) **Machine Screw Anchor:** Zinc plated anchor – 1/2" (12.7 mm) diameter x 1" (25.4 mm) deep with 1/4-20 threads inside. Setting tool included with anchors.

Cable Guide Hardware:

- a) **Small Screw Eyes:** Use to keep cable close to the installation surface. Use on wood, sheet metal and wood core surfaces. Heavy duty, stainless steel, 1-3/16" long x 7/32" I.D. (31 mm long x 5.3 mm I.D.). Maximum spacing: 24" (61 cm) O. C. Pilot holes recommended. Apply adhesive/sealer in all pilot holes before installing the Screw Eyes.
- b) **Small Eyebolts:** Use to keep cable close to the installation surface. Use on steel, thick sheet metal and masonry surfaces. Heavy duty, stainless steel, 1 3/8" long x 9/32" I.D. (35 mm long x 7.1 mm I.D.) with stainless steel hex nut. Maximum spacing: 24" (61 cm) O. C.

To fasten to Steel: If back of steel is accessible, drill clearance hole for stem, apply adhesive in hole, install eyebolt and use 10 - 24 NC hex nut to secure. If back of steel is not accessible, drill then tap the hole for 10-24 NC thread. Apply adhesive into hole, apply thread locker on eyebolt threads and install the eyebolt.

To fasten to Masonry: Drill the recommended hole diameter and depth in the masonry surface to receive the Machine Screw Anchors. Apply adhesive/sealer in the hole. Push Machine Screw Anchor into the hole and seat it properly with the Setting Tool. Thread eyebolt into the anchor threads until tight.

- c) **Sidewinders:** for heavy gauge sheet metal, structural steel up to 1/2" thick and masonry surfaces. Maximum spacing: 24" (61 cm) O. C. All Sidewinders to be installed with the Sammy Socket. No substitutions.

Sidewinders for steel are self-drill, self-tap items, no pilot hole is required.

Sidewinders for concrete require 1/4" (6.35 mm) diameter and 2" (50.8 mm) deep drilled holes.

NOTE Always apply adhesive/sealer into drilled holes

NOTE Always install Sidewinders with the Sidewinder Socket Driver

- d) **E-Z Clip:** Use to keep cable close to the installation surface. Stainless steel bracket holds cable very tight to surface. Used on all types of installation surfaces. E-Z Clip has mounting hole(s) for 1/8" shank screws or nails (not supplied).
- e) **Hammer-On Flange Clips:** Used to keep cable close to the installation surface. Hammer-On Flange Clips are available in black oxide coated spring steel or stainless steel. Hammer-On Flange Clips routes the Net Cable parallel to the outer edges of beams or other structural steel flanges. Contact manufacturer for installation guidelines.
- f) **Stainless Steel Angle Bracket:** Used to keep the Net Cable close to the installation surface. A 90° stainless steel angle bracket with two (2) holes – one for mounting the other for the cable. Fasten with the appropriate fastener (not supplied). Use stainless steel screws or nails. Apply adhesive/sealer over head of installed hardware.
- g) **HD Stainless Steel Cable Clamp:** Used to keep the Net Cable close to the installation surface. A heavy duty saw-tooth edge clamp that fits up to 3/4" (19.0 mm) thick steel. Routes the Net Cable parallel to the outer edges of beams, plates and other structural steel flanges. Contact manufacturer for installation guidelines.
- h) **Stainless Steel J-Clamp:** Used to keep the Net Cable close to the installation surface. A J-shaped strap of stainless steel with mounting and cable guide holes. Fasten with the appropriate fastener (not supplied). Use stainless steel screws or nails. Apply adhesive/sealer over head of installed hardware.
- i) **Stainless Steel Lag Screw w/eyelet:** Used to keep the Net Cable close to the installation surface. Fastens to wood, composite, wood core products. Drill pilot hole, apply adhesive/sealant in pilot, install Lag Screw so eyelet is no more than 1/2" (12.7 mm) above the installation surface.

Finishing Hardware:

- a) Fasten the PollyNet to the perimeter cable with the Poly Clips. Install every 12” (30.5 cm) along the run of the cable.
- b) For quick access behind the netting, use the Twist Loks

Additional Installation Methods: PollyNet Bird Exclusion Netting lends itself to a variety of installation methods. Contact the manufacturer for details on additional installation methods.

2.4 – SURFACE CLEANING SYSTEM

- A. Steri-Fab: Surface disinfectant and bactericide designed to neutralize bird waste, making it safe for removal. Steri-Fab quickly kills disease causing bacteria, parasites, fungi, insects, etc. This is a non-residual product. It becomes completely inert after it dries. Do not use with Microcide-SQ on the same surface at the same time.
- B. Microcide-SQ: A broad spectrum disinfectant, cleaner and deodorizer used to sanitize hard surfaces as well as fabrics and clothing. Use to kill a wide spectrum of organisms and disease causing bacteria. Do not use with Steri-Fab on the same surface at the same time.
- C. Microsan: Anti-microbial personal protection products to help prevent disease transmittal before, during and after working on and around surfaces contaminated with bird and animal wastes. Use to compliment personal protection equipment standards (PPE).
- D. Safety Equipment: Nixalite offers personal protection equipment (PPE) to protect personnel from the hazards related to pest bird and animal waste materials.

PART 3 - EXECUTION

3.1 - INSPECTION

- A. Visually inspect the surfaces that will receive the netting hardware and all areas that will end up behind or inside the netting installation. Note damaged surfaces or incomplete construction that could compromise the bird netting installation.
- B. Note all areas, surfaces or objects that may require maintenance or periodic replacement after the bird netting is installed (i.e. lights, electrical equipment, etc.). Use the appropriate netting accessories to allow access behind the installed netting system.
- C. Note any objects or conditions that could damage the installed bird netting. Install the PollyNet in such a manner as to avoid these conditions.

3.2 - PREPARATION

- A. **Field Measurements:** Verify the dimensions for each area specified for enclosure with the PollyNet Bird Exclusion Netting. Use manufacturers Planning Guides to verify that sufficient quantities of bird netting and net hardware will be installed at each location specified for bird netting.
- B. Make sure all installation surface finishing requirements have been accomplished before installing the PollyNet Bird Enclosure Netting. Bird netting is to be the last item installed on each specified surface. DO NOT apply any surface coating or treatment (paint, sealer, etc.) over or on the installed PollyNet Bird Exclusion Netting or the mounting hardware.

3.3 – SURFACE CLEANING

- A. All surfaces to be clean, dry and free of obstructions before the Bird-Net Bird Exclusion Netting is installed.
- B. If Bird Waste Is Present:**
Treat, neutralize and safely remove all bird waste from installation surfaces. Installer must follow all municipal, state and federal regulations regarding the proper removal and disposal of bird droppings and waste materials such as nests and dead birds.
- C. Use Nixalite's surface cleaning products to neutralize any bird droppings, nests and related waste materials that may be present. Allow all surfaces to air dry completely, and then reapply to sanitize and deodorize the surface before proceeding. Strictly follow treatment instructions provided with Nixalite's surface cleaning products.
- D. Use Nixalite anti-microbial and anti-bacterial personal protection products to help prevent disease transmittal when working around surfaces contaminated with bird

3.4 - INSTALLATION

- A. Install the bird netting hardware as recommended by manufacturer.
- B. Install PollyNet as recommended by the manufacturer. If necessary cut the PollyNet to fit the area. If multiple pieces are needed, join the pieces together with the recommended seam fastening hardware.
- C. Install PollyNet to avoid contact with machinery, vehicles, extreme heat, tree branches, etc. Make necessary adjustments to keep netting a sufficient distance from these objects or conditions.
- D. Finished PollyNet installation to be taught, free of wrinkles, gaps and openings.

3.5 – ADJUSTMENTS / CLEANING

- A. Remove net or cable hardware debris and waste from project site. Inspect finished installation. Make any adjustments needed to conform to Nixalite's bird netting installation guidelines.
- B. PollyNet Bird Exclusion Netting is a physical and passive barrier. It relies on optimal placement and proper installation. Exclusion netting must block off or seal up all routes and paths that pest birds follow to their preferred roosts. Periodic inspections are recommended to make sure the bird netting stays in good condition.
- C. Note any holes, gaps or openings in the bird net installation that birds can use to bypass or get around the netting barrier. Correct these conditions immediately.

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