

# **K-Net HT Bird Netting System**

The following specification outline is presented in a modular format making it simple to include or exclude any combination of the K-Net HT Bird Netting System as needed for each project.

List Nixalite K-Net HT 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. **K-Net HT Bird Netting** is constructed of black & stone (tan) high density polyethylene (HDPE) that is abrasion, flame, rot and UV resistant. K-Net HT has a 3/4” (1.9cm) square mesh to keep out all but the smallest of pest birds.
- B. **Bird Netting Hardware** fastens the 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 must obtain, review and understand all K-Net HT and Bird Netting Hardware installation guidelines.
- B. Installer must be completely familiar with the proper installation procedures for the K-Net HT and Bird Netting Hardware.
- C. Installer should contact manufacturer for any updated or newly developed planning or procedural information that may be pertinent to the K-Net HT installation.
- D. Installer to ensure that bird netting meets or exceeds ISO 9001 2000 Quality Management Standards.

### **1.3 - SUBMITTALS**

- A. Manufacturer’s literature including K-Net HT specifications and installation guidelines for the K-Net HT , Bird Netting Hardware and specified Surface Cleaning System.
- B. Sample of the K-Net HT Bird Netting, in black or stone - not less than 6” square (15.2cm 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 netting and netting hardware shipping boxes dry, clean and undamaged. Do not stack or place other packaging or objects on the bird netting shipping boxes.
- B. Keep K-Net HT bird netting, installation hardware and surface cleaning systems 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.  
Ph: 800.624.1189 or 309.755.8771 - Fax: 800.624.1196 or 309.755.0077  
E-mail: birdcontrol@nixalite.com or planning@nixalite.com  
Web: 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.  
Ph: 888.212.8682 or 309.755.4708 – Fax: 309.755.1865  
E-mail: info@abcbirdcontrol.com  
Web: www.abcbirdcontrol.com.

### 2.2 – K-NET HT BIRD NETTING

- A. **Material:** High density polyethylene (HDPE) that is abrasion, UV, flame and rot resistant. Netting to be water proof.
- B. **Colors:** Black or Stone (tan).
- C. **Construction:** Knotted 3/4” mesh netting. Netting comprised of 380 denier, 12 ply (4x3) strands with 75lb. (33.9kg) knotted breaking strength (KBS). Seamless full size mesh runs.
- D. **Standards:** Must meet ISO 9001 2000 Quality Management Standards.
- E. **Mesh size:** 3/4” (1.9cm) square, steam set knots.
- F. **Netting Sizes:**  
Widths: 25’ (7.6m), 50’ (15.2m).  
Lengths: 25’ (7.6m), 50’ (15.2m) and 100’ (30.4m).
- G. **Thermal & Physical Properties:**  
Softening point: 250 F° (122°C).  
Melting point: 293 F° (145°C).  
Flash point: 660 F° (349°C).  
Remains flexible at very low temperatures.  
Specific gravity: 0.96 (it floats) – will not absorb water.  
Chemically inert. Resistant to acids and alkalis at room temperature.
- H. **Warranty:** 10 year limited UV warranty minimum. Call for details.

### 2.3 BIRD NETTING HARDWARE

- A. Installer to contact manufacturer for up-to-date information and recommendations for bird netting hardware applications, item combinations and new items and procedures.
- B. Available in Tensioned Cable Hardware system, the Poly Hardware system or a hybrid system that combines methods from different fastening procedures. Choose the hardware system that best suits the netting installation and conditions.
- C. **Tensioned Cable Hardware:** Choose the Connection, Anchoring, Cable Guide and Finishing hardware that best suits the installation surface and conditions. Hardware combinations can be mixed to suit changing surface materials and conditions. Cable hardware is NOT FOR LOAD LIFTING!

**Connection hardware:**

**Net Cable:** Aircraft grade, 302/304 stainless steel, 7x7, 49 strand, 3/32” (2.2mm) diameter cable with 900 lb. (407kg) breaking strength. In 250’ (76.2m) and 500’ (152.4m) spool lengths. Hardware spacing determines max cable run lengths.

**Turnbuckles:** Stainless steel, hook & eye turnbuckles - three sizes.

Small: Max cable run: 25 feet (7.6m). Safe working load 360 lbs. (163kg).

Medium: Max cable run: 50 feet (15.2m). Safe working load 500 lbs. (226kg).

**Ferrules:** Zinc plated copper ferrules for 3/32” (2.2mm) cable. Acceptable connection for cable runs up to 25’ (7.6m) max. Always use 2 ferrules per connection. Always use in conjunction with Cable Thimble.

**Wire Rope Clamps:** Galvanized or stainless steel for 3/32” (2.2mm) diameter cable. Recommended connection for all cable runs. Mandatory connection for cable runs over 25’ (7.6m). Always use 2 clamps per connection. Always use in conjunction with Cable Thimble.

**Cable Thimble:** Stainless steel cable thimble for 3/32” (2.2mm) diameter cable. Cable Thimble prevents cable fraying and creasing when tensioning cable system.

**Cable Anchoring Hardware:**

**Eyebolts:** for steel, iron, and heavy gauge sheet metal. Extreme duty stainless steel eyebolt, 2” (5.1cm) long, 9/16” I.D. (14.2mm) with 1/4-20 stainless steel hex nut. Maximum spacing between eyebolts: 50’ (15.2m).

**Screw Eyes:** for wood beams, heavy to medium gauge sheet metal and wood core surfaces. Extreme duty stainless steel screw eyes 2” (5.1cm) long, 17/32” I.D. (13.5mm). Pilot holes recommended for all surfaces. Maximum spacing between screw eyes: 50’ (15.2m).

**Eyebolts and Machine Screw Anchors:** for concrete, stone, masonry block, brick and pre-cast surfaces. Eyebolt specs are same as above.

Machine Screw Anchor: Zinc plated anchor – 1/2” (12.7mm) diameter x 1” (25.4mm) deep with 1/4-20 threads inside. Setting tool included with anchors.

**Cable Guide Hardware:**

**Cotter Pin & Nylon Anchor:** for concrete, masonry block, brick and pre-cast. Cotter Pin: 1/8” x 1” (3 x 25.4mm) 302 stainless steel. Nylon Anchor: 1/4” x 1” (6.3 x 25.4mm) nylon expansion anchor. Max spacing (center-to-center): 24” (61cm)

**Small Screw Eyes:** for wood, medium/light gauge sheet metal and wood core surfaces. Heavy duty, stainless steel, 1-3/16" long x 7/32" I.D. (31mm long x 5.3mm I.D.). Maximum spacing: 24" (61cm) O.C.

**Small Eyebolts:** for steel, iron, and heavy gauge sheet metal. Heavy duty, stainless steel, 1 3/8" long x 9/32" I.D. (35mm long x 7.1mm I.D.). Maximum spacing: 24" (61cm) O.C.

**Sidewinders:** for heavy gauge sheet metal, structural steel up to 1/2" thick and solid concrete surfaces. Sidewinders for steel are self-drill, self-tap items, no pilot required. Sidewinder for concrete requires pilot hole. Maximum spacing: 24" (61cm) O.C. Sidewinders require the Driver Socket.

### **Finishing Hardware:**

**Net Rings:** attaches the netting mesh to the cables, closes seams, and fastens the Net Zippers to the K-Net HT mesh. There are two types of stainless steel net rings available. One for a manual ring tool and one for a pneumatic ring tool.

Net ring quantity requirements per attachment:

**Netting to cable:** Use 16 net rings per foot (each netting mesh).

**Lapped seams:** Use 32 net rings per foot (1 per mesh each side of seam).

**Zipper Installation:** Use 32 net rings per foot (1 per mesh each side of zipper).

**Poly Clip:** can be used in place of Net Rings when attaching the netting to the cable system. Made from UV stabilized black polypropylene. Maximum spacing: 12" (30.5cm) O.C.

**Net Zipper:** Allows for access to areas behind the bird netting installation. Available in 2 ft. (61cm), 4 ft. (122cm) and 8 ft. (244cm) lengths. Heavy duty, marine-grade, black zipper with 3/4" (1.9cm) fabric tape, open top and auto lock slider.

- D. **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. Maximum spacing: 12" (30.5cm) O.C.

**Twist Locks:** Seam fastening. Twist Locks join two overlapped pieces of netting together at a seam. Maximum spacing: 3" (7.6cm) O.C.

**Net Ties:** Multi-purpose fastener. Quickly fastens the netting fabric to all types of objects. Use to prevent netting sag or loose fitting nets by securing the netting to objects above or behind netting installation. Three sizes to choose from.

**Quick Tie Chain:** Overhead support straps. Each is 24" (61cm) long. Use to prevent net sag by fastening bird net to objects above or behind netting installation.

**Poly Cord:** Multi-purpose fastener. Reinforce seams, patch tears, close circular openings, use for overhead support, etc.

## **2.4 – SURFACE DISINFECTANTS**

- A. **Steri-Fab:** surface disinfectant and bactericide to neutralize bird waste. Do not use with Microcide-SQ on the same surface.

- B. **Microcide-SQ:** surface cleaner and deodorizer to sanitize surface and remove any residual odor from bird inhabitation. Do not use with Steri-Fab on the same surface.
- C. **Microsan:** anti-bacterial soap and lotion to prevent disease transmittal after working around surfaces contaminated with bird & animal wastes. Use to compliment personal protection equipment standards (PPE).
- D. **All Marine Bird Dropping Remover:** a non-toxic, biodegradable bird dropping remover that is safe and effective for use in both marine and land applications. Instantly dissolves bird droppings both wet and dry, in or out of the marine environment.
- E. **Stain & Odor Remover:** a non-toxic, biodegradable stain and odor remover that uses naturally occurring active to remove the worst types of odors and stains. Safe and effective for both wet and dry environments.

## **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 K-Net HT in such a manner as to avoid these conditions.

### **3.2 - PREPARATION**

- A. **Field Measurements:** Verify dimensions of the areas to be enclosed. Make sure you have sufficient quantity of bird netting, netting hardware and surface cleaning products to properly install the K-Net HT Bird Netting System.

### **3.3 – SURFACE CLEANING**

- A. All surfaces to be clean, dry and free of obstructions before bird control is installed.
- B. **IF BIRD WASTE IS PRESENT:**  
Treat, neutralize and safely remove all bird waste from installation surfaces. Installer must follow all cities, state and federal regulations regarding the proper removal and disposal of bird droppings.
- 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-bacterial personal protection products to help prevent disease transmittal when working around surfaces contaminated with bird droppings.

### **3.4 - INSTALLATION**

- A. Install the bird netting hardware as recommended by manufacturer. General order of installation: install perimeter and support hardware; attach bird netting to installed hardware; install access or additional support hardware as specified.
- B. Install K-Net HT as recommended by the manufacturer. If necessary cut the K-Net HT to fit the area. If multiple pieces are needed, join the pieces together with the recommended seam fastening hardware.
- C. Install K-Net HT 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 K-Net HT installation to be taught, free of wrinkles, gaps and openings.

### **3.5 – ADJUSTMENTS / CLEANING**

- A. Remove debris and waste materials from project site.
- B. Inspect finished installation. Make any adjustments needed to conform to manufacturer's K-Net HT installation guidelines.

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