V. **BIRD NET**

- **Bird Net 2000:**
  - Bird Net 2000 is the most efficient and effective method for total exclusion.
  - It is manufactured from “super strong” knotted polyethylene twine.
  - Flame-Resistant. (Flame Retardant is also available.)
  - Available in Black, Stone and White.
    - **Note:** Black Color Net should be used in direct sunlight situations.

- **Species:** All Birds. (See Bird Type)

- **Bird Pressure:** Light to Heavy.

- **Bird Type:**
  - 2” Net: Pigeons and Larger Birds.
  - 1-1/8” Net: Starlings, Pigeons.
  - 3/4” Net: Sparrows and smaller birds.
  - 4” Net: For Gulls and Larger Birds.

- **Application:** For roofs and open areas such as warehouses, loading docks, airline hangars and other exposed enclosures.

- **Positives:**
  - 100% Exclusion of Pest Birds.
  - Long Term Bird Control.
  - 10 Year Guarantee.

- **Negatives:**
  - Experience is required (Rarely a simple installation).
  - Netting Structures is Labor Intensive.
  - Since cost of netting structures is usually significant, there may be “sticker shock” to the customer.

- **Common Mistakes:**
  - Taking on a netting job that you have not properly been trained to do!
    - Call for help!
    - Sub-Contract the Job.
  - Under bidding the job!
    - Know your costs and mark-up accordingly!
      - Material
      - Lift Rental
      - Labor

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**OPENING YOUR BIRD NET**
Identifying the Corner:
- It is important that upon opening up your net that you locate the most important CORNER.
- All corners are marked with a piece of colored yarn or string.

Stretching the Net:
- The net will not appear to be “square”...but it is!
- Simply grab the corners (with help from a partner) and stretch the net into its original square shape.
- If you have questions at this stage...Call 1-800-392-6915! – WE WILL HELP!
Installation Time: It varies!

Installation Overview:
- It is important that you use the correct hardware for the surface into which you are securing your bird net.
  - Bird Net attached to a wood frame will take different hardware than Bird Net that is attaching to concrete or steel.
- The most critical part to every netting job is securely attaching the tensioned cable to the affected structure.
  - Once the cable is secured, attach the netting to the cable frame with “hog rings”.

Installation Instructions:
- Corner & Intermediate Attachments.
  - Corner attachments are under the most pressure and must be the strongest part of the system...or the system will fail.
    - Corner attachments are used where the cable begins/ ends and where the cable turns corners.
    - Example: If you must net off a square or rectangular building, corner attachments would be placed/ secured in all four corners.
  - Examples of Corner Attachments Include:
    - Wood: Galvanized or Stainless Screw Eyes.
    - Concrete: Expanding Net Bolts.
    - Steel: Eye Bolts & Nut (This it the only item that needs to be drilled into the steel).
    - Hilti Attachments.

  - Intermediate attachments also hold the cable to the structure.
    - Intermediate attachments must hold the cable TIGHT against the wall/ structure.
    - Properly spaced and secured, intermediate attachments will prevent the net from bowing and/ or giving the birds room to enter/ exit the area of coverage.

- Installation of Intermediate attachments should be every 12-24 inches.
  - For sparrows and smaller birds, intermediate attachments should be placed no more than 18 inches apart.
    - Otherwise, the birds may have the room to enter/ exit the area of coverage.
Multi-Purpose Cable Brackets. These provide low visibility as well as strength.

- **Steel:** Girder Clips. These are installed by hammering on to a steel beam. **Be sure not to hammer all the way,** or the cable will not be able to run through jaws of the bracket.

  - For Long Runs (Over 30’), it is advisable to use an M-6 Eye Bolt every 20’ to 30’ as an intermediate attachment for strength.

**o Straining Wire/ Cable**
Once you have installed the corner and intermediate attachments, it is time to run your straining wire.

- Straining wire (or cable) is available in galvanized or stainless steel.
  - Stainless Steel cable (AND HARDWARE) is primarily used in areas that are near the ocean (i.e. salt air).
  - Most installations only require galvanized wire and hardware.
- There are two (2) different sizes of cable/ wire:
  - 1/16” for most jobs.
  - 3/32” for bigger jobs which require long runs (in excess of 70’)

**o Ferrules**
Ferrules are used at the first corner attachment, and then later at the turnbuckle.

- Run two (2) aluminum or copper ferrules through the end of the cable.
  - Use aluminum ferrules for galvanized wire and copper ferrules for stainless steel.
- Loop the cable through the first corner attachment and back through the ferrules.
- Secure/ crimp the ferrules to lock cable into place with a ratchet crimper.
  - Use crimp tool to fully crush the ferrules around the cable.
  - This will create a strong loop.
- Run cable through all intermediate attachments and finally through the turnbuckle at the end of the cable run.
  - Secure/ crimp the ferrules to lock cable into place after looping through the turnbuckle.

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- **Turnbuckles**
  - Turnbuckles are used to tighten your straining wire.
• Use one turnbuckle for each “length” of cable.
• For Example: If you are netting a square, there are 4 sides (or lengths) of cable. Use one (1) turnbuckle for each side (or a total of 4 turnbuckles for this example).

Turnbuckles are available in galvanized or stainless steel (in M6-Medium or M8-Large).
  ▪ Turnbuckles must be well anchored since they are exerting a great deal of tension on the cable/straining wire.
  ▪ Medium turnbuckles (M6) are designed for cable runs up to 75 feet.
  ▪ Large turnbuckles are designed for cable runs 75 feet and above.
  ▪ Make sure that turnbuckles are “fully open” prior to installing.

○ Hog Ringing the Net to the Cable
  The netting is secured with “hog rings” to the cable frame using a HOG RING TOOL. This tool loops a small metal ring (the hog ring) around the netting and cable. Each Hog Ring Tool holds 50 Hog Rings. Hog Rings are packaged 2,500/Box. The tool is easy to use and usage instructions are enclosed with every tool.
    ▪ For 4”, 2” and 1-1/8” Net: A hog ring should be attached for every square of netting to secure the net to the cable.
      • Failing to hog ring every square could allow enough room for birds to enter/exit the area of coverage.
    ▪ For ¾” Net: A hog ring can be used every other square to secure the net to the cable.

○ Start Attaching the Bird Net in One Corner.
  ▪ Attach the netting to the cable with hog rings, starting in one corner and proceeding along a straight line (stay on the same mesh row!).
  ▪ Proceed about six (6) feet and stop.
  ▪ Then going back to the same corner, start attaching the net along the perpendicular side (the other direction) for six feet.
  ▪ Complete hog-ringing the “long side” of the net all the way to the next corner.
  ▪ Complete hog-ringing the short side of the net all the way to the next corner.
  ▪ At this point, one long side and one short side of the net should be hog ringed to the cable.
    • Proceed by hog-ringing the opposite “long side” to the cable.
    • Remember to stretch it tight and to stay on the same mesh row while hog-ringing.
      ➢ If you do not stay on the same row, the net will appear “wavy” and crooked when installed.

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○ Start Attaching the Bird Net in One Corner (continued).
  ▪ Complete the job by attaching the final short side to the cable.
- Trim off excess netting with scissors, leaving an extra 2” overlap of netting (this prevents persistent birds from trying to enter behind the cable).
- Inspect all attachments as to strength.
- Look for mistakes…and correct as necessary.

- **Zippers**
  Once the net has been installed, there may be a need to access lighting, plumbing fixtures, safety equipment, etc. Installing a zipper offers easy “open & close” access for these purposes. Zippers come in three standard lengths – 1 ft.; 3 ft. & 6 ft. Longer zippers (custom sizes) are available upon request.
  - Choose the area for access (directly below lights, etc.).
  - Keep the zipper closed!
  - Hog ring the cloth part of the zipper through the material and around the strand of net.
    - Use one hog ring every 2-3 inches.
  - Assure that the zipper is in place and secure.
  - Open (un-zip) the zipper and cut the middle strands of net.
    - This creates a “hole”.
    - Now you have access!
    - Simply zip-up to close the area.

- **Support Cables:**
  A support cable is simply additional sections of cable placed at various intervals to help strengthen the overall net structure.
  - They should support horizontal nets over 60’ in length.
    - *For example:* A support cable would be attached at 30’.
  - Support cables usually run underneath the net.
  - They do not need to be hog-ringed…but this does help!
  - **CALL US** if you need advise on support cables: 1-800-392-6915.