Bird Net Fixings

Selection

Wide variety of fixings. You need to select your fixings based on:

- Materials – stainless steel, zinc coated or plastic
- Substrate – masonry, steel, cladding, timber; any access behind
- Appearance – obvious or discreet; shiny or rough finish
- Price versus strength and/or durability
- Speed of installation – drill hole size; insertion method; installation tools

Corner



- Heavy-duty
- Carry the weight of the system.
- Fitted where net turns a corner
- Fitted every 5-10m along a straight run of wire.

Old buildings sometimes have a layer of insulation and render on the outside. So solid substrate is a long way in. FB Fixings can be used to breach that gap.

Use nylon shields for thin metal cladding, and rubber shields for irregular shaped holes or brittle substrates. 2 rubber shield lengths available: use 16mm for substrates between 0.4 and 3.5mm thick and 26mm for greater than 3.5mm thick. Recommended torque 4Nm

Hole Sizes

	Diameter	Depth
M6 Pro Netbolt	10mm	45mm
Low Cost Netbolt	10mm	50mm
M8Pro Netbolt	12.5mm	50mm
M8 Low Cost Netbolt	14mm	55mm
Mini Bolt	8mm	45mm
Beam Bolt	6.5mm	n/a
Cladding Bolt	13mm	40mm
FB Fixing	12mm	200mm
XFB Fixing	12mm	240mm
Metal Hanger	7-8mm	45mm
Net Spike	4.8mm	35mm
Plastic Net Hanger	6mm	40mm
Split Pin 25mm	6.5mm	25mm
Split Pin 38mm	6.5mm	37.5mm
Screw Pin	6mm	35mm
Screw Eye	6mm	35mm
Vine Eye	7mm	40mm
Self Tapping Screw	3-3.5mm	n/a
Dynabolt	8mm	40mm

Self Drill Screws
Thread diameters:
20mm - 4.8mm; 25mm - 5.5mm
Substrate metal thickness:
20mm – 0.9mm to 2.5mm
25mm – 1.3mm to 3.5mm

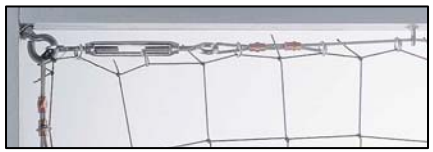
Intermediate




- Can be light-duty
- Hold straining wire tight against the structure
  - to keep the net square, neat and taut
  - to prevent birds squeezing in around the edges.
- Spacing: pigeons/gulls 1.0m; starlings 0.5m; sparrows 0.3m.
- Some different fixings do a similar job; every installer has their favourite.
  - Split pins popular - only use when the pull is perpendicular to the pins otherwise they could pull out.
  - Screwpins more discreet than cheaper Screw Eyes.
  - Netspikes just drill 4.8mm hole then knock in, but do not use for soft substrates.
  - Metal Hangers can be used in soft or hard masonry but use smaller drill bit for soft.
  - Stick-on Fixings for where you cannot drill (e.g. metal flashing/glass/marble). Pre-treat with Surface Activator just prior to gluing with Avifix.
  - Strong Angle Brackets and Discreet Net Guides can both be installed with Self Drill or Self Tap Screws.
  - Girder Clips grip firmly to steel flanges. Trap the straining wire in the jaws and gently hammer part way on. After tensioning the wire, hammer fully home.

Bird Net Straining Wire

The key to an effective and unobtrusive bird net is a properly tensioned suspension system holding the net tightly across the structure being proofed.



Purpose

Wire Installation

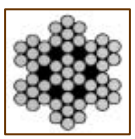
- Attach one end of wire rope to a Corner Fixing, using a loop of wire fixed with either Ferrules or Wire Rope Grips.
- Run wire rope through fixings, pull hand tight and attach the other end through eye of opened Barrel Strainer that is hooked onto next Corner Fixing.
- Cut the wire to length, then tension it by closing the Barrel Strainer.

Ferrules

- Ferrules are made from copper or aluminium. To avoid electrolytic corrosion, use copper ferrules with stainless steel wire, and aluminium ones with galvanised wire.
- Use 2.5mm ferrules for 2mm wire.
- Use 2 ferrules per loop, and crimp each Ferrule twice using the Ratchet Crimper .
- Ratchet Crimper has two settings: 6 and 10. Use the smaller 6 for maximum security. 10 can be used for the first crimp when reaching out at arms length with one hand.
- For 3mm wire use 2 Wire Rope Grips for each fastening, and tighten using 7mm 7mm Nut Spinner.
- For small nets 1.2mm wire can be used with 1.5m ferrules

Wire Rope

- 2mm diameter appropriate for the majority of nets.
- 1.2mm can be used for very small nets.
- 3mm can be used for very large vertical nets, or horizontal nets that might be subject to weight of snow or force of wind etc.
- Thicker wire ropes are available to order for extreme jobs
- The Wire Ropes are made up of 49 strands in a 7/7 configuration, allowing good flexibility
- Due to the crevices, wire rope could suffer in a corrosive environment, so stainless steel wire rope is 316 marine grade as standard



Wire Rope view and cross section

Strainers

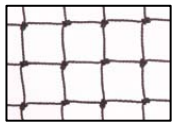
Barrel Strainer size determined by:
- type (SS ones stronger design than galv ones)
- net mesh size and dimensions (i.e. net weight)
- likelihood of exposure to wind and snow.

General Guidelines:
- M6 suitable for most net sizes. Use one strainer every 10m of 2mm straining wire (or every 6m of 3mm straining wire) on a straight run. For shorter runs a Barrel Strainer every second straight will suffice. If you try to go around more than one corner fixing, even on a small net, then the wire will not tension evenly.
- M8 for runs of 3mm wire over 6m; or 2mm over 10m; or horizontal spans of 2mm over 8m exposed to snow.
- M5 runs up to 3m
- M4 runs up to 1m, and when using 1.2mm wire rope.

Bird Netting

Mesh Sizes

- 19mm Sparrows;
- 28mm Starlings;
- 50mm Pigeons;
- 75mm Gulls.
- Use 50mm on vertical walls of gull nets.



Hog Rings

- Use a Hog Ring Stapler to attach net to straining wire ensuring net is pulled tight and square.
- Attach every mesh of net to the perimeter wire and every third mesh to any middle support wires.
- The P7 handtool allows speedy one hand operation, but for bigger nets a battery or pneumatic hogger may be preferred.
- Hog ring staples are available galvanised (cheapest), aluminium (softest and quickest to use) or stainless steel (most durable).
- Cable ties can be used to fasten awkward corners of the net neatly.

Access Through Net

- Where access required through net, such as to light fittings, fix in Net Clips or a Net Zip.
- Zips are easier to open and close, but are more noticeable.
- Ensure the hog rings actually pierce the zip fabric, this is much easier with a battery hogger.

Colour

Translucent face net

- Black - blends well into most situations,
- Stone - may be appropriate on lighter buildings
- Translucent - for white buildings or against the sky

Other

- Softens approx 120°C; melts >130°C
- Retains flexibility at freezing temperatures.
- Weight per m^2(approx): sparrow 73g, starling 42g, pigeon 21g, gull 30g.

No Flame Net

- For use in fire sensitive areas e.g. canopies where combustible materials are stored below, or above fire exits.
- It is black with a red tinge (made from 5 black filaments and 1 red).
- Flame retardant added prior to extrusion for longevity
- Conforms to BS5867

6 Filament No Flame Twine

Construction

- Extruded polyethylene monofilaments twisted together.
- Pigeon, starling and sparrow net is made from 6 filament twine (0.85 to 0.9mm diameter).
- Gull net is made from 9 filament twine (1 to 1.3mm diameter).
- The twine is knotted into netting, heat-treated to prevent knot slippage, stretched in both directions, then converted from the diamond shape produced by the net-making machine, by joining on corner triangles with invisible joins. For bird proofing, squared mesh running vertically and horizontally is important for easy unobtrusive installation.

Life Expectancy

Black pigeon nets installed in India

- Network Birdnet is protected with optimum UV light stabiliser.
- Provided the nets are correctly installed and not physically damaged, they have been shown to last at least 10 years in UK weather conditions.
- Note that life expectancy is likely to be shorter where sunshine levels are greater.
- Black net can resist UV degradation better than other colours, so should, wherever possible, be used for bird proofing in sunnier climates.

NETWORK

Birdwork Aide-Mémoire