

How To Cut Wire Mesh In The Field

When cutting standard mesh panels down to a custom size, it is best to use a tool that cuts perpendicular to the wire lengths and the panel surface, in a vertical manner when the panel is laying flat. This will allow for cleaner cuts and less wire tails that end up bent and warped. It is also best to avoid cutting methods that will utilize or generate heat, especially when a panel has a secondary finish applied.

When cutting mesh panels to size, it is important to keep several factors in mind:

- ✦ Wire diameter/gage
- ✦ Density of the mesh – is it a more open mesh or a tighter weave
- ✦ Orientation of the panel – whether it is cut parallel to the wires or rotated at an angle, creating a “diamond” mesh pattern
- ✦ Whether the finished panel will be framed or will have exposed wire ends/tails
- ✦ Whether the mesh has a secondary finish applied (plating, powder coating, etc.)
- ✦ Quantity of panels being cut down

There are a few tools that can be used to trim the mesh down to the required size depending on these factors.

Wire Cutter/Bolt Cutter/Knipex



The most basic mesh cutting tool is a wire cutter, bolt cutter, or Knipex. These are standard hand tools that can be used for cutting down almost any mesh panel. Different cutters will be rated for different wire diameters, so you can find one specifically rated for the mesh being cut. This tool would be used to cut down each individual wire tail to the length required. It is a somewhat slower method, but it is precise, easy to control, and works well with more open mesh types that do not have a high wire count in a panel. If you are only cutting a small amount of panels, this would be the recommended cutting method. This tool works well in applications where the cut tails may be exposed, and also when the mesh has been coated or has a secondary finish applied.



Metal Nibbler

A handheld metal nibbler is another good tool for cutting down mesh panels to size. Since this is a power tool, it works well when a larger quantity of mesh panels needs to be trimmed to size, or a denser mesh needs to be cut. It uses a similar cutting motion as the bolt cutter, in that there is a punch and die in the tool and they move vertically to cut the wires. The cut wire edges are clean, so a nibbler can be used in mesh panel installations with exposed tails and on meshes with secondary finishes.



Angle Grinder with a Cutoff Wheel

A grinder equipped with a cutoff wheel will work for denser mesh patterns. This is a less preferable cutting option, as it uses a rotary motion and can generate some heat. However, if a denser mesh needs to be cut down and the tails will not be exposed, this method should work to cut relatively quickly. It may be best to avoid this cutting tool when cutting coated mesh panels, as the heat and cutting motion may remove coating further back from the cutting point on the wires. This method is also not preferred if cutting open mesh patterns that are laid out as a diamond mesh, as the tails can catch on the cutting tool and be bent or pulled out of pocket.

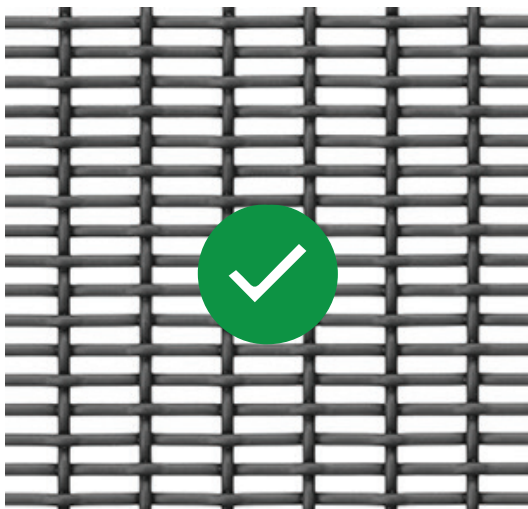
Tools to Avoid

- ✦ Plasma torch – this tool will work for cutting the mesh tails down, but it is a higher heat cutting method so it may burn back the tails more than expected, and it will remove secondary finishes much more than other cutting methods.
- ✦ Circular saw – although some mesh patterns may work with this cutting method, it should generally be avoided for cutting mesh. It is likely to grab wire tails and bend them and pull them out of crimp pockets, especially on open mesh types with smaller wire diameters, and also in diamond mesh panel orientations.

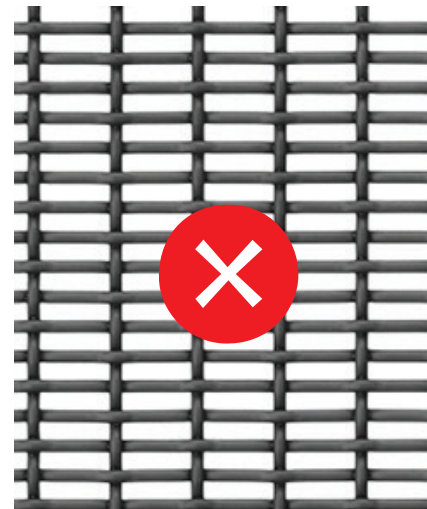
o When cutting mesh, align the wires to be parallel to the blade.

o When cutting a sheet of mesh to a smaller size, make sure to measure the overall required size in both directions and **balance the tails** so the wire pattern is centered for your installation.

Example of balanced tails (centered mesh):



Example of unbalanced tails (uncentered mesh):



When cutting multiple pieces out of a larger master panel, make sure you leave a space or slug cut between pieces so you can have balanced tails on each piece. **Do not use a previously cut edge as the start of the next piece.** When cutting multiple pieces of the same size out of a larger master panel, make sure to have the same amount of wires and similar spacing/margin of tails on each smaller piece.

When cutting narrow mesh panels, make sure that the minimum wire count in each direction is 3 wires or greater. Without 3 intersections, the mesh will lose its integrity and wires will fall out of the piece.