9000 - Mesh Foil for window shielding

What is Mesh foil?

Mesh foil is a very fine, electrically conductive wire mesh laminated between two layers of scratch-resistant transparent foil. The wires are so fine that they can hardly be seen with the naked eye. The product is very strong but it still bends easily.

It is easy to apply Mesh foil onto **glass**, **acrylic** and **polycarbonate**, either by hand or with a laminator. It can be supplied with or without self-adhesive.

The foil can be made with flying mesh on the sides or around the foil.This means that apart of the very fine wire mesh is not covered in transparent foil. Theexposed edges of wire mesh can be used to create an electrical connection with your enclosure. Alternatively a conductive or non-conductive adhesive can be provided along the edges or there can be a silver busbar around the circumference.

Maximum sheet/roll width 1020 mm.
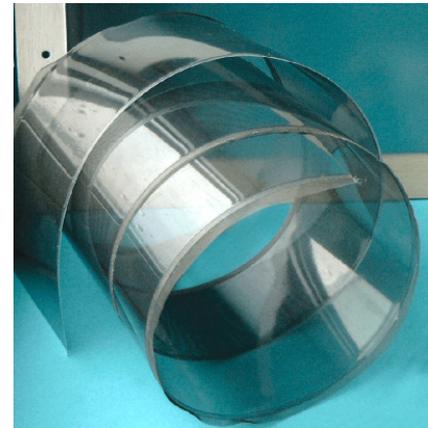
Mesh foil with flying mesh on the sides, on a roll

Standard wire-mesh material

Metallized copper (i.e. copper with a coating of nickel)
It has a dark gray colour and is not shiny.

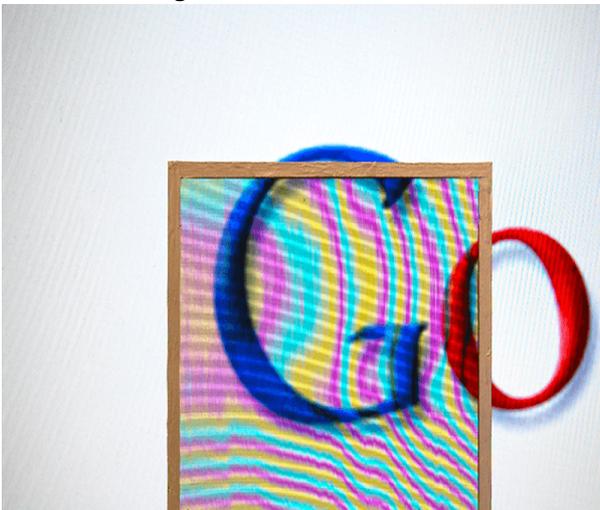### Options (on request)

  Stainless steel wire mesh
  Blackened copper wire mesh
  Phosphorus bronze wire mesh

Mesh foil applications

  Shielding displays
  Shieldingwindows
  Shielding touch screens
  Shielding monitors
  Shielding LCDscreens
  TEMPEST shielding

Wire-mesh angle

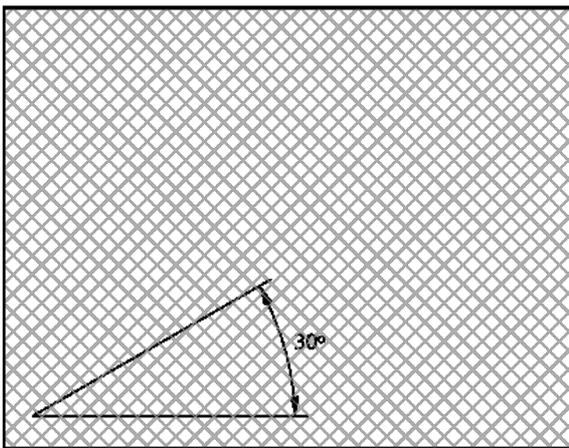*Mesh foil with moir effect*

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Mesh foil without moir effect

    The wire mesh can be placed at a custom angle to prevent the moir effect on your display (standard is 0 degrees).
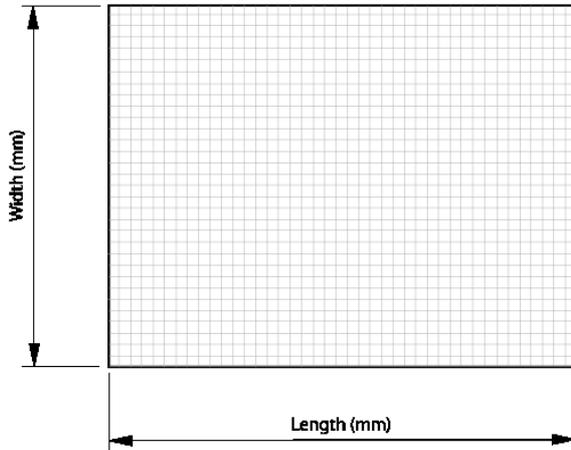   *A custom wire-mesh angle is onlyavailable with sheet styles 1 and 5*

Mesh foil at custom angle

NOTE: *For LCD displays, 17, 35 or 45 are used typically. We recommend that you request a sample of the product to determine the proper angle of the wire mesh for your application.*

Mesh foil with or without self-adhesive

    Mesh foilis availablewith or without transparent self-adhesive.
    This is used to attach the Mesh foil to any existing window or display.

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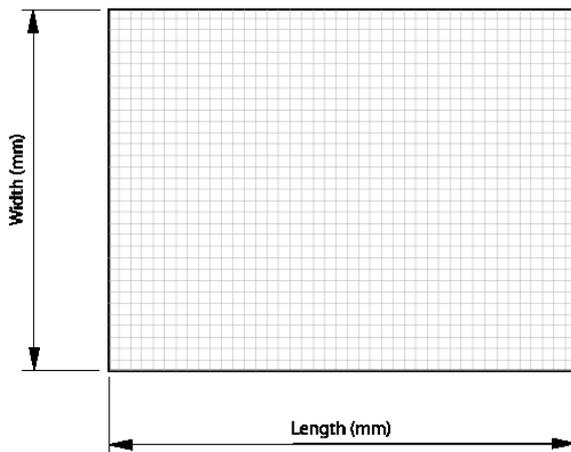Infratron GmbH · Tel.: 089/158 126-0 · Web: www.infratron.de · E-Mail: info@infratron.de

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Mesh foil with or without self-adhesive

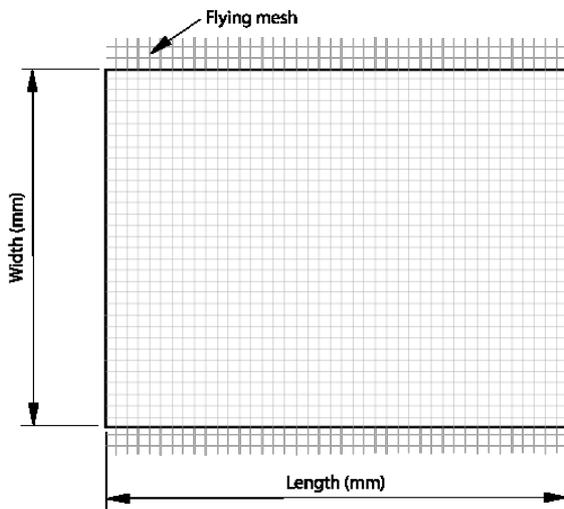### Mesh foil sheet styles (underlined sheet styles are most commonly used)

Mesh foil with or without flying mesh


Sheet style 1 (standard Mesh foil)
Mesh foil laminated between two layers of plastic.
Availablewith or without a transparent self-adhesive layer.
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Sheet style 2

Mesh foil with flying mesh, laminated between twolayers of plastic.
At the top and the bottom of the mesh foil there is an exposed
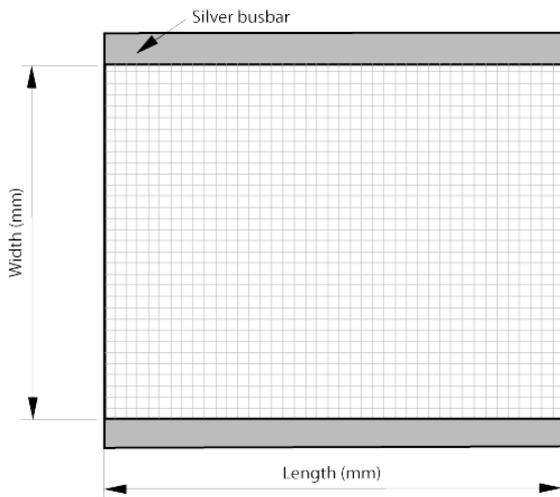*strip of wire mesh to make a connection with your enclosure.*
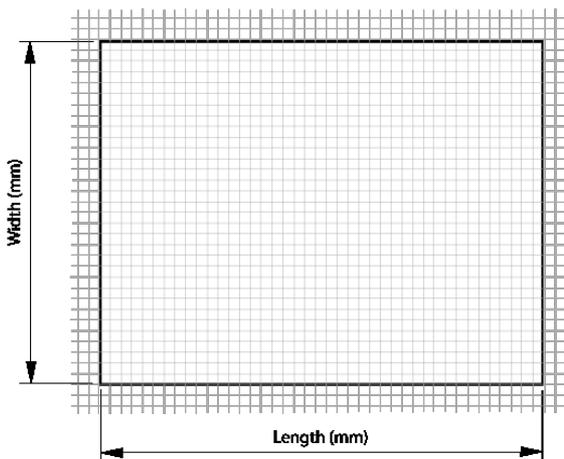
Sheet style 3

Mesh foil with a 3-4mm flying mesh all around, laminated between twolayers of plastic.
Around the mesh foil there is an exposed strip of wire mesh to make a connection with your enclosure.
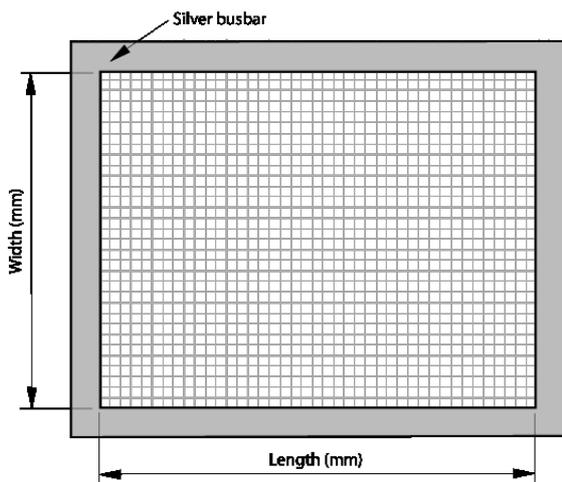
Mesh foil with a silver busbar

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Sheet style 4
Mesh foil with 3-4mm silver busbar, laminated between two layers of plastic.
At the top and the bottom of the mesh foil there is a silver strip (busbar) to make a perfect electrical connection with your enclosure.
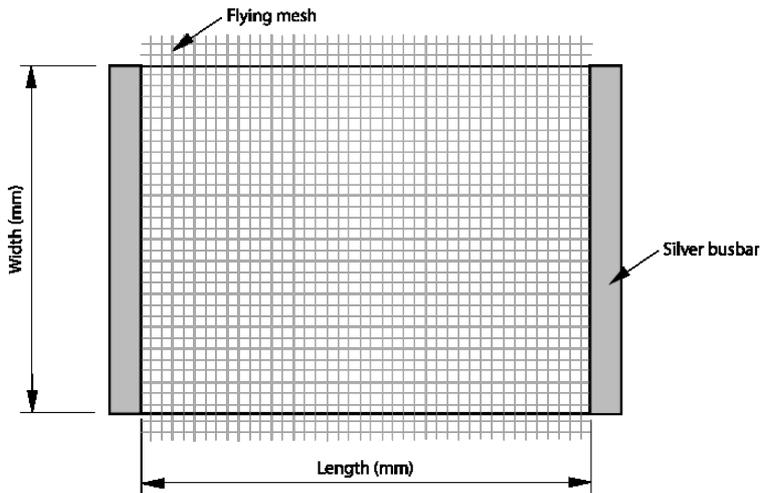

Sheet style 5
Mesh foil with a 3-4mm flying mesh,laminated between two layers of plastic.
On all sides of the mesh foil there is a silver strip (busbar) to make a perfect electrical connection with your enclosure.

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Sheet style 6
Mesh foil with 3-4mm silver busbar at sides and flying mesh, laminated between two plastic layers.
On the left and right sidse of the mesh foil there is a silver strip (busbar) to make a perfect electrical connection with your enclosure.

Mesh foil mounting examples

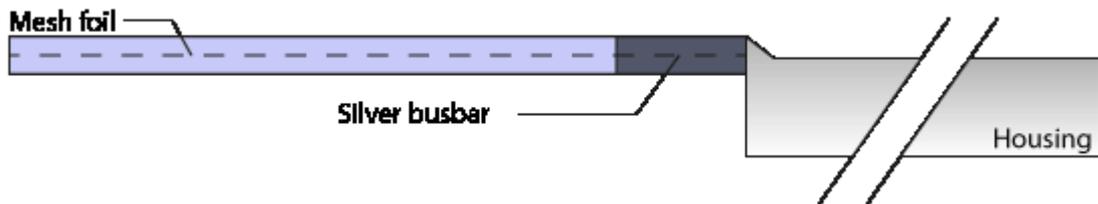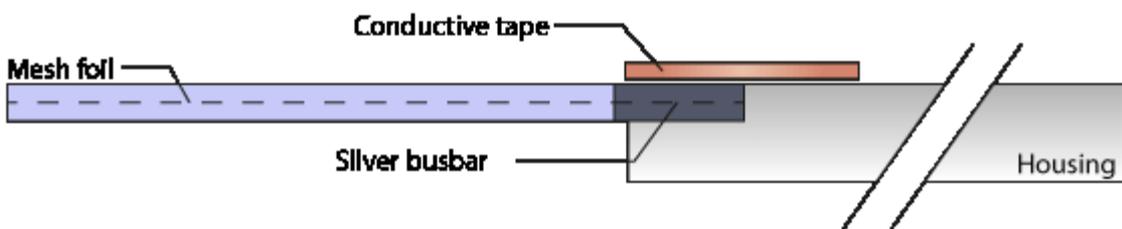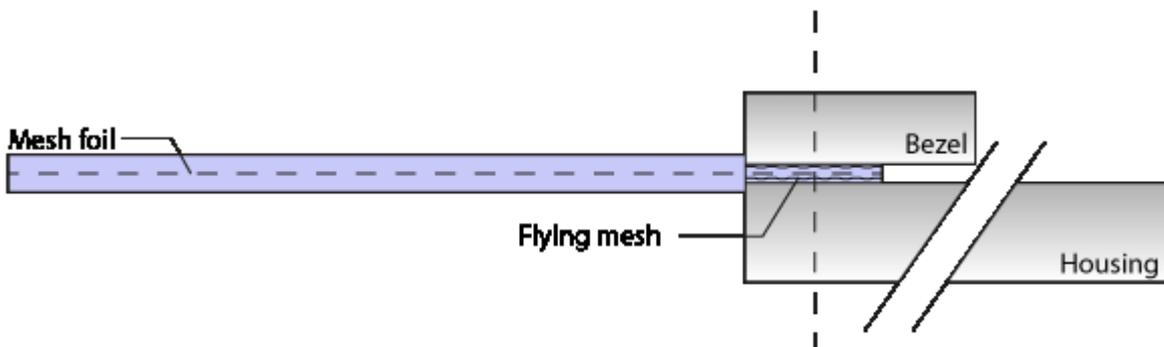### Mounting example 1
Mesh foil mounted with Conductive glue 3980 series
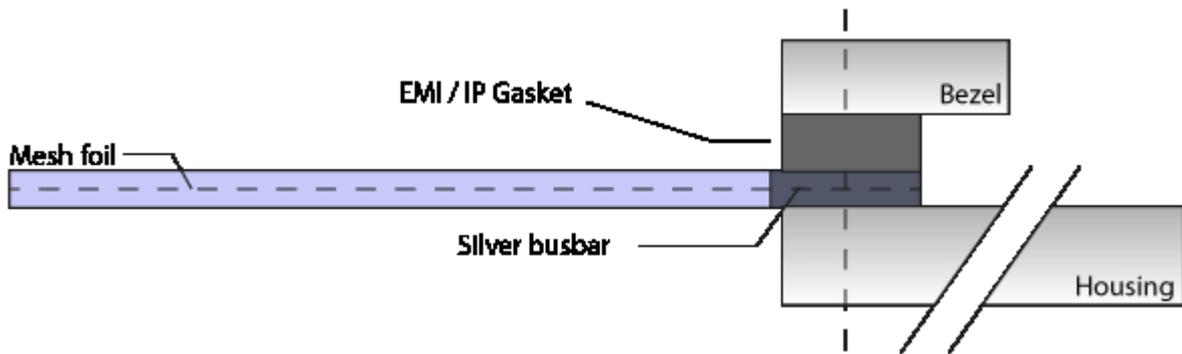

Mounting example 2
Mesh foil mounted with Conductive tape 3201

Mounting example 3
Mesh foil mounted in a clamping construction

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Mounting example 4
Standard Mesh foil mounted in a clamping construction with an EMI gasket. Awater seal is possiblehere.

Technical details and shielding performance

Shielding performance up to 100 dB between 10 kHz and 30 GHz.

Type (wires/inch)		100
Wire diameter (mm)		0.050
Nominal aperture (mm)		0.204
Light transmission %		64.5
Field type	Frequency	dB
H	10 kHz	22
H	100 kHz	23
H	1000 kHz	29
E	1 MHz	105
E	10 MHz	98
E	100 MHz	90
P	1 GHz	70
P	10 GHz	45
These values are measured under laboratory conditions. In other situations, results may differ; please read our Guarantee.		

*Mesh foil 100 OPI is our standard Mesh foil. We can also deliver 250 OPI on request.

Shielding performance in graph
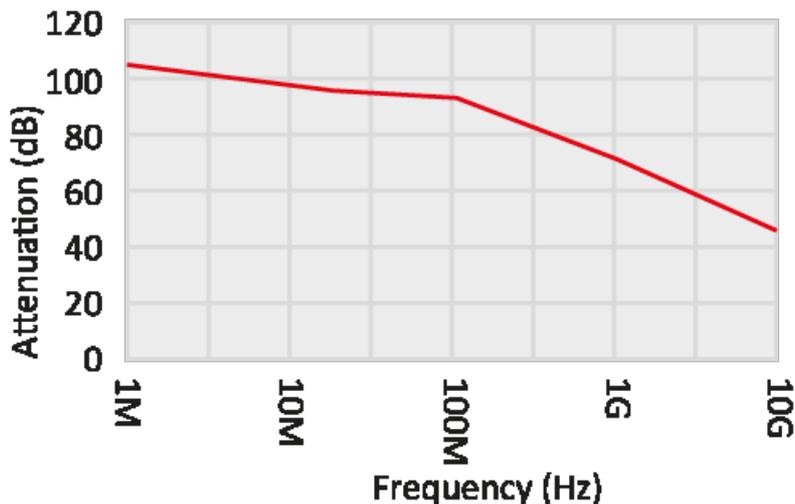
Shielding performace of Mesh foil
These values are measured under laboratory conditions.
In other situations, results may differ; please read our Guarantee.

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Standard Mesh foil part number examples

Size	Length	Part number			
				Standard + scratch-resistant	Standard + scratch-resistant layer + self-
		Standard mesh foil	Standard + self-adhesive	layer	adhesive
(mm)	(mm)				
50	100	90-50-100	91-50-100	92-50-100	93-50-100
250	250	90-250-250	91-250-250	92-250-250	93-250-250
500	500	90-500-500	91-500-500	92-500-500	93-500-500
10	5000	90-10-5000	91-10-5000	92-10-5000	93-10-5000
20	5000	90-20-5000	91-20-5000	92-20-5000	93-20-5000
30	5000	90-30-5000	91-30-5000	92-30-5000	93-30-5000
40	5000	90-40-5000	91-40-5000	92-40-5000	93-40-5000
50	5000	90-50-5000	91-50-5000	92-50-5000	93-50-5000
100	5000	90-100-5000	91-100-2000	92-100-2000	93-100-2000
200	2000	90-200-2000	91-200-2000	92-200-2000	93-200-2000
1000	1000	90-1000-1000	91-1000-1000	92-1000-1000	93-1000-1000

Turnkey windows

If you are interested in ready-made mesh-foil windows, please take a look at our 9700 series EMI/RFI shielded mesh-foil windows.Here the mesh foil is bonded between two layers of glass or plastic, or a single layer of mesh foil is fixed onto one side of a single glass or plastic window.

Please note: the top layer can be affected by acids, for example frompeople'sskin. To protect the conductive layer, you can apply a transparent film or you can have the adhesive side facing out.

Small optical defects are expected to occur with this product. If you require a product that has absolutely no optical defects, please contact us for the "superior selected quality". Do please realize thatdue tothe extreme care needed to manufacture these products, theycan be several times more expensive.

Series	Width (mm)	Length (mm)	Wire angle	Sheetstyle	Contact edge (mm)
Select an option:				Select an option:	
90 : Standard mesh foil	Width of the visible area in mm	Length of the visible area in mm	Angle of the wire mesh in degrees. Standard is 0 degrees.	#1STD : Standard mesh foil	Specify the width of the bushbar/flying mesh in mm
91 : Standard mesh foil + Self-adhesive				#2FTB : With flying mesh at top and bottom	
92 : Standard mesh foil + Scratch resistant layer				#3FAR : With flying mesh on all sides	
93 : Standard mesh foil + Scratch resistant layer + Self-adhesive				#4BTB : With silver bar at top and bottom	
				#5BAR : With silver bar on all sides	

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