

# Interplex Etch Logic Reel-to-Reel Chemical Etching

**Interplex**  
Etch Logic LLC



**From Coil**

Continuous etching produces high strength metal filtration parts, while maintaining extremely close tolerances and a high degree of repeatability.



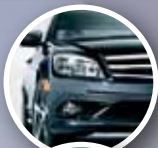
**To Class 100 Exposure**

Unlike panel etched parts, reel-to-reel etching allows for secondary processing. Parts can be easily formed, plated, or insert molded using various types of equipment.



**Continuous Etch Line**

One distinguishing capability is the “flat-line” process control system which continually monitors over 160 critical process points in real time and maintains the process conditions within a narrow band at all times.



**Automotive**



**Mil-Aero/Industrial**



**Consumer**



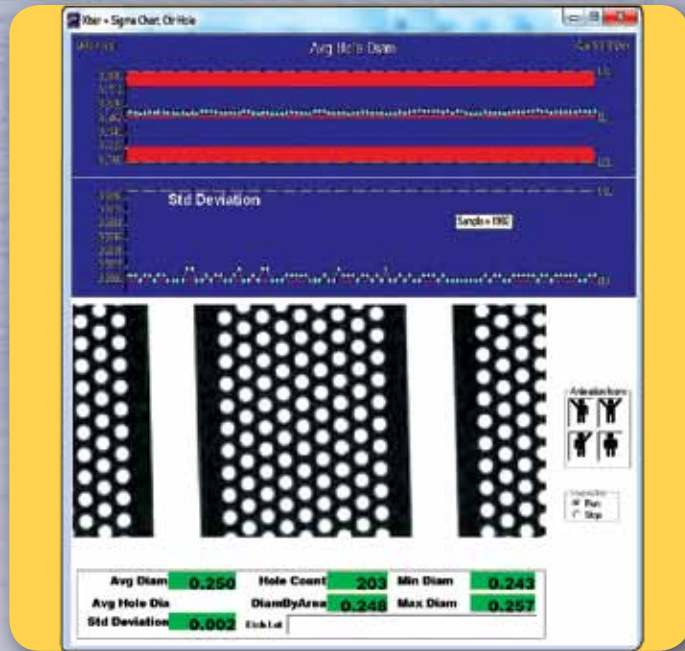
**Medical**

Interplex Etch Logic’s process can utilize many material options. See website for complete material list.

**Filter devices made to your specifications**



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## Etch Process Monitoring

Interplex Etch Logic utilizes in-line SPC to assure that the process is well controlled.

A vision camera captures and digitizes mesh areas, reports number of holes in the FOV, measures largest and smallest holes and reports average hole size along with calculated standard deviation.

These inputs are displayed in a real time SPC chart, helping us visualize the “Flat-Line” process control we have designed into our equipment capability.

## Engineering & Development

Let Interplex Etch Logic support your engineering design team with application expertise.

Various hole patterns can be utilized to achieve open area ratios to meet your requirements.

Design templates (round, square, hex) can be provided to assist in filtration pattern development.

See example below

## Interplex Etch Logic - Mesh Design Templates

### Etched Screen Design Template - Round Hole Pattern

### Metric Units

Design	Max Perf Hole Diameter	Nominal Perf Hole Diameter	Open Area of each hole in mm <sup>2</sup>	Nominal Calc Percent Open Area	X Pitch	Y Pitch	Average Web Width	Narrowest Web between Maximum Holes	Max Material Thickness	Selected Material Thickness	Hole Count Density
Options	Nom.+ 5% of Selected Thickness	Given	$\pi \times R^2$	$(\pi) \times (\text{Nom Hole})^2 / (2X \times 2Y)$	Input at Nom Hole + 0.07 mm or more	$X/2 \times \tan 60^\circ$	$X - (\text{Nom Diam})$	$X - (\text{Max Diam})$	Nom Hole Diam x 0.83	Must be LESS than Max Calc Thickness	Holes per Square CM
A	0.155	0.150	0.0177	38.6%	0.230	0.1992	0.0800	0.075	0.125	0.102	2183

Label each option - several rows can be calculated for comparison

Input desired Perforation Hole diameter in MM

Calculated Percent Open Area

Input Hole pitch following rule for minimum web of 0.07 mm

Calculated Max Material Thickness

Input Material thickness in mm satisfying calculated maximum material possible

Calculated Hole Count Density