Who is Gerard Daniel Worldwide?
Outline

- Manufacturing Processes
- Key Wire Cloth Variables
- Alloys
- Mesh Counts
- Weaves/Mesh Construction
- Grades of Wire Cloth
- Industry Standards
- Sizes Available
- Secondary Processes Available
- Wire Cloth Sources
- Applications & Markets
Definitions

- Warp Wire (long wire)
- Shute Wire (short wire)
- Mesh (Mesh Count 60x40)
- Space Cloth (.125” opening)
- Micronic Mesh (24x110)
- Calandered Mesh (Thickness controlled)
- Sintered (Multi Layer)
Key Variables

- Alloy
- Mesh Count
- Weave
- Wire Diameter
- Width
- Length
Commonly Sold Alloys

- Other Stainless Steels (T302, T330, T410, T430, etc.)
- Aluminum (Mainly 5056)
- Low Carbon Steel (C1006, C1008, C1010)
- Oil Tempered & Other High Carbon Steels
- Copper
- Brass (70/30 & 80/20)
- Commercial Bronze (90/10)
- Phosphor Bronze
- Nickel & Nichrome
- Inconel, Incoloy & Hasteloy
- Titanium
Market Sales by Alloy

- 304 & 304L: 50%
- 316 & 316L: 30%
- All Other: 20%
“If it can be drawn into wire, we can find someone to weave it.”
Alloy Selection

- Heat Resistance
- Corrosion Resistance
  - Acidic Environments
  - Alkaline Environments
  - Salt Water
- Weight
- Electrical and/or Thermal Conductivity
- Formability/Drapability
- Tensile Strength
- Abrasion Resistance
- Cosmetic Appearance
## Weave Definitions

<table>
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<tr>
<th>WEAVE</th>
<th>MESH CONSTRUCTION</th>
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<tr>
<td>Plain</td>
<td>Square: General Purpose Wire Cloth</td>
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<td>Dutch: Micron Rated Filter Cloth</td>
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<tr>
<td>Twill</td>
<td>Higher Strength</td>
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<td>Higher Strength</td>
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Plain or Twill Weave
Dutch Weaves

Plain Dutch - Twill Dutch
Dutch Weaves ("Micronics")

Dutch Weaves

Plain Dutch

More Warp Than Shute
(e.g. 24 x 100 or 325 x 2300)
Micron-rated Cloth

Reverse Dutch

More Shute Than Warp
(e.g. 400 x 120 or 107 x 20)
Different Hole Geometry
Industry Standards

ASTM E-2016
ASTM E-11
ISO 9044
ASTM A-580 (Wire)
Processes

- Slitting/Cut Pieces
- Cleaning
- Blanking/Punching
- Splicing
- Calendaring/Stretching
- Heat Treating (Annealing & Sintering)
- ColdBonding
- Teflon or Epoxy Coating
- Electro-galvanizing
Wire Cloth Applications

- Filtering
- Separating
- Sizing/Sifting
- Shielding/Guarding
  - Physical (e.g., Machine Guards, Partitions, Insect & Bird Screens)
  - Electrical/Electronic (e.g., EMI/RFI Shielding)
- Heat Dissipation (e.g., Heat Sinks & Ventilation)
- Conveying/Dewatering
- Acoustical/Sound Suppression
- Architectural
Major Industries Served

- Filtration & Separation
- Automotive
- Aerospace
- Electronics
- Telecommunications
- Petrochemical, Breweries, Food Processing
- Electrical
- Military & Defense
- Architectural/Construction
- Electrical Utilities
Wire Cloth Sources

“Gerard Daniel is the only source for Wire Cloth”