Mott Porous Metal Data Sheet

Media Grade: 0.2
Type: Pressed Disc
Alloy: 316LSS
Thickness: 0.125 inches

Issued: 06/25/10

Manufacturing Specifications
Bubble Point, inch of Hg 5.0 - 6.9
Minimum Tensile, kpsi --
Yield Strength, kpsi --
Young's Modulus, x 10^6 psi --

Permeability Coefficient
Liquid, $K_L$ 20
Gas, $K_G$ 400

Particle Removal Efficiency
Liquid Efficiency
90% at 0.35 μm, Tested at 1 gpm/ft²
99% at 0.7 μm
99.9% at 1.1 μm

Air Efficiency Test at flux 6 acfm/ft²
>99.9% for all particle sizes

Notes:
1. Tests run at 70 °F
2. Tests run with water, other curves generated using Liquid Formula

Flow Characteristics on these data sheets are typical and should be used for general reference only.

Liquid: Pressure Drop, psid =

Gas: Pressure Drop, psid =

mott corporation

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www.mottcorp.com
### Mott Porous Metal Data Sheet

<table>
<thead>
<tr>
<th>Media Grade:</th>
<th>0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>Pressed Disc</td>
</tr>
<tr>
<td>Alloy:</td>
<td>316LSS</td>
</tr>
<tr>
<td>Thickness:</td>
<td>0.125 inches</td>
</tr>
</tbody>
</table>

**Manufacturing Specifications**
- Bubble Point, inch of Hg: 3.0 - 3.9
- Minimum Tensile, kpsi: 21.1
- Yield Strength, kpsi: 11.5
- Young’s Modulus, x $10^6$ psi: 8.3

<table>
<thead>
<tr>
<th>Permeability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid, $K_L$</td>
</tr>
<tr>
<td>Gas, $K_G$</td>
</tr>
</tbody>
</table>

**Particle Removal Efficiency**
- Liquid Efficiency: Testing per ASTM F795
  - 90% at 0.8 µm
  - 99% at 1.4 µm
  - 99.9% at 1.8 µm
- Gas Efficiency: Tested at 1 gpm/ft²
- Air Efficiency: Tested at flux of 6 acfm/ft²
  - >99.9% for all particle sizes

**Notes:**
1. Tests run at 70 °F
2. Tests run with water, other curves generated using Liquid Formula

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**Equations:**
- **Liquid:** Pressure Drop, psid = $(K_L)(\text{Flux, gpm/ft}^2)(\text{Visc, cp})(\text{Thck, inch})$
- **Gas:** Pressure Drop, psid = $(K_G)(\text{Flux, acfm/ft}^2)(\text{Visc, cp})(\text{Thck, inch})$

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**Flow Characteristics:**
- sheets are typical and should be used for general reference only.
**Mott Porous Metal Data Sheet**

<table>
<thead>
<tr>
<th>Media Grade:</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>Pressed Disc</td>
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<td>Alloy:</td>
<td>316LSS</td>
</tr>
<tr>
<td>Thickness:</td>
<td>0.125 inches</td>
</tr>
</tbody>
</table>

**Manufacturing Specifications**
- Bubble Point, inch water: 17.0 - 24.0
- Minimum Tensile, kpsi: 12.8
- Yield Strength, kpsi: 7.2
- Young's Modulus, x 10^6 psi: 5.1

**Permeability Coefficient**
- Liquid, $K_L$: 1.25
- Gas, $K_G$: 22

**Particle Removal Efficiency**
- **Liquid Efficiency**  
  - 90% at 3.5 µm
  - 99% at 5 µm
  - 99.9% at 8 µm
- **Air Efficiency**  
  - Tested at flux of 6 acfm/ft²
  - 90% at 0.2 µm
  - 99% at 0.4 µm
  - 99.9% at 1.3 µm

**Notes:**
1. Tests run at 70 °F
2. Tests run with water, other curves generated using Liquid Formula

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**Liquid: Pressure Drop, psid**

\[
(L) = \left( K_L \right) \times \left( \text{Flux, gpm/ft}^2 \right) \times \left( \text{Visc, cp} \right) \times \left( \text{Thck, inch} \right)

**Gas: Pressure Drop, psid**

\[
(G) = \left( K_G \right) \times \left( \text{Flux, acfm/ft}^2 \right) \times \left( \text{Visc, cp} \right) \times \left( \text{Thck, inch} \right)

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Notes:
1. Tests run with air at 70 °F
2. Tests run with upstream pressure exhausting to atmosphere

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**Flow Characteristics on these data sheets are typical and should be used for general reference only.**

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### Manufacturing Specifications

- **Bubble Point, inch water**: 13.0 - 16.9
- **Minimum Tensile, kpsi**: 9.5
- **Yield Strength, kpsi**: 6.8
- **Young’s Modulus, x 10^6 psi**: 3.7

### Permeability Coefficient

- **Liquid**: \( K_L \) = 0.85
- **Gas**: \( K_G \) = 10

### Particle Removal Efficiency

- **Liquid Efficiency**: Tested per ASTM F795
  - 90% at 4.5 \( \mu \)m
  - 99% at 7 \( \mu \)m
  - 99.9% at 11 \( \mu \)m

- **Air Efficiency**: Tested at flux of 6 acfm/ft²
  - 90% at 0.5 \( \mu \)m
  - 99% at 1.3 \( \mu \)m
  - 99.9% at 3.5 \( \mu \)m

### Flow Characteristics

- **Liquid**: Pressure Drop, psid = \((K_L)(Flux, \text{ gpm/ft}^2)(Visc, \text{ cp})(Thck, \text{ inch})\)
- **Gas**: Pressure Drop, psid = \((K_G)(Flux, \text{ acfm/ft}^2)(Visc, \text{ cp})(Thck, \text{ inch})\)

### Notes:

1. Tests run at 70 °F
2. Tests run with water, other curves generated using Liquid Formula

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**Notes:**

1. Tests run with air at 70 °F
2. Tests run with upstream pressure exhausting to atmosphere

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**Flow Characteristics**

These data sheets are typical and should be used for general reference only.
# Mott Porous Metal Data Sheet

**Media Grade:** 10  
**Type:** Pressed Disc  
**Alloy:** 316LSS  
**Thickness:** 0.125 inches  
**Issued:** 06/25/10

<table>
<thead>
<tr>
<th>Manufacturing Specifications</th>
<th>Permeability Coefficient</th>
<th>Particle Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bubble Point, inch water</td>
<td>Liquid, $K_L$ 0.45</td>
<td>Liquid Efficiency</td>
</tr>
<tr>
<td>Minimum Tensile, kpsi</td>
<td>Gas, $K_G$ 7.0</td>
<td>90% at 9 µm</td>
</tr>
<tr>
<td>Yield Strength, kpsi</td>
<td></td>
<td>99% at 14 µm</td>
</tr>
<tr>
<td>Young's Modulus, $x 10^6$ psi</td>
<td></td>
<td>99.9% at 18 µm</td>
</tr>
</tbody>
</table>

**Liquid: Pressure Drop, psid** = 

\[(K_L)(\text{Flux, gpm/ft}^2)(\text{Visc, cp})(\text{Thick, inch})\]

**Gas: Pressure Drop, psid** = 

\[(K_G)(\text{Flux, acfm/ft}^2)(\text{Visc, cp})(\text{Thick, inch})\]

**Notes:**
1. Tests run at 70 °F  
2. Tests run with water, other curves generated using Liquid Formula

## Diagrams

### Liquid Flow vs. Pressure Drop

- **Pressure Drop, psid** vs. **Liquid Flow, gpm/ft²**
- **Viscosity:** 100 cp, 50 cp, 20 cp, 10 cp, 5 cp, 2 cp, 1 cp

### Air Flow vs. Pressure Drop

- **Pressure Drop, psid** vs. **Air Flow, acfm/ft²**

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**Notes:**
1. Tests run with air at 70 °F  
2. Tests run with upstream pressure exhausting to atmosphere

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*Flow Characteristics on these data sheets are typical and should be used for general reference only.*
Mott Porous Metal Data Sheet

Media Grade: 20  Issued: 06/25/10
Type: Pressed Disc
Alloy: 316LSS
Thickness: 0.125 inches

<table>
<thead>
<tr>
<th>Manufacturing Specifications</th>
<th>Permeability Coefficient</th>
<th>Particle Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bubble Point, inch water</td>
<td>Liquid, $K_L$</td>
<td>Liquid Efficiency</td>
</tr>
<tr>
<td>5.0 - 7.0</td>
<td>0.22</td>
<td>Testing per ASTM F795</td>
</tr>
<tr>
<td>Minimum Tensile, kpsi</td>
<td>Gas, $K_G$</td>
<td>90% at 18 µm</td>
</tr>
<tr>
<td>4.5</td>
<td>3.8</td>
<td>99% at 22 µm</td>
</tr>
<tr>
<td>Yield Strength, kpsi</td>
<td></td>
<td>99.9% at 30 µm</td>
</tr>
<tr>
<td>2.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young’s Modulus, x $10^6$ psi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Liquid: Pressure Drop, psid =

$$K_L (Flux, \text{gpm/ft}^2) (Visc, \text{cp}) (Thck, \text{inch})$$

Gas: Pressure Drop, psid =

$$K_G (Flux, \text{acfm/ft}^2) (Visc, \text{cp}) (Thck, \text{inch})$$

Liquid Efficiency:
- 90% at 18 µm
- 99% at 22 µm
- 99.9% at 30 µm

Air Efficiency:
- Tested at flux of 6 acfm/ft²
- 90% at 5 µm
- 99% at 9 µm
- 99.9% at 15 µm

Notes:
1. Tests run at 70 °F
2. Tests run with water, other curves generated using Liquid Formula

Notes:
1. Tests run with air at 70 °F
2. Tests run with upstream pressure exhausting to atmosphere

Flow Characteristics on these data sheets are typical and should be used for general reference only.
Mott Porous Metal Data Sheet

Media Grade: 40
Type: Pressed Disc
Alloy: 316LSS
Thickness: 0.125 inches

Issued: 06/25/10

Manufacturing Specifications

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Bubble Point, inch water</td>
<td>3.0 - 4.0</td>
</tr>
<tr>
<td>Minimum Tensile, kpsi</td>
<td>3.1</td>
</tr>
<tr>
<td>Yield Strength, kpsi</td>
<td>2.2</td>
</tr>
<tr>
<td>Young’s Modulus, x 10^6 psi</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Permeability Coefficient

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid, ( K_L )</td>
<td>0.15</td>
</tr>
<tr>
<td>Gas, ( K_G )</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Liquid: Pressure Drop, psid =

\[ (K_L \times \text{Flux, gpm/ft}^2 \times \text{Visc, cp} \times \text{Thck, inch}) \]

Gas: Pressure Drop, psid =

\[ (K_G \times \text{Flux, acfm/ft}^2 \times \text{Visc, cp} \times \text{Thck, inch}) \]

Particle Removal Efficiency

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Efficiency</td>
<td></td>
</tr>
<tr>
<td>90% at 22 µm</td>
<td></td>
</tr>
<tr>
<td>99% at 32 µm</td>
<td></td>
</tr>
<tr>
<td>99.9% at 40 µm</td>
<td></td>
</tr>
</tbody>
</table>

Testing per ASTM F795

Air Efficiency

|                      |          |
| 90% at 10 µm         |          |
| 99% at 20 µm         |          |
| 99.9% at 40 µm       |          |

Tested at flux of 6 acfm/ft²

Notes:

1 - Tests run at 70 °F
2 - Tests run with water, other curves generated using Liquid Formula

Notes:

1 - Tests run with air at 70 °F
2 - Tests run with upstream pressure exhausting to atmosphere

Flow Characteristics on these data sheets are typical and should be used for general reference only.
Mott Porous Metal Data Sheet

Media Grade: 100  
Type: Pressed Disc  
Alloy: 316LSS  
Thickness: 0.125 inches  

Issued: 06/25/10

Manufacturing Specifications
- Bubble Point, inch water: 0.5 - 1.5
- Minimum Tensile, kpsi: 1.1
- Yield Strength, kpsi: 0.9
- Young's Modulus, x 10^6 psi: 1.3

Permeability Coefficient
- Liquid, \( K_L \): 0.045
- Gas, \( K_G \): 0.50

Liquid: Pressure Drop, psid = 
\( (K_L)(\text{Flux, gpm/ft}^2)(\text{Visc, cp})(\text{Thck, inch}) \)

Gas: Pressure Drop, psid = 
\( (K_G)(\text{Flux, acfm/ft}^2)(\text{Visc, cp})(\text{Thck, inch}) \)

Particle Removal Efficiency
- Liquid Efficiency: Testing per ASTM F795
  - 90% at 45 µm
  - 99% at 95 µm
  - 99.9% at 140 µm

Air Efficiency: Tested at flux of 6 acfm/ft²
- 90% at 18 µm
- 99% at 35 µm
- 99.9% at 90 µm

Notes:
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Notes:
1. Tests run with air at 70 °F
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Flow Characteristics on these data sheets are typical and should be used for general reference only.

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