Filter Point Mat

- **Filter Point Mat (FPM)** is an erosion resistant, permeable concrete lining formed with a double-layer woven fabric, joined together by interwoven, filter points (drains). Once pumped, the cobbled surface and relatively high coefficient of friction act to reduce velocity and wave run-up. The filter points provide for the relief of hydrostatic uplift pressure, increasing the system’s stability.

- **Filter Point Mat (FPM)** form a lining of average thickness and specified weight to provide strength and erosion protection to resist the calculated tractive forces. The design criterion for selection of lining thickness is the same as that used to determine the thickness of conventional concrete slope paving. FPM is custom fabricated into multiple mill width panels, designed to fit actual site dimensions and topography.
**FILTER POINT MAT**

**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>STYLE</th>
<th>SPACING</th>
<th>AVERAGE THICKNESS</th>
<th>UNIT WEIGHT</th>
<th>CONCRETE COVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5” FPM</td>
<td>5”</td>
<td>2.2”</td>
<td>26 lbs./ft²</td>
<td>115 sq. ft./cy</td>
</tr>
<tr>
<td>8” FPM</td>
<td>8”</td>
<td>4.0”</td>
<td>47 lbs./ft²</td>
<td>73 sq. ft./cy</td>
</tr>
<tr>
<td>10” FPM</td>
<td>10”</td>
<td>6.0”</td>
<td>70 lbs./ft²</td>
<td>49 sq. ft./cy</td>
</tr>
</tbody>
</table>

**FILTER POINT MAT (FPM)**

**DESIGN CONSIDERATIONS**
- FPM is used where velocities are low, bedload and ice formations are light and a roughness coefficient of N = 0.025 to 0.030 is acceptable.
- FPM is used where wave action is light.
- FPM is ideal for underwater placement.
- FPM should be installed on engineered slopes

**APPLICATIONS**
- Bridge Abutments
- Storm Sewer Outfalls
- Channel Lining
- Pond Lining
- Shoreline Revetments
- Spillway/Weir Structures
- Embankments

**INDUSTRIES**
- Highways/Bridges
- Ports/Harbors
- Dams/Levees
- Rivers/Canals
- Flood Control
- Coastal/Marine
- Industrial Waste Landfill
- Mining
- Oil/Gas Pipeline
- Power Generation

**MATERIAL PROPERTY – ARMORFORM FABRICS**

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST</th>
<th>UNITS</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition of Yarns</td>
<td>-</td>
<td>-</td>
<td>Polyester</td>
</tr>
<tr>
<td>Mass Per Unit Area (Double-Layer)</td>
<td>ASTM D 5261</td>
<td>oz/yd²</td>
<td>14</td>
</tr>
<tr>
<td>Thickness (Single-Layer)</td>
<td>ASTM D 5199</td>
<td>mils</td>
<td>27</td>
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<tr>
<td>Mill Width (Woven)</td>
<td>inch</td>
<td></td>
<td>72</td>
</tr>
</tbody>
</table>

**MECHANICAL**

- Wide-Width Strip Tensile Strength - WARP | FILL
  - ASTM D 4595 | lbs./inch | 340/270
- Elongation at Break - WARP | FILL - Max.
  - ASTM D 4533 | %         | 12/12
- Trapezoidal Tear Strength - WARP | FILL
  - ASTM D 6241 | lbs.      | 180/170
- Grab Tensile Strength
  - ASTM D 4632 | lbf       | 364/310
- Grab Tensile Elongation
  - ASTM D 6241 | %         | 25/21
- CBR Puncture Strength
  - ASTM D 6241 | lbs.      | 1575

**HYDRAULIC**

- Apparent Opening Size (AOS)³
  - ASTM D 4751 | U.S. Standard (mm) | 20
- Flow Rate
  - ASTM D 4491 | gal/min/ft² | 125