

ARMORFORM[®]

YOUR SOLUTION TO PERMANENT HARD ARMOR EROSION CONTROL

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.



ARMORFORM[®]
Fabric Formed Hard Armoring

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

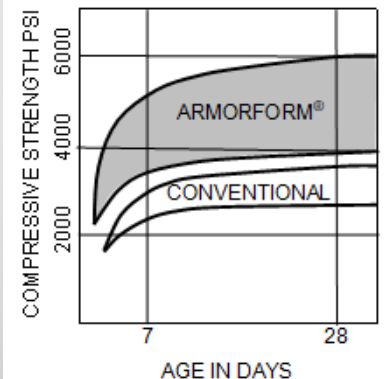
FILTER POINT MAT TECHNICAL DATA

FILTER POINT MAT (FPM)				
STYLE	SPACING	AVERAGE THICKNESS	UNIT WEIGHT	CONCRETE COVERAGE
5" FPM	5"	2.2"	26 lbs./ft ²	135 sq. ft./cy
8" FPM	8"	4.0"	47 lbs./ft ²	73 sq. ft./cy
10" FPM	10"	6.0"	70 lbs./ft ²	49 sq. ft./cy
12" FPM	12"	8.0"	93 lbs./ft ²	36 sq. ft./cy

A fluid, high-strength, concrete is utilized in the construction of all ARMORFORM® revetments. As an aid to pumpability, a pozzolan grade fly ash may be substituted for up to 25% of the cement. Mixes designed with 5% to 8% air content will have improved pumpability and resistance to freeze-thaw. A retarding admixture may be used in hot weather.

Excess mixing water expelled through the permeable ARMORFORM® fabric will reduce the volume of fluid structural grout from 27 cu. ft. to approximately 25 cu. ft. of hardened grout and also reduce the water/cement ratio from approximately 0.7 to approximately 0.4.

Fine aggregate concrete consistency should be in the 9-11 second range when passed through the 3/4" orifice of the standard flow cone



TYPICAL RANGE OF MIX PROPORTIONS		
Material	Mix Proportions	After Placement
	lbs./cu. yd.	lbs./cu. yd.
Cement	750-850	810-920
Sand	2030-2120	2195-2290
Water	485-555	360-430
Fly Ash	Up to 25% of Cement	