

Options

Polymer Concrete

Polymer concrete is resistant to abrasive and aggressive materials and is unaffected by the freeze-thaw cycle of de-icing salts. The smooth, rounded internal base of the channel facilitates high flow rates and creates an optimal self cleaning action reducing maintenance work and keeps expenses to a minimum. Polymer concrete is recyclable and can be partially reused in the manufacturing process.

Material Properties

Compression Strength	Approx. 14,500 PSI
Flexural Strength	Approx. 4,000 PSI
Water Absorption	Less than .05%
Heat Resistance	245°F

Fiberglass

Fiberglass is resistant to abrasive and corrosive liquids and is unaffected by freeze-thaw cycles experienced in exterior installations. The smooth internal surface promotes efficient water flow and creates a self-cleaning action to reduce maintenance expenses. The lighter material allows prefabrication of multi-channel runs that can be handled easily.

Fiberglass Properties

Compression Strength	Approx. 24,400 PSI
Flexural Strength	Approx. 9,900 PSI
Water Absorption	0.3%
Heat Resistance	300°F

Hydraulic Calculations

Several factors are important if accurate calculations are to be made: the size and surface features of the site to be drained, along with the average amount of water to be deposited in this area. The length and fall of the line as well as the geometric shape of the individual channel units are taken into account in these calculations. By taking all of the above factors into consideration, the type and length of the required channel line and the number of collection points needed in practice can then be specified in the form of tables and diagrams.

Steps to calculate the site's hydraulic requirements:

1. Multiply the catchment length by the catchment width to give the surface area to be drained by the channels
2. Multiply the catchment area by the chosen rainfall intensity (3.1" per hour being the most commonly used).
The calculated figure is the litres per hour that the channel must cope with
3. Divide by 3600 to calculate the site requirements in litres per second
4. Divide by the channel length (in meters) to give the flow rate (litres per second per meter)
5. Cross-reference flow rate with Mea-Josam's hydraulic data to determine channel required
6. Check the outlet has sufficient discharge capacity to deal with the requirements

