

FabGuard

Stormwater runoff flowing over paved and unpaved surfaces picks up many types of contaminants including: oil, grease, heavy metals, nutrients, and even potentially harmful organisms and bacteria.



Sources of these potentially harmful microorganisms can be as simple as fecal matter deposited on the surfaces by birds, while animals or pet cats and dogs. Once these pathogens are assimilated into the water stream, they are easily transported through existing stormwater systems that can empty directly into local streams, lakes or estuaries. Here they can significantly impact the water quality causing both beaches and shellfish area closing.

FABGUARD media is an effective solution for reducing coliform bacteria in stormwater, industrial wastewater, and municipal wastewater applications. FABGUARD media has been tested under diverse laboratory and field conditions.

FABGUARD and Fabco Stormwater Solutions

When combined with Fabco's stormwater filtration systems, FABGUARD can be configured to reduce bacteria using centralized or decentralized treatment at varying flow rates. FABGUARD can be applied to catch basin inserts like Fabco's StormBasin and StormPod systems for retrofit applications. FABGUARD also works with end-of-pipe solutions such as the cartridge-based StormSafe and high-flow Helix vaults.



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Advanced Technology: High-flow – Long-term Effectiveness

FABGUARD is a modified flexible polyether reticulated foam material which can be manufactured with up to 98% open void volume providing high permeability for water transport. The foam is non-biodegradable, exhibits excellent tensile, elongation and tear properties and is a chemical resistant. It can be supplied in various shapes and sizes including blocks, disks and even hollow roller shapes. Fabco modifies this foam base material making it antimicrobially active during the manufacturing of FABGUARD.

This modification entails applying a patented chemical treatment (Aegis Antimicrobial Shield) to Fabco's foam base material where it forms a colorless, odorless, positively charged polymer coating which chemically bonds to the foam surfaces. This antimicrobial coating becomes an integral part of the foam. Testing at independent laboratories has confirmed that the coating is virtually irremovable and should last the life of the foam material.

At the microscopic level the antimicrobial polymer coating on the FABGUARD would look like a layer of electrically charged swords or stiff fibers extending outwardly from the foam surface. These swords cover all surfaces throughout the FABGUARD foam material media providing extensive treatment area well beyond the simple surface area.

When used in stormwater applications, water is sent through the FABGUARD material contained in one of Fabco's stormwater products. bacteria suspended in the water contacts these swords or fibers where two actions occur:

- 1) The Swords puncture or disrupt the cell membrane
- 2) A small electrical charge is transferred from the sword to the cell.

The combined effect of these two actions effectively neutralizes or destroys the organism. The dead cell is then sloughed off and the sword is now ready for the next organism.

In comparison, conventional antimicrobial products penetrate the living cells and kill by way of poisoning the organism. The poisoning technology is applied to a host media where it slowly leaches off, creating a killing field or zone around the surface killing the bacteria as it passes through the zone. These poisons act quickly and but also dissipate quickly to reduce adverse environmental effects.

FABGUARD takes a unique approach. The treated surface reduces coliform bacteria by contact. There is no killing zone and no dissipation. It provides fast initial relief like conventional methods but the non-dissipating treatment provides long term bacteria control for the life of the FABGUARD product.

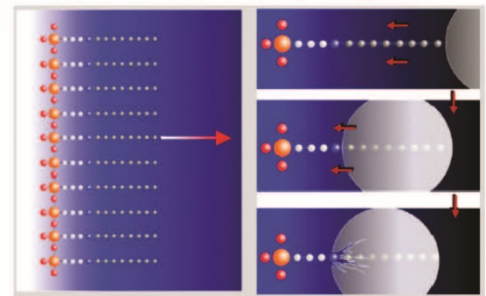
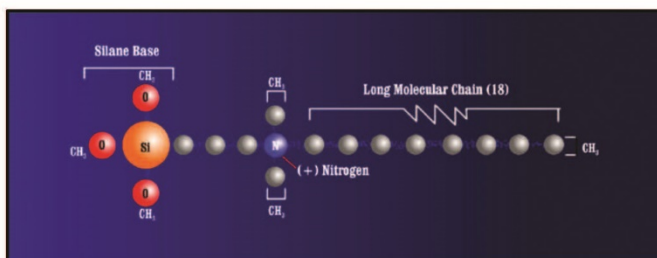


Fig 1: Super stiff fibers

Fig 2: Close-up - Individual fiber puncturing Cell membrane