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Tech-Talk

BULLETIN

Performance and Function of Henry DBR-50/100

Prefabricated Drainage / Water Retention / Root Barrier System

Henry company's DBR-50/100 Prefabricated Drainage / Water Retention / Root Barrier composite provides several functions in one product.

Water Retention: DBR-50/100 consists of an inverted drainage composite, where the dimples of a high-performance drainage core are turned upward to act as small water storage reservoirs, capable of storing up to 4.5 liters of water per square meter. Water retention is not only important for hydration of the growing medium, but also to reduce storm water runoff.

Drainage: Once these water storage reservoirs have filled to capacity, excess water is allowed to flow through overflow drains, perforated into upper surface of the core. The core is capable of providing a horizontal flow capacity of up to 1240 lpm/m^2 at a gradient of 1.0, which serves to minimize roof loads during peak rain events and protect vegetation from excessive water.

Aeration: DBR-50/100 provides for an air layer of 11 mm and 25 mm respectively, between the growing medium and the insulation or waterproofing membrane.

Root Protection: The DBR-50/100 system incorporates a strong non-woven geotextile, treated with a copper hydroxide root barrier, which is adhered to the upper surface of the core. This geotextile root barrier prevents roots from entering into the core and storage reservoirs, ensuring that water storage capacity and drainage is not compromised. The geotextile root barrier fabric has a high flow rate, 4800 lpm/m^2, which allows water to easily enter into the storage reservoirs, through gravity flow, and back upward into the growing medium, through a combination of vapor diffusion and capillary rise. NOTE: if design concerns exist about use of copper hydroxide as part of root barrier system, DB50 without copper hydroxide is available as a special made-to-order item.

Soil Hydration: When the water storage reservoirs in the DBR-50/100 are full or near full, the available water is wicked upward through the geotextile root barrier fabric and into the growing medium due to the surface tension of water. This process is also known as capillary rise or capillary effect. As the water storage reservoirs empty, the remaining water is transported into the growing medium through vapor diffusion or evapotransportation. This process can move significant amounts water from areas of higher vapor pressure, in water storage reservoirs, to areas of lower vapor pressure in the growing medium directly above.

Please contact our Technical Services Department at 800-486-1278 for additional information

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