

1.5 The different types of substrate and their appropriate use

There are essentially two different types of living wall system: media-based systems and hydroponic systems.

1.5.1 Media-based system

Media-based systems grow plants in compost, peat or soil that is compartmentalized into individual cells grouped together in panels that attach to a frame [1]. The plants receive their nutrients from the growing medium, and are irrigated with water. Essentially a collection of 'potted' plants, the individual soil-cells are subject to the same challenges that face most potted plants: soil compaction, climatic stress, and soil nutrient replenishment. Exterior media-based living walls can also face the problem of soil loss due to wind and water-driven erosion. A good growing medium is one of the key aspects of living walls. It must be able to maintain moisture, allow good aeration, be free from pests, have low salinity, and enable high cation exchange capacity for nutrients. The addition of superabsorbent polymers (also known as hydrogels) helps to retain water.

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