

# Roof Gardens that are Gentle on the Roof

## *Lightweight Solutions to Weighty Problems*

The current, eco-friendly trend of designing commercial buildings with rooftop gardens has put a premium on the use of expanded, volcanic perlite in making lightweight soils for these structures. Regular, wetted soil can tip the scales at well over 100 pounds a cubic foot – while a perlite/peat moss mixture will weigh a mere 40 pounds while providing the long acknowledged advantages of superior air porosity and water-holding capacity for plants.

Rising fuel costs have also forced nurserymen to acknowledge the lightweight advantages of perlite-based soil mixes when shipping plants across the country. All signs are for continued growth in this valuable industrial mineral.

### *The System*

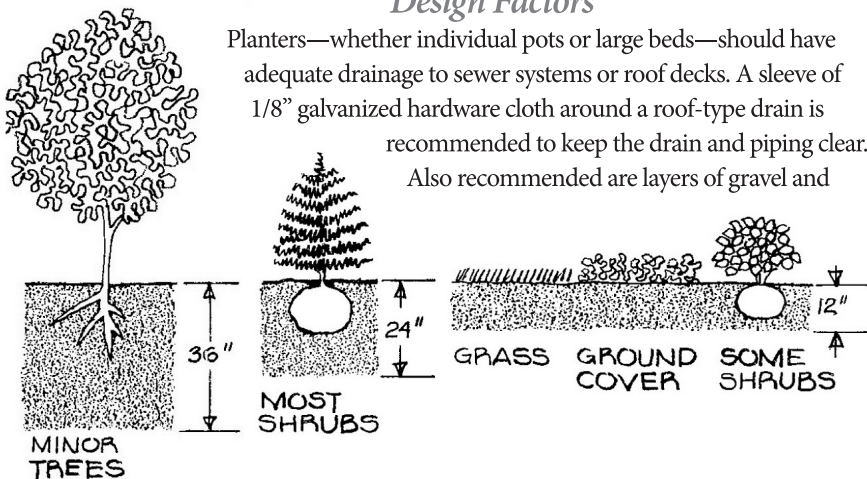
Horticultural perlite and peat moss mixtures are used by professional growers for many reasons. They form a lightweight planting mix for rooftop gardens and other areas where normal soil use presents a weight problem.

### *Advantages*

- **Lightweight**—Horticultural perlite and peat moss, fully watered, weigh only 40 lbs. per cubic foot. Soil fully watered weighs 100 to 125 lbs. You can reduce planter weight by at least 60% by specifying horticultural perlite and peat moss as a growing mix.
- **Long-Lasting Economy**—Horticultural perlite is an expanded volcanic mineral. Unlike organic matter, perlite will not deteriorate.
- **Retains Water and Plant Food**—Horticultural perlite will retain three to four times its weight in water and will not become soggy. At the same time, it increases the nutrient and air-holding capacity of the planting mix.
- **Chemically Inert**—Horticultural perlite has an essentially neutral pH and will not noticeably change the alkalinity or acidity of a planting mix.
- **Completely Sterile**—Horticultural perlite is sterile (having been “expanded” at 1700° F), free of insects, diseases, weed seed and other soil-borne pests and can be used without steam sterilization or chemical treatment of any kind.
- **Safe, Easy to Use**—Horticultural perlite is clean, odorless, easy to handle and free of all additives or materials toxic to plant growth.

### *Design Factors*

Planters—whether individual pots or large beds—should have adequate drainage to sewer systems or roof decks. A sleeve of 1/8” galvanized hardware cloth around a roof-type drain is recommended to keep the drain and piping clear. Also recommended are layers of gravel and



*Rooftop Garden on the Marriott Hotel Parking Garage (Humble Oil Building, Houston, Texas)*

### *Application*

Suggested mix for nurserymen who prefer some soil in their planter mix, the following proportions have been suggested for one cubic yard:

- 1/3 cubic yard horticultural perlite
- 1/3 cubic yard coarse peat moss
- 1/3 cubic yard clean soil plus nutrients

Subsequent feeding may be with each watering or at two-week intervals. Planters and containers with 100% perlite or with very high percentages of perlite are also possible for growing flowers, vegetables and even trees!

### *Cost*

For the cost of horticultural perlite, contact your area perlite manufacturer or a reputable nurseryman.

### *More Information*

Additional facts on horticultural perlite may be obtained from your area perlite expander or the Perlite Institute at (717) 238-9723 or visit the website.



### **Perlite Institute, Inc.**

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