

13. The Development of the Building Roof Green Planting Method

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Recently, environmental problems such as heat island phenomenon of urban area are eased, and energy saving of the building and effective roof green planting for the improvement in the amenity is noticed. And, guidance and legislation for roof green planting begin even in each administration. Therefore, roof green planting system with next advantage was developed.

- ① Since water retention and drainage layer and soil have been placed in green-planter, relocation and restoration are easy.
- ② Since the polystyrene of which thermal conductivity is low for water retention and drainage layer is used, the insulation effectiveness is high.
- ③ For polystyrene with the void in green-planter, it is possible to store rainwater and tap water.
- ④ The effective air space between polystyrene upper part and overflow openings for the root decay prevention was established.

It was confirmed that that it carries out the full scale experiment using green planting system and reduces heat loss of the roof right under floor to about 5% was possible and that they expect the reduction of the air conditioning energy. And, the simulation was carried out, and energy reduction effect in the each area by green planting system was grasped.

Key words: roof green planting , green-planter, removability, energy reduction effect