

## 11. Application of Several Types of Air Supply Methods through Air-Conditioning Facilities Improvement and the Advantage of Applied Energy Saving Methods

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The building which was constructed 20 years ago was totally improved. Then 3 types of air supply methods and several energy saving methods were adopted. The result of verification tests is as follows.

- i). Total amount of electric energy consumption decreased at the rate of 30% compared to that before improvement.
- ii). The number of application example of passive rhythming air-conditioning system to building multi air-conditioning system is small, the energy decreased while air supply was stopped in the operation of passive rhythming air-conditioning system.
- iii). In the view point of comfort, floor air supply system is the best and displacement air conditioning system is better than ceiling air supply system.
- iv). The effects of energy saving methods related to outer surface of the building such as rooftop gardening or heat shield film were confirmed.

**Key words** : energy saving, floor air supply method , displacement air conditioning system, passive rhythming air-conditioning system