Press Release

June 18, 2009
Mori Building Co., Ltd.

Operation of *Dry Mist,* an energy efficient cooling system for the next generation

The coolness of forests is realized at Roppongi Hills with urban heat island relief

On June 19, 2009 (Fri.), Mori Building Co., Ltd. will again commence the operation of the automated control system(*) of *Dry Mist*, an energy efficient cooling system, which was installed in the summer of 2006 with the purposes to increase the comfort of visitors and the awareness of energy conservation.

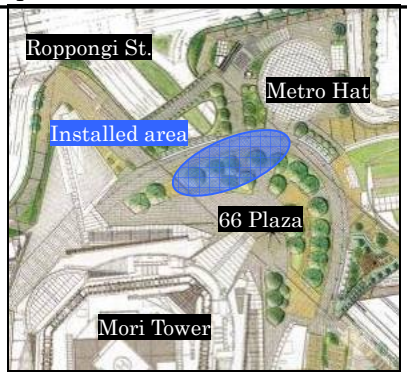
Dry Mist attracts people with its effectiveness to urban heat island phenomenon

Dry Mist system sprays an extremely fine particle mist, which is so minute; people barely notice that they are getting wet. Air is cooled through the evaporation of the mist. The Dry Mist is very environmentally friendly as the energy consumption of the system is only approx. one thirtieth of that of air conditioners. Since installed at AICHI WORLD EXPO in 2005, the Dry Mist system, an energy efficient cooling system for the next generation, has been drawing people's attention as local governments promote the installation by offering grants.

The Dry Mist system has been awarded for the 7th Environmental and Equipment Design Award 2008 (winner / BE prize) of the Association of Building Engineering and Equipment.

Dry Mist sprays mist at Roppongi Hills

The effects of the system at Roppongi Hills has been confirmed as the temperature of the misted area is cooled by approx. 1~3℃ and 91% of the visitors said their comfort had notably increased (please refer [Reference 1] for further information).



<Outlines of installed Dry Mist system>

- Place: a partial area of 66 Plaza (approx. 30m)
- Location: at 3.5-meter high above the ground at intervals of 3 meters (total 9)
- Area of the spray: approx. 180 ㎡
- Time of the operation: 8:30〜18:30
- (*) Required conditions to start the operation: temperature = 27.5℃ or higher, humidity = lower than 70%, wind speed = no more than 4m/s, no rain

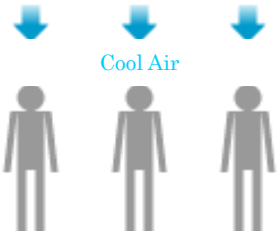
■ Key Points of the *Dry Mist* system

Cooling effect by 2～3℃

Mist is completely evaporated (the temperature is cooled by 2～3℃). The Dry Mist system applies the principle of which trees cool air by the vaporization, to its operation and, by spraying an extremely fine particle mist from nozzles, it cools the operational area by 2～3℃.

Fine particles as small as 0.016mm

Mist is completely evaporated (the temperature is cooled by 2～3℃).



Fine particles that people barely notice that they are getting wet

The size of the mist particles is as small as 16μm (16/1000mm) and the amount of the mist is equal to that in laurel tree forests. For that reason, people barely feel that their clothes or skin are getting wet because the sprayed mist is completely vaporized.

Automated control operation

The Dry Mist maintains a more comfortable environment by its automatic control system which regularly checks the temperatures of the surrounding area.

Required conditions for misting at Roppongi Hills

	Required conditions to start the operation	Required conditions to stop the operation
Temperature	27.5℃ or higher	25.5℃ or lower
Humidity	Lower than 70%	75% or higher
Wind speed	less than 4m/s	4m/s or more
Rain	No	Yes

Energy efficiency

The system has been drawing attention as an energy efficient cooling system for the next generation because the power consumption is only one thirtieth of that of air conditioners.

Urban heat island relief

The reduction of the urban heat island phenomenon in summer is expected by installing the system in more areas in towns.

■ History of the Dry Mist system operation

	2006	2007	2008
Operational period	July 24 – Sep. 30	June 20 – Sep. 30	June 27 – Sep. 30
No. of operation days	69 days	103 days	96 days
No. of actual operation days	36 days	62 days	70 days
Operational hours	209h	448h	470h

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Annex

【Reference 1】

The measurement of the effectiveness of the system and the questionnaire to the visitors conducted by Tokyo University of Science and Nagoya University

(implemented in the summer of 2006)

The temperature is reduced by approx. 1-3℃.

Chart 1 – Measurement results of the effectiveness of cooled temperature

Ninety-one percents of the answerers said the system provides comfort.

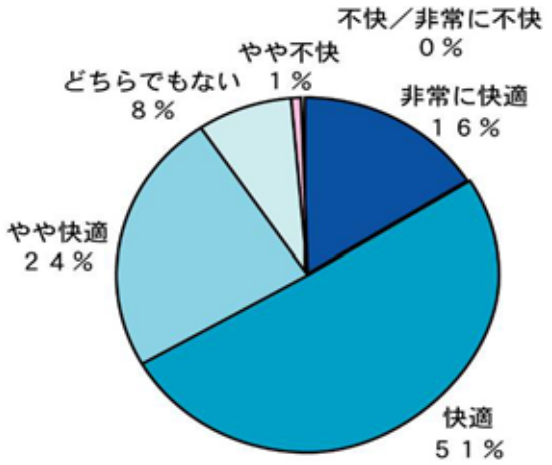


Chart 2 –The results of the questionnaire to visitors (comfort)

【Reference 2】

Environmental measures at Roppongi Hills

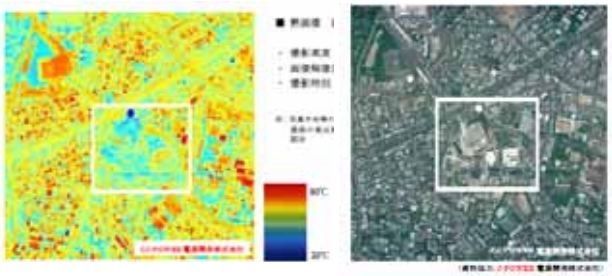
With the concept of building 'Vertical Garden Cities,' which is the key aim of our company for urban development, we work on a variety of environmental measures at Roppongi Hills in accordance with our concern to 'environment and green.'

◆ Greening

We at Mori Building Co., Ltd. are working on the urban development with the aim of the harmonization of city and nature and are taking active steps to green open spaces, which are generated as the results of the intensive use of congested urban lands, and the roof of buildings.
As part of our urban development at Roppongi Hills, **we have recently produced approx. 1ha of green lands** by planting 68,000 trees. The total area of the whole green lands is now approx. 2.56 ha. The expansion of various green spaces is seen such as paddy fields at the roof garden of the Keyakizaka Complex and a newly developed Japanese garden.

Mohri Garden at Roppongi Hills

Maintaining large green areas contributes to reduce urban heat island phenomenon. The study result of the Thermal Environment Measurement in 2004 (conducted by Ministry of Land, Infrastructure and Transport) shows the thermal images of Roppongi Hills, which confirms that the daytime temperature of the green areas is 5-15℃ lower than that of the surface of roads with asphalt in the surrounding areas.



The thermal image of the area 1 k㎡ around Roppongi Hills and an actual photo

◆ Effective use of water resource

Water is one of the effective resources. As an attempt to control the drainage of rainwater to use water resources effectively, we save rainwater in the whole area and after filtering it, we reuse it as cooling water for an industrial purpose **(13 rainwater tanks (total 6,750 ㎥)** are installed at Roppongi Hills). In addition, **a treatment facility for intermediate water, which is capable of treating approx. 980 tons of the water per day**, is installed on the 5th basement level of Mori Tower. The treated water, originally less-dirty wastewater that was used for hand washing, etc., is used as intermediate water for toilet, etc. (general service water).

◆ Energy efficiency

At Roppongi Hills, we have installed systems of a '**large gas cogeneration and a district heating / cooling**.' This system effectively uses wasted heat for district heating / cooling, which has been emitted after generating electricity with gas. With this highly efficient system **we have reduced the use of primary energy by approx. 20%**, followed by the reduction of CO2 by approx. 27% and of NOx by approx. 45%.
Moreover, we have not only put in the cutting-edge machines with high efficiency, but also set up the **BEMS (Building Environment and Energy Management System)**, which saves energy by checking the energy consumed in the building and inside the room. The system checks the amount of the energy usage on a real-time basis to avoid the overuse or wasting of energy. With this system, **Roppongi Hills Mori Tower has succeeded in reducing the consumption of primary energy by 23%** more than firstly expected (resulted in 2007).