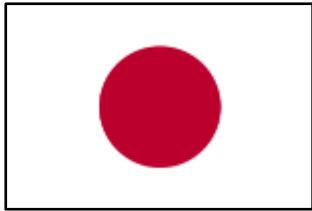


# An installation of AHT's outdoor ribbons for snowmelt & de-icing operates with adaptive control system at the "Bank of Kyoto, Ltd." in designated parking lots for handicapped people

## The objective:

Pilot testing of new concept of Snow piles prevention and de-icing control method for designated parking lots for the bank's handicapped customers.



We are very proud to report and update the entire AHT family on a completion of installation of AHT's Outdoor Heating Ribbons at a branch of the Bank of Kyoto; Ltd. parking lot located in the most northern part in Kyoto prefecture (京都府) – that is notorious of its heavy snowfall.



Typical condition of heavy snowfall in the northern part of Kyoto prefecture



Famous place for beautiful terraced rice fields.



### ■ Before the installation work



Snowmelt & De-icing area  
(First trial is for two cars)

### ■ Fixing the control enclosure



■ Installation work



■ Sensor for temperature embedded in the concrete



■ Sensing and control system





September 26, 2019

■ After ribbon layout



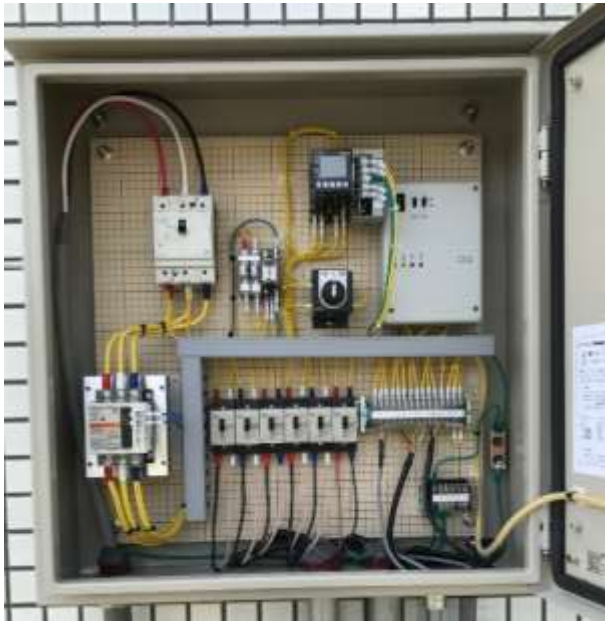
■ Insulation test – Pass Successfully!



■ After casting concrete



■ Inside of the control enclosure



■ Control System's sensors



■ Adaptive control system

Using new electrical component, enables optimizing the ribbon's power output (heat flux) proportionally to the ambient temperature in 4 steps starting from 70% up to 100% power output as depicted below.

When light snowfall begins it is not too cold (~3°C on December and on March) in Kyoto.

The amount of radiant heat necessary to melt down the snow is less than maximum output hence; to save power consumption and running cost, the control system energizes 70% capacity to the heaters and benefit from AHT's ribbon's efficiency.

The colder it gets outside, the higher output power (heat flux) ratio will energize the ribbons respectively. On the coldest winter, AHT ribbons will be fully energized (100%) to produce maximum power output (heat flux).

Additionally, the controller senses the temp. of the concrete surface in order to de-icing melted snow and assist to optimize the ribbon's energizing time to maintain the concrete temperature slightly above 0°C to prevent ice formation.

