

## **Raychem**

# Fountain Park, Edinburgh

### **PROJECT DETAILS**

<b>Client:</b>	Carillion
<b>Location:</b>	Edinburgh, Scotland, UK
<b>Completion Date:</b>	September 2010
<b>Contract Scope:</b>	Design, Supply, Installation
<b>Applications:</b>	Frost protection for gutters and downpipes
<b>Technology:</b>	Raychem IceStop GM-2X cable with EMDR-10 controllers, RayClic connection system



### **KEY CHALLENGES**

Fountain Park is a large scale leisure complex that was originally constructed in 1999 with a complex metal roof that features deep, prominent overhangs above the pavements below. The roof had begun to exhibit problems in harsh weather conditions, with the build-ups creating damage and presenting safety hazards caused by falling ice and snow. Faced with the prospect of having to replace the roof completely, Engineering Consultants URS were challenged to provide a robust and efficient method of preventing ice and snow build-up in gutters and drainage pipework. Whilst the consultants were aware of the Raychem solution, they insisted on Thermal Building Solutions proving its credentials and track history.

### **SOLUTION**

Following a visit to a similar installation at Glasgow University, the performance and efficiency of the Raychem solution was demonstrated clearly. Thermal Building Solutions designed and supplied a system based on its Raychem IceStop GM-2X self-regulating heating cables to protect the roof by preventing ice and snow 'damming' in gutters and creating water flow by providing a path whereby melting ice and snow can drain safely off the roof, along the gutter and down the drain pipes. The system is managed by 8 Raychem EMDR-10 units which provide smart control.

The cable's self-regulating technology regulates its own heat output in response to ambient conditions, eliminates hot spots and results in better temperature control to protect roof and gutter materials. In addition to providing a robust solution, this also offered considerable benefits in energy-efficiency.



Using the RayClic connection system enabled the system's 630 metres of cable to be installed speedily even in an exposed location. The cable's parallel circuitry allowed it to be cut to the exact length required, simplifying installation and with no wasted cable, provided a cost-effective solution.

## PRODUCTS

Raychem IceStop GM-2X is a self-regulating heating cable specifically engineered for roof and gutter de-icing. Its heating element consists of a continuous core of conductive polymer extruded between two copper bus wires. As current flows through the core, the heating cable regulates its own heat output in response to ambient conditions. This self-regulating effect saves energy by automatically increasing its heat output in icy water and decreasing its output in dry air. Simple to install, the cable can be closely spaced in gutters without the risk for overheating or burn-outs.

The Raychem EMDR-10 is a smart control unit that incorporates both temperature and moisture sensors. The unit only switches the heating cable on when necessary: after the detection of both low temperature and moisture, enabling power savings of up to 80% to be achieved.

The Raychem RayClic connection system is a simple, fast and reliable set of connection kits which requires no wire stripping because the insulation displacement connector makes the electrical connection



## BENEFITS

- Fast and economical to install
- Highly energy efficient
- Reduced capital, maintenance and energy costs

Fountain Park is an entertainment destination in Edinburgh that includes a 13 screen cinema, casino, bowling alley and a wide variety of places to eat and drink. Engineering consultants for the project were URS; HF Electrical the M&E contractor and the Thermal Building Solutions system was supplied by its distribution partner Smith Electrical.

The Raychem system has provided a robust and efficient method of preventing ice and snow build-up in gutters and drainage pipework.



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