

Thursday, 02 June 2016

RBS Head Office
Gogarburn
Edinburgh

Trial Summary

WATER:

Overall cloakroom tap water usage reduced by 60%

Waterblade Easy water saving: 5.2 m³ per tap per year.

Waterblade Easy water cost saving: £9.27 per tap per year

ENERGY:

Overall cloakroom tap energy usage reduced by 60%

Waterblade Easy energy cost saving: £17.24 per tap per year

COMBINED:

Water and energy cost saving: £26.51 per tap per year

-This gives a payback period of under 3 months @ £10,00 per **Waterblade Easy**.

-Whole building reduction in water consumption of 4% plus 1.25% of the buildings gas consumption plus 0.25% of the whole building electricity consumption.

-The 30 taps were fitted with the **Waterblade Easy** in 6 separate cloakrooms on 3 floors.

- It took under 30 minutes, less than 1 minute per tap.

Taps original flow: Aerators @ 6 Litres per minute(l/m) max.

Waterblade flow 3 l/m max.

- Legionella risk 'Looking at that data it would appear that the installation of the Water Blade has made no difference to the water temperatures so should be fine to install as long as not fitted to little used outlets.
- This report is based on data collected by RBS contracting engineers and RBS Facilities Management, Carillion. It has been approved by RBS Technical oversight.
- User Feedback; 'You will be pleased to know that the staff survey we completed was very favourable to Waterblade, so expect a large order very soon.' (JS RBS Workplace Services)

Full Report

Water

Using the data supplied by CD (RSP), engineers.

We have an initial baseline rate of 1m³ per week cold and 3.5 m³ hot. That gives 4.5 m³ per week combined.

After fitting we measured .31 m³ per week cold and 1.2 m³ hot. That gives 1.51m³ per week combined.

This gives 3 m³ per week saving. Times 52 gives 156 m³ per year. Divided by the 30 taps in the trial gives a saving of 5.2 m³ per year per tap.

Multiplied by the cost of supply and waste of £1.7828 per m³ gives a saving of £9.27 per tap per year (water).

Waterblade Easy water saving: 5.2m³ per tap per year.

Waterblade Easy water cost saving: £9.27 per tap per year

Energy

Hot water saving of $3.5 - 1.2 = 2.3$ m³ per week. Times 52 gives 119.6 m³ per year.

Divided by the 30 taps in the trial gives a saving of 4 m³ per year per tap.

Using the data provided by AC, RBS we have an average annual cost of energy of £6.09 plus £2.53 per m³ per year, gives £4.31 per m³ per year. Times 4 gives £17.24 per tap per year energy cost saving.

Waterblade Easy energy cost saving; £17.24 per tap per year

Waterblade Easy combined water and energy cost saving; £26.51 per tap per year

This gives a payback period of under 3 months @ £10,00 per **Waterblade Easy**.

If rolled out to all business houses it would save 30 (taps per house) times 7 (houses) times £26.51 gives £5,567.10 per year every year for a cost of under £1,260.00.

It would save (30 x 7 x 5.2 gives) 1,092,000 litres of water per year, that's a 4% reduction (1,092,000/28,648,000), which may also be possible for the whole campus.

This would reduce the whole campus by 4% of 36,718,000L gives nearly 1.5 million litres of water per year. (Figures from GS, Carillion)

In terms of energy saved, saving 1,092,000 litres of water per year equates to $(3.5/4.5 \times 58\text{kwh}/\text{m}^3 \times 1,092\text{m}^3 = 49,261\text{Kwh})$ nearly 50,000 KWH per year for the main office.

To give this some rough context, that is 1.25% of the buildings gas consumption. (178,000m³/year (GS Carillion) gives 2 million KWH/year, 25,000 is 1.25%) plus 0.25% of the buildings electricity consumption.(14 million Kwh p/a entire campus, (GS

Carillion) say 10 million the main building, 25,000 is .25% of 10 million.)

Installation

The 30 taps were fitted with the **Waterblade Easy** in 6 separate cloakrooms on 3 floors. It took under 30 minutes to fit all taps or less than 1 minute per tap.

Legionella risk, based on comparable before and after L8 temperature data supplied by GS (Technical Services Manager Carillion) and evaluated by MB (Head of Water & Air Quality, Carillion Services)

Looking at that data it would appear that the installation of the **Waterblade Easy** has made no difference to the water temperatures so should be fine to install as long as not fitted to little used outlets as that could create problems with the flushing of those taps identified as low usage.

This report is based on data collected by RBS contracting engineers and RBS Facilities Management, Carillion.

It has been approved by RBS Technical oversight.

User Feedback; 'You will be pleased to know that the staff survey we completed was very favourable to **Waterblade Easy**, so expect a large order very soon.' (JS RBS Workplace Services)