

# Water Efficient Toilets

## at a glance...

Low flush toilets have:

- lowered water bills
- reduced maintenance costs
- eliminated smells

*Low flush toilets can cut water use by more than half. Water may not seem like a resource that needs 'saving' in the UK and France. Yet, in the South East of England we use more water per person than in the rest of Europe – a massive third of which goes on flushing the toilet.*

According to the Department for Education and Skills, the average spend on water in schools is over £6 per pupil per year. This case study shows that this cost can be cut and water saved: by replacing typical 9 litre school toilets with new low flush (4.5 litre) toilets, costs can be reduced by about £1 per pupil per year, without compromising the flush performance.

St Leonards Primary School in Hastings, East Sussex, planned to refurbish its year 5 washrooms because of their age and condition. All cisterns were of nominal 9 litre flush, but with the actual flush varying considerably between toilets due to poorly adjusted ball valves. The refill rate also varied, with the longest refill rate recorded at over 10 minutes. This led to unpleasant smells and un-flushed deposits. Working with Southern Water and the Environment Agency, East Sussex County Council piloted 'low flush toilets' in the School.

## Improvements

The toilets in the Year 5 washrooms (two in the boys', four in the girls') were the most heavily used in the school. Water meters and loggers were installed on the inlet pipes to monitor the pre-installation flows.

The table below compares the amount of water used before installation of the ES4 low flush toilets and after installation, showing a potential reduction in the amount of water used of nearly 40%.

	B1	B2	G3	G5	G6	G7	Total (litres)
Average flushes per day	5.6	3.9	20.6	13.9	10.9	6.3	
Average flush volume (litres/flush) Pre	8.7	4.1	6.1	6.3	9.6	8.0	
Average flush volume (litres/flush) Post	4.0	4.2	4.7	4.5	4.0	4.2	
Volume used (litres) per school day Pre	48.7	16.0	125.7	87.6	104.6	50.4	433
Volume used (litres) per school day Post	22.4	16.4	96.8	62.6	43.6	26.5	268
Daily water saved by ES4 toilets (litres)	26.3	-0.4	28.9	25	61	23.9	165

The school is delighted with the new low flush toilets. Not only have they reduced water bills but they have also helped to reduce maintenance costs because the seats are sturdy, which reduces the frequency that they get broken, and the cisterns are concealed behind panels, which reduces blockages caused by pupils putting rubbish in the cisterns.

At £260 each (in 2005) the cost of the ES4 toilets (shown right) are comparable to other models with similar specifications. ES4 is an approved product, listed on the UK's Water Technology List.



*“If you’re replacing toilets then I strongly recommend that you use these new, low flush toilets – they work very well and have made my job a whole lot simpler!”*

**Brian Johnson, Premises Manager, St Leonards Primary School.**

#### Contacts

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