

Project Profile - Utilities



PROJECT

**Lakeside Energy from Waste (EfW)
Facility, Colnbrook**

SUMMARY

Reinstating areas of drag on
newly constructed slip-formed
concrete faces

PRODUCTS

Monomix

CLIENT

Grundon Waste Management Limited

CONTRACTOR

Edmund Nuttall Limited working for
Itochu Takuma JV

BACKGROUND ►

The Lakeside Energy from Waste (EfW) facility at Colnbrook has been operational since 2010. Located in close proximity to Heathrow T5, it was constructed at a total cost of £125m, with the civil engineering package alone valued at £35m. The facility is capable of recovering energy from over 410,000 tonnes of residual (non-recyclable) waste per year from local authorities and businesses, and diverting 100% of waste from landfill. Lakeside produces enough electricity to power approximately 50,000 homes, which is equivalent to a town the size of Slough.

Lakeside Energy from Waste remains one of the most modern facilities of its type in the UK. When the facility was constructed, slip-forming techniques were used for the concrete construction, but binding in the forms led to drag from the face and concrete reinstatement was required to ensure the original design life of the concrete.

THE SOLUTION ►

Voids created by the fall-out from the moving form were extensive, so a high build mortar was required to reinstate the concrete. **Monomix**, a high strength, shrinkage compensated, waterproof cementitious mortar, was chosen as it could be easily applied in layers, each up to 80mm thick on vertical faces. **Monomix** was rapidly applied by hand and a high quality finish was achieved using a steel float.

Monomix is CE marked as Class R3 for structural repairs and its composition is based on ordinary Portland cement, so it is compatible with the parent concrete. It is low sag, develops exceptional bond strength, excellent tensile and abrasion resistance, high diffusion resistance to acid gases and chloride ions and low permeability to water, even at 10 bar pressure. Its high compressive strength reaches 23.5MPa within just 24 hours, increasing to 42MPa within 28 days. Non-toxic when cured and with a waterborne composition, **Monomix** can be safely applied without the release of hazardous solvents or strong odour.

Monomix provided a durable and economic solution to a problem which is commonly faced in new construction. It was able to ensure the original 120-year design life of the Energy from Waste facility.



FM 41091
EMS 597350
OHS 597351

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