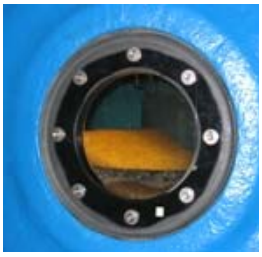
Sustainable Procurement Case Study: Glass

LEISUREDROME SWIMMING POOL, Bishopbriggs, Glasgow

Authors: Cheuk Lee, Hugh McCoach






The Leisuredrome, operated by East Dunbartonshire Council, is one of the most popular leisure centres in Scotland. Up to 800 visitors frequent its swimming pool complex every day. The recent refurbishment of the 25-metre pool, through funding in part by SportScotland, provided the opportunity for Leisuredrome to implement sustainable procurement practices.

In selecting Active Filter Media (AFM), which is derived from recycled glass, as the filter media in place of traditional filtration sand, East Dunbartonshire Council broke the mould by commissioning the installation of an entirely new filtration system by S.P. Filtration. The Leisuredrome pool complex utilises 36 tonnes of AFM in its four filtration systems.

Benefits achieved to date include cost savings, improved filter performance and enhanced public enjoyment. The use of AFM has resulted in annual savings of approximately £10,000 and since the reopening of the swimming pool, users have complimented on the clearer water, reduced chlorine irritation in their eyes and lack of odour.

About AFM

AFM, manufactured through a patented process technology developed by Dryden Aqua Limited, is the UK's first commercially available recycled glass filter media.

In addition to acting as a mechanical filtration media, AFM possesses surface active properties of adsorption and catalysis. Unlike other glass products, AFM does not impart toxic residues to the process water and will not cause harm to fish or marine invertebrates.

AFM is manufactured from recovered brown and green glass

Lifetime Cost Savings

Overall, each tonne of AFM used in the filtration system leads to an annual cost savings of approximately £300.

Compared with sand, which requires to be replaced every 4-5 years, AFM will last for the life of the filter. Cost savings compared with sand are derived through avoiding periodic replacement and subsequent disposal to landfill. Additional cost savings are achieved in three key operational parameters: (1) back flush water, (2) chemical treatment and (3) energy. With each filter requiring 25m^3 of water during backwashing at a cost of £1/m^3 water, significant cost savings are realised when taking into consideration that sand requires backwashing once or twice weekly compared with the 10-14 days for AFM.

Health Benefits

AFM, unlike sand, will not support bacterial or fungal growth when used as a filter media. The presence of bacteria or fungi in the filter will not only lead to a reduction in filter performance but these will eventually enter into the water posing an obvious health hazard to pool users.

With AFM as the filter media, the resultant reduction in both bacterial levels and chemical usage means lower levels of chlorine and associated chemical irritants in the pool – lessening heath concerns, especially for asthmatics and those with other respiratory disorders.

Environmental Benefits

The raw material used in the manufacturing of AFM is recovered green and brown glass containers. The patented process technology ensures a sustainable product of high and consistent quality. Through replacing sand as a filter media, AFM reduces the negative environmental impacts created by sand such as mineral extraction, transportation and disposal.

AFM has gained recognition by a host of leading organisations – including CIWM, WRAP, IWEX, LIFE Environment, SMART – for its positive contribution to the environment. Most recently, it garnered the prestigious *Green Apple Environmental Award* for the best new environmental product in the UK.

Sustainable Procurement in Practice

East Dunbartonshire Council operates the Leisuredrome and in 2003, the Council began the complete refurbishment of the aging pool that had been in service for more than 30 years. Despite the higher capital cost of an AFM filtration system compared with one that utilises sand, careful cost analyses prior to commissioning the project revealed savings in the long run far-outweigh the initial costs of AFM.

The potential obstacle presented by the higher initial capital cost was overcome, in part, by successful funding applications to the National Lottery and SportScotland. By committing to using AFM, East Dunbartonshire Council was able to fulfill a part of its environmental responsibilities and to help demonstrate a closing of the recycling loop through procuring a sustainable product – manufactured in part from waste glass recovered from residents in East Dunbartonshire itself!

The Council is now reaping the accumulative rewards of significant overall cost savings, improved filter performance, better water quality as well as a more pleasant and safer environment – making for happier bathers and staff. Indeed, given the whole-life cost benefits and superior performance, East Dunbartonshire Council has confirmed that the specifications being developed for future recreational facilities in Kirkintilloch will require that filters achieve similar quality to AFM.

Buying For A Brighter Future

Remade Scotland hosted the successful workshop *Buying For A Brighter Future* at the Leisuredrome, Bishopbriggs, Glasgow, in December 2004. With its theme on *fit for purpose* and *best value*, the event emphasised the need to consider whole-life cost issues and addressed misperceptions regarding quality concerns of recycled content products.

Presentations made at this event can be viewed at:
http://www.remade.org.uk/Glass/bishopbriggs_event.htm

For additional information, please contact:

Remade Scotland: Drummond House (3rd Floor), 1 Hill Street, Glasgow, G3 6RN
T: 0141 582 0450 **W:** www.remade.org.uk

Leisuredrome: 147 Balmuildy Road, Bishopbriggs, Glasgow, G64 3ET
T: 0141 772 6391 **W:** www.eastdunbarton.gov.uk

Dryden Aqua Limited: Butlerfield, Bonnyrigg, Edinburgh EH19 3JQ
T: 018758 22222 **W:** www.drydenaqua.com