total
Waste Water Systems (Uk) Ltd

...our customers needs are of the upmost importance

Smart Sponge®
Interceptor Enhancers

Based on the current Smart Sponge® Passive Skimmer these products are installed within existing interceptors/separators (OWI's) to dramatically increase the effectiveness of the OWI (from typically 45% removal to 95% removal) whilst at the same time reducing annual maintenance costs by up to 60%.

The regulations controlling the maintenance of interceptors/separators OWI's) advise six monthly inspections and emptying & recharging with clean water when required. A new method of reducing both maintenance costs and environmental waste when servicing OWI's by the use of the Smart Sponge® Interceptor Enhancers has shown dramatic results. The Smart Sponge® absorbs the hydrocarbon contamination and locks it into the molecular structure of the polymer transferring the hydrocarbons into a solid waste suitable for either controlled disposal or for use as an alternative fuel. This unique ability means that instead of disposing of tonnes of contaminated liquid waste it is now possible to reduce this dramatically to a few kilos of solid waste, thus achieving dramatic savings in both cost and environmental benefits.

Traditionally, maintenance of an OWI would consist of a tanker with a 2 man gang extracting the whole volume of the OWI (in the case of even a medium sized OWI this couls amount to 110,000 litres or 110 tonnes) which would take many trips plus the disposal costs of the contaminated waste. The tanker would then have to re-charge the OWI to bring it back to operating condition.

Taking the same OWI as an example and now using a Smart Sponge® Passive

Smart Sponge® - The Technology Chemically selective to hydrocarbons, removes sheen, transforms pollutants into a stable solid, non-leaching, fully recyclable.

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Skimmer as a solution, this would transform the 116 Tonnes of liquid waste into just 145 kg of solid waste and the maintenance procedure becomes just a 2 man job with a van. The cost and environmental benefits of this new system are obvious, particularly when many such OWI's can be serviced in a typical day.

In recent tests carried out on a 'typical' MOD facilty it was shown that a 64% saving in maintenance costs could be achieved together with a 99% saving in the volume of environmental waste – and even this 1% of remaining waste can be used as an alternative fuel as part of the waste for Energy initiative creating a truly closed loop system of maintenance where everyone benefits.

Smart Sponge®
The Technology

Chemically selective to hydrocarbons:
- Removes sheen
- Transforms pollutants into a stable solid
- Non-leaching
- Fully recyclable

Smart Sponge® - a proprietary polymer technology unique in its ability to effectively re move, absorb and retain hydrocarbons from flowing or pooled water. Smart Sponge® technology maximizes the effectiveness of its oilabsorbing polymers by forming them into an extremely porous structure that allows effective, long-lasting absorption, without clogging or channeling, which is common among any other filtration media in a powder, particulate or fiber form. The Smart Sponge® polymers are also hydrophobic and oleophilic – allowing water to pass thru while hydrocarbons are absorbed. The structure is so effective, that even as it swells with contaminants, high flow rates and filtering capabilities are still maintained. Field and laboratory tests have confirmed the Smart Sponge® capacity to absorb up to five times its own weight (depending on the type of oil contaminant) and remove up to 95% of the hydrocarbons present in stormwater runoff.

Absorbent vs Adsorbent

The Smart Sponge® proprietary blend of polymers is oleophilic – an absorbent, which means that hydrocarbons are bonded within its chemical matrix. Therefore, absorption is permanent and saturated product cannot be washed off, squeezed out, or leached from the material during subsequent rain events. Once absorbed, those pollutants are transformed into a stable solid for easy recycling, providing a closed loop solution to water pollution. Traditional absorbents lack this absorbent characteristic, instead they feature an adsorbent capability that merely attracts hydrocarbons to their surface, but cannot prevent them from leaching back into the environment.

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