



# Block release system

**E**NOUGH waste polystyrene to fill 15,000 Olympic-sized swimming pools is currently land filled in the UK every year. Purex International has developed a new system to thermally densify this waste into a form that can be recycled into new products and fuels.

Polystyrene is a very effective packaging material but disposing of or recycling it can be problematic and expensive. Purex International believe their new Styromelt™ thermal densifier can save money and help the environment.

EPS is produced in thousands of different forms for specific packaging requirements and polystyrene is also used to make products such as disposable cups, trays, cutlery, cartons, CD cases and containers.

Well over 300,000 tons of waste EPS are produced on an annual basis in the UK, and in the USA according to the EPA over 377,579 tons of polystyrene are produced in California alone.

The question is, what happens to all this packaging once the goods it protects have been delivered? Although some companies have a recycling policy for this material if they use large amounts, unfortunately, most EPS will find its way into landfill sites around the world.

Because EPS is so light, the volume of landfill space it takes up compared to its weight is considerable.

Most household EPS is simply put in the bin and dumped into landfill, which is an environmental problem as the cost of landfill is growing while the availability is fast diminishing.

In industry, many companies place their waste EPS in hire skips that are collected by waste disposal companies. This has several drawbacks.

Manufacturers, retailers, supermarkets, fish merchants, education establishments, sports stadiums, cruise/ferry ships and hospitals (amongst others) may find that a sig-



## Recycling key: Styromelt system for polystyrene

nificant volume of their waste skip by volume is filled with EPS. Depending on the size of the skip they use and the frequency of collection, the cost of hire can be hundreds or thousands of pounds per week.

After collection the waste EPS usually ends up in landfill sites where it occupies a significant volume of space and because of its lack of weight it can be blown around and cause a nuisance in the surrounding area.

Landfill is fast becoming more and more expensive and scarce plus, government plans to fine local authorities for

not hitting recycling and landfill diversion targets make sending EPS to landfill potentially even more expensive.

This material is not generally a high-profile target for recycling unlike glass, paper, aluminium cans, batteries, tyres and the like. Many companies and local authorities may not have considered the implications of just how much EPS they are dumping. So what is the solution?

The new alternative to mechanical compaction is the Styromelt 'Thermal Densification System' from Purex International.

The machine has a loading area of approximately 2.5 cubic metres, which is filled with EPS, the door is then closed and locked and the machine switched on. Two temperature controlled thermal plates then heat the EPS to melting point where it releases all the air and other gases it contains forming a thick liquid, which is collected in a tray where it cools.

Once cool, the now solidified block is removed from the tray and stored for recycling.

The EPS is reduced by up to 95% of its original volume and the solidified block is completely sterilised so it can be stored indefinitely, easily handled or transported.

Fumes from the process are passed through a filter system and the machine is IP56 rated and manufactured from stainless steel so it can be situated outdoors.

Reducing the amount of landfill space EPS takes by up to 95% would be reason enough to thermally densify this material. But EPS holds a few recycling secrets.

This material can be recycled into a myriad of new products. The thermally densified blocks can be turned into coat hangers, picture frames, replacement hardwood, disposable cameras and CD cases to name but a few. There is also an emerging market for EPS blocks for the production of fuels such as green diesel and LPG.

Further information on <http://www.styromelt.com> or call 01709 763000 for a free site survey and consultation.

## 'Triple line' of the essential considerations in new builds

'GENERATE the maximum value' is the priority BDP often have as we work towards achieving our business goals. However, when it comes to regeneration and development of the built environment around us, how do we define value and is the definition changing as the sustainability agenda grows?

Planning policies are generally leading to extremely high-density developments, with space being squeezed away from the public realm to provide the maximum 'value'. This value has generally been considered to be the maximum area for letting, which will offer the highest possible return on investment.

And yet it has been noticed that our values as developers, designers and tenants are changing and a trend is emerging: as we reflect on corporate social responsibilities and the sustainability issues, as we respond to the pressures to become greener and as we become more aware of things other than the traditional single bottom line.

In order to deliver truly sustainable projects, it is essential to meet the 'triple bottom line' of environmental, social and economic considerations. The approach to any new project taken by BDP is to deliver projects which offer excellence in sustainability but without higher capital costs and to advocate 'whole-life' costing in all projects.

The adaptability of buildings is important and their ability to cope with climate change, different uses and a growing population determines how much of a reduced impact they have on the environment and the longevity of the value that has been created through their design. BDP's sustainability mission is two-fold:

- To spearhead the understanding of changes in ecological construction technology and
- To present the holistic benefits available to the client through the detailed consideration of the practices and products of ecological construction.

Thereby solutions can be offered which generate maximum value through high efficiency, comfort and performance in tandem with reduce consumption of non-renewable resources.

To keep pace with the progress and development of technology for the construction industry and to take advantage of their knowledge, it is important to maintain contact between academics and businesses.

Best practice has shown there are advantages to be gained by responding directly to a project's environment at the design stage and incorporating features as integral elements of the project, rather than simply specifying the likes of a sedam roof further down the line.

BDP has successfully used seminars and debates, for a mixed audience, to disseminate and share the knowledge and current thinking between design professionals and academics.

The most recent event was held in our Manchester office with a focus on green roofs changing the built environment and had input from Manchester City Council's planning department.

The discussions acknowledged the fact that developers are switched on to the benefits of investing in green issues and how clients want to have buildings that respond to the environment surrounding them. Bringing us back to the fact that we all want to achieve maximum value from our projects, and understanding that what is perceived as value is changing. The simple definition of 'highest possible return on investment' is not necessarily valid any longer.

## REDUCE COSTS ■ REDUCE WASTE



How many trucks does it take to transport waste polystyrene

### NORMAL POLYSTYRENE



### COMPACTED POLYSTYRENE



### STYROMELT DENSIFIED POLYSTYRENE



less trucks = less costs



The Styromelt machine from Purex essentially melts polystyrene to form a dense block of material that is reduced in volume by over 95% of the original material. So a 2.5 cubic metre load of polystyrene comes out of the machine as a small block approximately 90cm x 25cm x 5cm. The block can be stored then sold to recycling companies who then turn it into fuels such as green diesel or new products such as garden furniture.

- SAVES PRECIOUS LANDFILL SPACE
- DENSIFIES POLYSTYRENE BY 95% INTO SMALL BLOCKS
- BLOCKS CAN BE MADE INTO NEW PRODUCTS/FUELS
- BLOCKS CAN BE SOLD TO RECYCLERS AS FEEDSTOCK

## Creating places for people

[www.bdp.co.uk](http://www.bdp.co.uk)



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