For Construction, Civil Engineering and Architectural professionals

Expanded Polystyrene (EPS) is proven in use over decades across the globe for construction, insulation and civil engineering applications. It has many advantages including light-weight, strength, durability, low environmental impacts and brings exceptional cost-effectiveness.

The Sustainable Choice

WHAT ARE EPS SUSTAINABILITY CREDENTIALS?

Sustainability Issues in Production

BPF EPS manufacturers use advanced 'clean technologies' and operate to internationally accepted environmental management standards which is subjected to continuous audit.

EPS is 98% air. It uses no CFCs or HCFCs in manufacture and all emissions are controlled strictly within environmental regulatory frameworks which apply in the UK and EU.

EPS brings considerable energy and resource-saving benefits. Using less than 0.1% of global oil as a feedstock, it can save up to 200 times its own resource in thermal energy saving.

All energy, heat and water inputs at manufacture are strictly monitored and re-use and recycling on a closed loop basis is adopted wherever possible.

EPS manufacturing units do not produce residual solid waste from the production process.

All process waste, off-cuts etc, is recycled into the production process.

Environmental Advantages in Use

EPS is the lightest of all construction materials in common use - thus helping minimise environmental impacts and costs associated with the movement of heavier materials.

EPS ECO points projected over a 60-year life amount to only 0.043. This indicator is based on accepted robust assessment procedures covering production, transportation and disposal and is a clear measure of the minimal environmental impacts of EPS in construction.

Eco-balances and life-cycle analyses demonstrate that EPS has exceptional merits as a construction material. For example, it has Zero Global Warming Potential (GWP)

EPS for commercial construction applications gets the highest possible A-Plus summary rating in the BRE Global Green Guide to Specification (**www.thegreenguide.org.uk**). This makes EPS one of the special group of construction materials which have the least possible environmental impacts. In fact, In addition to the A Plus summary rating, EPS (rated on element no. 815320022) gains 'A' ratings across the majority of the critical environmental performance matrices including:

Water Extraction	A+
Mineral Resource Depletion	A+
Stratospheric Ozone Depletion	A+
Human Toxicity	A+
Ecotoxicity	A+
Nuclear Waste	A+
Waste Disposal	A+
Fossil Fuel depletion	A
Eutrophication	A+
Acidification	A

BPF EPS Construction Group,
6 Bath Place, Rivington Street,
LONDON EC2A 3JE

www.eps.co.uk
t: 0207 457 5000

EPS
ECONOMY PERFORMANCE SUSTAINABILITY

EPS TECHNICAL BRIEFING

For Construction, Civil Engineering and Architectural professionals

SUSTAINABILITY

EPS has outstanding thermal insulation qualities which make it a first choice material for many construction applications. **The light weight, low impact qualities of EPS combine with its energy saving insulating properties to bring real potential for reducing CO2** - making sure it more than offsets its small carbon footprint - giving maximum return for minimal resource.

Heating and cooling of buildings accounts for around half of Europe's total energy consumption. By acting as a highly efficient thermal insulator, EPS can also make a significant contribution to reducing fossil fuel for these purposes. In turn, this **helps reduce SO_2 and SO_3 emissions** – a major cause of acid rain.

Void Fill in Civil Engineering

Using expanded polystyrene as an embankment and infill material **avoids the environmental impacts of transporting many thousands of tonnes of ballast each year**, as well as reducing the energy and environmental costs of quarrying.

EPS has extremely low moisture absorption and will never rot. Together with its outstanding ageing and chemical resistance, it offers **exceptional durability** which, in turn, overcomes the need for replacement which would mean resource wastage.

Post-Use Environmental Credentials

EPS is **recyclable** at many stages of its life cycle. During production, all manufacturing waste can be fully reprocessed by milling or granulating into pellets and adding to the production mix without any detriment to the quality of the finished EPS product.

The integrity and performance of EPS can be expected to last at least the full lifetime of the building in which it is used. At the end of its useful life, however, the fact that EPS **does not degrade or deteriorate** throughout its life means that it is ideal for recovery and recycling.

Used EPS is collected in the UK via a network of established recycling points from which it can easily be converted to other EPS products, including long-life applications. These range from such diverse products as coat hangers and CD cases to wood-substitute products which are **chemically inert and weatherproof**.

EPS for commercial construction applications is most likely to be captured as part of the existing infrastructure of building waste collection where, through its unique appearance, it can **easily be identified and sorted for onward recycling**.

The amount of construction-based EPS found in the domestic waste stream is very small indeed and, in fact, even when we take into account the widespread use of EPS in packaging, it has been calculated that **EPS accounts for only 0.1% of Municipal Solid Waste (MSW)**.

The UK Government is now moving rapidly towards making greater use of clean-burn incineration of waste into energy and hot water for district heating. The number of UK facilities for energy recovery from waste is expected to triple by 2020. As part of the waste mix, plastics (including EPS) play a crucial role in helping achieve the temperatures required for optimum clean-burn efficiency. In the event, therefore, that EPS does not find its way into the recycling stream, its **calorific value - which is higher than coal** - can easily be recovered to benefit homes, offices and factories.

Whilst landfill is a last resort, at the end of the preferred waste management hierarchy, users and specifiers of EPS should be reassured that, even when confined to landfill, EPS remains inert and will not decompose to generate greenhouse gases or degenerate to pollute the air, water or ecosystems. It has virtually **zero Ozone Depletion Potential (ODP) and Global Warming Potential (GWP)**.

This is one of a series of Technical Briefings for building and architectural professionals. It accompanies our new Specifier Guide. Please visit our web site for copies of all these publications.

BPF EPS Construction Group,
6 Bath Place, Rivington Street,
LONDON EC2A 3JE

www.eps.co.uk
t: 0207 457 5000

EPS
ECONOMY PERFORMANCE SUSTAINABILITY