



TECHNICAL BULLETIN NO. 9

PRODUCT: XFLAM® INSULATION

JULY 2003

SITUATION: ENVIRONMENT AND SUSTAINABILITY

APPLICATION: CONSTRUCTION

ISSUE: Climate change is a concern to the global community and there are several factors to be considered regarding the positive and negative contributions made by construction materials.

BACKGROUND: MANUFACTURE:- XFLAM® is a light weight syntactic foam material comprising of expanded polystyrene (EPS) and a phenolic resin based matrix. EPS is a polymerised hydrocarbon well known to be completely food safe and producing no leachate when buried. The blowing agent for expansion is pentane, a non-ozone depleting hydrocarbon, which is captured during the expansion process and is not present in the final product. The phenolic resin matrix does not contain any additives harmful to the environment. XFLAM® achieves its fire resistance without the need to use halogenated fire retardants in either the EPS or phenolic matrix. If involved in a fire XFLAM® emits negligible smoke or toxic gases and actively reduces fire spread to the extent that XFLAM® has met the standards for Airbus aircraft interior applications.

Following processing the matrix is fully cross-linked and resistant to either water ingress or leaching. The final product is pH neutral. An XFLAM® production plant has an extremely low carbon footprint, has nil water use, and has minimal atmospheric or other emissions.combustion products under a heat load of 25kW/m². (Reference)

PRODUCT USE:- XFLAM® Panel is a fire rated insulation product and as such is designed to reduce heat transfer. XFLAM® therefore reduces the energy required to maintain a required set of conditions within a building or storage space throughout the life of the product. The fire resisting capability effectively reduces the risk of a major environmentally damaging event. XFLAM® is therefore a passive carbon reducing product.

LIFE CYCLE:- XFLAM® has been designed to be fully recyclable and may incorporate a proportion of granulated scrap/offcuts, eliminating production waste, whilst enhancing the fire resistance. As installed panel reaches the end of life position in a building the insulation core may be recovered and returned to the XFLAM® plant for recycling. The steel skins similarly are recovered as steel scrap.

Approval

Technical Manager
XFLAM Pty Ltd

References:
Dr. Murray Orpin, Pyro Technologies Ltd.