BRUFMA guidance on reducing rigid insulation waste in construction

Rigid insulation foam construction products are playing an ever increasing part in helping to reduce CO_2 emissions as well as reducing spending on energy. The products are very low density (lightweight), but because of this a small weight can take up a large volume. This is an important consideration when waste products are merely put into a skip for landfill. The materials are also quite expensive in themselves, and combining this with the ever increasing costs of sending materials to land fill, it is vital that all attempts are made to minimise waste.

On construction sites, waste most usually occurs when board products are cut down to a size, resulting in off-cuts. The products are also easily damaged if they are incorrectly stored or left lying about unprotected.

There are several activities which can help in reducing the waste generated:

1) **Design out waste**
   This is a fundamental step early in the process, and depends on the designer fully understanding the products specified, their dimensions, and their physical attributes. Working with the product suppliers to ensure the most suitable sized products and the correct quantities are ordered can help. Over-ordering of products can be a problem, particularly where 'pallet-loads' of materials are delivered and excess material is then generated. Ensuring that products are delivered 'just in time' can also help in minimising waste on site.

   WRAP have developed a software tool '[Designing out waste in buildings]' which may help at this stage.

2) **Optimise site practices to reduce waste**
   It is essential that there are good site practices so that products are stored and handled correctly in order to minimise damage. Ensuring operatives fully understand the optimum handling techniques and also costs associated with poor practices is fundamental here.

3) **Use of off-cuts**
   In many cases where materials have to be cut down to size for a fit, the off cut may be able to be re-used in a different location on site, as the fundamental product properties may not have changed. This is particularly true of most insulation materials which play no part in the structural performance of a construction. Opportunities to do this may be available at the design stage, but also at the construction stage.

Chief Executive: John Roberts. A company Limited by Guarantee. Registered in England No. 1369401. Vat Registration No. 305 7710 74
Registered Office: 12a High Street East, Glossop, Derbyshire SK13 8DA

4) **Use of 'take-back' schemes**

Some manufacturing companies are willing to work closely with sites to take back offcuts or waste which cannot be used elsewhere, so that the waste material can either be re-used or incorporated into a different process or product. This may depend on the size of the construction project itself, and the logistics and transport costs, but this is seen as an increasingly attractive option when possible.

There is already extensive literature available on reducing construction waste, and links to some of this material are given below

Designing out waste tool for buildings

An action plan for halving construction, demolition and excavation waste to landfill (on behalf of the strategic forum for construction)

WRAP guidance on reducing construction waste

Desigining out waste: a design team guide for civil engineering (WRAP in conjunction with the Institute of Civil Engineers (ICE))

Designing to encourage waste minimisation in the construction industry (Andy Keys, Andrew Baldwin and Simon Austin Department of Civil and Building Engineering, Loughborough University)

BRUFMA
April 2013