Gypsum Plaster products (and plasterboard)

Although plasterboard is designated as NON-HAZARDOUS waste, it has specific disposal issues when mixed with biodegradable wastes (like food). A reaction that produces hydrogen sulphide, a strong smelling, toxic gas and a constituent of acid rain can occur. Plasterboard waste has to be segregated for recycling or disposal in dedicated monocells at landfill.

The UK uses 200 million m$^2$ of plasterboard and 60 million bags of plaster each year. Annual sales have a value of £600 million - 60% is used in the construction of homes and commercial buildings, 40% for repair, maintenance and improvement. Up to 1.3 million tonnes of plasterboard waste is generated within the new-build construction and refurbishment sectors each year, and approximately 7.5% of all new plaster and plasterboard is wasted before even being used (the equivalent of 15 million m$^2$ of plasterboard and 450,000 bags of plaster!).

Minimise:
The best way to minimise the amount of plaster and plasterboard entering the waste stream is through careful product specification and use. When mixing plaster, make up only as much material as is needed for the work to be carried out, minimising residual material that will be disposed of. Plasterboard sheets in the design specification of the structure should take into consideration the product sizes available to reduce the amount of off-cuts produced.

Reuse:
If larger quantities of plasterboard sheets were delivered to site than needed, the procurement teams should contact the manufacturer / supplier and negotiate the return of the extra materials delivered to site. If there is another site that uses and requires the same materials, the extra materials should be transported there. If the construction company cannot use the plasterboard on another project or send them back to their supplier, the materials should be taken to a material reuse centre for reuse by other companies or the general public if possible.

Recycle:
Damaged boards and plasterboard offcuts can be readily recycled back into new plasterboard products or alternative end uses such as soil improvers. Opportunities to recycle plasterboard waste have increased in recent years with all the plasterboard manufacturers offering take back schemes. As plasterboard can no longer be disposed in co-mingled loads at a landfill, waste plasterboard has to be segregated and returned to the manufacture or sent to a dedicated plasterboard recycler.
Waste plasterboard materials taken for recycling are classed as a waste requiring their management to comply with the Environmental Permitting Regulations unless they have been prepared in accordance with the PAS109 standard which specifies how recycled gypsum from waste plasterboard should be produced. Recyclers complying with this standard produce recycled gypsum that is no longer classed as a waste.

**General advice:**

- Given the problems of disposal of plaster wastes, see how you can reduce or eliminate waste and save money by actively encouraging better design and good site practice, such as re-using off-cuts.
- Don’t waste materials. Use what you have on site. Work out your own way to use off-cuts.
- Store materials carefully so they are not wasted by damage from impact or moisture.
- Redoing work is very wasteful. Protect work so others do not damage it.
- Segregate your waste so you do not contaminate other wastes.
- Make sure plaster washings do not contaminate ground water.
- Find out how much recycled content there is in the materials you buy from suppliers and seek out those with higher recycled content.
- Consider using lime-based products.

Source: BNPB2: Plasterboard – waste management.

<table>
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<tr>
<th>Useful figures</th>
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<tbody>
<tr>
<td>Wastage rate*</td>
<td>10 % by weight (plasterboard)</td>
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<td>5% by weight (plaster)</td>
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<tr>
<td>SMARTWaste benchmark**</td>
<td>0.529 tonnes/100m² (Non-residential projects)</td>
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Notes:
* Taken from BRE’s Green Guide to Specification
* Based on completed projects on BRE’s SMARTWaste database (28th February 2010)

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