



Gypsum Waste Management Minimisation and Recycling

Gypsum waste minimisation

Minimising waste by good design

Most drywall projects generate waste – there's a 10% waste factor on many building sites, and in some cases it's up to 25%. Few offcuts are suitable for use elsewhere on a particular building site, so most go to waste.

There are many good reasons for the inevitability of plasterboard waste and offcuts: doorways, windows, irregular room shapes and non-standard ceiling heights are typical examples.

We've looked carefully at various sources of plasterboard waste to explore how it can be reduced or

avoided, and we can advise on detailing to reduce waste. For example, a floor-to-soffit height of 2,400mm means that most plasterboard products will fit precisely. Higher or lower soffits mean additional effort and potential waste. If a non-standard height is unavoidable, we can help with cut-to-length plasterboard solutions – provided they are ordered in plenty of time (minimum order quantities may apply).

Our Project Specification Managers and Technical Team are always available to discuss how you can maximise your design options in plasterboard – and minimise waste.



Our Eco Door Jamb solution minimises plasterboard waste

Minimising waste by good site practice

At Knauf Drywall we are keen to help you achieve the best solutions in drywall construction and waste management. So we are happy to share some of the extensive experience we have gained from working with drywall specifiers and installers.

We know that some gypsum waste results from bad handling of boards on site, or accidentally exposing plasterboard to wet weather. Material waste like this is also expensive in time and effort.

To help you avoid problems like this and ensure the best possible productivity, our Project Specification Managers can offer on-site advice, while our Training Centre provides comprehensive training in drywall installation – including the correct techniques for handling and working with materials on site.

As a result, the improved site practice will mean that installation teams should spend less of their working day moving waste material into skips – and more time installing.

Case study

NHS Centre gets fit with Knauf Drywall's gypsum recycling service



The £26 million Garrett Anderson Treatment Centre is being built for the Ipswich Hospital NHS Trust by Kier Eastern. By completion in December 2007, the four storey, 8,000m² development will contain a range of medical departments and care facilities linked to the existing hospital.

As part of its environmental policy, Kier Eastern has a strategic commitment to reduce waste. It has undertaken a number of approaches to minimise and manage the potentially significant waste generation at Ipswich. This was possible through the relationship between Kier Eastern, Knauf Drywall and the appointed Knauf waste contractor.

It is estimated that Kier Eastern will use 22,000m² (295 tonnes) of plasterboard on the Garrett Anderson Centre, generating 29.5 tonnes of waste. By entering a take-back agreement with Knauf Drywall, Kier Eastern has established a recycling system that provides cost certainties regarding plasterboard waste disposal and ensures proper management of waste.

Raw material

We use a high percentage of FGD gypsum – a recycled product with the same properties as natural gypsum.



Production line

FGD gypsum and recycled gypsum are blended to produce our high quality plasterboard.



Recycling station

The gypsum core of the waste plasterboard is separated from its paper facings – and both are recycled.



Construction

Plasterboard offcuts are inevitable during construction – but fortunately it's a fully recyclable waste stream.



Our closed loop process



Waste handling

Board offcuts are bagged or placed in dedicated skips and collected by our recycling team.

Gypsum waste recycling

The Knauf Drywall plasterboard recycling service provides a choice of four collection options to suit varying needs across the spectrum of building sites. Apart from its primary function of diverting the waste stream from landfill to useful recycling, the service also helps to reduce the labour element in waste removal.

A choice of bags, bins, skips and containers ensures that adequate waste holding capacity is provided as close as possible to the point of need. Ideally, each offcut is packed immediately into the nearest receptacle to maintain a clean and safe workplace. Because certain plasterboard products (see opposite) are not suitable for recycling, offcuts may

have to be segregated and placed in recycling or general waste containers.

The positioning of plasterboard waste receptacles and the types used depend on the size of the building project and the space available on site. These are then planned to minimise the physical handling of plasterboard waste, to reduce demands on cranes and hoists, and to avoid conflicts with other movements of materials and labour.

Each Knauf Drywall service means each waste management solution can be tailored to accommodate changes in the waste stream during a development. Different receptacle types and collection schedules may be needed, especially on central city or high rise projects where on-site storage is at a premium.

What can we recycle?

- Knauf Wallboard, Knauf Plank, Knauf Baseboard, Knauf Coreboard
- Knauf Soundshield, Knauf Fireshield, Knauf Moistureshield, Knauf Denseshield
- Knauf Sound Moistureshield, Knauf Fire Moistureshield
- Knauf Apertura, Knauf Cove
- Metal stud off-cuts

Collection systems to suit every site

Bulk bags



1 m³ bulk waste bags are used to collect plasterboard waste from house building sites. They can be placed anywhere within range of a lorry-mounted crane, for easy removal.

Wheelie bins (660 litre)



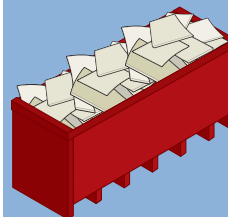
660 litre wheelie bins are used in large or high rise buildings and can be moved close to the installers for convenience. They are taken to a central point for loading into a mobile compaction unit.

Skips (6–14 yards)



5–11 m³ skips are used on medium to large sites where centralised waste collection is a convenient solution.

Ro-Ro skips (35–40 yards)



27–31 m³ roll-on, roll-off containers are used on major sites that generate large waste streams and where storage space is not at a premium.

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Proactive waste management

Limits on plasterboard in landfill as a result of the EU Directive have forced builders and subcontractors to adopt a more proactive approach to waste handling. This inevitably increases costs – which either add to inflationary pressures or the erosion of builders' profits. The Knauf Drywall Recycling Service is a proactive solution that softens the impact of the new regulations by providing certainty over disposal costs. It also provides tools for more effective waste management.

The service reports back to contractors, so they can compare their waste performance against budget throughout the contract. These regular reports help contractors to identify inefficiencies or other problems that result in excessive waste generation.

As the service evolves, we are working with our customers to achieve even greater efficiencies. Right now, the onus is on the plasterboard installer to ensure that all waste from acceptable Knauf Drywall products (see previous page) is stacked in the appropriate receptacle. Unacceptable products are regarded as contaminants, and they must be disposed of through other channels.

There is a strong business case for the discipline of sorting plasterboard waste for recycling.

Quite simply, the contractor can calculate waste disposal costs in advance and monitor waste performance during the contract.

Starting from a budgeted waste percentage, it's a small step to work out the tonnage of plasterboard waste that a project will yield. It is then easy to calculate the number of skips that will be required for recyclable material and the precise costs involved. This degree of efficiency gives contractors firm control over the plasterboard waste stream.

Contrast this with the traditional approach where all site waste is placed in a common skip and sent for disposal, usually to landfill. Skips are often filled inefficiently, so it is impossible to predict how many the project will need. This means uncertainty over basic skip hire costs, surcharges for excess tonnages and landfill taxes – especially if the sulphate content of a given load exceeds the 10% limit.

The Knauf Drywall Recycling Service enables plasterboard waste skips to be packed more efficiently to maximise the available space and load capacity. And new options may become commonplace: a prototype chipping machine for use on site has been shown to increase the volume to weight ratio of plasterboard waste by 20%. This saves time by making it even easier to ensure that skips or containers are loaded properly to capacity. And it simplifies the process at our recycling plants.

Further information is contained within The Complete Drywall Manual, available online at our award winning website: www.knaufdrywall.co.uk/themanual together with a range of interactive tools to aid the specifier and contractor.

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