



Plasterboard Composting Guidelines



Why consider including Gypsum into composting products?

Gypsum is a soft sulfate mineral and widely used as a fertiliser, compost, or cement additive. It's also used as the main constituent in plaster and plasterboard.

Recycled gypsum sourced from plasterboard off-cuts is commonly used as a bulking material in composting manufacture. Gypsum contains calcium and sulphur, both of which are essential plant nutrients. Calcium for proper cell division and for normal cellular functions, while sulphur help plants to create specific amino acids and as well as being a component for plant vitamins and enzymes.

Gypsum assists to build and revitalise the soil structure by encouraging small clay and silt particles to bind together to form stable soil aggregates. This provides improved water retention, storage, and drainage. Plants exhibit better root development and yield. Gypsum does not alter pH of the soil.

What GIB® plasterboard offcuts are suitable for recycling into compost products?

The gypsum contained within the vast majority of GIB® plasterboard is suitable for use in composting applications, this includes:

- GIB® Standard, including GIB Wideline®
- GIB Aqualine®
- GIB Fyreline®
- GIB Ultraline®
- GIB Braceline® GIB Noiseline®
- GIB Barrierline®

GIB® plasterboard sheets not suitable for use in composting applications include:

- GIB X-Block®
- GIB Weatherline®
- GIB Toughline®/ GIB Toughline® Aqua

Other considerations when recycling GIB® plasterboard offcuts into composting product:

- Only uncoated GIB® plasterboard offcuts should be accepted for recycling. Painted or coated offcuts may contain sources of unknown contaminants.
- Plasterboard offcuts should only be sourced from new build construction sources. Old offcuts typically sourced from renovation or demolition projects may contain unknown contaminants.
- As much as practically possible plasterboard offcuts sent to recycling should be touch dry.
- Plasterboard offcuts should be crushed into fine particles as well as being screened to remove the paper liner leaving the recycled gypsum for inclusion in composting products.

Do the non-gypsum additives used in GIB® plasterboard represent an issue for use in compost products?

GIB® plasterboard mostly consists of gypsum and front and back paper liners. A small percentage of non-gypsum additives are also included depending on the type of GIB® plasterboard.

Based on an extensive review of local and international research, Winstone Wallboards is of the opinion there are no known health concerns or toxic risk to soil organism's through the inclusion of recycled gypsum sourced from



GIB® plasterboard listed in this guidance document being used in composting products.

This includes review of the effect of fibreglass strands which are included in some GIB® plasterboard products. It should also be noted the presence of fibreglass in the core of some GIB® plasterboard products is at an extremely low level compared to the overall sheet mass and some of this content may be further removed during the plasterboard crushing and refining process.

Recommended gypsum ratio for composting products

As a general guide Winstone Wallboards recommends a gypsum ratio of 15 to 30%¹. To manure during composting. This should give an optimal balance of gypsum in the compost mixture.

¹ Content Source: *Can we build better compost? Use of waste drywall to enhance plant growth on reclamation sites*, *Journal of Environmental Management* 129 (2013) 503-509. M. Anne Naeth, S.R. Wilkinson.

Other useful sources of information

Other useful sources of information related to the use of recycled and natural gypsum in composting product include:

Using recycled wallboard for crop production, *WasteCap Wisconsin* R. P. Wolkowski, I. Ndukwe, Q. Yuan, *Recycling* 2016, 1, 311-320.

– <https://www.semanticscholar.org/paper/Using-recycled-wallboard-for-crop-production-Wolkowski/204964422727542b25df98d6480cc5a86c880e1b>

Worm Growth Study:

– <https://www.cibr.org.nz/research/soil-and-plants/vermicomposting/>

Phys Org Article:

– <https://phys.org/news/2015-04-drywall-good-composting-material.html>

NZ Compost Standard NZS 4454

– <https://www.standards.govt.nz/shop/nzs-44542005/>