



# HOME of MAGNUM<sup>®</sup> BOARD

## “The New Generation Building Material”

<b>TECHNICAL BULLETIN No.:</b>	<b>082109-1723</b>
<b>Subject:</b>	<b>Difference between Gypsum drywall and Magnum Products</b>
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What are the differences between Gypsum Products and Magnum Board Products?

### You Be the Judge

#### Magnum Board<sup>®</sup> Products

1. Purely a mineral product made from magnesium oxide and magnesium chloride used as a binder with fillers including wood flour, perlite and fiber reinforcement. Absolutely no chemicals are used in its formula whatsoever.
2. The same ingredients found in Magnum Board<sup>®</sup> Products are also used to make some of the vitamins and minerals we take every day.
3. Magnum Board<sup>®</sup> Products are homogenous, not poured in layers so delimitation does not occur as it does with some cement board type products.
4. Manufacturing process is eco friendly. Unlike gypsum based drywalls that produce 51 million tons of green house gasses annually, Magnum Board<sup>®</sup> Products are naturally dried and cured eliminating the power intensive drying process needed for gypsum products. In fact, the gypsum manufacturing process consumes approximately 1% of the US energy supply in its manufacturing process.
5. Magnum Board<sup>®</sup> Products have no paper.
6. Magnum Board<sup>®</sup> Products are virtually impervious to fire, water and insects including termites and carpenter ants; does not feed mold or mildew and is completely non-toxic. Reference our passing of the U-Pitt protocol testing also required by NYC to even use products in its city.
7. Magnum Board<sup>®</sup> Products are all non flammable and non combustible.
8. Interior Magnum Board<sup>®</sup> wall products are slightly heavier than gypsum wall board and lighter than cement board products.
9. Interior Magnum Board<sup>®</sup> wall products install similarly to gypsum products. Using a Roto-Zip type unit with a carbide blade makes it easy to trim and cut out for receptacles, etc.
10. Magnum Board<sup>®</sup> Products are much more durable than gypsum drywall.

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10150 Highland Manor Drive – Suite 200. – Tampa, FL 33610 – USA

Ph: 813-314-2202 – Fax: 813-241-6029

Website: [www.magnumbp.com](http://www.magnumbp.com) – Email: [info@magnumbp.com](mailto:info@magnumbp.com)

11. One side of interior Magnum Board®\_wall, Magnum Board®\_backer and Magnum Board®\_underlayment and Magnum Board®\_ceiling is smooth thereby making it almost effortless to achieve a level 5 drywall finish. No skim coat is required.
12. Interior and exterior Magnum Board® wall products can be finished with paint, any number of synthetic type stuccos such as Sto, Drivit, Master Wall, Sure Crete, Carpenter stone and all Portland type stuccos. Magnum Board®\_Products have a very high degree of adhesive ability.
13. Same product for interior and exterior making material planning and marshalling at the job site much easier.
14. Recyclable

## Gypsum Products

1. **Drywall** is a common [building material](#) typically made of a layer of [gypsum](#) plaster pressed between two thick sheets of paper, then [kiln](#) dried. Drywall is used globally for the finish construction of interior walls and ceilings.
2. Drywall is also commonly known as **gypsum board**, **wallboard**, **plasterboard** (USA,UK, Ireland, Australia), **Gibraltar board** or **gib** (New Zealand - GIB being a trademark of Winstone Wallboards), **rock lath**, **Sheetrock** (a trademark of [United States Gypsum Company](#)), **gyproc** (Canada, Australia, UK), **pladur** (Spain - after the Pladur brand), **rigips** (Germany and Central Europe - after the Rigips brand), **alçıpan** in Turkey, or simply **board**.

**NOT TO BE CONFUSED WITH MAGNUM WALL BOARD AND MAGNUM CEILING BOARD, MAGNUM BACKER AND MAGNUM UNDERLAYMENT. ALL OF THESE PRODUCTS ARE SIMPLY MAGNESIUM CHLORIDE AND MAGNESIUM OXIDE.**

3. Hydrated calcium sulfate, potash and other chemicals and ingredients.
4. You won't find gypsum products in any vitamin or mineral in your local pharmacy or supermarket.
5. Gypsum products are layered including the paper

### **6. Manufacture**

- a. A drywall (gypsum [wallboard](#)) panel is made of a [paper](#) liner wrapped around an inner core made primarily from [gypsum plaster](#), the semi-[hydrous](#) form of [calcium sulfate](#) ( $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ ). The raw gypsum,  $\text{CaSO}_4 \cdot 2 \text{H}_2\text{O}$ , (mined or obtained from [flue gas desulfurization \(FGD\)](#)) must be [calcined](#) before use. Kettle or Flash calciners typically use natural gas today. The plaster is mixed with fiber (typically paper and/or [fiberglass](#)), [plasticizer](#), [foaming agent](#), [potash](#) as an accelerator, [EDTA](#), [starch](#) or other [chelate](#) as a retarder, various additives that increase [mildew](#) and fire resistance ([fiberglass](#) or [vermiculite](#)), [wax](#) emulsion for lower water absorption and water. This is then formed by sandwiching a core of wet gypsum between two sheets of heavy paper or fiberglass mats. When the core sets and is dried in a large drying chamber, the sandwich becomes

rigid and strong enough for use as a building material. Drying chambers typically use natural gas today. To dry 1 MSF (1,000 square feet) of wallboard, between 1.75-2.49 million [BTU](#) is required. Depending on plant efficiency and energy costs, 25% to 45% of drywall cost today is related to energy, primarily natural gas. This is the main reason why organic [dispersants/plasticisers](#) are used i.e. to reduce the amount of water to produce gypsum slurry flow during wallboard manufacture.

- b. The gypsum manufacturing process is extremely power consumptive. The drying process alone uses approximately 1% of the worlds energy supply and the process generates about 51 million tons of greenhouse gasses every year.
7. Gypsum products have been tested for mold and mildew growth and generally grow mold within one week of being introduced to dampness.
8. Gypsum products are not durable – you can put your fist right thru an average ½” sheet.
9. Very labor intensive to achieve a level 5 finish:
  - a. All joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. A thin skim coat of joint compound, or a material manufactured especially for this purpose, shall be applied to the entire surface. The surface shall be smooth and free of tool marks and ridges. It is recommended that the prepared surface be coated with a drywall primer prior to the application of finish paint.
  - b. **Usage:** The skim coat is a final leveling agent suitable to smooth out a surface to be used under the harshest lighting conditions that may otherwise highlight any imperfections under the finished surface. This finish is highly recommended for gloss and entirely non-textured surfaces.
10. Not as dense as Magnum Board®\_Products and, therefore it takes more paint and labor to finish.