



GETTING A HANDLE ON GYPSUM

What do pyramids, Benjamin Franklin, drywall, and a pair of 95 Kawasaki wheel loaders have in common? Gypsum.

Odds are the walls of your home or office are covered in drywall. Although we think of Sheetrock® as a modern building material, its main ingredient — gypsum — was used as far back as 3700 BC, when the ancient Egyptians used it in their mortar mix to build the pyramid of Cheops.

The first use of gypsum in the United States was agricultural. Benjamin Franklin, founding father, statesman, inventor, and scientist, introduced and championed the concept in the late 1700s, after a nine-year sojourn in France. Initial supplies of agricultural gypsum were imported from Nova Scotia, until domestic sources were discovered.

The Sheetrock brand emerged in 1917, an invention of the United States Gypsum Company, which was formed in 1901 when 30 small gypsum rock and plaster producers joined forces. Today, the company is a subsidiary of USG Corporation and continues to create improved and increasingly versatile products.

USG BALTIMORE MANUFACTURING

The extraordinarily busy Baltimore plant was built in the 1960s. It started with one Sheetrock manufacturing line, but has grown to two — plus has added a Durock® mold-resistant cement-board line and a plaster packing operation. In 2007, joint-treatment compounds were added as well.

Although the facility uses synthetic gypsum, a by-product from coal-fired power plants, it also uses raw gypsum, which arrives in rock form from Nova Scotia via a company ship. Offloading is automated by a conveyor belt. But once the rock is deposited into the storage shed, the company's two Kawasaki 95 wheel loaders take over, feeding hoppers and moving the gypsum wherever it is needed.

Six-inch gypsum rock is fed onto another conveyor belt and dumps into a Raymond mill where it is pulverized and becomes land plaster. Next it is moved into kettles where the moisture is cooked off, turning it into stucco. The stucco is transferred to the appropriate Sheetrock line where just the right amount of water is added back in to create the gypsum wallboard product.

LEADING THE BUILDING MATERIALS INDUSTRY

USG is North America's largest manufacturer and marketer of gypsum-based products. It is also the United States' largest user of recaptured or synthetic gypsum, a by-product of coal-fired utility plants' pollution control processes. The company employs 14,000 people in more than 30 countries, and is the global leader in the manufacture of ceiling suspension systems.

As holder of such industry-standard brand names like Sheetrock®, Durock®, Fiberock®, it shouldn't come as a surprise that USG Corporation is a vertically integrated company. The United States Gypsum Company, a subsidiary of USG, owns 14 mines and quarries in the U.S., Canada, and Mexico, operates 17 gypsum board and 14 joint treatment plants in the U.S., operates five paper mills that produce high-grade wallboard paper from 100-percent recycled paper, owns and operates its own fleet of ocean-going cargo ships, and manufactures and sells other specialized gypsum products for agriculture, tooling, mold-making, and dietary calcium additives for foods and pharmaceuticals.

Cement-grade gypsum is loaded by the two Kawasaki 95s for their commercial customers in the cement industry.

KAWASAKI DURABILITY

"We've had the ZIV, ZIV-2, ZV, and now ZV-2 models," says Ray Dixon, Maintenance Supervisor. "We haven't had to replace anything major, or minor for that matter. From my point of view, as long as they are maintained like they should be, they'll last as long as we need them to. Dust and moisture can really play havoc on us. The gypsum absorbs moisture and it can set up. Generally we follow the Kawasaki recommendations for PM but we've adjusted the timing on air filters to keep the gypsum build-up in check.



Raw gypsum arrives in rock form on a company ship and is off loaded via conveyor belt.

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USG's primary customers are major retailers such as Home Depot and Lowe's. The company also has its own distributor, L&W Supply, to serve the professional contractor through a network of nearly 200 locations. L&W is the United States' largest distributor of drywall and related building products.

"I've seen a lot of improvements on the Kawasakis over the years — especially with the management systems. You can use the MODM now for troubleshooting, maintenance, and even the air conditioning systems. I'm really happy about how much more maintenance-friendly Kawasaki is. The belts can be changed in a matter of minutes, instead of hours. The drain points are all valves with hoses. And the standardization of hoses is great."

"The biggest thing to my mind is the pre-cleaner," adds Marty Desautels, Operator. "The concept is so great that we actually went to our dozer manufacturer and had them make some for our dozers. As far as changes over the years with the Kawasaki cab, the ZV-2 is probably the best. The way you can reach everything is great. And I like the little things Kawasaki does, like the control lever that lets you take it down from second gear to first, instead of switching it on the steering column."

"Another USG plant called me up and asked for my opinion as they were getting ready to purchase some equipment," continues Marty.



Gypsum is a softer material that crushes easily.

"I highly recommended Kawasaki to them. I even went up there for a week to help them out. They had brought in another brand to take a look at. But the cab is not set up for operating the way the Kawasaki is."

Just how successful has the Baltimore plant been with their Kawasaki loaders? **Ever since they got their first Kawasaki, which lasted an amazing 30,000 hours, they've run nothing else.** The current two they are running are their fifth and sixth.

"We tend to turn our loaders over every 12-13,000 hours," states Dixon. "But the first one we ever had we hung onto for 30,000 hours. It actually had only one transmission and one engine through the entire time we had it — that's pretty amazing! We had to do a little bit of maintenance on a bushing and some bearings, but we did that all in-house. I think on our next Kawasaki we'll try the automatic reversible fan. Combining that with the wide-fin radiator would really benefit us."

USG Baltimore is serviced by Elliott & Frantz, Jessup, Maryland.

