

CASE STUDY

Central vacs tackle gypsum dust in modular homes plants



THE PROBLEM: Modular home building generates a lot of dust, some of which can be combustible and pose a safety risk.

OUR SOLUTION: Modular home building generates a lot of dust, some of which can be combustible and pose a safety risk.



Home building facilities are massive, spanning hundreds of thousands of square feet to accommodate the building of multiple homes of different types. Size matters here: all departments need to fit under one climate-controlled roof, from flooring to finishing touches.

As the largest off-site home builder in the United States, Clayton Home Building Group cuts through thousands of square feet of wood and other materials every day, generating huge

amounts of gypsum dust and sawdust. The debris accumulates on surfaces and spreads through the air, posing a combustion risk in confined spaces. On top of that, it's nearly impossible to clean it all up with a broom or typical shop vac.

That's where DuroVac comes in. Clayton first installed two Core™ central vacuums at one of its facilities, which run constantly whenever the factory is operating. These vacuums help clean up material dust efficiently, contributing to a safer and cleaner facility. The company has since installed two more vacuums and ordered a fifth.

Reliable and low-maintenance

One of the largest parts of the factory is where drywall and sidewall are measured and cut, creating thousands of pounds of gypsum dust and sawdust. Vacuums attached to routers capture dust before the particles can spread through the air, making the facility noticeably cleaner than it was prior to installation.

“ The beauty of our product is that you don't have problems with the filters. You don't have to change them out very often. ”

Scott Woodward, US Sales Manager at DuroVac

Vacuums are also set up in the flooring, furnishing and finishing areas, helping to remove dust at each point in the manufacturing process.

"They have a use for our systems all throughout the facility," says Scott Woodward, US Sales Manager at DuroVac.

Installing a heavy-duty central vacuum is no small feat. The unit arrives as four or five major components and is tested and built on-site at the facility. Once completed, it can be up to 21 feet high.

Thankfully, operating the vacuums is straightforward and as easy as pressing an on/off switch. A level sensor will turn the vacuum off if it encounters any problems, and DuroVac's central vacuums do not plug.

The vacuum's efficient filters and ease of use make it far less costly to maintain and run compared to other systems, which require frequent filter changes.

NFPA-compliant

Aside from being durable and easy to use, vacuums in certain dusty environments should also comply with NFPA regulations, something that other types of vacuums often lack.

In the presence of a spark, concentrated levels of sawdust in the air can ignite and cause an explosion.

"When you're dealing with a combustible dust like sawdust, you would need to put an explosion vent on the filter separator," Woodward explains. In addition to the explosion vent, a rotary airlock on the discharge for the filter and an inlet isolation valve help cut off any oxygen that might fuel a fire.

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"The beauty of our product is that you don't have problems with the filters. You don't have to change them out very often," says Woodward.



Lifelong durability

Ultimately, several Clayton facilities have chosen DuroVac systems for their low cost of ownership thanks to a combination of reliability, low maintenance and longer-lasting filters.

To date, Clayton home building facilities have changed the filters on their Core central vacuum systems a grand total of three times for all three vacuums. Woodward estimates an average filter change rate of seven years based on the systems' total 22 years of operation.

"Both facilities love our system because it's very simple, it's reliable and it just keeps running," he explains.

In December 2019, the Clayton Rockwell home building facility in Rockwell, N.C., installed a fourth vacuum system, which is running smoothly according to the company's reports. Clayton Richfield, just down the road in Richfield, N.C., expects to have a new system up and running in early 2020.