



Why **BOND** with Drywall Adhesives?

By Charles Johnson

Have you ever noticed how the truly successful drywall contractors aggressively pursue cost-cutting solutions? They want to be more competitive on their bids, add profit to the bottom line and maintain top quality work. Drywall adhesives are almost always part of this solution. The proper adhesive will allow you to cut your labor and material costs while maintaining or improving your job quality. Adhesives provide an approved method of securing regular and vinyl-faced wallboard to wood or steel studs while using up to 66 percent less fasteners. This not only reduces fastener cost but also significantly reduces labor, since fewer fasteners mean less time for fastening, mudding and sanding.

Adhesives also will help you improve your quality by reducing "nail pops." Fewer nail pops mean happy

customers and fewer call-backs, a great example of how quality work can improve your bottom line.

Drywall adhesives also help solve tricky problems such as installing vinyl-faced wallboard. Since vinyl board has a finished surface, it is typically installed with fasteners around the perimeter only. The right adhesive—one that won't affect the vinyl finish—will allow you to secure the board properly without ruining the surface.

TYPES OF ADHESIVES

You will find a variety of different types of adhesives on the market. Choosing the right adhesive for your application is critical. The quality of any adhesive bond depends on both the selection of the proper adhesive for

the application and on the bonding conditions under which that adhesive is used.

It is safe to say that there are more types of adhesives in construction today than ever before, which makes choosing the right adhesive confusing at best. There are roughly three categories of adhesives and then many types of adhesive in each category.

To clear up any confusion regarding “the right” adhesive for drywall applications, let’s talk about the three most common adhesives in the construction industry today: construction, subfloor and drywall adhesives.

Subfloor and drywall adhesives each have their own set of rigorous ASTM test standards that must be met by the product to qualify for a particular application. For instance, the standard for drywall adhesive is ASTM C-557-73, while a subfloor adhesive must meet or exceed ASTM-D-3498. Construction adhesives do not have a specific ASTM standard to meet.

TESTING

ASTM standards are a consensus of standards developed by the American Society for Testing and Materials Standards. ASTM standards on adhesives were developed to answer the unique nature of adhesives and bonded products. The tests are very stringent and cover a variety of application variables that try to mimic field conditions. Testing can be done either “in-house” or by an independent testing lab.

Products that are tested by third-party labs are issued a report and then assigned an approval number. Products with an approval number or independent lab logo on the label provide assurance that the product has been tested and approved for a specific construction application.

Most of us consider ourselves experts in the use of adhesives after having licked postage stamps and then bonded them to envelopes with success. Picking the proper adhesive for construction, subfloor or drywall applications requires both knowledge of our application and awareness of what each of these products is designed to do.

Construction adhesives are specially formulated for and recommended for use with counter tops, cabinets, paneling, brick veneer, furring strips, ceramic fixtures, shelving, mirror tile, molding, plywood/hardboard. There is not a specific ASTM test for construction adhesive, although some are formulated and meet or exceed ASTM C-557-73 as a drywall adhesive.

Subfloor adhesives meet or exceed ASTM-D-3498 and APA-AFG-01 and are designed to reduce nailing and squeaking of subfloors and decks. Drywall adhesives meet or exceed ASTM C-557-73 and are special-

ly formulated for bonding regular and vinyl-faced wall-board to wood or steel studs. This ASTM standard actually has nine tests that must be passed before approval is given. The tests include open time, wetting characteristics, shear strength (under four different conditions), tensile strength, bridging characteristics, aging properties, freeze/thaw stability, vinyl compatibility, vinyl staining, and even packaging and marking.

If a product passes all these tests, it is clear that it will hold drywall up under even the most extreme conditions.

SHOPPING SMART

Naturally, cost considerations will influence the choice of a proper drywall adhesive. But beware! Cost and price are not always the same thing. In fact, the price per tube is a poor indicator of your actual cost.

For instance, what is the yield of the adhesive tube? A tube with more in it will likely cost you less per foot of adhesive. Some products are flammable solvent-based adhesives and may not be accepted on all jobs. Other adhesives are water based and may not bond as well, resulting in a call-back later. Certain adhesives do not flow as well in the winter months when temperatures drop, thus reducing productivity. Carefully reading the label as well as any technical documentation on your selection will help you overcome these potential problems.

THE NEXT GENERATION

New technology and innovation are creating a whole new generation of drywall adhesives that exceed most ASTM requirements at a greatly reduced installation cost. Instead of mastic rubber-based adhesives that are packaged in caulking tubes, these new aerosol foam drywall adhesives are becoming increasingly popular.

Standard adhesives are simply mastic that has been mixed with a solvent to become more pliable, then extruded into a caulking tube. The caulking tube is then sealed to keep the solvent from evaporating. When the tube is opened on the job site, the mastic is extruded onto the stud, the drywall sheet is pressed against the stud and then quickly pulled away to “flash” the solvent (allow some solvent to evaporate). The drywall is then mechanically fastened to the stud. Over about 24 hours, the solvent will evaporate (some passing through the drywall) allowing the mastic to harden and adhere the two surfaces.

Foam adhesives do not work this way at all. They are not solvent based. Instead, it is polyurethane technology that works by “cross-linking” the molecules in the foam with the molecules in the stud and in the paper of

the drywall. The foam comes in 32-ounce cans that are screwed onto an applicator gun. The foam is applied in a three-eighths of an inch bead-like mastic; but, unlike mastic, the foam is self propelled so there is no fatigue from ratcheting a caulking gun, and the drywall sheet is not flashed.

These new foam-based adhesives are not flammable, have no solvents, no CFCs (so they are ozone friendly) and no fumes. They will not harm other foams such as Styrofoam, and they have a wide operating range from 25 degrees Fahrenheit to 120 degrees Fahrenheit. They also cure more quickly (one hour versus one day) than mastic adhesives. They still have to meet or exceed the same ASTM C-557-73 as traditional mastic drywall adhesives, however.

With this new technology comes huge cost savings. For example, one 32-ounce can of some products may equal 40 quart tubes of drywall adhesive caulk.

FIRE WALLS

One last caution: Fire walls are a different animal. Manufacturers fire test their drywall panels with a very specific fastener pattern. If you change this or use

adhesives when they did not, the panel will not meet the fire code. So be sure to follow the panel manufacturer's instructions when installing a drywall fire wall.

The best advice to use in picking your drywall adhesive is to use your own knowledge of the products, seek outside assistance from a good supplier or manufacturer and follow the manufacturers' instructions to ensure a successful bonding job.

Applying the technology and innovation is the best way to be more competitive on your bids, put more profit on your bottom line and protect your market share.

About the Author

Charles Johnson is the president of ABISKO/ACRON, Ontario, Canada. The company manufactures EnerFoam and EnerBond D.W. drywall adhesives.