

# ? Ask the Expert

By Kelly Frauenkron, BASF Polyurethane Foam Enterprises

**Q.** I've heard that more and more contractors are using "hybrid" systems, but I'm confused about these systems. Can you explain them?

**A.** Hybrid insulation systems are sold as combination systems using spray polyurethane foam (SPF) and traditional insulation materials. These systems require a partial stud wall filling with one-half inch to two inches of SPF against the wall sheathing. The spray foam insulation will then be covered with any of the following: fiberglass batts (kraft or unfaced), blown-in-blanket fiberglass, net and blown or wet-spray cellulose, or open-cell foam, before being covered by the 15-minute thermal barrier (sheetrock).



purge guns (such as D-guns and Fusion MP guns) are often used on these projects. Other options include portable units that can be taken into jobs.

Since there is minimal application of spray foam, the prep time is drastically reduced. No outlet, wiring, or stud masking is necessary, and not much stud scraping of two-by-six wall studs is needed for more experienced sprayers. Overall, the time reduction makes these systems very client-friendly and efficient. Another viable reason hybrid systems are generating demand is the ease of application. Requiring less than a one-and-one-half-inch insulation thickness, hybrid systems have many benefits, including ease of spray, fewer lifts required, a smoother surface, less likelihood of liability due to exotherm, and the speed of application. These are big influences in a spray foam applicator's material decisions.

Although the hybrid system is user-friendly, it does require an analysis for proper vapor retarder placement. Check with your local building code regarding vapor retarder requirements, and those climates that require a "warm-in-winter" vapor retarder should typically still utilize one in these assemblies. To prevent moisture condensation on the interior of the surface of the foam, utilize hygrothermal modeling programs such as WUFI to determine sufficient thickness of the SPF and if you require a vapor retarder. Completing this model and preventing condensation build-up will save everyone time and money.

Today's insulation market is expanding and incorporating new ideas. The hybrid system has found a niche market, and the demand for it is on the rise. Conventional insulation contractors are joining the SPF industry and building upon existing fiberglass relationships.

So why do hybrid systems work so well? For three reasons. First, hybrid systems maximize the performance of conventional insulation by increasing the R-value of the wall assembly and allowing these materials to perform their best. Next, hybrid systems control air infiltration by sealing the building envelope with a single material as insulation and air barrier. By controlling air movement, you can control moisture, and the hybrid systems do just that. They create barriers that make it tough for air to penetrate. Finally, cost puts hybrid systems on top. The price point is better for a combination system, which allows the sale of reasonably priced upgrades. The good, better, best scenario comes into play here. Some customers may see the value of investing in a full thickness spray foam system, while others want the advantages but don't want to pay the premium. The combination systems allow the advantages of the SPF, while giving the affordability of a fiberglass insulation package at a slight increase.

Overall, the hybrid system has emerged as the industry's new rising star. With its affordability, quick application, and great performance, it's hard to beat the hybrid SPF insulation system. SF

*Virginia  
in 1978  
NC in 1979*

The history of the hybrid system is a lengthy one. In Indiana and Texas, hybrid systems have been around for more than 30 years, and in Wisconsin, Minnesota, Utah, and Virginia, they've been used for more than a decade. The application market for these hybrid systems is expanding rapidly and is becoming more common throughout the United States.

The typical application process for the hybrid system begins with the equipment setup. It is possible to use smaller, low-output (and sometimes lower cost) spray rigs, which often provide better control of insulation thickness. Smaller size guns with options for lower output, such as Fusion AP guns, GAP guns, and Probler P2s) and small output mechanical