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BPD Seeking To Revolutionize SSR Clip Industry

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Once a standing seam panel manufacturer or contractor decides upon a clip, the company usually sticks with its decision for quite some time. After all, there are many costs associated with changing clips—tooling, U.L. and Factory Mutual listings, wind uplift testing, and air and water infiltration

Supplier Feature

Building Product Development

testing, not to mention the time involved in clip development. So it would take something pretty special to make a company switch. Building Product Development (BPD) believes it has designed such a clip.

Based in Edmond, OK, BPD was formed in 2002 as a division of Building Research Systems Inc. (It will incorporate and become its own entity in early 2005.) The company is

From left: Robert Baker, Logan Stampings; Dale Alltizer, BPD; Duane Sailors, Logan Stampings; and Leo Neyer, BPD.

led by two long-time industry veterans: president Dale Alltizer, with over 30 years of experience, and Leo Neyer, vice president, who has been in the metal construction industry for over 40 years.

In addition to these two men, BPD has one full-time employee and several independent associates who assist in design, development, prototyping and testing of the company's products. These associates have a long history in the industry and hold numerous patents.

Although BPD offers other standing seam components like eave and rake plates, backup plates or channels, end dams, cinch straps, and corrugation closures, its design team has spent the bulk of its time—over 3,000 man-hours—on the new clip. The NC3000 Series standing seam clip was developed because the company saw a need for a better sealant transfer method. It felt improvements to this portion of the clip, combined with key features from existing BPD clips, could really benefit the standing seam industry.

The design team poured its energy into this product, spending nearly two years on its design and development. For the actual manufacture and shipping of the clip, BPD selected Logan Stampings. Through Building Research Systems, the two companies have had a 10-year relationship. During this time, no project has ever been delayed because the clips were not at the jobsite. Of Logan Stampings, Alltizer said, "Their long history of quality consciousness, superb customer service and on-time product delivery seemed a perfect match for our innovative designs."

After much tweaking and testing, the NC3000 Series clips made their public debut at the recent METALCON show in Las Vegas and are now available for shipment across North America and worldwide. For those of you who were not at the show or may have missed seeing the new clip while you were there, our recent interview with Alltizer describes what contractors and standing seam panel manufacturers can expect from BPD and the discernible features of its new product.

Metal Construction News: You recently developed a new standing seam roofing clip line. Like other clips, the NC3000 Series line has holes in the top to allow the sealant to flow through. However, you have a unique design that forces the sealant to then flow horizontally to the clip ends. Please explain how this works.

Dale Alltizer, president, Building Product Development: We studied this in depth by simulating a clip tab between the male and female panel seams. A metal plate was made with sealant flow holes and the panel seams were simulated with glass plates so we could easily study the results. Typical SSR butyl sealant was placed on one glass plate underneath. You can imagine that when the sealant flowed through the holes, it spread uniformly on the underside, forming perfect circles below. The metal plate was elevated off the lower glass plate with shims and the distance determined the size of the circle below. The greater the distance, the more sealant flowed through and the greater the circle's size.

In order for the underside sealant to meet between holes, the distance had to be rather large or the holes had to be very close together. To overcome this, using the same glass plates, we studied the effects of forming a chamber the full length of the clip tab to encapsulate the extruded sealant and force it to flow horizontally instead of spreading uniformly in a circle. After numerous trials, we arrived at the optimum hole size, hole spacing and chamber size that allowed for uniform
sealing along the underside. The chamber is what makes our design unique compared to others that only have holes.

MCN: The new clips are said to have a 'universal design', meaning they can be used with a wide range of standing seam panels. This seems like a pretty common sense idea. Why do you think it took so long for someone to develop this type of clip?

Alltizer: This actually evolved over a period of years through much trial and error. Our associates have been developing roof systems and component parts, including clips, for many years which gave them invaluable insight to clip performance needs which exist regardless of the panel system. With access to over $2 million of metal stamping tooling, we realized these high performing clips could be offered to anyone in the industry. And with that inventory tooling, we can deliver clips in less time than others require to just build tooling.

MCN: How many models are available in the new NC3000 Series line of clips and what are the differences between the models?

Alltizer: We have two primary lines which are clips for either architectural panels or trapezoidal panels, and both are available with many features. The clip tabs are available with or without the sealant transfer holes, depending on customer requirements. Another option is the length of the clip base—we offer a long base or a short base. The long base has provided some purlin stability in standard base tests.

Other features on all clips are a slide stop, a centering stop that releases during installation, ensuring the clips are installed with equal slide in both directions and a panel support shelf that helps keep the seam together during the seaming operation resulting in a tighter and stronger seam. One of our main features of all clips is a total slide of over 3-1/2" which allows longer panel runs without costly and leak-prone transverse expansion joints.

MCN: Is your customer base made up of mainly manufacturers or contractors?

Alltizer: We can actually benefit both groups equally. I would hate to say that either is a major base because both are important to us. Those who are designing a new panel system or contemplating designing a new panel system can be important customers for us as well. They can concentrate on designing the system and not be concerned with clip design and tooling costs. By incorporating our clip into their panel design, they can focus their energies on seam design which is traditionally considered the most important feature.

MCN: What services does your company offer to its customers?

Alltizer: We understand the difficulties that exist when integrating new components into existing systems, especially those that require credential listings. That's why we assist customers to have our clip included in their existing U.L. and Factory Mutual listings. For certain customers, depending on annual clip purchases, we will even conduct the ASTM E1592 wind uplift tests and the ASTM Air and Water infiltration tests at no charge.

BPD will also handle all the design work. All a customer needs to do is send us a sample of their current clip and a short panel and we take care of the rest. If they require further assistance, we have an experienced group that can help them with any need they may have.

MCN: In addition to the logistical difficulties with changing clips, it can also be expensive, but BPD can help reduce those costs. How are you able to do that and approximately how much can you save your customers who are considering a change?

Alltizer: As previously mentioned, BPD will assist in having our clip included in a customer's existing U.L. and FM credentials. If ASTM E1592 tests are required, we will contribute to those costs as well. And for most customers, we will pay the clip tooling costs which can be a significant savings in itself.

Not counting development time, I would estimate that the savings in testing and tooling could amount to as much as $120,000. The fact that our customers get the best clip on the market, with over 3,000 total hours invested in all features, and have little or no investment on their part, makes it a great value to them.

MCN: What are your projections for the NC3000 Series line? Are you on track to meet your goals for the first year?

Alltizer: After two years in the development stage, we are just now introducing this product so I can't say we're on track to meet any goals. If anything, we are a year behind already because we believed the product would be on the market near this time last year. But we're optimistic on the future. We believe that as panel manufacturers and contractors learn the benefits of using these clips, we'll begin to make up for lost time.

Small scale pull test to verify clip strength.

MCN: What kind of impact do you expect your new clip to have on the metal roofing industry?

Alltizer: We believe this new clip will raise the awareness of manufacturers and contractors as to the role clips play in the overall standing seam roof system. There is also some uncertainty that all roofs are being installed in full compliance with codes and specifications. Certainly those selling and/or installing roofs that can provide testing credentials are okay, but there may be some roofs being installed that are not fully in compliance, possibly due to clip substitution. Our goal is to raise the awareness of not only the panel manufacturers and installers, but also of those specifying and inspecting roof systems.

MCN: Are you planning any other product line or facility additions in the upcoming year?

Alltizer: We hope to expand our standing seam roof accessory part line as the year progresses. There will be more options for end dams, back-up plates and cinch straps, and corrugation closures covering a wider range of panel profiles. Without disclosing proprietary details, I'd like to say that research and development is currently underway for another revolutionary product that we anticipate will increase roof uplift resistance while reducing overall roof costs.

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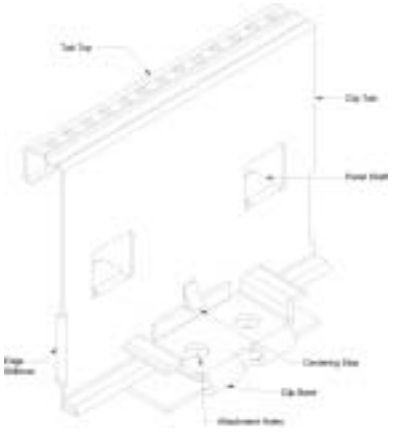

Examples and diagrams of the NC3000 Series clip for architectural panels (above) and for trapezoidal panels (below).