

## GETTING to GREEN GLUE

Columbia Forest Products has done an admirable job of bringing soy based adhesives to the attention of hardwood plywood consumers and producers as well. Demand for urea-formaldehyde free adhesives has increased significantly because of LEED, and in response most major hardwood plywood producers, including States Industries offer soy bonded hardwood plywood. Because of consolidation within the chemical commodities industry, the majority of those plywood manufacturers utilize one of several formulations of Ashland Chemicals' proprietary resin chemistry marketed under the "Soyad<sup>®</sup>" brand.



This includes Columbia Forest Products' "Pure Bond<sup>®</sup>" products as well as States Industries' "Elemental" soy bonded panels. Elemental products also include some non-urea-formaldehyde MDF and Particleboard panels that employ MDI, phenol-formaldehyde or melamine formaldehyde adhesives.

*The evolution of current soy adhesive technology is a story of innovation.*

In 2003, Dr. Kaiching Li of Oregon State University applied for a patent for formaldehyde-free adhesives which was allowed in 2007. His research was supported by Hercules Incorporated, a chemical company.

Columbia Forest Products commercialized the adhesive under an exclusive arrangement with Hercules and branded it as PureBond technology. States had been looking for a formaldehyde free adhesive and began working with Heartland Resource Technologies to develop our own proprietary formulation. In 2006 Heartland Resource Technologies partnered with Hercules Inc. as H2H to co-develop and brand Soyad<sup>®</sup> formaldehyde free adhesives. Subsequently, in July of 2008 H2H was purchased by Ashland Incorporated, who now owns the Soyad<sup>®</sup> Brand.

States Industries' and CFP's soy adhesives are both completely formaldehyde free, both are Soyad<sup>®</sup> and both are purchased from Ashland Chemical. Other hardwood plywood producers are purchasing Ashland's Soyad adhesives formulated to their particular processes. Soyad<sup>®</sup> is currently the only soy based adhesive that meets ANSI/HPVA HP-1-2009 Standard for Hardwood Plywood.

Particleboard and MDF manufacturers are only now beginning to work with soy adhesives. They have used phenol-formaldehyde, melamine-formaldehyde and MDI adhesives to successfully meet the LEED EQ 4.4 standard. For that reason States' Elemental brand does not exclusively apply to soy adhesive, but includes all no-added-urea-formaldehyde panels, including veneer, particleboard and MDF cores. For more information about Soyad<sup>®</sup> visit [http://www.ppd.herc.com/technology/wood\\_adhesives.asp](http://www.ppd.herc.com/technology/wood_adhesives.asp)

