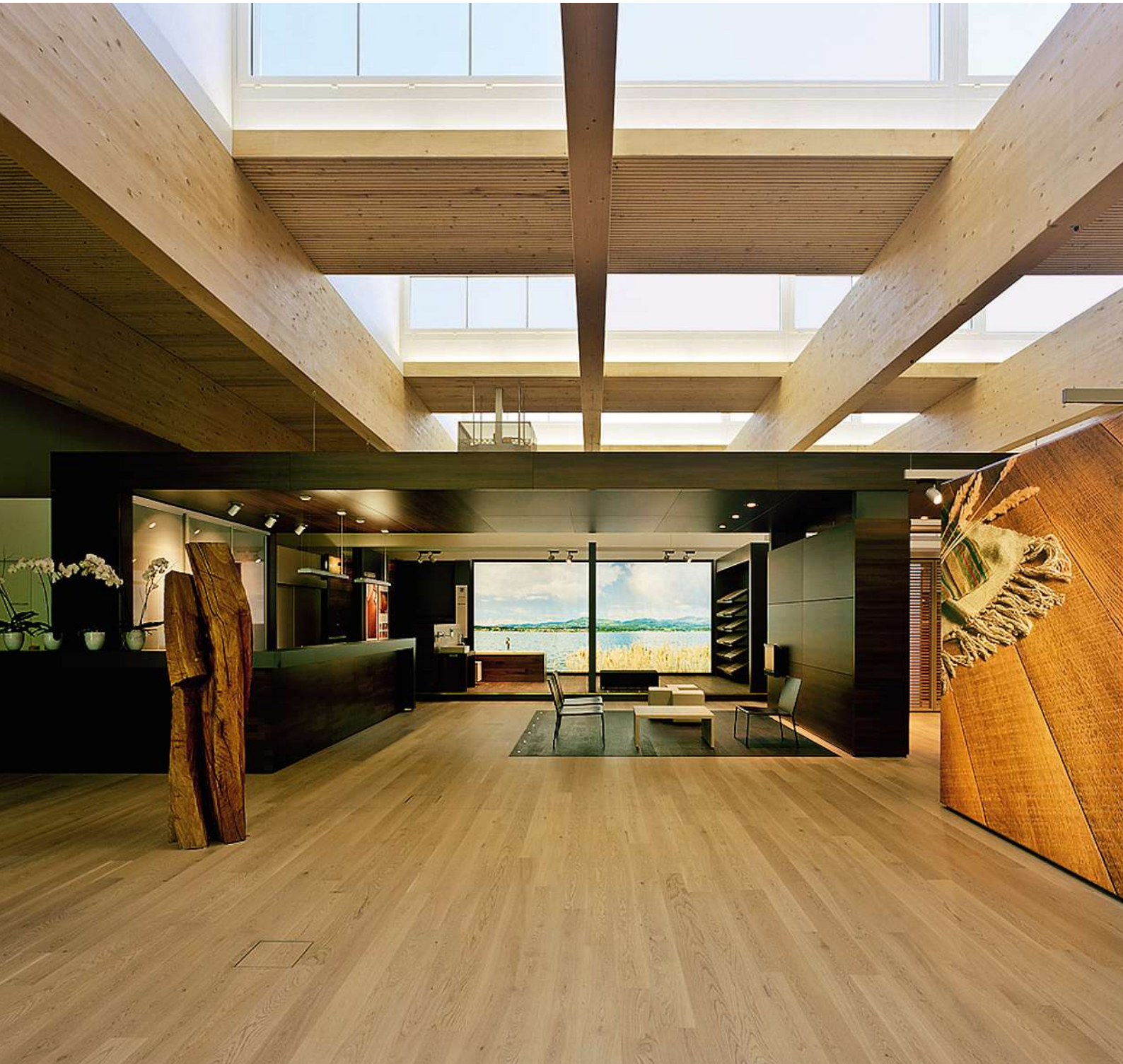




# on the way

The Purbond Newsletter No. 2/2009



Every man for himself – or strength through solidarity – Adhesives for a better world –  
Cooperation and innovation – Teaming up with Robatech – The HBS range: Adhe-  
sives for greater performance – Bernd Pfeifer, the specialist in Austria

# Every man for himself – or strength through solidarity

One outcome of the current economic situation is that the rules of the game are changing. Amid the collapse of formerly successful business sectors, new opportunities are emerging. More than ever, customers are ready to question long-standing relationships and consider alternative technologies. There is a demand for innovative, forward-looking solutions, and providers who have genuinely more to offer than others find themselves on the threshold of a bright future.

When businesses collapse, it is hard to remain calm and level-headed. Downturns cause fright, and frightened people tend to cling to what they have. Business partners who just a few months ago treated each other with mutual generosity are suddenly keen on exploiting every advantage that may result from joint ventures. Previously, it was commonplace for companies to work together and invest in promising concepts. But the spirit of cooperation has been compromised by distrust, with many firms now too quick to claim compensation for services rendered or, when this is not practicable, hastening to apportion profits long before a project has had a chance to come to fruition. This reflects an inclination to count one's chickens before they hatch. Business associates now want assurances, and if assurances are not forthcoming, they are willing to fiercely negotiate their piece of the pie.



Partnerships between companies seem to have become more problematic, precisely at a time when they should be more important than ever. When the rules of the game change, this creates latitude for new approaches. The division of labor among specialized companies within an industry, often well attuned over decades, is called into question, or to use a game analogy: the cards are being reshuffled. One thing is obvious: those who can count on reliable allies – and are perhaps even willing to forgo a short-term gain in favor of a profitable longer-term perspective – stand a better chance of being among tomorrow's winners. Because in difficult times, and especially then, solidarity makes it easier to meet new challenges successfully. With a dog-eat-dog attitude, there is a considerable risk that all players will end up as losers.

Walter Stampfli  
General Manager, Purbond  
Sempach Station, Switzerland

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**Cover photo: Showroom PVA AG,  
floors/doors Altendorf, [www.pva.ch](http://www.pva.ch), Switzerland 2008**  
PURBOND HB 440

# Adhesives for a better world

Too many people still don't realize that the revival of wood as a construction material would have been unthinkable without modern adhesives.

People want to be proud.

There are people who do not care much about the contribution their work makes to the greater good. They don't think about the consequences of their actions as long as the paycheck arrives and the job isn't too stressful. But then, there are also people who want to contribute to a good thing. They want to identify with their jobs, be proud of their company's achievements, and perhaps even feel the satisfaction of making the world a little better through their professional effort.

No doubt the employees of Purbond, as well as all those who develop, manufacture, distribute, apply, and use our adhesives, belong to the second group. PURBOND adhesives make the world a better place. They create new opportunities for wood as a construction material, and they are free of hazardous substances such as solvents or formaldehyde that are increasingly recognized as problematic for health and the environment. Our PURBOND adhesives meet the most stringent standards in the world, including, for example, the Japanese requirements on formaldehyde F\*\*\*\* and 4VOC solvents.

Wood as a construction material.

Wood is a wonderful construction material. Wood grows all by itself and absorbs huge quantities of CO<sub>2</sub>, a key culprit in global warming. Wood is easy to process, is an excellent insulator, and helps create an interior atmosphere that makes people feel comfortable. And it does so not just today and tomorrow – wood is for decades and centuries.

Too many people still don't realize that the revival of wood as a construction material would have been unthinkable without modern adhesives. By bonding boards into glued laminated timber, it became possible to standardize wood, calculate its stability, manufacture beams of nearly unlimited dimensions, and crucially, to bring them into the desired shape. Huge arched girders support the domes of halls and indoor pools, enable the construction of bridges as well as office and residential buildings. At the same time, wood is a resource that can be utilized more efficiently than ever before. Not only the beam cut from the central part of a log can be used: the small boards from the peripheral sections can also be processed and glued and no longer need to be incinerated. A small but significant advantage: glulam boards can be joined in such a way that the most regularly shaped and attractive ones appear on the visible parts of a building. So even inferior grades, previously

**Commercial premises Unterwurzbacher, completion and picture Holzbau Maier, [www.maier.at](http://www.maier.at), Austria 2005 →**  
PURBOND HB 221





destined for combustion, can now be transformed into a high-quality construction material.

#### Solvents and formaldehyde.

The first synthetic adhesives for the manufacture of glued laminated timber are still in use: the formaldehyde-containing phenolic and aminoplastic adhesives. In Europe, aminoplastics have become the classic adhesive for glued laminated timber. They are approved everywhere, their application is standardized, and the infrastructures have been aligned with them for 50 years. And since they are needed in large quantities, they are inexpensive.

However, these adhesives have a number of drawbacks. Most significantly, they contain formaldehyde, a toxic gas that dissolves in water. Depending on the application, the gas can escape and in many instances continue to diffuse into the air for months after completion of the building. The substance has a recognized potential to cause cancer and may, even in low concentrations, lead to respiratory irritation, headaches, and allergies. In addition to the discomfort of house dwellers, this is also an issue of occupational safety, because employees in processing are exposed to much higher concentrations of the substance.

**School Castione,**  
**picture Lignatur AG, [www.lignatur.ch](http://www.lignatur.ch), Switzerland 2003 ↑**  
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In the 1990s, Swiss adhesives maker Collano was the first to use 1C PUR adhesives in load-bearing engineered wood components. In 2003, Purbond was established to further develop the adhesives, obtain approval for them on a global scale, and develop new applications in cooperation with pioneering customers. In compliance with the stringent ecological standards set by Collano and adopted by Purbond, these adhesives are entirely solvent-free and contain no hazardous substances of any kind. Low quantities of adhesive are sufficient to attain excellent strength values. Several factors made it possible to greatly simplify the production process: there is no need for heated presses which are huge energy consumers, and the single-component nature of the adhesive means that no mixing is required, thus substantially improving process reliability while enhancing cost-effectiveness as well.

PURBOND adhesives have only one drawback: they are not inexpensive. But because they are easier to process, smaller quantities are needed, and because the open times and press times of the new generation of PURBOND HBS adhesives can be varied according to each customer's specific production process, tangible cost savings are achieved on the shop floor. And there is another very important aspect: end users who live in the buildings will more and more frequently insist on load-bearing wood elements that are fabricated with PURBOND adhesives. For them and their houses, the cost of the adhesive used in the building is of little relevance – unless trouble sets in because it was the wrong adhesive.

# Cooperation and innovation

## Teaming up with Robatech

Innovations that deliver genuine progress are the result of a dedicated community of pioneering companies that cooperate across the entire manufacturing chain.

In the engineered wood industry, things are no different than in many other sectors: improving a single step in the process chain that leads from a raw material to an end product usually does not help immediately, neither in terms of quality nor in terms of productivity. What's the point in marketing an improved adhesive if the equipment for its proper application is not available? Why improve the properties of glued laminated timber if architects remain indifferent? Why produce solvent- and formaldehyde-free adhesives if the main beneficiaries of a healthy interior, those who live and work in it, have no say in its selection?

Innovations that deliver genuine progress are the result of a dedicated community of pioneering companies that cooperate across the entire manufacturing chain. They have a common goal: to jointly enhance value creation, to combine their activities, and thus to redefine previous business parameters. What counts is not only the work of a single partner but the result of a joint effort: that is progress.

The introduction of our new PURBOND HBS range of adhesives is a good example of such a form of cooperation. Developed together with Bayer MaterialScience, this adhesive and its advantages can only be utilized if adequate application systems are available, devices that apply the adhesive with precision, without maintenance, and without clogging – and that are serviced everywhere around the globe. Because the advantage of this adhesive family lies in the fact that open times, and thus press times, can be adjusted to the customer's production process, the systems also need to be flexibly adjustable to the requirements of individual customers. And on top of that, the price has to be attractive enough to make it profitable to switch to the new adhesive and justify the investment in a new piece of equipment.

The challenges were considerable, but they were met: in partnership with Robatech AG. A renowned Swiss manufacturer of application devices for a great variety of adhesives users, including the automotive industry, Robatech and its staff can rely on decades of experience in many different bonding technologies. Knowing the value of closed systems, they develop their products on the basis of a modular system that offers the greatest possible degree of flexibility in the design of the individual production lines. And they are fully aware how decisively the profitability of a production process depends on uptime. But even more important was the willingness of Robatech's management to invest in a new project, to dedicate time, expertise, and money to a cooperative venture with Purbond aimed at the creation of greater customer benefit. It has been, and continues to be, a wonderful example of teamwork: direct, straightforward, and open-minded. "We help Purbond, and Purbond helps us," as one of Robatech's executives, Marcel Meyer, summarized it. With partners of such a mindset, even difficult times can be overcome.



**Showroom PVA AG, floors/doors, Altendorf, [www.pva.ch](http://www.pva.ch), Switzerland 2008**

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**Post distribution center Hollersbach, completion and picture Holzbau Maier, [www.maier.at](http://www.maier.at), Austria 2004**

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# The HBS range: Adhesives for greater performance

In close cooperation with Bayer, Purbond has succeeded in developing and patenting a range of adhesives that establishes new standards in processing.

This marks another step forward in our commitment to serve our customers by making them more competitive:

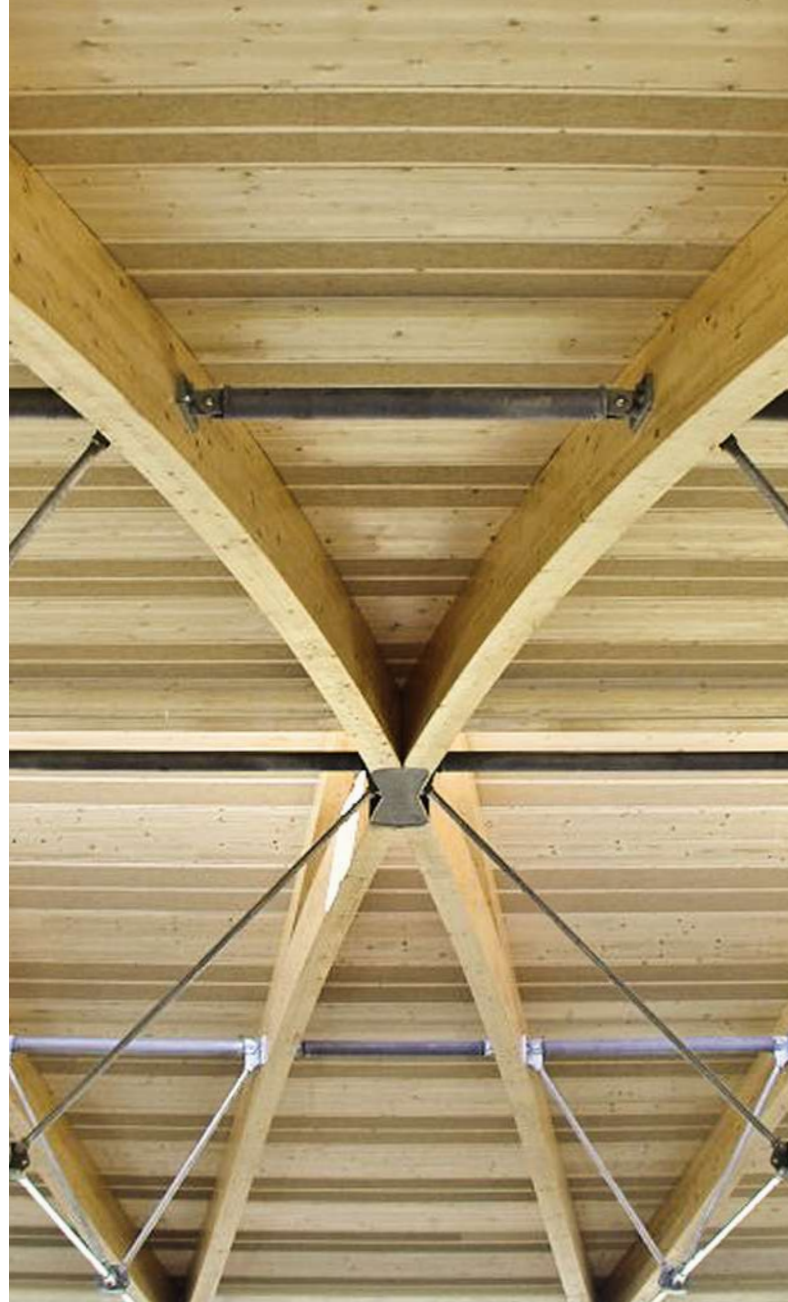
1. For the first time in the history of one-component PUR adhesives for load-bearing glulam construction, an entire product range rather than just a single adhesive was certified.
2. The newly developed range of adhesives makes it possible to flexibly determine open times within a range between 4 minutes and 70 minutes. This means that the adhesive can be adjusted to the needs of the individual customer, particularly his production process and the targeted end product. Considering the crucial effect of an adhesive's time parameters on the performance of production resources, it becomes clear that the HBS range can exploit productivity reserves to the full.
3. The new adhesives no longer contain fibers.  
This leads to decisive advantages in the storage and application of the adhesive.

- The new adhesives have a longer shelf life and are more resistant to temperature fluctuations. Moreover, residual adhesive in containers can easily be drained to the last drop.
- In production, the adhesive can be applied more quickly and with greater precision. The nozzles in the systems have become finer, the adhesive can be applied at higher pressures, and bead spacing can be reduced.

To summarize: the new adhesive reduces storage, logistics, and production costs while improving the quality of the adhesive bond.

4. Of course, these latest-generation adhesives contain the proven additives that make monitoring of production with the naked eye or with optoelectronic systems more convenient and dependable.
5. To fully benefit from the advantages of the fiber-free adhesives, adequate application systems are required. These systems were developed in close cooperation with Robatech of Switzerland, one of the most competitive applicator systems manufacturers; the company also offers customer care around the globe.

A number of Purbond customers in all parts of the world have already gathered initial experience with the new adhesives: all responses are positive. In particular, it appears that for glulam manufacturers still working with the classic formaldehyde-based adhesives, there are hardly any good reasons not to switch to the modern PURBOND adhesives. They make it possible for them not only to market a higher-quality product but to achieve this with an improved production process.



**Multi-purpose hall, Aire-la-Ville,  
picture Lignatur AG, [www.lignatur.ch](http://www.lignatur.ch), Switzerland 2003**  
PURBOND HB 221

# Bernd Pfeifer, the specialist in Austria

The key asset of wood structures is long-term integrity; the general public is becoming increasingly aware of how ecological and naturally benign this material is.

To imagine Bernd Pfeifer as a salesman would do justice neither to him nor to his task on behalf of Purbond. Having worked for 20 years in the wood industry and ten years as our man in Austria, he knows virtually everything there is to know about the use of PURBOND adhesives. At the same time, he is thoroughly familiar with our customers, their strengths and achievements, and the areas where they can still improve. His advice is highly appreciated when they plan to invest in new equipment, streamline processes, save material costs, or venture into new business segments. And of course, he is the expert when it comes to gluing timber and optimizing the effectiveness of production processes.

Bernd Pfeifer visits his customers throughout Austria. From his base in Vienna, he drives all the way to Vorarlberg or Tyrolia, to Styria or the Salzburgerland. Wherever structural timber companies wish to benefit from PURBOND technologies, he is there. He travels 60,000 kilometers every year. And he sees his role not so much as a sales rep than as an ally and companion to his customers. He's there when they need him, and he makes them feel unconditionally supported.

Wood as a construction material has been Bernd Pfeifer's specialty ever since his days as a student. For ten years, he worked for Holzforschung Austria, where he tested, monitored and supervised the fabrication of load-bearing wood products. Planning his next career stage, he wanted to remain faithful to wood and continue working with the many good friends and acquaintances he had won through the years. And so he ended up at Purbond. "The early development years were tough," says Bernd Pfeifer, "and the near future will confront us with a host of new challenges." In the short term, the new credit restrictions that require up to 50% equity capital for many construction projects in Austria will curtail demand. "Fortunately though, we can benefit from the popularity of wood as a building material," Bernd Pfeifer believes, and for a moment, a glimpse of enthusiasm breaks through his naturally reserved manner. Currently, he is having a wooden house built for his family. "The wonderful interior ambiance of a wooden house cannot be inimitable," he raves. "The value of the building is preserved, and the ecological and naturally sustainable quality of this construction material is increasingly appreciated by the general public."



**Aston Martin Design Studio, Gaydon, UK, 2007,**  
**picture Lignatur AG, [www.lignatur.ch](http://www.lignatur.ch)**  
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