
Building Quality Parts with Quality Materials

Shelf Life and Product Performance

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Building FRP parts with consistently high quality requires continual diligence – attention to a myriad of details. The use of resin based products such as Arjay’s line of Performance Products presents special challenges because of shelf life issues. While we formulate our bonding compounds for maximum stability, there is no doubt that they perform best the earlier they are used. This Pro Tips addresses the issue of product stability and what you – the distributor and end user – can do to ensure that the utmost quality is built into the final product.

A basic concept in controlling inventories of all materials, but particularly resin based products, is FIFO – First In, First Out. This entails shipping or using the batch produced earliest before those produced afterwards. The batch number on the product usually gives the information required to employ a strict FIFO technique. Arjay uses a particularly easy to interpret eight digit batch number. The first six digits refer to the production date: Month, Day, Year. The last two digits ensure a unique number for each batch produced on a given day. This number appears on each and every can, pail and drum of Arjay product.

Who should be aware of these batch numbers and how to read them? In our opinion everyone in the distribution pipeline who orders, ships, moves, stacks or uses the materials. Certainly the fastest, easiest thing to grab is the handiest pail, drum or pallet. But far too often this isn’t the one with the oldest batch number. Using resin based products without regard to batch sequence may not cause noticeable problems, it just isn’t in keeping with ensuring that the utmost quality is built into the final product.

Another inventory control principle is appropriate order quantity. The cost of ordering, including freight and other handling costs, must be balanced against inventory carrying costs. But in the case of resin based materials the inventory carrying costs have to include a certain “quality cost” reflective of the fact that the materials perform best when they are freshest. Smaller, more frequent orders may increase the order cost, but they will result in fresher material being used and there is no doubt that this will lead to more consistent, higher quality parts.

Just what are these stability issues? Polymerization is one. From the moment we add promoter to the batch slow, unintended polymerization starts. Mechanical stability is a second issue. Heavy fillers tend to sink while lighter ones move slowly upward with time. This effect is greater in lower viscosity products such as our Lam Light, J-Core and Ceramic Pourable lines. A third is gel time drift which can be toward quicker gel times but more likely longer ones. Arjay formulations are tailored to slow these effects, but they can only be slowed, not eliminated.

So, think fresh! Whether you are cooking or building FRP parts, it’s the key to quality and customer satisfaction.