

Building Your Best Boat with Radius Compound

By Bob Cottrell, CPIM

One of our very first products was Arjay's 2121 radius compound. We started with a resin base, which is tough, but still flexible and economical. Then we added several different types of fillers that work together for a formulation that provides superior tensile and impact strength, which we believe is a necessity for a product that will be placed directly against the gel coat surface. These fillers are of two types:

- **High aspect ratio** - meaning that they are long and thin and improve tensile strength
- **Flat plate in shape** - which improves impact strength

High aspect ratio fillers are not what one would add to improve ease of spreading and handling. We all know what happens when you mix milled fibers into resin. It has been our belief for many years that spreadability should not be the top concern for a radius compound. We could make it an easier-to-spread material, but we won't because it wouldn't perform nearly as well. We have been rewarded for this stance by seeing the unit sales of 2121 increase more than seven fold over the last five years. Customers seem to be realizing that their long term best interests are served by using a product that favors performance over convenience.



The use of a high performance radius compound opens the door to significant labor savings in the skin step as pointed out in a previous Pro Tip, Maximizing Labor Savings with Radius Compound. The key to realizing these savings is in large part due to being able to depend upon the radius compound to do its job – protecting the area around sharp radii as well as the skin coat itself would do.

Following on the success of 2121, and after listening to customer suggestions, we have developed two additional radius compounds that can help target more specific tasks even better:

- **The first is 5121** which is formulated using Ashland's AME™ 5001 modified epoxy vinyl ester resin which is known for its superior blister resistance. In addition, this product contains a significantly higher level of high aspect ratio fibers making it virtually substitutable for the skin coat over much larger areas than heretofore possible. **Figure 1 shows a small, triangular hatch area containing a "double drop" that has been filled with 5121 against the gel coat.** Both the amount and the length of the incorporated fibers along with the premium resin provide the necessary strength to ensure an appropriate backup to the gel coat.
- **The second is 7121** which is not a new product, but another application for a product that has been used for many years in critical bonding applications. The level of high aspect ratio fillers is between the 2121 and the 5121 which along with the vinyl ester resin make it an excellent choice as a traditional radius compound for builders of high performance boats.



Fig. 1

At Arjay, our ultimate goal is to help you build your best boat. We believe that the tough, impact-resistant strength of our line of radius compounds can do just that. Talk to your Arjay representative about a product trial today.