



Background

With the release of the new 3M Scientific Anglers Sharkskin fly line, there was instant skepticism that the embossed line would wear through guides quicker than a fly line without an embossed surface. In response, a test was conducted to simulate casting fly lines through guides in order to see if there was any difference in an embossed line and a conventional line. Weight forward five weight floating lines from Cortland, Airflo, Rio, and Scientific Anglers Mastery Series and Scientific Anglers Sharkskin lines were tested with the guide at the tip of the fly rod. The tip guide was chosen since this guide receives the most wear when casting. Additionally, the running line and different belly sections of each fly line were tested in order to get a simulation that was more representative of a true fly cast. Finally, five common tip guides were tested for wear. The tip materials consisted of Ceramic, Hard Chrome, Hopkins Hard-Chrome, Titanium-Nitride, and Titanium-Carbide.

Test Apparatus

The testing apparatus consisted of a rotating cam which the fly lines were attached. Each line was then strung through the guide tip and connected to a 50 gram weight. As the cam rotated, the line was pulled through the guide, lifting and lowering the 50 gram weight. This lifting and lowering motion simulated the casting motion of a fly rod.

Test Procedure

Both the belly and running line of each line was run until failure in all five individual guide tips. Then the amount of wear on the guide for each fly line simulated was then measured using the RA roughness value from the Zygo New View White Light Interferometer. The difference in the RA value indicated the affects of the fly line on each guide type and can be seen in the following figure. In order to clarify the optimum RA value, the figure is color coated. The red area indicates a damaged guide tip, the blue indicates an unchanged guide tip, and the green indicates a polished guide tip.

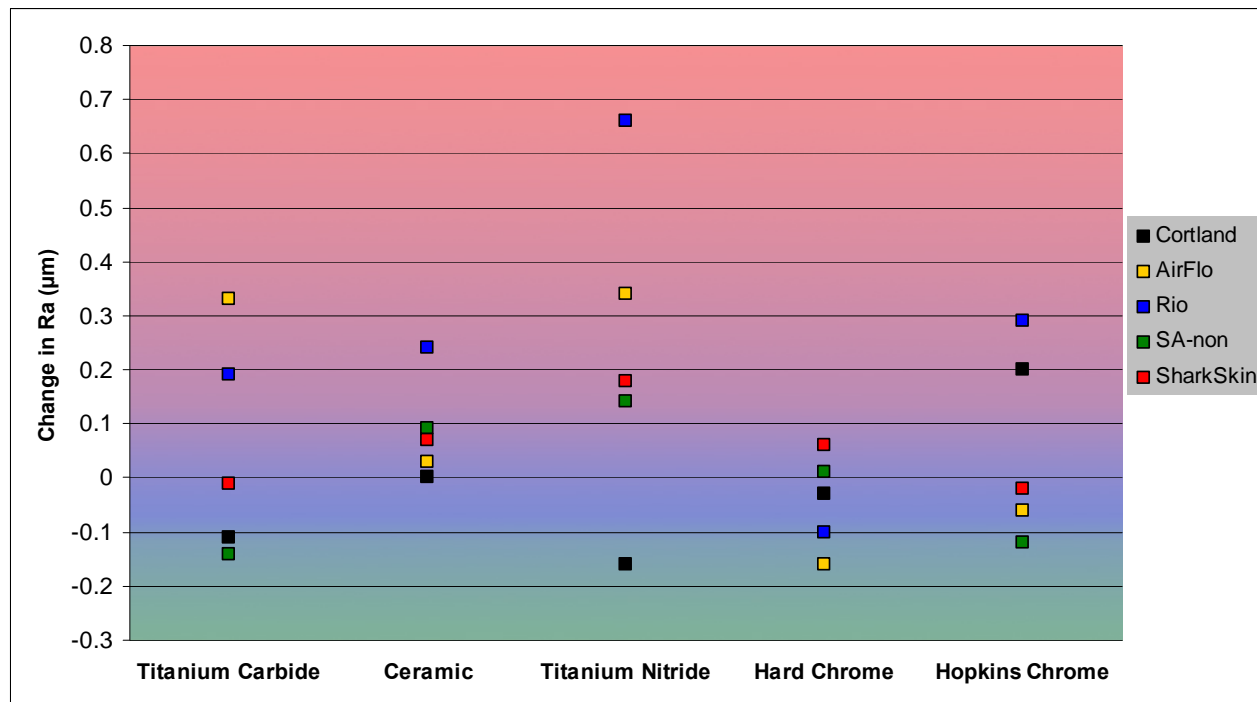


Figure 1: Change in RA per guide type