

How Do Industrial Hard Carbon's Customers Use Coatings?

Article Courtesy of Industrial Hard Carbon, LLC

According to Carrie DiMarzio, CEO of Industrial Hard Carbon, “We’re not just a coating supplier, we are a solution provider. Our customers are not saying, ‘Do we use coatings?’ It’s, ‘How do we use coatings? Where in the system is the coating used? How do we design a system using coatings?’ Because everything is a system.

“We study each application very closely from a tribological standpoint, tribology being the science of interacting surfaces in relative motion. If there are two surfaces or components that are in contact in a certain environment, there is a tribosystem. When IHC designs a coating, these are the things we have to hone in on to provide a suitable coating for that specific tribosystem; what is the substrate material of the two components that are in contact with each other, and how well are the surfaces prepared? What is the working temperature? Is it a dry or lubricated environment? Is it a high load or sliding application, or both? There are lots of tweaks we can do, or that people can choose, keeping the goal in mind to serve the tribosystem as best as possible.”

Engineering Manager, Gokhan Yildiz, states, “In some cases, a single component may receive several different coatings. For example, different coatings can be applied to the head, stem, and tip of a valve, depending on the specific engine design. We have to consider environmental factors, such as temperature and lubrication, and look closely at the type of interactions present with the countersurfaces, the valve guide and seat, prior to providing a coating solution. For instance, the head of a valve can be coated with DLC [diamond-like carbon film], while the stem and tip are coated with CrN [chromium nitride].”

About Industrial Hard Carbon

We are committed to consistently exceed our customers’ expectations for quality, delivery and service.

Our quality policy is simple:

- We commit to exceeding your expectations every step of the way.
- We inspect everything from the moment an order arrives on site and throughout our process.
- We build our own machines — and we know them inside and out.
- That means you’ve got experts behind the wheel every step of the process.
- We investigate problems — and we tell you what we find so you can make better, more cost-effective decisions down the road.