CPM 10V, and Bohler-Uddeholm , BU K294 and BU K390, The ASI A11 steel grades used for knife blades.

How do the BU grades compare to CPM 10V? They are all the A11 grade and the same basic chemistry so It depends more on the heat treat and edge geometry than the make up. The BU particle process is more refined but the particle size on all of them is so small that I am not sure the difference would show up in a knife blade. I like all three steels. CPM 10V is about 40 years old since development and over this time they have worked out all the potential problems. The BU versions are very nice indeed, they heat treat easy and the finer grain and advertised cleaner mix are all welcome. Both companies have been very helpful to custom makers. They provide good tech support and steel availability. They are also willing to supply material in small quantities and thickness that work for a knife blade.

K390 has been tweeked a little with added tungsten and moly. Both these elements form carbides that add to the vanadium carbide in the mix. The data sheet says a little less wear resistance than the std A11. I guess that is because both moly and tungsten carbide are slightly softer than vanadium carbide. I have not seen that K390 has less edge holding than 10V or K294. They are all very good, in fact in the same top category and I think it would take a laboratory and very controlled conditions to see a difference. BU has mentioned that they are going to do some CATRA tests with K294 and K390 so when that information comes out maybe it will tell us something more. K390 does have the potential of inching the hardness up a bit with a thin edge geometry or a more aggressive use with the same geometry. We may be talking about marginal differences but as more makers work with all three we should get some feedback.

Phil