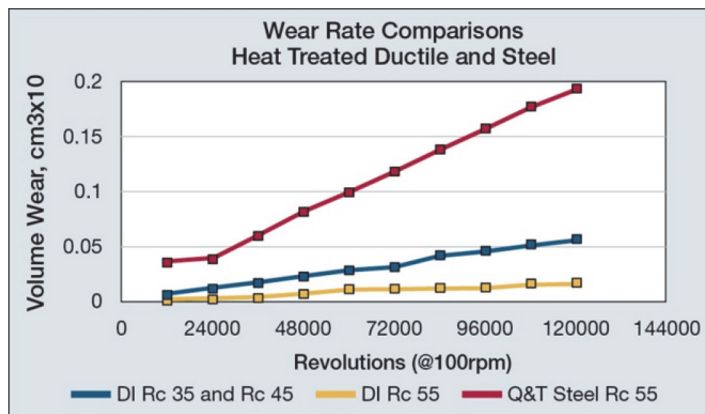


Dura-Bar 65-45-12 Ductile Iron vs. 8620 Steel

Dura-Bar 65-45-12 ductile iron can be a cost saving alternative to 8620 steel, especially if the part is currently being carburized to improve wear resistance. In sliding wear applications, heat treated ductile iron will always outperform 8620, carburized and hardened.

Ductile iron is heat treated to improve wear and needs to be tempered (softened) after quenching. Tempering to Rc 45-50 will result in optimal wear resistance and material toughness. The chart below compares the wear rates for varying tempered hardnesses of ductile iron and steel. Any quench and tempered steel with a hardness of Rc 55-60 would apply. The wear over time on a ductile iron part is significantly less than on the same part produced in steel.



Data is based on 3 pad specimens on 52100 hardened steel disks, dry conditions, 150 lbs. force.

Shorter heat treat time means significant cost savings:

Assuming carburizing takes about 30 minutes per 0.001" depth of hardness, an 8620 steel part needing a case depth of 0.030" would take about 15 hours to heat treat. The same part in ductile iron would take about 4 hours to heat treat. Although ductile iron needs to be tempered after quenching, the total time savings is significant. Using a base rate of \$150/hour to run a furnace for each batch, we can estimate the cost savings to be easily over \$1000 per batch, in this example.

In addition to the cost savings from the shorter heat treat time, Dura-Bar 65-45-12 ductile iron has superior machinability over 8620 steel. Faster speeds and feeds lead to shorter cycle times and more machine capacity, as well as easier chip evacuation.

Contact us today to discuss your application and how you can start saving with Dura-Bar.