

Dura-Bar Vibration Damping

Dura-Bar's enhanced vibration damping results from the graphite inherent in the material. Graphite flakes in gray iron and nodules in ductile iron cushion vibrations as they are transmitted through the part. Therefore, gears and other components made from Dura-Bar ductile iron will be quieter than those made from steel, while maintaining required dimensional tolerances and surface finishes.

Parts made from Dura-Bar gray iron will be quieter, but are most suitable for low-stress applications. Dura-Bar gray iron has at least 10 times the damping capacity of low carbon steel and Dura-Bar ductile iron has three times the capacity.

The table below compares steel and iron amplitudes:



Type of Metal	Relative Decrease in Amplitude Vibration / Cycle
Steel	1.0 – 2.0
As-Cast Gray Iron	20 – 60
Heat Treated Gray Iron	20 – 30
As-Cast Ductile Iron	3.0 – 9.4
Q & T Ductile	3.0 – 5
Austempered Ductile Iron	10 - 15

Virtually every gear or other metal component in moving machinery makes some degree of noise. The noise stems from vibrations that get transmitted through parts during operation. As such, the vibration damping characteristics of Dura-Bar can be a real benefit in any application that involves moving parts.

One customer used Dura-Bar for a balance shaft gear and achieved not only quieter operation, but also a lower cost to produce the gear. Other prime applications which take advantage of Dura-Bar's vibration damping include such noisy equipment as machine tools, printing presses, and textile machinery.

Dura-Bar can also be a cost saving alternative over low-medium carbon steels due to its superior machinability. Faster speeds and feeds will reduce cycle times and increase machine capacity.

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