

MECHANICAL PROPERTIES OF CLASS C AND CLASS D WHEEL STEELS: PRELIMINARY REPORT

This document represents an interim report that summarises the results obtained from two preliminary studies into the monotonic (tensile) and cyclic properties of BR108a Class C and Class D wheel steels.

It concludes that:

- Class D steel is stronger (both monotonically and cyclically) and more ductile than Class C steel.
- Class C and Class D steel have similar fatigue properties, Class D having a slightly higher fatigue limit.
- For both Class C and Class D the web specimens show no marked change in properties with orientation.
- For both Class C and Class D at heat-treatment of 5h at 300°C has no effect on properties.
- Class D shows no marked ductility drop (%RA) between 0°C and 400°C.
- Class D shows a minimum in UTS at ~160°C