

## COOLING OF A SOLID BRAKE DISC SPACED AWAY FROM THE WHEEL WEB

With increasing train speeds aerodynamic drag becomes an important parameter in wasting train energy. The ventilated brake discs attached to the wheel webs have radial ducts on their back face for cooling. The radial ducts act as centrifugal fans, which make an additional and significant contribution to the total train drag.

In still air, both for the rubbing face and the ducts on the back face, heat transfer coefficients are entirely determined by the rotational speed of the disc. It seems, therefore, that if a non-ventilated parallel faced disc is spaced away from the wheel web leaving an air gap between then a cooling rate approaching that of the ventilated disc may be obtained. This arrangement will also reduce aerodynamic drag.

This report gives the results of experiments on a disc spaced away from the wheel web by varying amounts.