

WHEEL/RAIL ADHESION – REVIEW OF THE EFFECTIVENESS OF TRACKSIDE APPLICATIONS

During the 1970s various tests were carried out to establish the effectiveness of trackside applicators which dispense fluids to improve wheel/rail adhesion. Applicators were originally introduced in 1958 to spread fluids along the railhead by the action of the passage of trains. However, the usefulness of these devices has long been doubted, though it has proved difficult to devise tests that would convincingly settle the matter one way or another. This report sets out to outline the more recent tests that have been done and to summarise the information gained.

The report concludes that:

- There is no good evidence that trackside applicators are effective. Support relies largely on subjective assessments of small improvements in service. Ethyl caprylate based solutions, such as Portec solution, can cause low adhesion and should not be employed.
- Colloidal silica and sodium metasilicate solutions have shown some improvement on oil affected services, but their influence on wet rails remains to be determined.
- Mechanical pump-type applicators have proved unreliable, especially on high speed lines. A gravity fed device has successfully been developed.