

PANTOGRAPH CONTACT STRIP SPACING – THE EFFECT ON CURRENT COLLECTION PERFORMANCE AND PROBABILITY OF FLASHOVER AT NEUTRAL SECTION INSULATORS

The International Trains which it is intended will operate on both sides of the channel tunnel, are expected to be fitted with Faiveley GPU pantographs of a type similar to those specified by SNCF for TGV (A) trains.

The Faiveley GPU pantographs are fitted with contact strips spaced at 400mm overall compared with a spacing of 230mm for BR pantographs. This increased spacing has implications for the current collection performance and the probability of flashover at neutral section insulators. A study has taken place on current collection performance (from previous tests). High voltage tests have been completed in the laboratory on neutral section insulators simulating the passage of pantograph strips at low and high speeds.

The results of the test show that the current collection performance of a pantograph fitted with contact strips spaced at 400mm is similar to that of a 230mm spaced head. The risk of flashover, however, is greatly increased with the 400mm spaced strips.

Whilst this could be tolerated due to a small number of vehicles being fitted with wide spaced strips, it would be prudent to change to longer insulators for the neutral sections, in areas of high pollution, on the routes on which these vehicles will operate.