



HEAT GUN ASSESSMENTS

Fire Properties Assessment of Painted Surfaces in Escape Routes and Sub-Surface Locations

Following the King's Cross fire in November 1987, it was suggested by various parties that the paint coatings applied within the Piccadilly Line escalator shaft and the tube line ticket hall ceiling may have contributed to the fire. Evidence presented at the Fennell inquiry stated that when the flames reached the ceiling of the ticket hall they ignited the ceiling paint, generating intense black smoke within a matter of 2 minutes, at which point it became impossible to see or breathe. Prior to the fire reaching the painted areas, eye witnesses reported that the fire was giving off only a small amount of smoke. Only after the fire reached the painted surfaces was a large quantity of thick black smoke, including toxic fumes, produced.

As a result of this, the Heat Gun was developed so that prior to the commencement of any redecoration works within London Underground Limited (LUL) stations, a fire properties assessment of the existing paint coatings must be undertaken. This assessment is to establish whether the application of a new paint coating system over the existing paintwork would create a fire hazard. If a potential fire hazard is identified, the existing paintwork will require stripping by the Client or their appointed subcontractor, prior to the application of the new paint coating.

All new paint coating systems, that are to be used within LUL stations and premises, must undergo a series of laboratory fire performance assessments, as detailed in LUL Engineering Standard 1-085 Fire Safety Performance of Materials, to assess their suitability for use.

4-RAIL Services trained Technologists will carry out an in-situ assessment using Heat Gun apparatus. Adhesion assessment of the existing paint coating to the substrate is part of this process.

The Heat Gun test apparatus used has been specifically designed to undertake this type of fire properties assessment. An empirical relationship exists between the results obtained from Heat Gun assessments and the results that would have been obtained from the laboratory assessment of the paint coating fire properties. The results obtained from Heat Gun assessments indicate whether the existing paint coating is a potential fire hazard, whether there is a requirement for stripping the coating prior to any redecoration, or whether it can be left 'as is'.

**To discuss your particular requirements regarding these or other complementary services, contact us
by emailing enquiries@4-rail.com or call us on 020 8955 1700**

**4-RAIL Services Limited is a recognised and leading
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**Unit 11 Ironbridge Close, Great Central Way, London NW10 0UF
Telephone: 020 8955 1700 Facsimile: 020 8830 1003
www.4-rail.com**

