

Shared Learning

The Thameslink Programme

Issue Date: 15th Aug 2018 - For further info contact sharon.fink@networkrail.co.uk

Issue Number: TLP092

Title: Escalator Cladding Panel Fell

Overview of Event:

At approximately 1740 hours on Friday 15th June 2018, a triangle shaped escalator cladding panel weighing 4.8kg fell approximately 7 metres into the public concourse area. No one was injured however there were members of the public in the area at the time.

General Key Messages:

- Designs must consider interface of multiple components, in particular fixing specifications
- Designs and installation of unusual / unique detail should be highlighted to installation and assurance teams
- Principal Contractors and Network Rail Engineering teams must have robust assurance regimes (inc. Inspection and Test Plans) in place to satisfy themselves that works have been installed as per design

Causes:

The Panel fell due to the toe bracket becoming de-bonded from the rear of the Triangular Panel. A number of findings emerged however the key findings were: -
Design:

- The panel fixing failed at the toe connection where bonding had been used. The panel had fixings on the top of the panel but only bonded at the toe of the panel. The triangular panel and the connection detail for this particular panel was unique due to it's location.
- The fixing detail identified the panel being fixed with a positive fixing through the panel and into a Unistrut channel. The drawings and supporting calculations were approved by the Principal Designer, Principal Contractor and Network Rail via the Subcontractor Design Review SDR process. The fabrication drawing was not included in any of the final SDR submissions and therefore the bonding at the toe had not been identified by those undertaking the review. The fabrication drawing did not detail the unique connection detail for the panel that fell.
- Processes were not followed which included off site manufacture of materials, technical queries around design detail and assurance of installation. Note: The Inspection & Test Plan was not prescriptive on the detail of the fixing connection.

Planning:

- The works were not planned for that night and neither the Principal Contractor or Network Rail were aware of the panel having been installed until the end of the shift. There was missed opportunity to identify any associated hazards and risks associated with the installation of the panel. The Sub Contractor Supervisor did not attend the nightly co-ordination meeting were planned works are discussed. This would have led the team to discuss assurance checks required also.
- The nightshift generally operates with a lower ratio of supervision than the dayshift. There was a culture of undertaking activities that we not on the handover for the shift.

Actions Taken As a Result of the Investigations:

- A review and inspection of fabrication drawings and installation has been undertaken
- An independent quality investigation is being undertaken around assurance processes and their application on the project
- Design management is under review
- Design risk assessments are under review
- Short term planning of works reviewed with works to be planned at least 2 shifts in advance
- Nightshift resource was reviewed to make sure sufficient allocation of resource to carry out allocated responsibilities
- Workshops have been undertaken on the project for key Supervisors / Engineers to discuss behavioural impact in events like this one.

Photo of Event :



The panel was placed to the side by station staff.



The triangle panel that fell into the public concourse



The location of panel prior to it falling .



Exclusion zone set up in concourse after the panel fell



Impact point on panel