

# **TURNER ACCESS**

**Construction News**

**The Specialists in Construction Awards 2005**

**Access & Scaffolding Specialist of the Year**

**Turner Access Ltd Entry**



Turner Access Ltd consider themselves to be appropriate candidates for this prestigious award.

Throughout the past year they have been responsible for what must be the biggest single access contract in this country, to provide what are definitely the (2 no.) longest single working platforms ever built (now claimed as an official world record).

The two complete access platforms, each approximately a full Kilometre long x approximately 35m in width (70,000m<sup>2</sup>), have been suspended under the M1 Motorway and below the A631 on the 2 tier Tinsley Viaduct at Sheffield.



Turner Access has used a form of access equipment that is entirely new to the European market – Safespan - for which they have been appointed as exclusive distributors and consequently have established a specialist division named “Safespan Europe”.

The safe and efficient installation of this patented system, developed in the USA in the mid-1990s, has enabled this £85m Highways Agency contract to run successfully throughout.

As of August 2004, over 2 million man-hours had gone into the project, an average of 35,000 hours per week. At a time when health and safety in the construction industry is under the microscope, the Tinsley project has a virtually unblemished safety record.

There have been no serious accidents and it has been almost over 1 million hours since there was a lost time accident. Turner using Safespan and PlusEight system scaffolding have been integral in the project winning RoSPA awards, a WWT (Working Well Together) award, and have contributed significantly towards this year's 'Quality in Construction' awards for this project.

The strong safety record on the scaffolding and access part of the project has been founded on pre-site entry assessment, training on the use of Safespan in combination with Plus Eight Modular Scaffolding. Regular safety review & briefings and daily inspection have also been in place throughout; there can be no doubt that Turner Access has made a significant contribution to this project, overall.

When working on the Safespan platform one has no concept of height the project is effectively brought to the ground. Only the climb using the 20m high Plus Eight access stair towers serve to remind you that you are so high off the ground.

The top tier had to be installed above one of the busiest traffic routes in the country on the A631 and one of the main benefits recognised was the fact that nothing hangs below the platform level. This meant that the traffic clearance gap could be maximised, allowing the road system to remain open.

The Safespan platform system's much lower self-weight in comparison to traditional scaffolding also limited the load imposed on the bridge, which in the 1990's had spectacularly failed an assessment carried out by the consulting engineers 'Owen Williams' for compliance with an EU Directive for load bearing capacity.



Traffic operating below the system, once Safespan was installed, was not the only problem Turner Access had to deal with on the Tinsley Viaduct. The bridge is



situated right next to the two cooling towers from the old Blackburn Meadows Power Station, which are well known landmarks. The upper tier on the east side carries gas and water mains and is in close proximity to these towers. Next to the towers is Yorkshire Water's largest sewage treatment works and the land beneath the bridge is owned by five separate tenants, with only 20% belonging to the Highways Agency.

The bridge also crosses a canal, which is used by both recreational and working barges, two railway lines and the River Don. In addition to these obstacles and to complicate things even further, Sheffield's Supertram Network runs parallel to a considerable length of the bridge.



Tinsley Viaduct has motorway junctions at both ends, which give access to some of Britain's busiest leisure destinations. Meadowhall (one of Europe's largest shopping centres) is only 200 metres to the west of the viaduct and within a kilometre lie Sheffield Indoor Arena, Don Valley Stadium, and the Magna Centre.

The area around the viaduct is also Sheffield's industrial heartland including major steelworks and manufacturing plants. In short, the knock-on effects of any traffic disruption during the installation of the access works would have had a serious impact on the local economy.

Turner Access initially valued the access package to be around £4m, using only the Safespan product to allow access to the bridge's underside as specified. Their recommendation for the use of Turner PlusEight Access scaffolding towers to achieve access onto the Safespan Platform was also accepted and the main client soon recognised the benefits of using the world's fastest scaffolding system in conjunction, to gain additional supplementary access.

This has taken the overall access value of the contract up to over £6 million over the contract duration, to date.



Four 20m high towers and another 76 towers along the length of the bridge ranging between 5-6 metres high, to gain access from the road on the lower tier to the upper Safespan level, have also been installed. In addition to this, Emergency Access/Egress towers are also installed at both abutments. Similar access/egress arrangements exist on the lower bridge from ground level.

At one point between 400 and 450 tradesmen were working off the Safespan platform and gaining access to it using the towers provided, which were also fully clad with steel sheeting to prevent unauthorised access. Steel Fitters, Welders, Painters and Inspectors etc all had to

pass through specially designed integral steel doors fitted to all of these towers.

Turner Access also provided most of the secondary low level access solutions as well as the perfect handrail around various openings that had to be created on the Safespan platform itself. The creation of openings in the platform were required for a variety of reasons including for lighting purposes or to fit around the various obstacles from the existing bridge steelwork or to open up to allow movement of new steel for bridge strengthening purposes – all have been catered for. The gaps created on the Safespan platform to allow the passage of light from the bridges existing streetlights allowed normal service to continue at night for road users on the upper deck area.

Special design and attention to more detail was also required on the sections of Safespan that cross over above railway lines.

PlusEight side protection structures 17.5m in length and 6m high were erected from the Safespan deck over the width of the railway lines and again steel sheeting was attached to the Plus Eight scaffolding to prevent materials from falling onto the tracks below and to create exclusion zones.

The Safespan system was also raised in these areas conforming an arch to maximise clearance for trains, simply by shortening the length of the vertical cable hangers.

4 of the most impressive supplementary scaffolding structures provided are each 61m long x 4.9m wide *mobile* access towers with full working platforms, approximately 3m high to allow the painting contractor to blast and paint the underside of the longitudinal box beams on the upper bridge *from* the roadway.



Turner Access has also submitted a claim to Guinness to recognise these structures as the longest mobile scaffolds ever built.



The Tinsley Viaduct Project has utilised the services of fully trained advanced Plus Eight Scaffolders and skilled Rope Access Technicians. This was established in discussions with the H.S.E approximately one year prior to UK introduction of Safespan, as the entrance level to qualify to train to install the Safespan Product). Specialised rope access techniques were particularly useful for the sections of Safespan installed over the canal, river and railway sections.

Turner Access also utilised powered access and a selection of other suitable equipment to provide access during the installation. More recently, Turner Access have made use of their newly patented innovative system, "PlusGard" (an advanced guardrail), which, for the first time gives the scaffolder a guardrail in advance. A measure that will be required under the hierarchy of measures now proposed in the new Work at Height Regulations.

The new regulations will require prevention of falls before mitigation and this will be applicable to those erecting dismantling or altering scaffolds, as well as for those for whom the scaffold is built. Turner Access is therefore probably the *first* scaffold company to adopt advanced guardrails within their standard systems of work.

Safety has been the primary concern and Turner Access leads the industry with innovative ideas to keep not only the user of the platforms safe but also the scaffolding/access installer. (This product "PlusGard" was a Finalist in the Quality in Construction Awards 2004 – The Judge said: "This one product could make a huge difference to safety on just about every site in the UK")

All of this access equipment of course has to be inspected.

On this project, inspection alone takes 6 man-days and is therefore a continual process. Turner Access have put systems in place using a tag system in conjunction with their own Plus Eight and Safespan certified inspection regime.

The Tinsley Viaduct is one of the largest access projects taking place in the UK today and Turner Access is very proud of the contribution they have made on this project.

They offer it as an example of a company, which overall can deliver beyond the highest standards in the industry; the first scaffold company in the UK to receive I.I.P status, manufacturing to ISO 9002 and now working towards H&S standard 18001.

It is perhaps best left to others to comment (see the attached quotes from Owen Williams Consulting Engineers and Edmund Nuttall Ltd Main Contractors at Tinsley)



**Frank Surrey – Senior General Foreman**

**Edmund Nuttall Ltd**

“Throughout the contract the Safespan system has proved itself time after time to be an excellent and safe system. It is my belief that the project could not have been carried out in the required timescales without this system. Safespan Europe (Turner Access) has been on site for two years and during that time has proved themselves to be a safe and competent contractor and willing to assist or adapt to changing needs of the project”

## Paul Thomas – Production Engineer

### Owen Williams Consultants

“On the Tinsley Viaduct Strengthening Project, Safespan Europe (Turner Access) have provided a rigid working platform second to none.

The ease of installation combined with its reduced weight on the structure has saved on secondary strengthening works. Its use has increased the range of work that can be undertaken thus reducing time on site.

The platform has provided a safe system for employees and the public alike, it has reduced visual impact is an added environmental benefit.”



**Two levels of Safespan 1 Kilometre long x 35 m wide on the Tinsley Viaduct in Sheffield**

**Construction News  
Access and Scaffolding  
Specialist of the Year Award 2006**



**and the**

**Health and Safety Award  
Best Safety Product Award 2006**



**Combined Submission**