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**Project**                      **Temporary Edge Protection  
Testing**

**Project Number**            **5718/MM/TRA**

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## SUMMARY

At the request of TRAD our quote 5718/ccc , TEMPORARY EDGE PROTECTION SYSTEM - see (Figure 1). The tests were carried out on Tuesday 5 February 2008 at Contex House, Dewsbury Road, Morley, Leeds

## OBJECTIVES

To test the structure for the following:-

**Temporary edge protection system BS EN13374:2004 for**

**Class A Static loads**

**Class B Dynamic loads**

See Figure 1 for general configuration



**Figure 1**

A1 to A2 = 1500 mm

A1 to B = 3000 mm span

The vertical post A1 & A2 are set 1500mm apart and as can be seen in Figure 1. Posts A1 and B have outriggers fitted with 25kg concrete round feet attached, the 90 degree corners have the same 1500mm spacing and outriggers (type B) set at 3000mm spacing.

**NO NETS ARE FITTED TO THIS EDGE PROTECTION**

[http://www.tradsafetydeck.co.uk/edgeguard/pg\\_tech\\_info.asp](http://www.tradsafetydeck.co.uk/edgeguard/pg_tech_info.asp)

This gives all the material specifications.

## METHOD

Tests required - see (BS EN13374:2004 section 6.3.1.4, 6.4.1/2)

1. Horizontal force (Ft1) 0.3kN top rail max Deflection 55mm
2. Vertical force 1.25kN top rail, load parallel to guardrail .2kN
3. Swing test See ( 7.5.2.1.4) 500Joules ( J ) above 200mm
4. Swing test See (6.4.2) 1100 J anywhere along the protection below 200mm

### Tests 1 &2

A calibrated load cell was attached to the structure, the displacement was recorded and the load was read from the hand-held computer - see (figure 3).

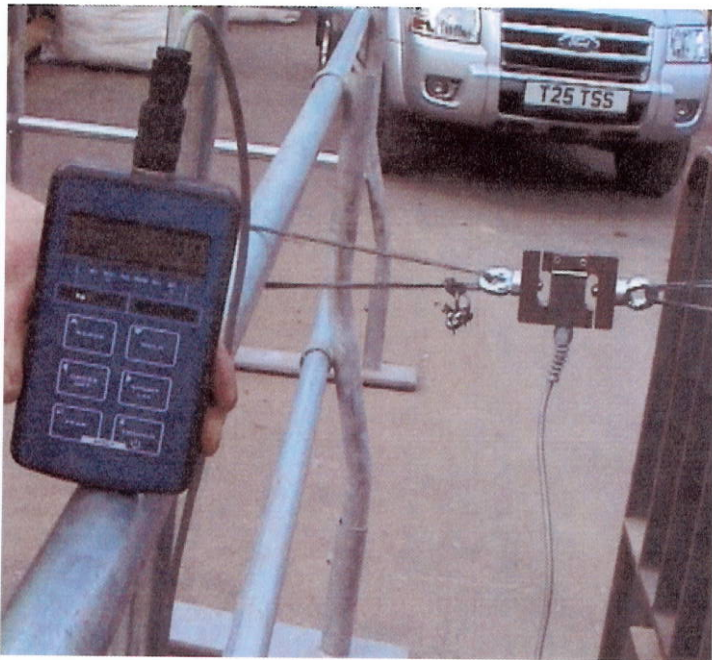


Figure 3 tests 1&2

### Test 3&4

A sand bag with a total mass of 50 kg and diameter of 400mm approximately is to be mounted on a block and pulley with its centre line in line with the beams vertical plane and the centre of gravity of the bag aligned with the top rail in the horizontal plane. See (Figure 8 BS EN13374:2004.) The height H is obtained by pivoting the load up to a maximum angle of 65 degrees.

## RESULTS

### Test 1

**Horizontal force (Ft1) 0.3kN (30kg), top rail Deflection less than 55 mm.**

The test was carried out and the structure had minimal deflection, the load was increased until the structure dragged across the surface for the configuration shown in Figure 1 this was recorded at 165kg.

Parallel to the guardrail (6.3.2) the structure dragged across the surface at 120kg.

### Test 2

**Vertical force (FD) 1.25 KN Top Rail**

125kg at the centre of the span when the load was removed the beam returned back only elastic deformation had taken place.

Origin	End position	Deflection	Comments
0	7	7mm	this was at 155kg

### Test 3

**Note - the system does not need to be serviceable after the test 3 or 4  
See (Temp-impacts-Feb2008.avi)**



Figure 6 the Release

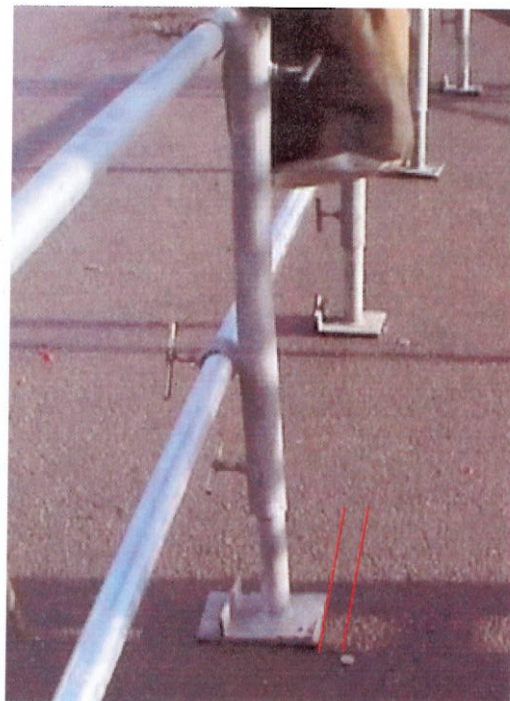


Figure 6a Impact & displacement

The Impact See (Figure 6a) shows the 500Joules of energy being absorbed by the structure and pushing the feet over by 25 to 30 mm

#### Test 4



Figure 7



Figure 7a Release



Figure 7b impact & displacement

The Impact See (Figure 7b) shows the 1100Joules of energy being absorbed by the structure and pushing the feet over by 140 to 150 mm

## CONCLUSION

The configuration shown in Figure 1 with 1500mm post centres and outriggers at 3000mm with 25kg round feet, installed to TRADS operating instructions performed as below.

Test 1 &2 were passed on the static test for Edge protection system class A

Test 3 passed to class B 500 Joules above 200mm

Test 4 passed to class B 1100 Joules below 200 mm

