

**Project**                    **Temporary Edge Protection System  
(Purchase order 9296)**

**Project No**                **6275/MM/TRAD**

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**Date**                      **June 2010**

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## SUMMARY

At the request of TRAD (our quote 6275/iks) TEMPORARY EDGE PROTECTION SYSTEM see (Figure 1) the test was carried out on Wednesday 26<sup>th</sup> May 2010 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** on concrete or tarmac type surface \*

**Class B Dynamic loads**

See Figure 1 for general configuration



**Figure 1**

A1 to B = 3000 mm span

A1 to A2 = 2500 mm \*

*Note\* if used on smooth surfaces 1500 mm spacing is required as the friction value determines the sliding test 1 results*

The vertical post A1 & A2 must have the lip inwards and set 2500mm apart and as can be seen in Figure 1.

Posts A1 and B have outriggers fitted with 25kg concrete round bases with rubber bottoms attached, the 90 degree corners have the same 2500mm spacing and outriggers (type B) set at 3000mm spacing.

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

[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 (top rail)
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

### Test 3&4

A sand bag with a total mass of 50 kg and diameter of 400mm is to be mounted on a hydraulic crane boom with its centre line in line with the beams vertical plane, the centre of gravity of the bag aligned with the top rail (test 3) in the horizontal plane. See (Figure 8 BS EN13374:2004). The height H this 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 10mm deflection (See Note \*)

### 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	15	15mm	this was at 130kg

### Test 3

**Note - the system does not need to be serviceable after the test 3 or 4**



Figure 6 The Impact



Figure 6a Rebound & Displacement

The Impact See (Figure 6a) shows the 500Joules of energy being absorbed by the structure and pushing the feet over by 110 mm

## Test 4



Figure 7 Impact



Figure 7a Rebound & Displacement

The Impact See (Figure 7a) shows the 1100Joules of energy being absorbed by the structure and pushing the feet over by 250mm

## CONCLUSION

The configuration shown in Figure 1 with 2500mm post centres (\* See Note) 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

