

TRACTION TEST ON « BUZON » DPH5 PEDESTALS

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Number of pages: **4**

Requested by: BUZON Pedestal International s.a. (BPI) Belgium
Z I des Hauts Sarts, zone 1
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Description of the product tested:

- A. The Buzon pedestals type DPH5, adjustable in height from 10 to 17 cm (with a corrector for slopes from 0 to 5% fixed on the head of the support), have a thickness of +/- 5 mm and are made up of 5 pieces: (photo No. 1)
- A circular base (Ø 200 mm).
 - A reverse threaded ring screwed into the pedestal base.
 - A circular head (Ø 150 mm).
 - A corrector for slopes from 0 to 5 cm / metre fixed to the support head.
 - A tray with four slab separator tabs that can be fitted to the head of the support.
- B. For adjustments above 17 cm, the DPH5 pedestal can be fitted with couplers, type C2/DPH5 (photo No. 2). The C2/DPH5 coupler, with a thickness of +/- 5 mm, is made up of a section with an outside thread that can be screwed into the reverse threaded ring and a section with an inside thread into which the head of the pedestal can be screwed.

The DPH5 pedestal is adjustable:

- with 1 coupler, from 17 to 29 cm
- with 2 couplers, from 24 to 40 cm
- with 3 couplers, from 32 to 52 cm
- with 4 couplers, from 39 to 62 cm
- with 5 couplers, from 46 to 75 cm

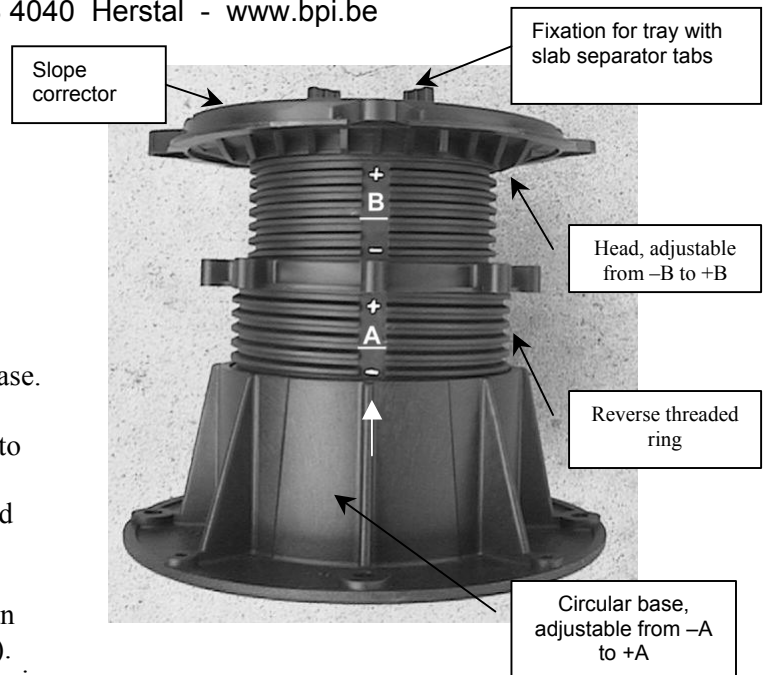


Photo No. 1
Details of the various parts
of a BUZON DPH5 pedestal, adjustable
from 10 to 17 cm, in polypropylene

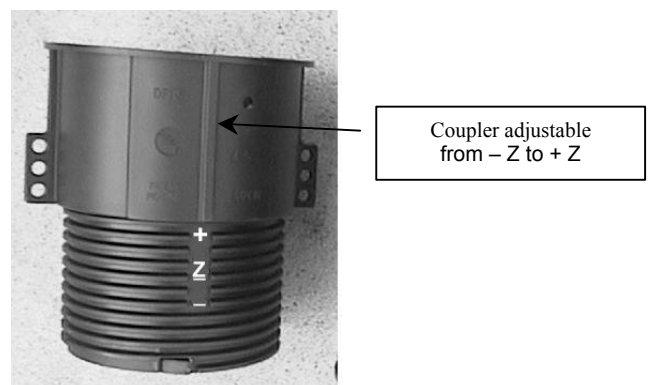
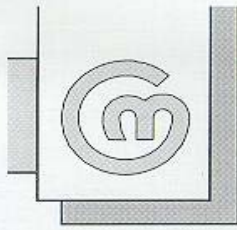


Photo No. 2
Coupler, C2/DPH5
in polypropylene



Photo No. 3



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1.1 Tests in TENSION with HILTI cavity wall plug, type Hud-L8*60

The Hilti structured wall plug, type HUD-L8*60, for cavity walls, is fully inserted in the \varnothing 8 mm hole in the tray with slab separation tabs and the whole is then inserted in the head of the BUZON DPH5 pedestal.

The screw is fixed in the plug in such a way as to fully expand the latter (photo No.1).

The failure of the anchoring of the tray in the head of the BUZON DPH5 pedestals is due to distortion and slipping of the anchoring points.

When slipping occurs, some of the bottom pegs on the tray with tabs are deformed.

The base of the BUZON DPH5 support is held in place by four clamps (photo No. 2). Traction is applied to the head of the screw.

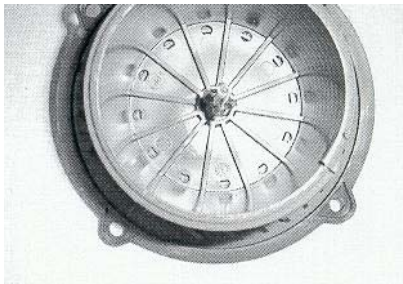


Photo No. 1
Attachment to the BUZON DPH5 of the tray with tabs fitted with the red plug properly expanded

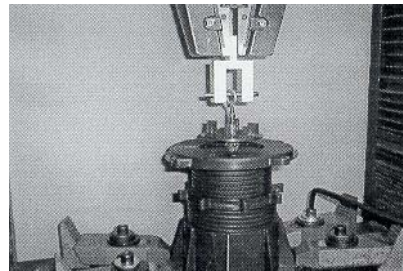


Photo No. 2
Tray with tabs and fitted with red wall plug beginning to slip.

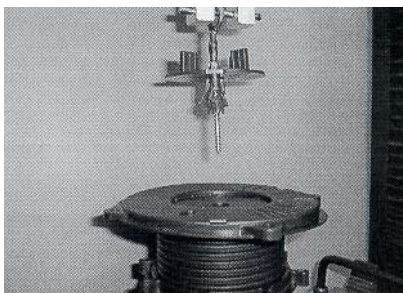
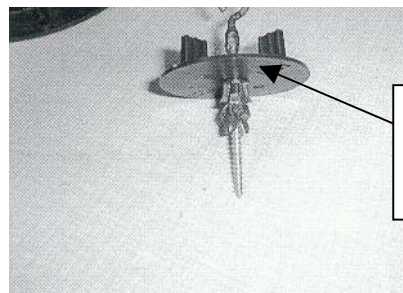


Photo No. 3
Deformation of the plug and the pegs on the tray when pulled out

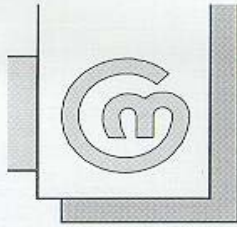


pegs of the tray with tabs

Photo No. 4
The red structured plug and the pegs on the tray are deformed after the test.

Results of the tests in tension in daN (1 daN ~ 1 kgf ~2.23 lbf)

Sample	Height cm	Adjustment of the sections	Tabs	Diameter	Plug type	Load daN	Load lbf
D.5.1	70	-A-Z-Z-Z-Z-B	OUI	8	Hud-L8*60	99.0	220.9
D.5.2	70	-A-Z-Z-Z-Z-B	OUI	8	Hud-L8*60	105.0	234.3
D.5.3	70	-A-Z-Z-Z-Z-B	OUI	8	Hud-L8*60	96.0	214.2
Mean value X						100.0	223.1



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The various parts of the BUZON DPH5 pedestals and C2/DPH5 couplers are made of polypropylene loaded with 20 % talc. The pedestals are manufactured for use in the making of roofing terraces, podiums, plinths and raised false floors etc.

Example: the circular base of the pedestals is bolted to the true floor and the false floor is screwed to the head of the BUZON DPH5 pedestal.

1.2 Method

The tests were carried out on a universal testing machine, type Instron 1185 n° H – 4573, with a capacity of 100 kN, fitted with a 100 kN force transducer No. 2518 – 201. The tests were carried out in accordance with the manufacturer's recommendations.

1.3 Traction Test with nut, bolt and washers fixed in the 14 mm hole in the head of the BUZON DPH5 support, without the tray with tabs

A 12 mm diameter bolt is fitted with its head on the inside of the head of the BUZON DPH5 pedestal and secured with a nut on the outside.

A carriage washer was fitted on either side of the BUZON DPH5 pedestal head (photos No. 1 and No. 2).

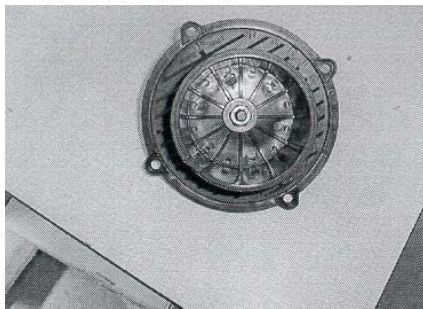


Photo No. 1
Fitting of the bolt and washer on the inside of the head of the BUZON DPH5 pedestals

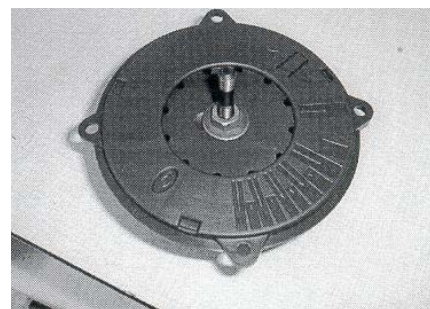
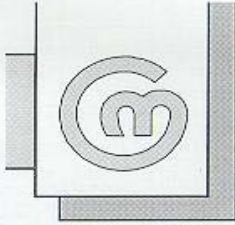


Photo No. 2
Fitting of the bolt and washer on the outside of the head of the BUZON DPH5 pedestal



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The base of the BUZON DPH5 pedestal is secured with four clamps (photo No. 3).
 The tension is applied to the end of the bolt.

Mechanical breakdown occurs through tearing of the web from the head of the BUZON DPH5 pedestal (photos No. 4 and No. 5).
 The number of C2/DPH5 couplers does not influence the result.
 The mean value, \bar{x} of the breaking force expressed in daN is the result of measurements on 3 BUZON DPH5 at various heights (1 daN ~ 1 kgf ~ 2.23 lbf).

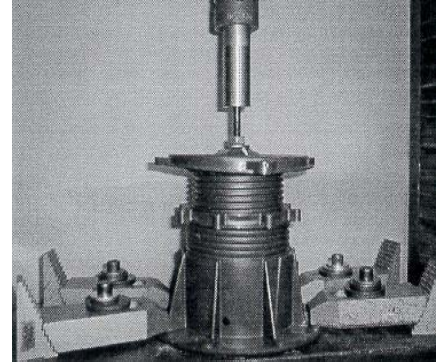


Photo No. 3
 The web of the head is progressively torn from the BUZON DPH5 pedestal

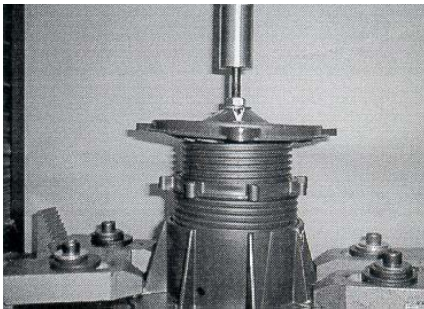


Photo No. 4
 The web of the head is progressively torn from the BUZON DPH5 pedestal



Photo No. 5
 The web remains attached to the head of the BUZON DPH5 pedestal

Test Results				
Sample	Height cm	Adjustment of the sections	Load daN	Load lbf
E.1.1	17	- A - B	334.0	745.2
E.1.2	17	- A - B	326.0	727.3
E.1.3	17	- A - B	312.0	696.1
Mean value \bar{x}			324.0	722.9
E.2.1	28	- A - Z - B	291.0	649.2
E.2.2	28	- A - Z - B	298.0	664.9
E.2.3	28	- A - Z - B	350.0	780.9
Mean value \bar{x}			313.0	698.3
E.3.1	70	- A - Z - Z - Z - Z - Z - B	308.0	687.2
E.3.2	70	- A - Z - Z - Z - Z - Z - B	278.0	620.2
E.3.3	70	- A - Z - Z - Z - Z - Z - B	275.0	613.5
Mean value \bar{x}			287.0	640.3

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