



Adjustable decking pedestals

Technical documentation



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1 Description of pedestals

The adjustable pedestal parts are:

1. A load-spreading base: $\varnothing = 208 \text{ mm}$ (or 340 cm^2), with a rounded edge to avoid damaging the waterproofing membrane, equipped with multiple perforations to drain away surface water.
2. A pedestal head: $\varnothing = 120 \text{ mm}$ (or 113 cm^2) with a top surface of either:
 - a. Pedestal tile: 4 fins at 90° angles leaving a regular gap of 3mm between tiles, for draining away surface water and preventing cigarettes and other debris falling onto the waterproofing membrane. The fins can be snapped off (using simple thumb pressure) to enable edging or corner tiles to be fitted.
 - b. Pedestal joist: 1 fin at a 90° angle to enable the joist to be fixed to the pedestal head.
3. A collar / nut: with 8 lugs, used to adjust the height to the desired height.

2 Instructions for adjustable pedestals

The adjustable pedestal system can be adjusted from 25 to 230 mm. To achieve the right adjustment, 5 different pedestal heights are available.

- Weight of concrete tiles 120 kg/m^2
- Weight of wooden tiles 15 kg/m^2
- Weight of loads and exceptional loads 150 to 600 kg/m^2

3 Instructions for supporting surface

The supporting surfaces designed to receive the pedestals must be stable and flat.

In the case of installation onto a waterproofing membrane, drainage of rain water, penetrated water must conform to CSTB standards and to the instructions mentioned in the "Specialised Guide for water-proofing systems and decking laid on adjustable pedestals 02/83". The pedestals may be laid:

- Directly onto a concrete floor
- Onto all waterproofing membranes (mono-layer or multi-layer)
- Onto asphalt
- Or onto any other suitable support surface

4 Current standards

4.1 DTU 43.1 (NF P 84.204) Roof terrace waterproofing works

Extract:

The traffic-bearing coating is laid in accordance with the measures set out in article 7,213.232 completed by the following instructions concerning the pedestals:

- The underside of the pedestals must be made from a rigid material
- The section of the side in contact with the asphalt must be $\geq 300 \text{ cm}^2$
- The continuous load pressure on the asphalt must be $\leq 20000 \text{ Pa}$ (0.2 daN/cm^2)

Characteristics:

The minimum section of each side must be 100 cm^2

The fracture resistance of the pedestals must be such that they can bear a load of:

- 2.5 KN when tested with a load placed on $\frac{1}{4}$ of the pedestal
- 5.0 KN when tested with a load distributed evenly across the whole width of the pedestal.

4.2 NF DTU 51.4 Building works Exterior wooden decking

Extract 1:

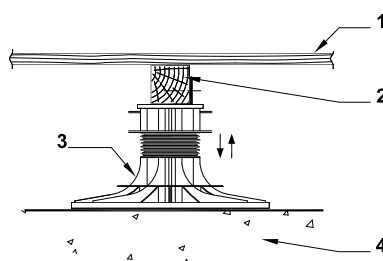
5.2.4 Laying decking onto polymer pedestals

This document only concerns the following specific configurations for laying wooden decking planks onto polymer pedestals:

- Type 1 decking on polymer pedestals laid on concrete floor or stabilised level rough ground with a minimum load bearing capacity of 2 bars. For this type of construction, the maximum thickness of the decking planks is 27mm.

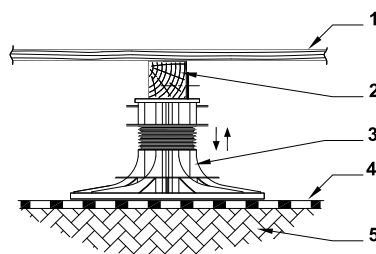
NOTE: the stabilised rough ground is set at paragraph 3.9.

The head height of the polymer pedestal should be adjustable and must be equipped with a method of fixing the joist to at least two anchorage points. The ground under the decking must not be in a zone which retains water. The ground must be sufficiently even to lay the pedestals in a stable and durable manner.



- 1 - Decking planks
- 2 - Joist
- 3 - Polymer pedestals
- 4 - Floor

Figure 1 - Laying adjustable pedestals for concrete tiles



- 1 - Decking planks
- 2 - Joist
- 3 - Polymer pedestals
- 4 - Geotextile
- 5 - Stabilised rough ground

Figure 2 - Laying adjustable pedestals on stabilised rough ground

The concentration of pedestals should be such that the gap between them does not exceed 60cm in either direction.

For this method of implementation, only decking planks which comply with the following requirements may be used:

- Distortion class DM1 in accordance with NF B 54 040
- PS stability level excluded.

In addition, only decking joists which comply with the following requirements may be used:

- a) For wood with a density equal to or higher than 600 kg/m³ at 18% humidity:
 - longitudinal distortion of the edge and the flat side: 1 mm/m
 - warping: 1 mm/m.
- b) For wood with a density lower than 600 kg/m³ at 18% humidity, see requirements set out in part 1-2 of "Terms and Conditions" of this document.

Extract 2:

4.5 Pedestals made from synthetic materials

Pedestals made from synthetic materials described in this NF DTU, designed for type 1 decking planks, must comply with the following requirements:

- the base of the pedestals must have a level surface of a minimum size of 300cm²;
- the upper part of the pedestals must enable the joists to be fixed in at least two points;
- in the case of pedestals supporting joists at their junction point, the surface area of the upper part of the pedestals must not be smaller than 50cm² with a minimum width of 57mm;
- in the case of pedestals for longer decking joists, the surface of the upper part of the pedestals must not be smaller than 25cm² with a minimum width of 57mm;
- the height of the pedestals is adjustable and must allow a vertical distance between the base of the pedestal and the underside of the joist of between 0.05m and 0.20m;
- the tensile strength of the pedestals obtained by load tests (pinpointed load) concentrated on half of the upper part of the pedestal (the top of the joist), must be at least 3.9 kN.

The test must be practised in the highest operational position as indicated by the manufacturer.

NOTE: The tensile strength FR_k must be determined in accordance with Eurocode 0 with a minimum of five tests. This should satisfy the standard requirements of Eurocode 0, that is:

$$FR_k \geq \gamma_M \times \gamma_Q \times Q_k$$

with $\gamma_Q = 1.5$ in accordance with Eurocode 0 and its national annex, $Q_k = 2$ kN for type 1 decking planks. The minimal value retained for the partial materials factor is $\gamma_M = 1.3$.

- mechanical performance integrity must be stable over an ambient temperature range of -20°C to 40°C .

Test certificate: test certificate for compression on adjustable pedestals carried out and certified by a specialised laboratory. The test certificate can be delivered upon request.

NOTE:

Damages resulting from incorrect use of the pedestals or due to USE OF ROLLING LOADS (for example: cleaning, maintenance or handling machinery, etc.) which may cause THE PEDESTALS / TILES TO MOVE, ARE NOT GUARANTEED.

5 Packaging

The products are packaged in an easily identifiable manner.



Each pedestal has a sticker with a barcode fixed to the underside of the plate.



The 2 heights (Min and Max) are engraved onto each pedestal, in 2 different places (on the pedestal head and on top of the plate) enabling the pedestal to be identified even if disassembled.



The bags of pedestals are delivered on filmed pallets, with 4 open sides, stackable in a delivery truck (up to 2 pallets).



A full truck can contain up to 40 pallets of pedestals.



The pedestals are assembled then packaged in woven polypropylene bags, which can be manually carried and therefore practical for installers. Each bag comes with documentation on the type of pedestal, its Min and Max height, as well as a 3D image).

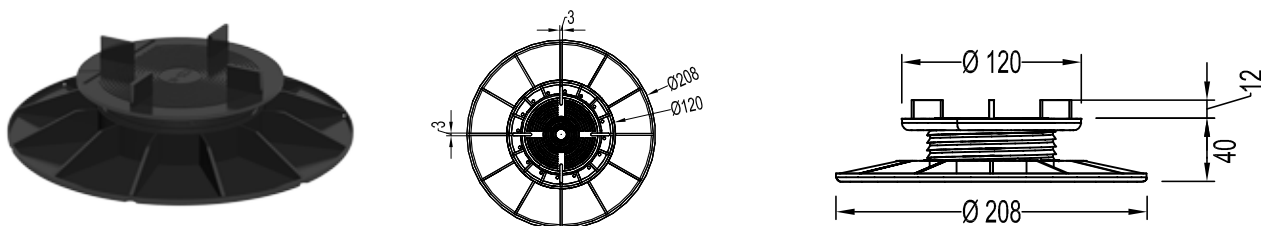
6 Traceability

To ensure product traceability, each pedestal is equipped with a date stamp indicating its date of manufacture. The date is engraved directly into the plate.



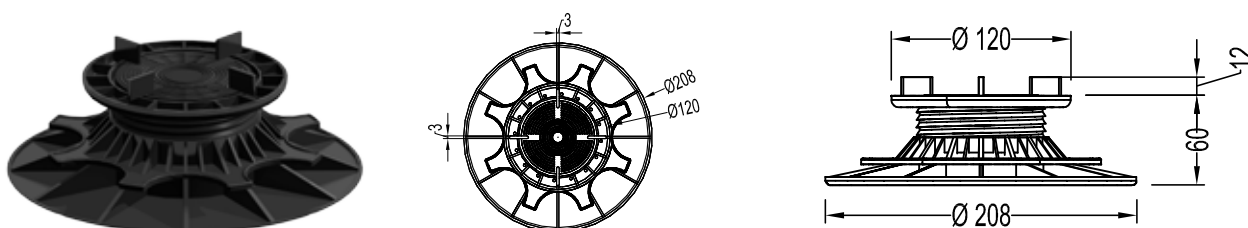
7 Range

NIVO H 25 - 40 mm pedestal tile



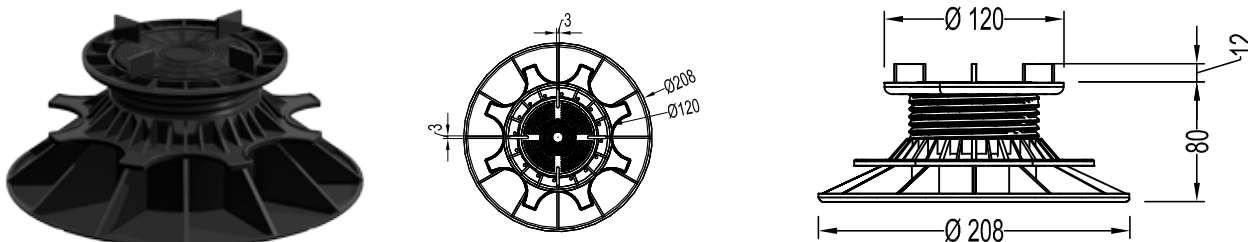
Designation	EAN	Weight	Bag			Pallet		
NIVO H 25 - 40 mm pedestal tile	3760178992046	0.17 kg	60 pcs	10 kg	113 x 43 x 21 mm	840 pcs	150 kg	127 x 115 x 125 cm

NIVO H 40 - 60 mm pedestal tile



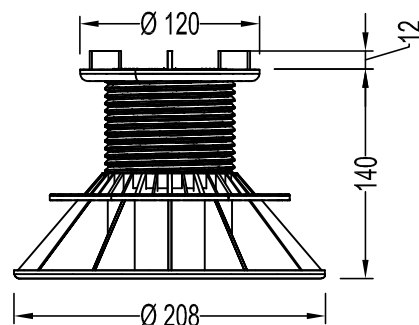
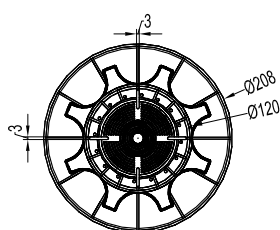
Designation	EAN	Weight	Bag			Pallet		
NIVO H 40 - 60 mm pedestal tile	3760178990110	0.23 kg	60 pcs	14 kg	113 x 50 x 21 mm	840 pcs	210 kg	127 x 115 x 127 cm

NIVO H 50 - 80 mm pedestal tile



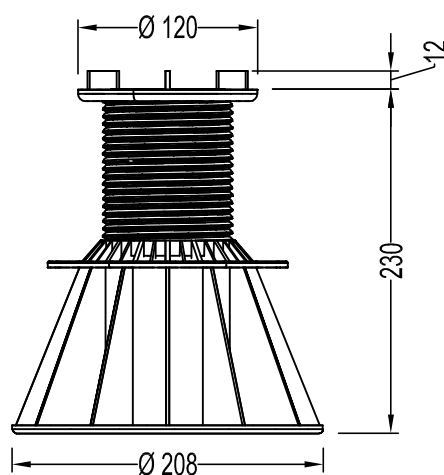
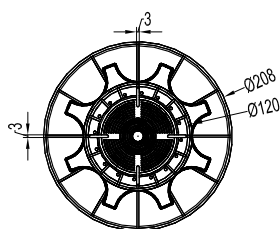
Designation	EAN	Weight	Bag			Pallet		
NIVO H 50 - 80 mm pedestal tile	3760178990127	0.26 kg	60 pcs	15 kg	123 x 55 x 21 mm	600 pcs	170 kg	127 x 115 x 125 cm

NIVO H 80 - 140 mm pedestal tile



Designation	EAN	Weight	Bag			Pallet		
NIVO H 80 - 140 mm pedestal tile	3760178990134	0.33 kg	40 pcs	13 kg	127 x 83 x 13 mm	400 pcs	150 kg	127 x 115 x 110 cm

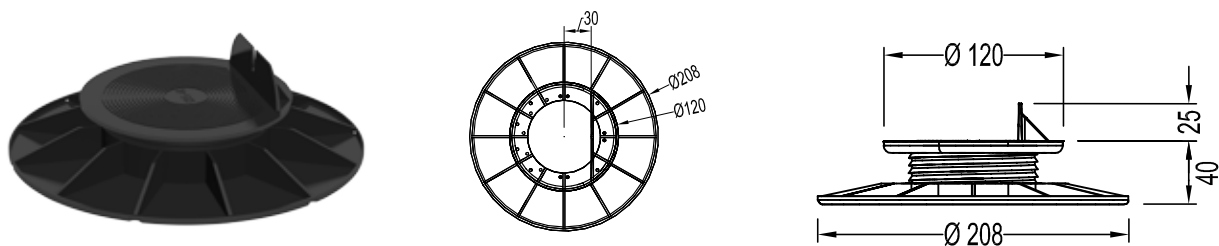
NIVO H 140 - 230 mm pedestal tile



Designation	EAN	Weight	Bag			Pallet		
NIVO H 140 - 230 mm pedestal tile	3760178990141	0.51 kg	40 pcs	20 kg	127 x 94 x 16 mm	280 pcs	160 kg	127 x 115 x 125 cm

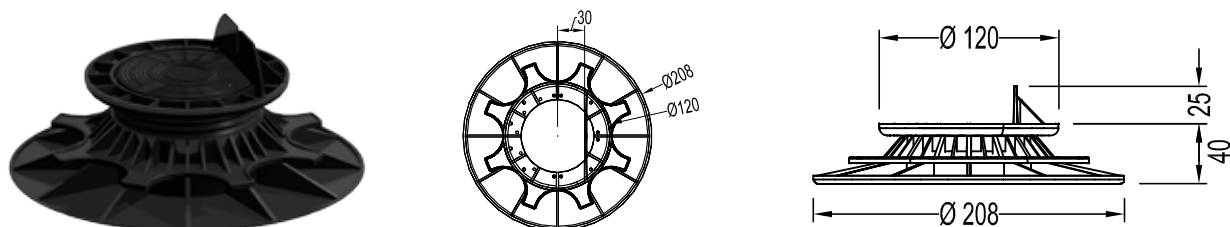


NIVO H 25 - 40 mm pedestal joist



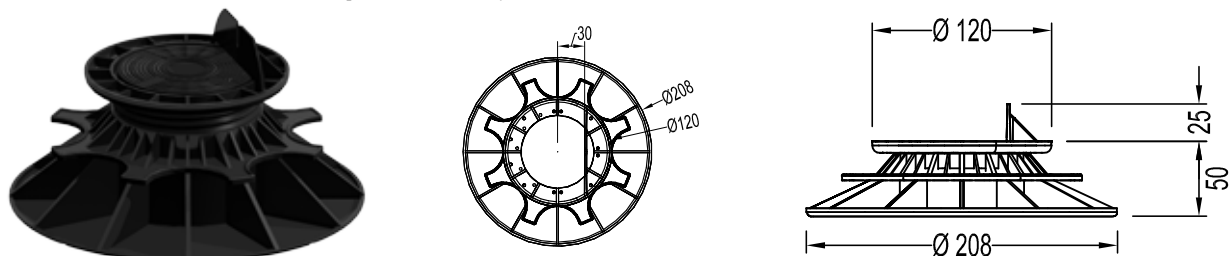
Designation	EAN	Weight	Bag			Pallet		
NIVO H 25 - 40 mm pedestal joist	3760178992039	0.17 kg	60 pcs	10 kg	113 x 43 x 21 mm	840 pcs	150 kg	127 x 115 x 125 cm

NIVO H 40 - 60 mm pedestal joist



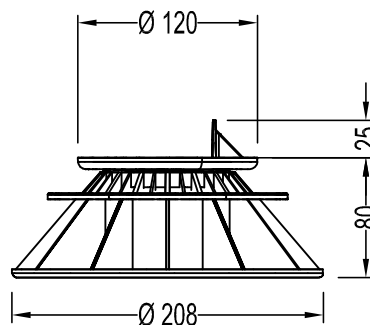
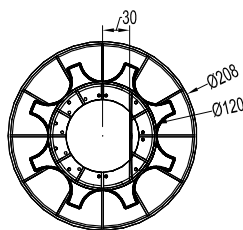
Designation	EAN	Weight	Bag			Pallet		
NIVO H 40 - 60 mm pedestal joist	3760178990042	0.23 kg	60 pcs	14 kg	113 x 50 x 21 mm	840 pcs	210 kg	127 x 115 x 127 cm

NIVO H 50 - 80 mm pedestal joist



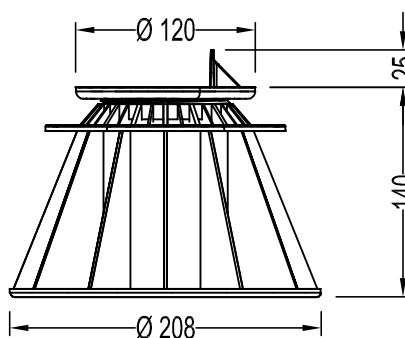
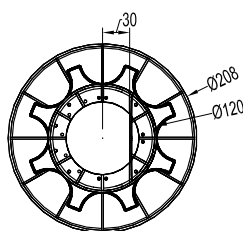
Designation	EAN	Weight	Bag			Pallet		
NIVO H 50 - 80 mm pedestal joist	3760178990059	0.26 kg	60 pcs	15 kg	123 x 55 x 21 mm	600 pcs	170 kg	127 x 115 x 125 cm

NIVO H 80 - 140 mm pedestal joist



Designation	EAN	Weight	Bag			Pallet		
NIVO H 80 - 140 mm pedestal joist	3760178990066	0.33 kg	40 pcs	13 kg	127 x 83 x 13 mm	400 pcs	150 kg	127 x 115 x 110 cm

NIVO H 140 - 230 mm pedestal joist



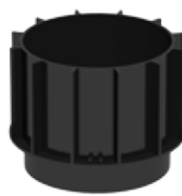
Designation	EAN	Weight	Bag			Pallet		
NIVO H 140 - 230 mm pedestal joist	3760178990073	0.51 kg	40 pcs	20 kg	127 x 94 x 16 mm	280 pcs	160 kg	127 x 115 x 125 cm

Slope corrector 2-5%



EAN	Weight	Bag			Pallet		
3760178992077	0.20	60 pcs	12 kg	620 x 240 x 240 mm	840 pcs	180 kg	117 x 75 x 120 cm






6 cm extension pedestal



EAN	Weight	Bag			Pallet		
3760178991612	0.10	60 pcs	6 kg	900 x 55 x 120 mm	1080 pcs	120 kg	120 x 110 x 90 cm

Pedestal Span Chart
Maximum allowable space between
pedestals



Joist Dimensions (mm)	Joist Spacing (mm)				
	350	400	450	500	550
70 x 45 Pine 	700	650	600	550	500
90 x 45 Pine 	800	700	650	650	600
120 x 45 Pine 	900	800	850	750	700
76 x 38 x 2 Steel 	800	750	750	700	700
60 x 40 x 2 Aluminum 	750	700	700	700	650

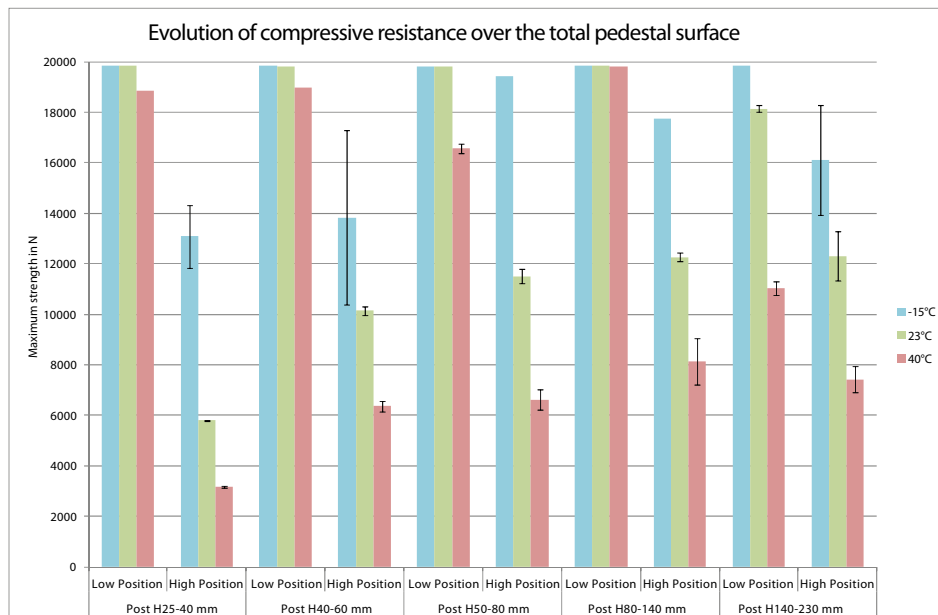


8 Compression test report

• Surface stress: Maximum compressive stress in N

	-15°C	23°C	40°C
MPL 143988-K H25-40-Low position pedestal	> 19870	> 19860	> 18860
MPL 143988-K H25-40-High position pedestal	13080 ± 1240	5796 ± 19	3173 ± 46
MPL 143988-L H40-65-Low position pedestal	> 19840	> 19830	> 18960
MPL 143988-L H40-65-High position pedestal	13830 ± 3460	10140 ± 170	6364 ± 209
MPL 143988-M H50-80-Low position pedestal	> 19830	> 19830	16560 ± 190
MPL 143988-M H50-80-High position pedestal	> 19430	11510 ± 280	6623 ± 391
MPL 143988-N H80-140-Low position pedestal	> 19850	> 19840	> 19810
MPL 143988-N H80-140-High position pedestal	> 17750	12270 ± 180	8152 ± 915
MPL 143988-O H140-230-Low position pedestal	> 19840	18150 ± 120	11030 ± 270
MPL 143988-O H140-230-High position pedestal	16120 ± 2170	12310 ± 970	7427 ± 518

See attached documents n°36 to 65





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