

ADJUSTABLE SUPPORT FOR DECKS

LEVELLING

The height-adjustable support can easily adapt to variations in substrate level. The rise also allows for ventilation under the joists.

DOUBLE REGULATION

Can be adjusted both from below, with a SW 10 wrench, or from above, using a flat-tip screwdriver. Fast, convenient, versatile system.

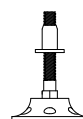
SUPPORT

The TPV plastic support base reduces the noise produced by footsteps and is UV-resistant. The ball-joint can adapt to uneven surfaces.



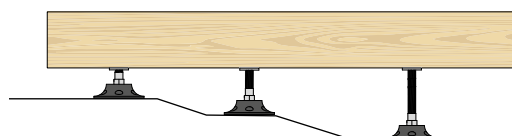
CALCULATION TOOL

HEIGHT



can be adjusted from above and below

USE



MATERIAL



electrogalvanized carbon steel



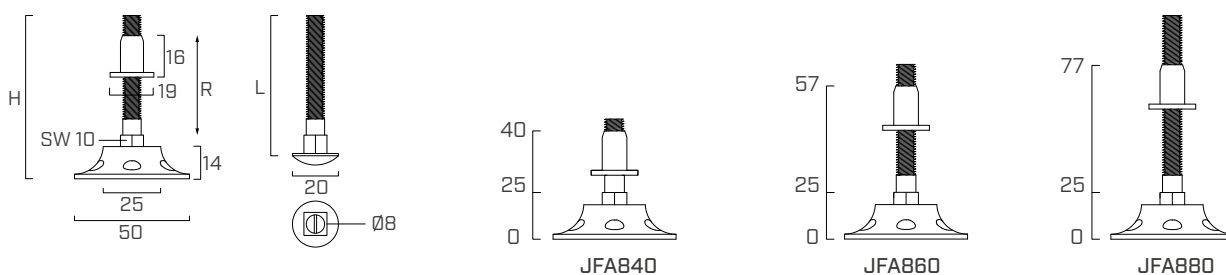
FIELDS OF USE

Raising and levelling of the substructure.

CODES AND DIMENSIONS

CODE	screw $\varnothing \times L$ [mm]	R [mm]	pcs
JFA840	8 x 40	$25 \leq R \leq 40$	100
JFA860	8 x 60	$25 \leq R \leq 57$	100
JFA880	8 x 80	$25 \leq R \leq 77$	100

GEOMETRY



TECHNICAL DATA

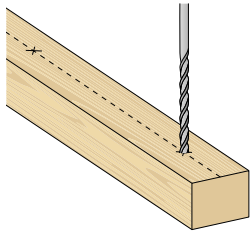
CODE			JFA840	JFA860	JFA880
Screw $\varnothing \times L$		[mm]	8 x 40	8 x 60	8 x 80
Assembly height	R	[mm]	$25 \leq R \leq 40$	$25 \leq R \leq 57$	$25 \leq R \leq 77$
Angle			+/- 5°	+/- 5°	+/- 5°
Pre-drill for bush		[mm]	$\varnothing 10$	$\varnothing 10$	$\varnothing 10$
Adjustment nut			SW 10	SW 10	SW 10
Total height	H	[mm]	51	71	91
Admissible capacity	F_{adm}	kN	0,8	0,8	0,8



UNEVEN SURFACES

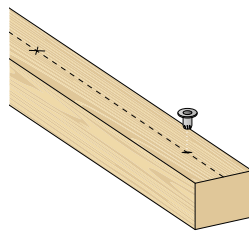
The adjustment from top and bottom allows for the most precise installation of decks on uneven surfaces.

JFA INSTALLATION WITH ADJUSTMENT FROM BELOW



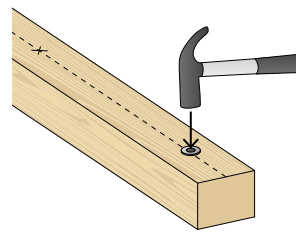
01

Trace the joist midline, indicating the position of the holes and then pre-drill a 10 mm diameter hole.



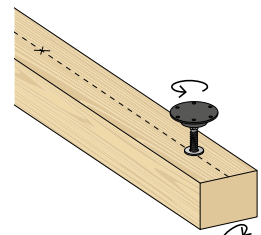
02

The depth of the pre-drill depends on the assembly height R and must be at least 16 mm (bushing size).



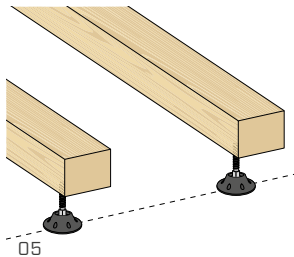
03

Use a hammer to insert the bushing.



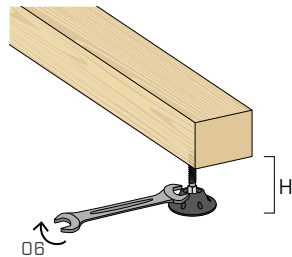
04

Screw the support into the bushing and turn the joist.



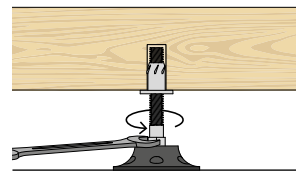
05

Place the joist on the substrate, parallel to the one previously laid.

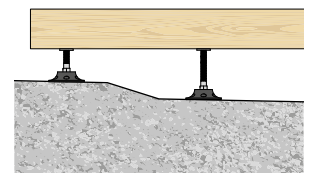


06

Adjust the height of the support from the bottom using a 10 mm SW wrench.

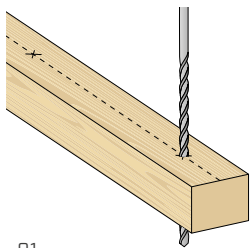


Detail of adjustment from below.



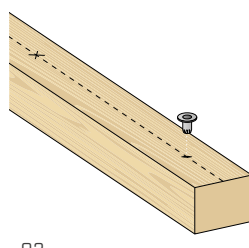
Follow the course of the ground by acting independently on the individual supports.

JFA INSTALLATION WITH ADJUSTMENT FROM ABOVE



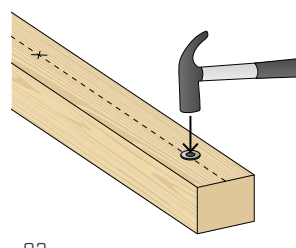
01

Trace the joist midline, indicating the position of the holes and then pre-drill a 10 mm diameter through hole.



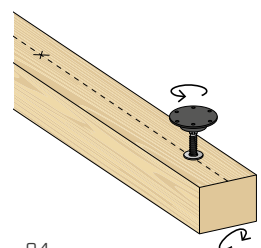
02

We recommend a maximum of 60 cm between supports, to be checked according to depending on the load.



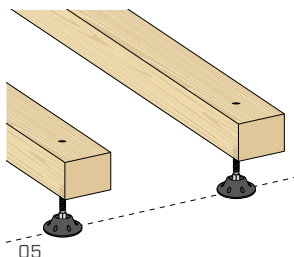
03

Use a hammer to insert the bushing.



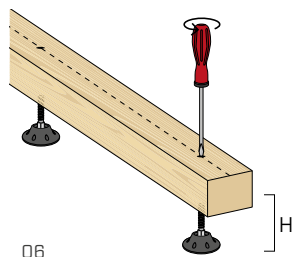
04

Screw the support into the bushing and turn the joist.



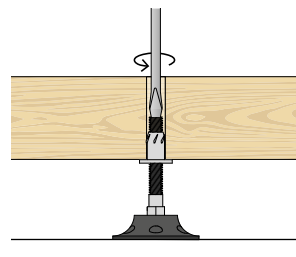
05

Place the joist on the substrate, parallel to the one previously laid.

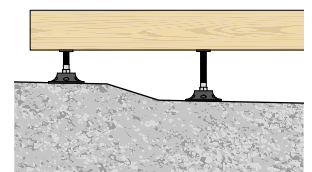


06

Adjust the height of the support from above using a flat screwdriver.

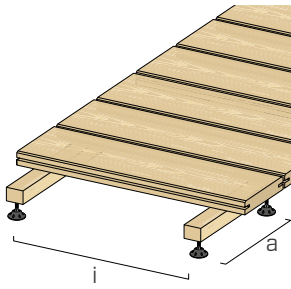


Detail of adjustment from above.



Follow the course of the ground by acting independently on the individual supports.

CALCULATION EXAMPLE



The number of supports per m² is to be evaluated according to the load magnitude and the joist spacing.

INCIDENCE OF SUPPORTS ON SURFACE [I]:

$$I = q/F_{adm} = \text{pcs of JFA at m}^2$$

q = load [kN/m²]

F_{adm} = admissible JFA capacity [kN]

MAXIMUM DISTANCE BETWEEN SUPPORTS [a]:

$$a = \min \begin{cases} a_{\max, \text{JFA}} \\ a_{\max, \text{batten}} \end{cases}$$

with: $a_{\max, \text{JFA}} = 1/\text{pcs/m}^2/i$

$$a_{\max, \text{batten}} = \sqrt[3]{\frac{E \cdot J \cdot 384}{f_{\lim} \cdot 5 \cdot q \cdot i}}$$

i = between battens spacing

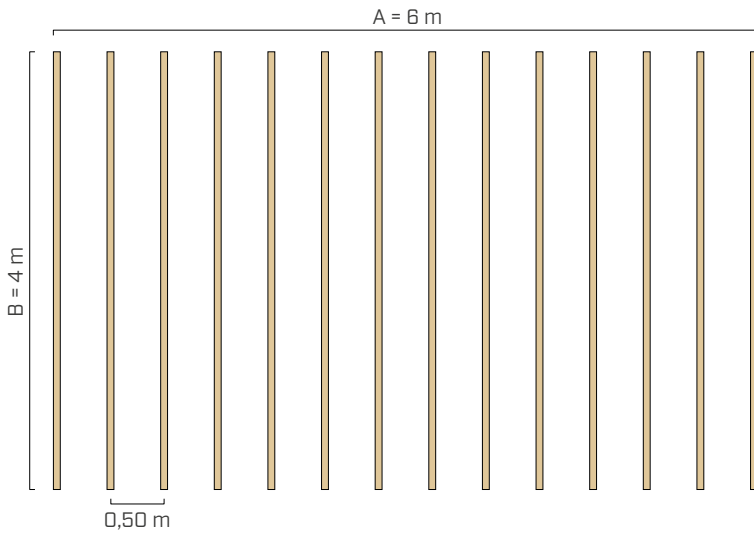
$f_{\lim}$ = instantaneous strain limit between supports

E = material elastic modulus

J = joist section inertia modulus

PRACTICAL EXAMPLE

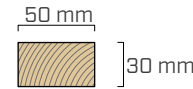
PROJECT DATA



PATIO SURFACE

$$S = A \times B = 6 \text{ m} \times 4 \text{ m} = 24 \text{ m}^2$$

BATTENS



$b = 50 \text{ mm}$

$h = 30 \text{ mm}$

$i = 0.50 \text{ m}$

LOADS

Overload
Category of use:
category A (balconies)
(EN 1991-1-1)

$q = 4.00 \text{ kN/m}^2$

Admissible JFA
support capacity

$F_{adm} = 0.80 \text{ kN}$

Joist material

C20 (EN 338:2016)

Limit for instantaneous deflection between supports	$f_{\lim}$	$a/400$	-
Material elastic moment	$E_{0, \text{mean}}$		9,5 kN/mm ²
Moment of joist section inertia	J	$(b \cdot h^3)/12$	112500 mm ⁴
Maximum joist deflection	$f_{\max}$	$(5/384) \cdot (q \cdot i \cdot a^4)/(E \cdot J)$	-

JFA NUMBER CALCULATION

INCIDENCE

$$I = q/F_{adm} = \text{pcs of JFA at m}^2$$

$$I = 4.0 \text{ kN/m}^2 / 0.8 \text{ kN} = 5.00 \text{ pcs/m}^2$$

NUMBER OF JFA SUPPORTS

$$n = I \cdot S \cdot \text{waste coeff.} = \text{pcs. of JFA}$$

$$n = 5.00 \text{ pcs/m}^2 \cdot 24 \text{ m}^2 \cdot 1.05 = 126 \text{ pcs of JFA}$$

waste coefficient = 1,05

CALCULATION OF MAXIMUM DISTANCE BETWEEN SUPPORTS

JOIST FLEXURAL LIMIT

$$f_{\lim} = f_{\max} \text{ therefore: } a_{\max, \text{batten}} = \sqrt[3]{\frac{E \cdot J \cdot 384}{400 \cdot 5 \cdot q \cdot i}}$$

$$a_{\max, \text{batten}} = \sqrt[3]{\frac{9.5 \cdot 112500 \cdot 384}{400 \cdot 5 \cdot (4.0 \cdot 10^{-6}) \cdot 500}} \cdot 10^{-3} = 0.47 \text{ m}$$

SUPPORT STRENGTH LIMIT

$$a_{\max, \text{JFA}} = 1/n/i$$

$$a_{\max, \text{JFA}} = 1/5.00/0.5 = 0.40 \text{ m}$$

$$a = \min \begin{cases} a_{\max, \text{JFA}} \\ a_{\max, \text{batten}} \end{cases} = \min \begin{cases} 0.40 \text{ m} \\ 0.47 \text{ m} \end{cases} = 0.40 \text{ m} \quad \text{maximum distance between JFA supports}$$