



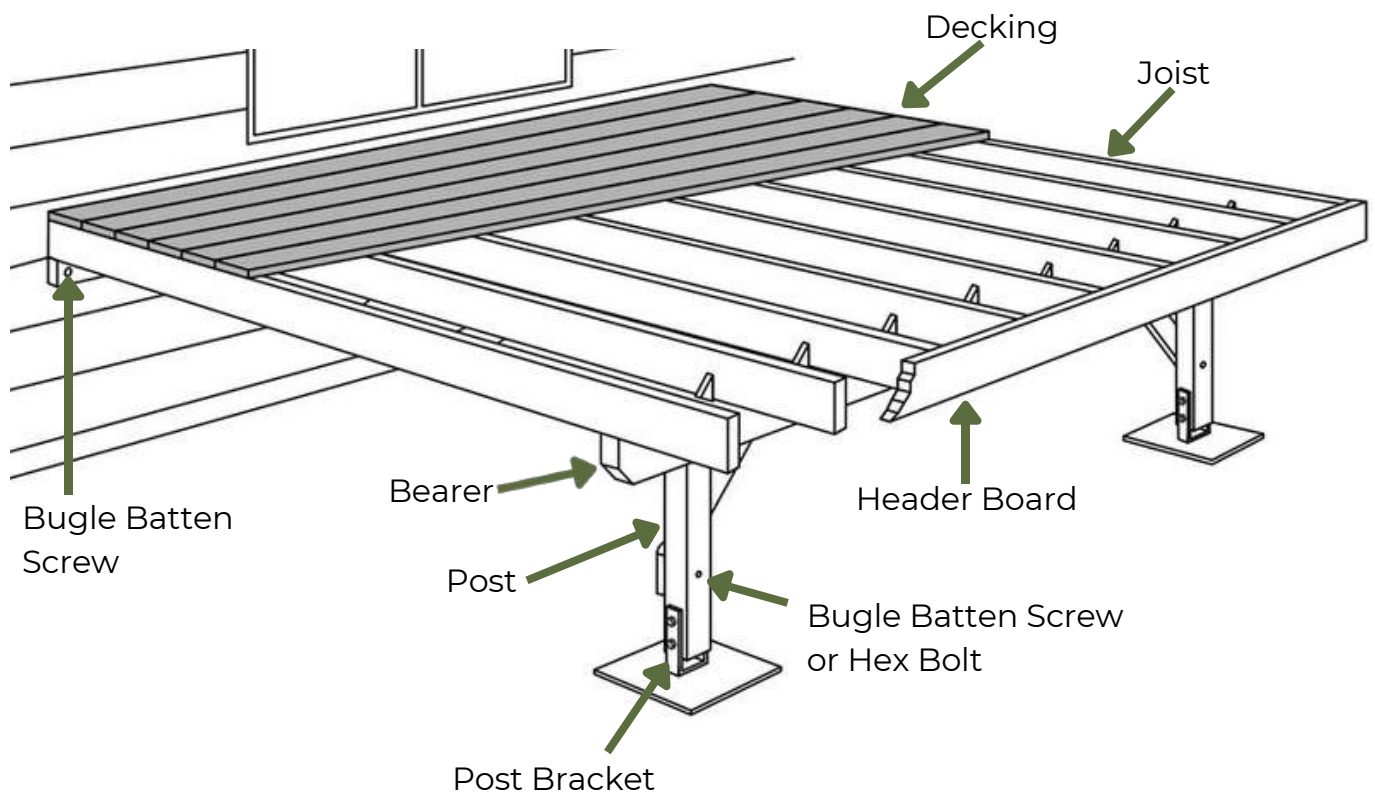
TECHNICAL DECKING GUIDE



THE STRENGTH AND BEAUTY BEHIND THE WORLDS BEST RESORTS



DECK DESIGN OVERVIEW



A deck is made up of four main components: posts, bearers, joists, and decking boards.

The posts are either buried in the ground or secured with brackets bolted to concrete foundations. Bearers are then attached to the posts using bolts or screws. Joists are fixed to the bearers, typically with brackets, nails, or screws.

Finally, decking boards are secured to the top of the joists with screws. Depending on the project's height, ground conditions, and other factors, alternative methods may be used.

A well-designed and properly built timber deck can enhance the value and aesthetics of both residential and commercial properties, providing years of enjoyment and functionality

DECKING PROFILES



90mm x 19mm

Profile : Reeded one face

Treatment : CCA H4 KD

Available Lengths 2.4, 3.0, 3.6m



140mm x 19mm

Profile : Reeded one face

Treatment : CCA H4 KD

Available Lengths 2.4, 3.0, 3.6m



90mm x 32mm

Profile : Reeded one face

Treatment : CCA H4 KD

Available Lengths 2.4, 3.0, 3.6m



140mm x 32mm

Profile : Reeded one face

Treatment : CCA H4 KD

Available Lengths 2.4, 3.0, 3.6m

FRAMING

70 x 40 90 x 40 140 x 40 190 x 40

Suitable for joists, bearers, wall studs, landscaping, pergola rafters and purlins, boardwalk, decking, retaining walls, landscaping, fascia, outdoor furniture, structural and decorative.

90 x 90

Posts, landscaping, bearers.

Available Lengths 2.4, 3.0, 3.6m

All are supplied gauged, CCA H4, and KD as standard. Lengths: 2.4, 3.0, 3.6M.

SPAN TABLES

These span tables provide indicative data as a guide for the construction of simple decking projects. We recommend an engineers designed solution for each project.

Bearers. Maximum continuous span. (m)	Loaded dimension of bearer (m)	Bearer size (width x thickness) (mm x mm)
1.3	0.8	90 x 90
	1.5	2/140x40
	2.7	2/190x40
1.65	0.5	90 x 90
	0.9	2/140x40
	1.7	2/190x40
2	1.1	2/190x40

Joist (mm)	Maximum span of joists at a maximum spacing (mm) of:		
	400	450	600
90 x 40	1.6m	1.5	1.3
140 x 40	2.5	2.35	2.05
190 x 40	3.4	3.2	2.75

Typical characteristics of treated New Zealand pine framing in exterior applications are as follows:

Bending strength: 14.0 MPa
Modulus of elasticity: 8.0 GPa

TREATMENT

- All timber is treated by an independently audited, government approved agency.
- The standard treatment specification provided is H4.
- This exceeds the usual specification of H3.
- Treating to H4 provides greater security and longevity.
- Trustwood® can be supplied H3 to H6 if required.

Exterior timber is treated to 'H' or 'Hazard' class levels from 3 to 6. This table explains each hazard class along with appropriate uses.

H3	Exterior, above ground, exposed to weather and dampness.	Moderate decay, borers and termites.
H4	Exterior above ground, in-ground or in direct contact with the ground.	Severe decay, borers and termites.
H5	Exterior in-ground or in direct contact with the ground. Continuous wetting.	Extreme decay, borers and termites.
H6	Exterior in-ground or in direct contact with the ground. Fully immersed in fresh or salt water.	Extreme decay, borers and termites.

WARRANTY

All treated timber supplied is covered by Koppers international warranty. A separate comprehensive warranty document is available on request.

Extract from the Koppers warranty:

This Warranty covers wood products pressure treated with Timber Preservatives ("Treated Wood Product"). Koppers Performance Chemicals... ("KPC") warrants to Owners that, subject to the terms, conditions, limitations and exclusions in this Warranty, the Treated Wood Product will not structurally fail during the applicable period stated in the Warranty - 50 years.



THE TRUSTWOOD® ADVANTAGE

Regular production process:

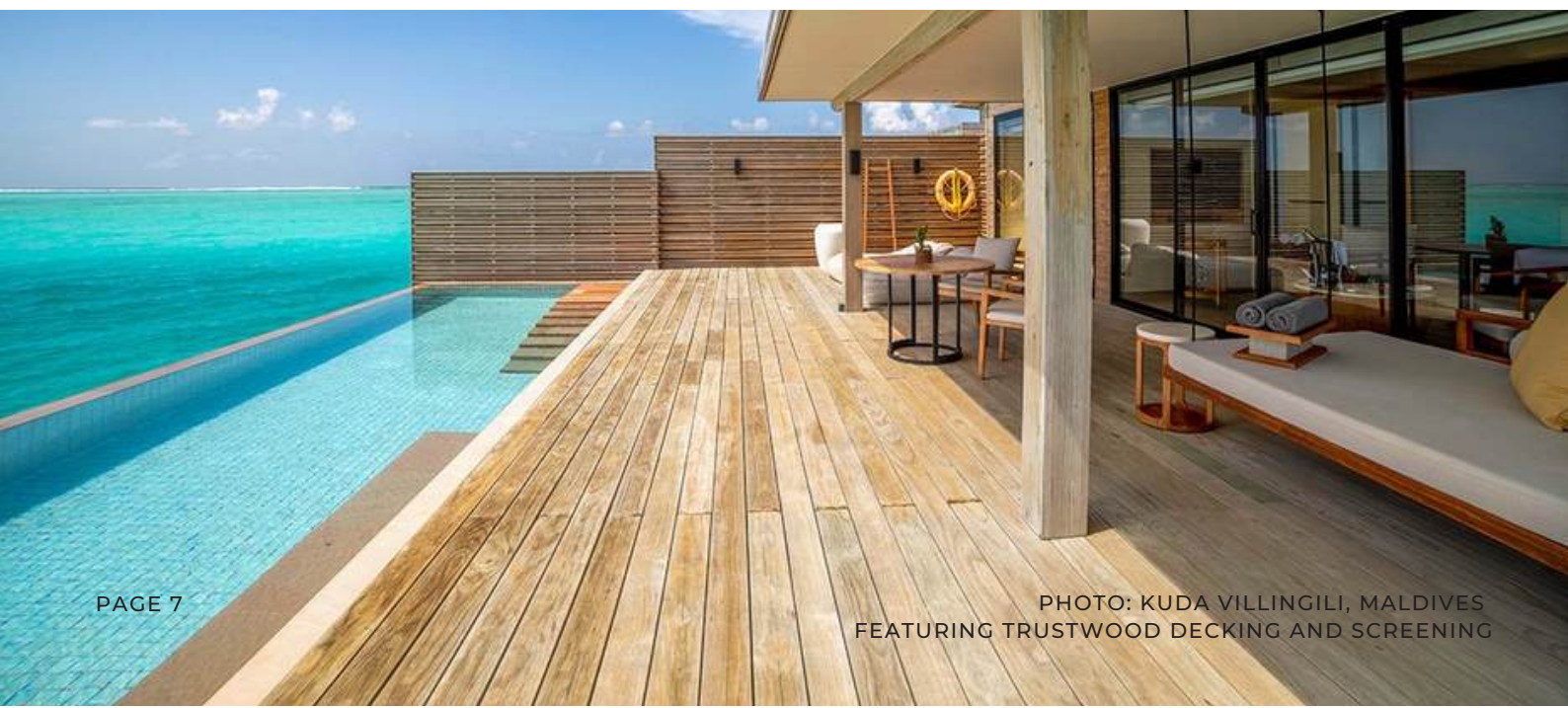


Issues: - inconsistent sizing
 - less stable
 - rough surface
 - less attractive appearance

The Trustwood® process:



Benefits: - consistent sizing
 - more stable
 - smooth surface
 - very attractive appearance



DECKING FASTENER GUIDE

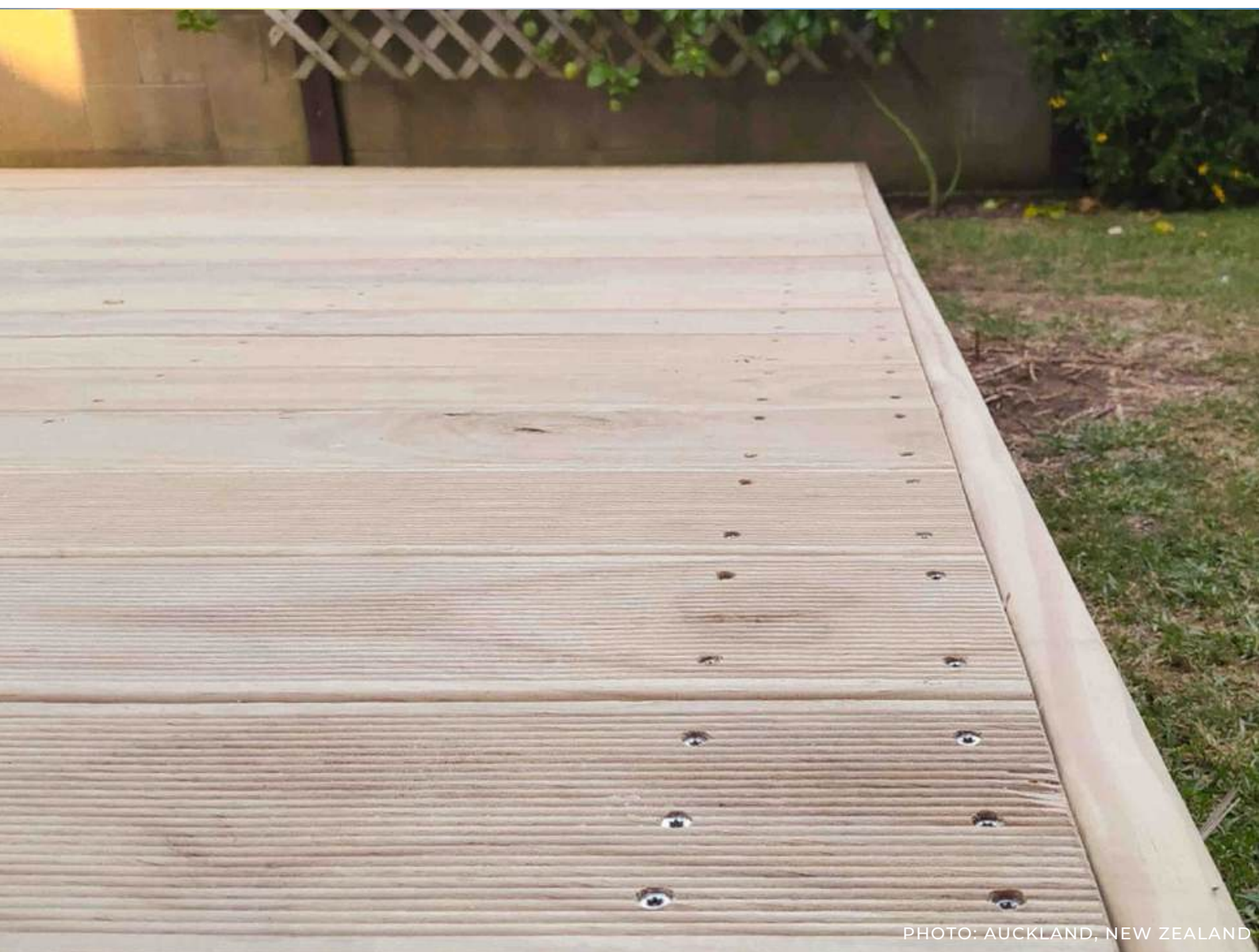
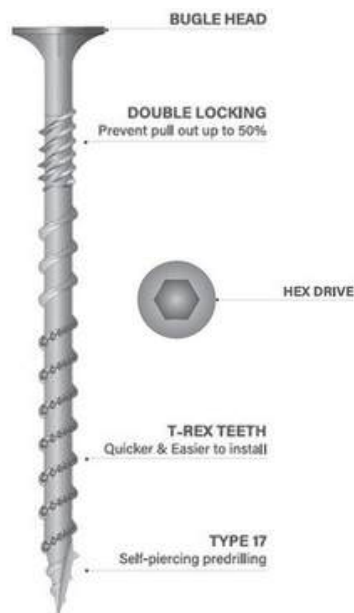


PHOTO: AUCKLAND, NEW ZEALAND

FASTENINGS



Batten Screw



BUGLE HEAD HEX DRIVE

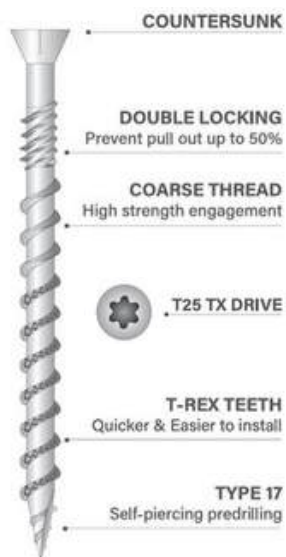
Material : Outdoor XGuard

Dimension : 14g x 75mm, 100mm, 125mm

Used for: - Sandwiching timber components to create a stronger bearer (see span table).

- Fastening bearers to the sides of posts.
- Fastening headerboards to joists (instead of or in support of a joist hanger).

Pack sizes 25



Decking Screw



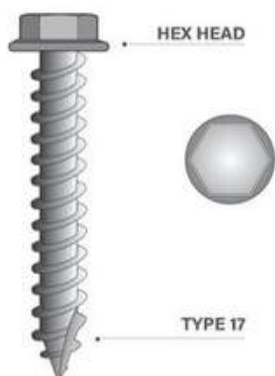
COUNTERSUNK HEAD TORX DRIVE

Material : Stainless Steel 304

Dimension : 10g x 60mm, 65mm, 75mm

Used for: Fastening decking boards to joists and various uses.

Pack sizes 50, 250



Bracket Screw



HEX HEAD

Material : C4 Galvanised or Stainless Steel 316

Dimensions: 12g/14g 35mm

Used for: Fastening brackets, ties, and other hardware to timber frames and substructures.

Pack sizes 100 or 200

FASTENINGS



Bracket Nail

FLAT HEAD

Material : Hot-Dip Galvanised or Stainless Steel

Dimensions: 30mm x 3.15mm dia.

Used for: Fastening brackets, ties, and other hardware to timber frames and substructures.



Pack size	5kg (approx. 2200)
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Bolt and Nut

ENGINEERS HEX BOLT

Material : Hot-Dip Galvanised or Stainless Steel

Dimensions: M12 120mm

Used for: Attaching bearers and posts together and the construction of pergolas.



Pack size	25
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Washer

ROUND GALV WASHER

Material : Hot-Dip Galvanised or Stainless Steel

Dimensions: M12

Used for: Used with engineers hex bolt

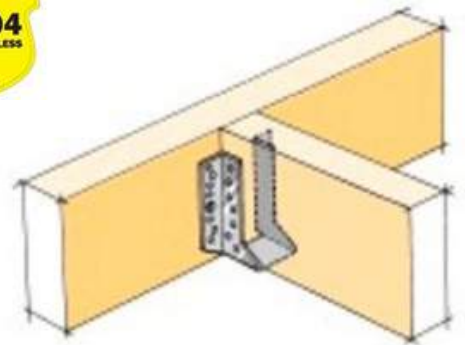


Pack size	100
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BRACKETS & FIXINGS

JOIST HANGERS

Material : Electro-Zinc or Stainless steel
 Dimensions : 47 x 90 47 x 120 47 x 190
 Used for: Joist fixings where a strong, rigid joint is required between members meeting at 90°, e.g. joist to beam connection.



Pack sizes 60

	Joist Hangers					
	Characteristic Load - Nails			Characteristic Load - Screws		
Joist Hanger Type	No. of Nails per Flange	Down	Uplift	No. of Screws per Flange	Down	Uplift
JH 47 x 90	3	9.0 kN	6.0 kN	1	7.0 kN	4.7 kN
JH 47 x 120	5	15.0 kN	10.0 kN	2	14.0 kN	12.0 kN
JH 47 x 190	9	27.0 kN	18.0 kN	3	21.0 kN	18.0 kN
	Product Nails 30mm x 3.15			Type 17 - 12g x 30mm Hex Head		
	*4 Flanges per hanger					



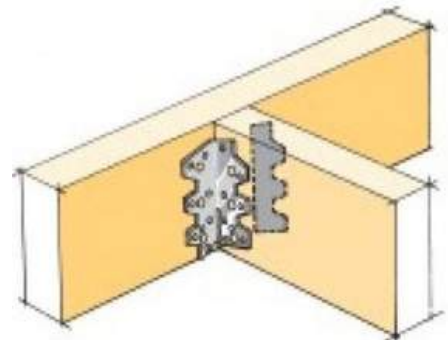
MULTI-USE BRACKETS

Material : Electro-Zinc or Stainless steel
 Dimensions : 125mm high x 38mm flanges
 Used for: Joist fixings in five different combinations. This product provides for all alternatives with the bending slot enabling easy on-site bending.



Pack sizes 100

Multi-use Brackets		
Characteristic Load		
Fixings	Nails: All holes filled with 30mm x 3.15 dia.	Screws: 3 x Type 17 - 14g x 35mm per Flange
Shear	11.9 kN / pair	10.9 kN / pair



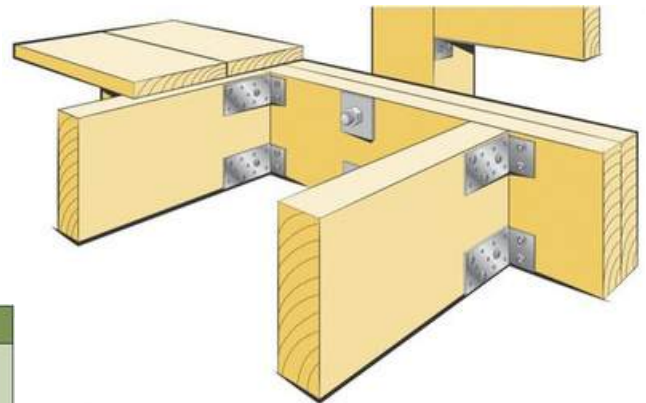
BRACKETS & FIXINGS

CONCEALED JOIST BRACKETS

Material : Electro-Zinc or Stainless steel

Dimensions : 88mm x 40mm 88mm x 80mm

Used for: Joist fixing in exposed situations, resisting any wind uplift.



Pack sizes 60

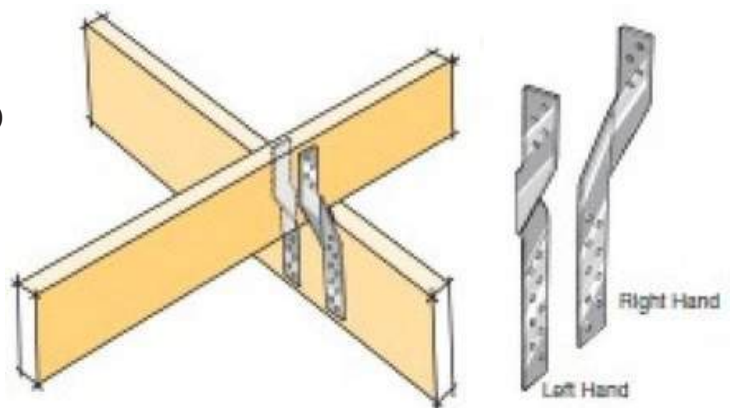
Concealed Joist Brackets			
Characteristic Load	CPC40S	CPC40	CPC80
Uplift / Tension	4.0 kN / pair	8.0 kN / pair	16.0 kN / pair
Fix with: Product Nails 30mm x 3.15 dia. AND Type 17 - 14g 35mm Hex Head Screws			

CEILING TIES

Material : Electro-Zinc or Stainless steel

Dimensions : 160mm 200mm

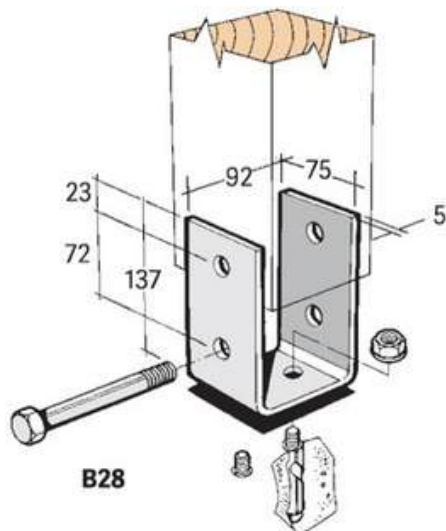
Used for: Fixing joists to bearers.



Pack sizes 50

Ceiling Ties	
Characteristic Load	CT200 (pair)
Uplift / Tension (4 nails each end)	10.5 kN / pair
Nails: Product Nails 30mm x 3.15 dia.	

BRACKETS & FIXINGS



Post Bracket

POST TO CONCRETE BRACKET

Material : Hot-Dip Galvanised or
Stainless Steel

Dimensions: 137mm x 75mm x 92mm

Used for: Fixing a post to a concrete
foundation.



Pack sizes

4