

Pattress Plates



Pattress plates are used to distribute anchorage loads into masonry, concrete and other structural substrates, reducing local bearing stress and providing effective restraint for tie bar and anchoring systems.

Ductile Iron Pattress Plates

- Traditional shape with optimised weight
- Designed to provide low bearing stress on structures
- Pattress plates to suit bar diameters from 16 to 39 mm
- Standard 8° rotation pattress plates
- Self aligning pattress plates for up to 30° misalignment
- Available as cast, primed, galvanised or N1 Network Rail paint system

Fabricated Pattress Plates

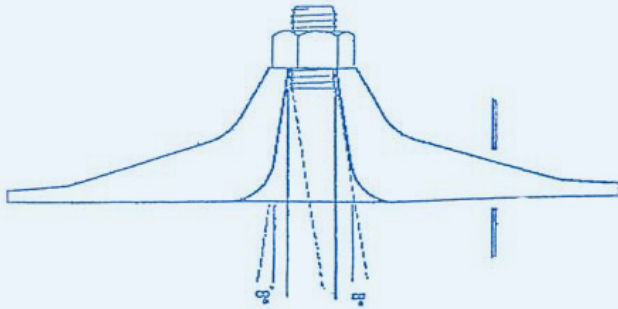
- Stainless UK manufacture stainless steel pattress plates to order. These can be produced in either Grade 304 or Grade 316 stainless steel and in a range of specifications to meet customers' individual requirements
- Stainless steel pattress plates can be made to allow either up to 8° of misalignment or up to 30° of misalignment
- Stainless UK can also supply a full range of Grip-Bar® stainless steel tie bars and fixings

Technical Data

Ductile Iron Standard 8° Pattress Plates

- Maximum misalignment $\pm 8^\circ$
- Material ductile iron (SG)
- Design stress ratio:

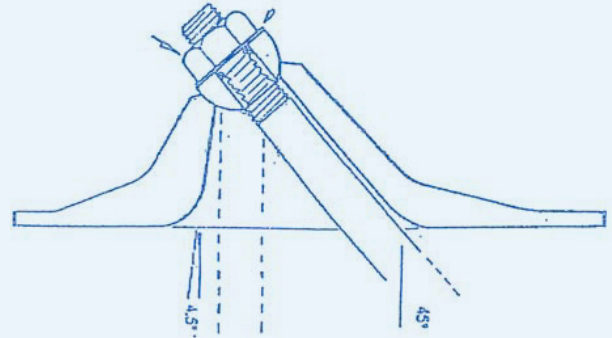
$$\frac{\text{stress in substrate}}{\text{stress in bar}} = \frac{1}{240}$$



Ductile Iron Self-aligning 30° Pattress Plates

- Maximum misalignment $\pm 30^\circ$
- Material ductile iron (SG)
- Design stress ratio:

$$\frac{\text{stress in substrate}}{\text{stress in bar}} = \frac{1}{240}$$



Benefits

- Comprehensive range to suit all applications
- Optimised shape-high strength with low weight
- Aesthetically superior to fabricated plates
- Ductile (SG) iron, withstands high loads, corrosion properties superior to mild steel
- Ductile Iron (SG) (Spheroidal Graphite to ISO 1083 / JS / 450-10 / S)

Applications

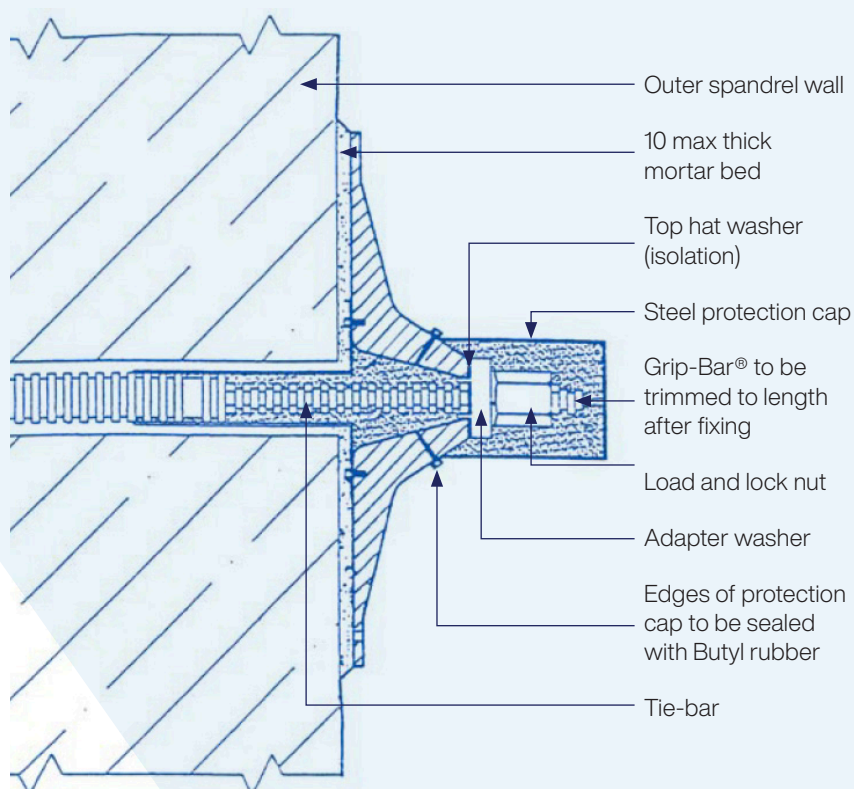
- Buildings
- Bridges and viaducts
- Bridge abutments
- Wing walls
- Retaining walls
- Culverts and headwalls

Reference		Nominal Bar Size	Max Design Load	Nominal Dimensions Approx.		Weight Approx.
30°	8°	mm	kN	Base Dia. mm	Height mm	Kg
MS16P	M16P	16	78	225	50	4.2
MS20P	M20P	20	122	280	60	8.0
MS24P	M24P	24	176	335	80	12.3
MS30P	M30P	30	280	420	90	25.3
MS39P	M39P	39	490	545	120	57.0

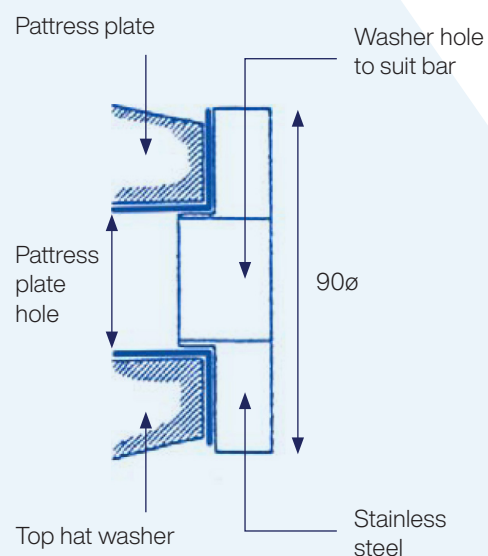


Typical Assembly

Pattress Plate Detail

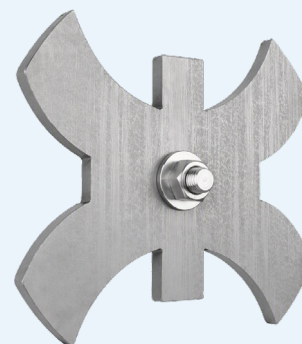
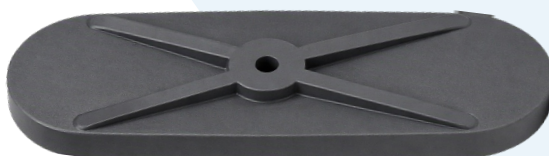
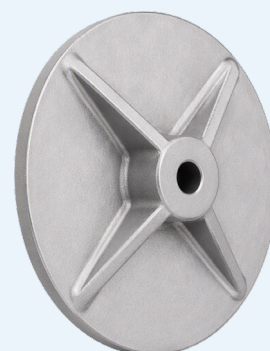
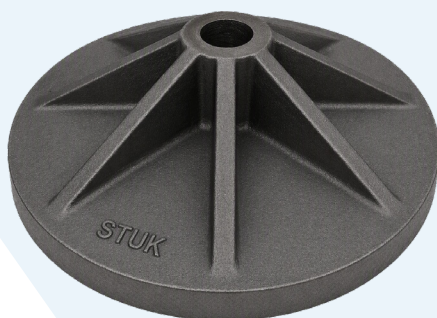
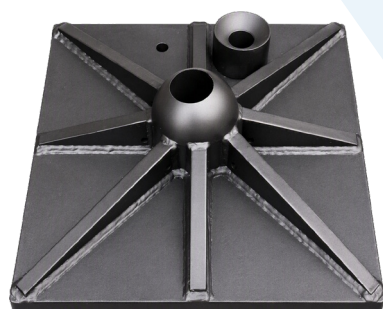


Section through adapter washer



Special Plate Designs

Plates can be manufactured to customer specific requirements.

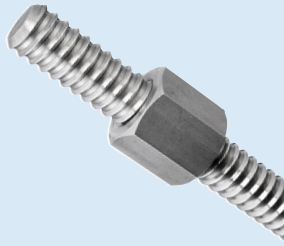


System Accessories

Pattress Plates can be supplied with a range of accessories, however plates and end connections can be manufactured to meet individual contract requirements.

Grip Bar

In conjunction with pattress plates, Grip-Bar provides an ideal robust tie bar solution.



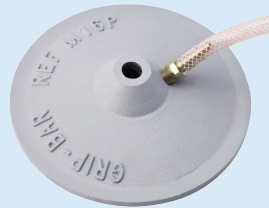
Metric Threaded Bar

High-strength thread-rolled stainless steel bars from M16 to M39, offered as double ended or fully threaded.



Grout Hole

Plates can be threaded 3/8 bsp enabling a grout tube to be attached. A breather hole can be machined if required.



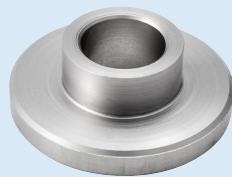
Protection Cap

Caps are designed to protect the bar and nut from atmospheric conditions and also stop tampering.



Reducer Washer

Allows a small diameter bar to be used with a larger pattress or washer plate.



Hemispherical Washer

For use with either a dished, fabricated or ductile iron plate which requires more than 8 degree misalignment.



Fixings

Full range of fixings available, including nuts, lock nuts, and couplers.



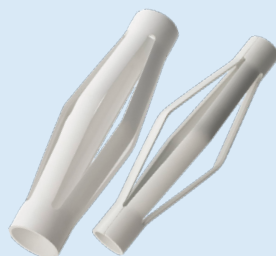
Top Hat Washer

Used as isolation washer to avoid bimetallic corrosion between the ductile iron pattress plate and the stainless steel bar.



Lantern Spacers

Centralisation of single bar within a bore hole enables an even flow of grout around the bar.



Grip Sock

A flexible sock which fits over the anchor bar. As it is filled with grout it expands into cracks and holes.

