



moresecure
storage equipment

Just Shelving Design Manual

IMPORTANT

DO NOT: LEND,
LOSE,
or PHOTOCOPY.

Requests for Technical Publications must be made
to the Moresecure Design Office.

Issued by

MORESECURE
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Controlled Issue

No.



WAGON

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Key to Material Colour & Finish Part Numbers

Many of the components in this manual have part numbers which incorporate colour or material finish codes.

The Key to these codes is shown below.

Code	Colour/Finish Description
BD	Phosphated, painted and stove enamelled Burgundy (BS5252 / 04E58)
BB	Phosphated, painted and stove enamelled Marine Blue (RAL5001)
GD	Phosphated, painted and stove enamelled Racing Green (RAL6005)
GM	Phosphated, painted and stove enamelled Leaf Green (RAL6011)
GP	Pre-Galvanised
GX	Phosphated, painted and stove enamelled Graphite Grey (BS5252 / 18A14)
GW	Light Grey (BS4800 / 00A05)
RD	Phosphated, painted and stove enamelled Traffic Red (RAL 3020)
TD	Phosphated, painted and stove enamelled Orange (RAL2011)

Introduction

This manual is intended to act as a general design guide to Moresecure Just Shelving and provides information covering most installations in the popular wide and narrow aisle configurations.

The manual also illustrates and describes standard components, and includes a part number system which allows the correct specification of components.

For information on specialised racking applications or non-standard components not described in this manual, or answers to any queries regarding design and specification of the product, contact:

The Moresecure Design Office

Remember: If in doubt on any aspect of Just Shelving design, ask!

Technical Information & Advice

Moresecure products are designed for specific use as shown in this design manual.

Information in this manual is based upon The UK Storage Equipment Manufacturers Association (S.E.M.A.) standards.

Advice in the application and use of these products is available from the Moresecure Design Office and conforms to the quality control procedures of BSEN ISO 9001:1994.

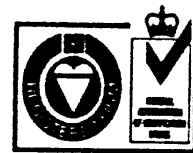
Quality Assurance

Moresecure holds installation designer status under BS5750 Part 1. QAS FM940/3204/274 Category A.

Just Shelving is manufactured under the control of quality management systems conforming to the International Quality

Standard BSEN ISO 9001:1994 and Quality Assessment Schedule (QAS) 2000 Category A, for Pallet Racking & Shelving.

When products are designed and installed by Moresecure, the same quality management systems apply.



Certificate Number FM 09409

Terms and Conditions

The conditions of sale of Moresecure will apply, a copy of which is available on application.

General Notes on Safety

● The purchaser shall in all circumstances where goods are supplied with instructions or warnings relating to their use, whether or not such instructions, information or warnings are supplied by the company, ensure that they are followed and brought to the attention of any subsequent purchaser or user of the goods, and any person likely to be affected by the use of the goods.

● Loading and performance information must be obtained from Moresecure Design Office, or approved Distributors.

● The advised configuration of Shelving MUST NOT be changed without prior agreement from Moresecure. The user is recommended to obtain a copy of the

S.E.M.A.(Storage Equipment Manufacturers Association) 'Code of Practice for the use of Static Racking' and follow the recommendations regarding the use and maintenance racking.

● Loadings provided the Company are always assumed to be for **STATIC UNIFORMLY DISTRIBUTED SAFE WORKING** loads unless otherwise notified.

Under no circumstances should such loads be varied or exceeded. Where racking or shelving products are to be installed or directed to be installed, by the user or agents acting on his behalf, then it is assumed that those persons involved have the necessary skills and knowledge to

complete the assembly in a safe manner. Where any doubt exists, then the user is recommended to make use of the technical advisory and installation service offered by Moresecure or it's approved Distributors.

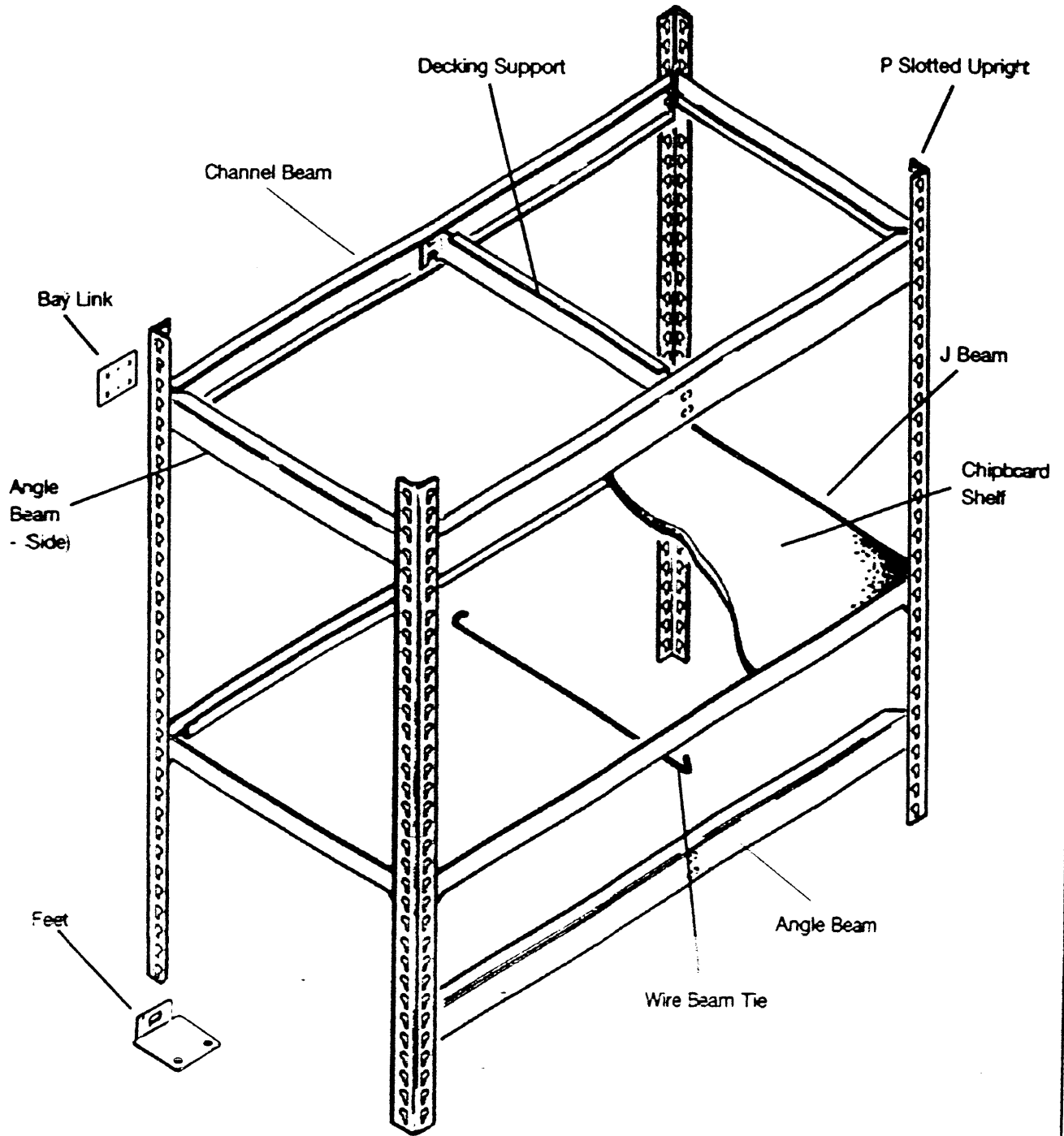
● It is not possible, because of the many dimensional and loading permutations, to provide totally comprehensive guidance in this document for the installation and safe use of racking or shelving products in each and every situation.

The advice offered is therefore intended as an aid for most common types of installation.

Just Shelving Design Manual

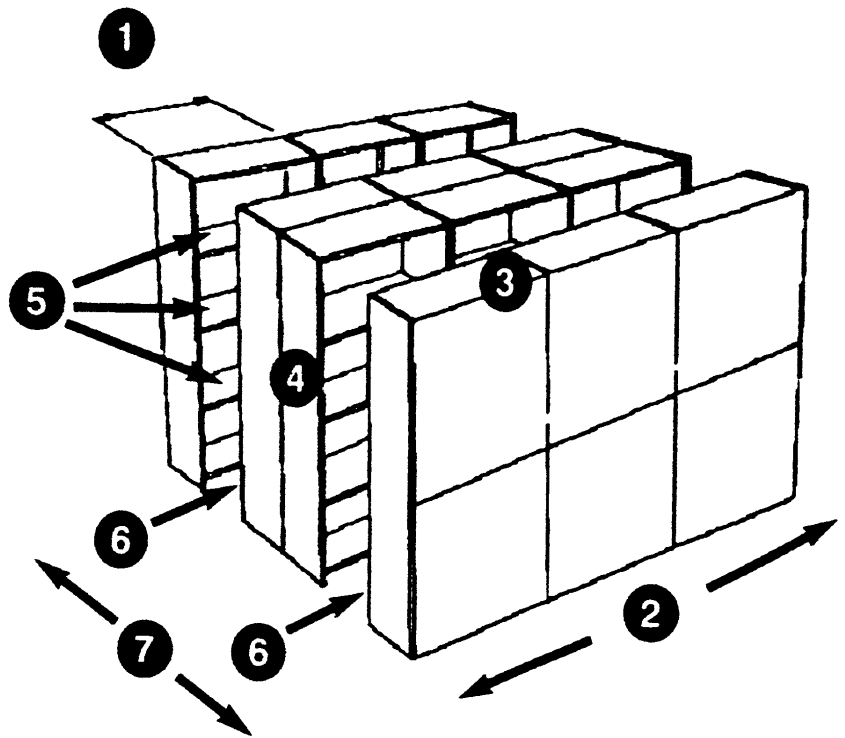
Exploded Drawing

The Stockrax Shelving System is designed with reference to the SEMA "Code Of Practice for the Design of Low Rise Static Steel Shelving".



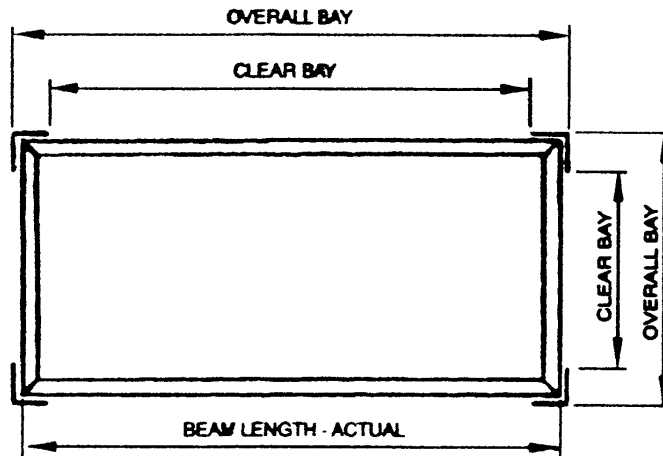
A system of uprights connected by horizontal shelves which can be adjusted vertically..

- 1. Bay**
A Module between 2 uprights.
- 2. Run**
A series of bays connected lengthways.
- 3. Single Sided Run**
A Single depth of shelving accessible from one side only.
- 4. Double Sided Run**
Two runs built back to back (not necessarily of the same depth).
- 5. Levels**
The number of storage levels in height..
- 6. Aisle**
Space giving access to picking or loading faces.
- 7. Gangway**
Space for movement of transport but not giving access to picking or loading faces.



Section A Terminology - Just Shelving Design Manual

Overall Dimensions



J - BEAMS - Std. Duty Uprights

<u>NOMINAL</u>	<u>ACTUAL LENGTH</u>	<u>OVERALL BAY</u>	<u>CLEAR BAY</u>
300	300	314	233
380	376	390	309
450	452	466	385
600	605	619	538
750	757	771	690
900	909	923	842
1000	995	1009	928
1200	1211	1225	1144
1500	1515	1529	1448

ANGLE & CHANNEL BEAMS - Heavy Duty Uprights

<u>NOMINAL</u>	<u>ACTUAL LENGTH</u>	<u>OVERALL BAY</u>	<u>CLEAR BAY</u>
380	371	385	282
450	447	461	358
600	597	611	508
750	752	766	663
900	906	920	817
1200	1211	1225	1122
1500	1516	1530	1427
1800	1820	1834	1731
2100	2125	2139	2036
2400	2430	2444	2341

Lowest Shelf Position: J-BEAM ANGLE CHANNEL
 108mm 125mm 125mm

Overall Run Length = (Overall bay X No. of bays) + [(No. of bays - 1) x 6mm]

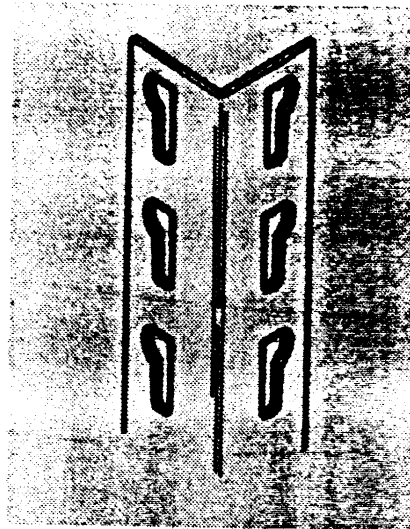
Upright - Standard Duty

Material: 40 x 40 x 2mm nom. angle section.

Finish: Standard colour range (see contents page).

Features: Tapered 'P' slot apertures, on 38.1mm pitch on each flange.

Benefits: Beams are secured into slots creating a stable frame.



Part Number System

Standard Upright		Colour Finish	
SXUS	078	GW	
Height			
Inches	mm	Code	
78	1981	078	
96	2438	096	
128	3048	120	

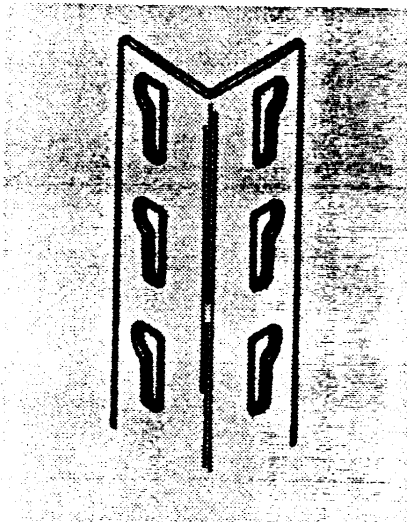
Upright - Heavy Duty

Material: 50 x 50 x 2mm nom. angle section.

Finish: Standard colour range (see contents page).

Features: Tapered 'P' slot apertures, on 38.1mm pitch on each flange.

Benefits: Beams are secured into slots creating a stable frame.



Part Number System

Heavy Duty Upright		Colour Finish	
SXUH	078	GW	
Height			
Inches	mm	Code	
36	914	036	
78	1981	078	
96	2438	096	
128	3048	120	

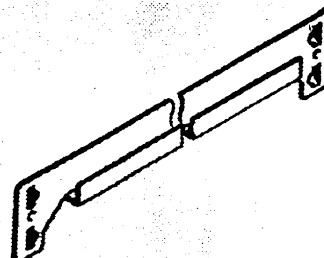
J Beam

Material: 35 x 19 x 17 x 2mm nom. steel section.

Finish: Light Grey.

Features: Beam with two pressed tags at each end and a 17mm / 90 degree return.

Benefits: Supports chipboard shelves, whilst giving rigidity to the bay.



Part Number System

J Beam		Colour Finish	
SXJB	0300	GW	
Length			
mm	Inches	Code	
300	12	0300	
450	18	0450	
600	24	0600	
900	36	0900	
1200	47	1200	
1500	59	1500	

Note: Illustrations not to scale.

Section B Primary Components - Just Shelving Design Manual

Wire Beam Tie / Chipboard / Feet / Shims

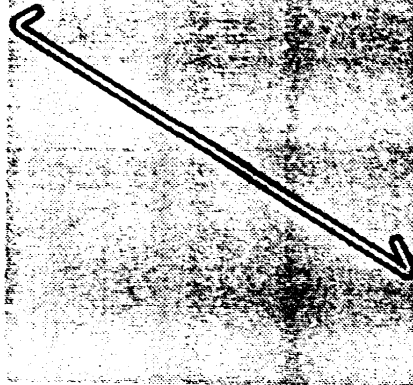
Wire Beam Tie

Material: Pre-galvanised steel wire.

Finish: Self colour.

Features: Specific length of wire with each end cranked over to form a hook.

Benefits: Restricts beam rotation when used with J beams 120C and 1500mm long



Part Number System

Wire Beam Tie



Length

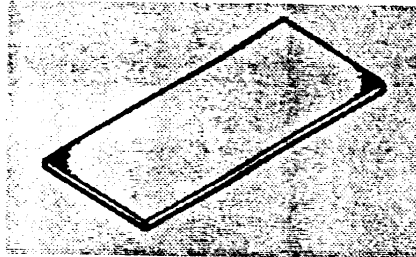
mm	Inches	Code
300	12	0300
450	18	0450
600	24	0600

Chipboard Shelves

Material: 18mm grade CIA chipboard

Finish: Natural.

Features: Provides load carrying surface.



Part Number System

Chipboard Shelves



For Chipboard sizes see page C1.

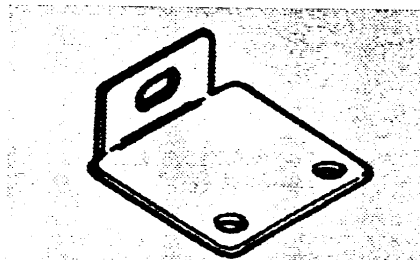
Feet

Material: 2mm thick mild steel plate.

Finish: Zinc plated - clear passivated.

Features: 2 holes in base flange, with a tag pressed upwards 90 degrees, which has a horizontal slot 14 x 7mm. Used on bays where height to depth ratio exceeds 4:1.

Benefits: Increases stability and fixation of bay by allowing bays to be fixed to the floor.



When floor fixing is required, refer to page C1.

Part Number System

Feet



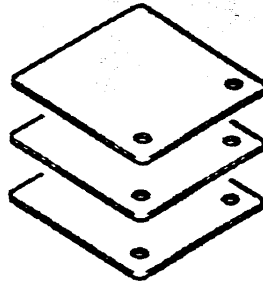
Colour Finish

Note! All feet must be secured to uprights using the fixings supplied (M6 x 12 mushroom head bolt and square nut).

Shim Kit

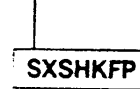
Kits contain 3 shims

1 off 1mm, 2 off 2mm

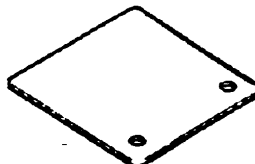


Part Number System

Shim Kit



Shim



Part Number System

Shim



Thickness

1 = 1mm
2 = 2mm

Note: Illustrations not to scale.

Section B Primary Components - Just Shelving Design Manual

Angle Beam / Channel Beam / Decking Supports / Bay Link

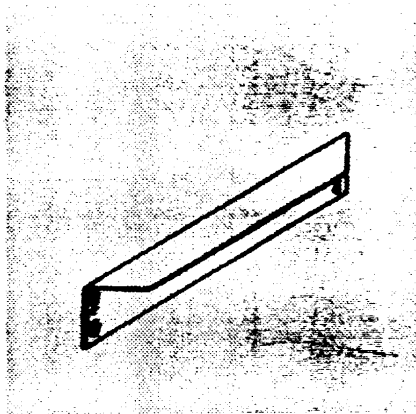
Angle Beam

Material: 60 x 40 x 2mm nom. angle section.

Finish: Light Grey.

Features: Formed angle with 2 pressed tags at each end. On 1800mm long beam, in the centre too.

Benefits: Increased loads on longer spans.



Part Number System

Angle Beam



Length

mm	Inches	Code
450	18	0450
600	24	0600
900	36	0900

Channel Beam

Material: 75 x 25 x 2mm nom. channel section.

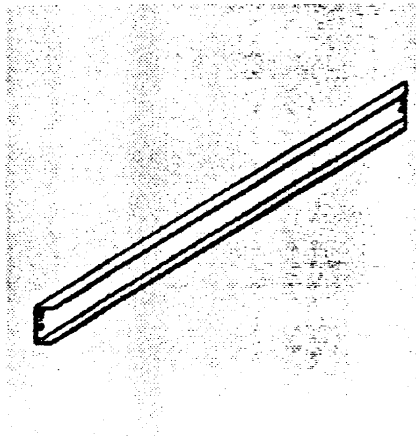
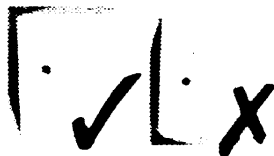
Finish: Light Grey.

Features: Formed channel with 2 pressed tags at each end and in the centre.

Benefits: Increased loads on longer spans.

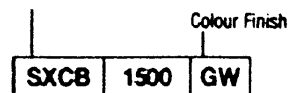
Note when installing;

Beams will only fit one way. Small gap to top.



Part Number System

Channel Beam



Length

mm	Inches	Code
1500	59	1500
1800	71	1800
2100	83	2100
2400	95	2400

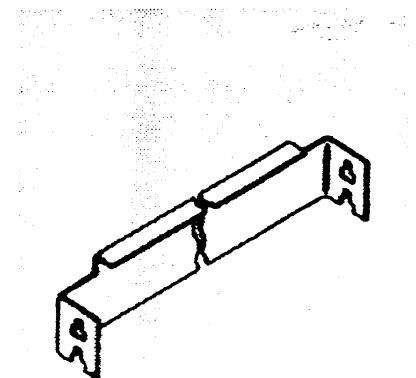
Decking Support

Material: 2mm thick steel strip.

Finish: Light Grey.

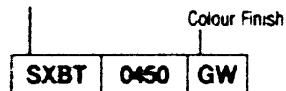
Features: Specially formed support with two reversed 'T' slots in each end flange, and a top flange cranked over at 90 degrees. For use with Angle and Channel beams of 1800mm length and above.

Benefits: Restricts beam rotation to increase load carrying capacity.



Part Number System

Decking Support



Length

mm	Inches	Code
450	18	0450
600	24	0600
900	36	0900

Always use with Channel Beam.

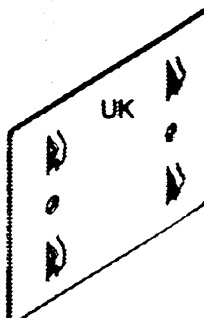
Bay Link

Material: 2mm thick mild steel plate.

Finish: Light grey.

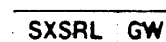
Features: 4 tags.

Benefits: Joins the uprights of 2 adjacent bays. Four Links required to join two bays together.



Part Number System

Bay Link



Colour Finish

Embossed UK indicates top of Bay Link to aid fitting.

Note: Illustrations not to scale.

Section C Design Notes - Just Shelving Design Manual

Beam usage / Foot Fixing / Chipboard Sizes

Beam Usage

- 1) When J-Beams are used on a bay, J-Beams MUST be used throughout.
- 2) When Angle Beams are used on front of bay, Angle side beams MUST be used.
- 3) When Channel Beams are used on front of bay, Angle side beams MUST be used.
- 4) With J-Beams, use STANDARD uprights.
- 5) With Angle and Channel Beams, use HEAVY DUTY uprights.

Foot Fixing Requirements

Conditions for no Fixings

Footplates need not be fixed to the floor or upright when the following condition applies:-

- ◆ Where the height* to depth ratio is less than or equal to 4:1 (Except where there is no shelf within 200mm of the floor).

NOTE! The use of shims may require fixing to prevent 'Slippage'.

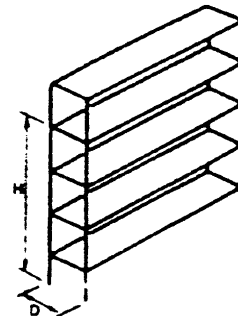
* Height to top loaded shelf.

Conditions for Floor Fixing.

Footplates must be secured to the floor and upright, where the height to depth ratio exceeds 4:1, using 1 off, M6 Ramset Dynabolt (Pt.No.ARR6.) into the floor.

NOTE! Only the perimeter upright angles need to be fixed on Back to Back runs.

HEIGHT TO DEPTH RATIO OF 4:1



H = Height to top loaded shelf
D = Depth of bay

Chipboard Sizes - (18mm thick board only)

		<u>Angle Beam</u>		<u>Channel Beam</u>	
<i>Nominal</i>	<i>Actual</i>	<i>Nominal</i>	<i>Actual</i>	<i>Nominal</i>	<i>Actual</i>
900 x 300	910mm x 304	1500 x 450	1522mm x 454	1800 x 450	1827mm x 454
900 x 450	910mm x 456	1500 x 600	1522mm x 604	1800 x 600	1827mm x 604
900 x 600	910mm x 609	1500 x 900	1522mm x 910	1800 x 900	1827mm x 910
1200 x 300	1214mm x 304	1800 x 450	1827mm x 454	2100 x 450	2132mm x 454
1200 x 450	1214mm x 456	1800 x 600	1827mm x 604	2100 x 600	2132mm x 604
1200 x 600	1214mm x 609	1800 x 900	1827mm x 910	2100 x 900	2132mm x 910
1500 x 300	1520mm x 304	2100 x 450	2132mm x 454	2400 x 450	2437mm x 454
1500 x 450	1520mm x 456	2100 x 600	2132mm x 604	2400 x 600	2437mm x 604
1500 x 600	1520mm x 609	2100 x 900	2132mm x 910	2400 x 900	2437mm x 910
1500 x 900	1520mm x 913				

Load Carrying Capacities in Kilogrammes (kg)

Uniformly distributed SAFE working loads on 18mm thick chipboard throughout.

Beam Type	Length of Beam (Nominal Size)						
	900	1000	1200	1500	1800	2100	2400
J-BEAM	375	375	350	260			
ANGLE				600	500	450	
CHANNEL				700	675	650	600

Maximum Bay Load - Standard Angle - 2500 kg

Maximum Bay Load - Heavy Duty Angle - 4000 kg

Maximum Shelf Centres - Standard Angle - 750 mm

Maximum Shelf Centres - Heavy Duty Angle - 1000 mm

STOCKRAX STOCK POLICY

Please find the stock sizes for the Stockrax range of products. These materials are the extent of the full range of Stockrax options and will be available on a five day delivery. It is possible to manufacture other sizes however, this will only be a consideration for orders in excess of £~~5000~~³⁰⁰⁰ catalogue value and must be authorised by the Planning Manager.

Items marked ** are specific to Welconstruct and **do not** have to be in stock by 29th October 1999.

Uprights

100 off 1980 x 38 x 38 GM	60 off 914 x 50 x 50 RD
100 off 1980 x 38 x 38 GX	100 off 1980 x 50 x 50 GM
100 off 1980 x 38 x 38 GB	100 off 1980 x 50 x 50 GX
100 off 1980 x 38 x 38 GD	100 off 1980 x 50 x 50 GB
100 off 1980 x 38 x 38 BD	100 off 1980 x 50 x 50 GD
100 off 1980 x 38 x 38 RD	100 off 1980 x 50 x 50 BD
100 off 1980 x 38 x 38 TD	100 off 1980 x 50 x 50 RD
	100 off 1980 x 50 x 50 TD
100 off 2400 x 38 x 38 RD**	100 off 2400 x 50 x 50 RD**
100 off 3000 x 38 x 38 RD**	100 off 3000 x 50 x 50 RD**

Beams – Link Grey – 50 off each size

J	300	450	600	900	1200	1500
---	-----	-----	-----	-----	------	------

L	450	600	900
---	-----	-----	-----

C	1500	1800	2100	2400
---	------	------	------	------

Decking Supports - 100 off each size

450	600	900
-----	-----	-----

Wire Beam Ties – 100 off each size

300	450	600
-----	-----	-----

Feet – 500 off

Bay Links - 500 off

Shims – 500 packs

Chipboard – see table below

Chipboard Dimensions	Stock Qty
304 X 910	50
456 X 910	50
609 X 910	50
304 X 1214	50
456 X 1214	100
609 X 1214**	50
304 X 1520	50
455 X 1520	100
605 X 1520	100
913 X 1520**	50
454 X 1827	50
604 X 1827	100
910 X 1827	130
454 X 2132**	50
604 X 2132**	100
910 X 2132**	100
454 X 2437	100
604 X 2437	100
910 X 2437	100

Products to be sold in kits

Product Code	Height	Depth	Beam Type	Width	Beam Type	No of Shelves	Chipboard Dimensions	Chipboard Stock Quantity
SX001**GW	1980	300	J	900	J	5	304 x 910	50
SX002**GW	1980	300	J	1200	J	5	304 x 1214	50
SX003**GW	1980	300	J	1500	J	5	304 x 1520	50
SX004**GW	1980	450	J	900	J	5	456 x 910	50
SX005**GW	1980	450	J	1200	J	5	456 x 1214	100
SX006**GW	1980	450	J	1500	J	5	455 x 1520	100
SX007**GW	1980	600	J	900	J	5	609 x 910	50
SX008**GW	1980	600	J	1500	J	5	605 x 1520	100
SX009**GW	1980	450	A	1800	C	4	454 x 1827	50
SX010**GW	1980	600	A	1800	C	4	604 x 1827	100
SX011**GW	1980	900	A	1800	C	4	910 x 1827	100
SX012**GW	1980	450	A	2400	C	4	454 x 2437	100
SX013**GW	1980	600	A	2400	C	3	604 x 2437	100
SX014**GW	1980	900	A	2400	C	3	910 x 2437	100
SX015**GW	914	900	A	1800	C	2	910 X 1827	30

** = Upright colour option as listed below: -

GB = Marine Blue
 GX = Graphite Grey
 RD = Traffic Red
 TD = Orange
 BD = Burgundy
 GM = Leaf Green
 GD = Racing Green

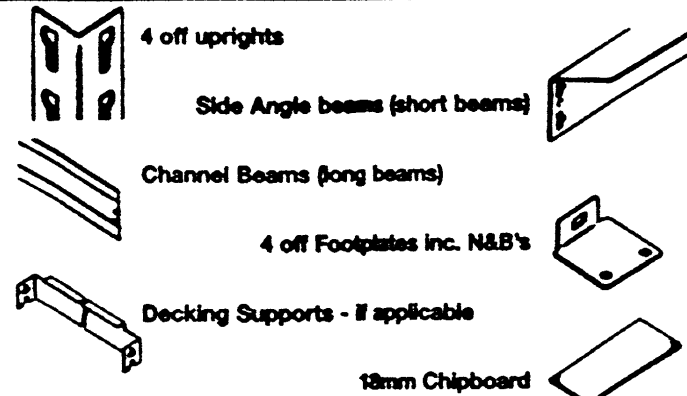
Additional Shelf Kits

Product Code	Depth	Beam Type	Qty	Width	Beam Type	Qty	Chipboard Dimensions	Qty
SX101GW	300	J	2	900	J	2	304 x 910	1
SX102GW	300	J	2	1200	J	2	304 x 1214	1
SX103GW	300	J	2	1500	J	2	304 x 1520	1
SX104GW	450	J	2	900	J	2	456 x 910	1
SX105GW	450	J	2	1200	J	2	456 x 1214	1
SX106GW	450	J	2	1500	J	2	455 x 1520	1
SX107GW	600	J	2	900	J	2	609 x 910	1
SX108GW	600	J	2	1500	J	2	605 x 1520	1
SX109GW	450	A	2	1800	C	2	454 x 1827	1
SX110GW	600	A	2	1800	C	2	604 x 1827	1
SX111GW	900	A	2	1800	C	2	910 x 1827	1
SX112GW	450	A	2	2400	C	2	454 x 2437	1
SX113GW	600	A	2	2400	C	2	604 x 2437	1
SX114GW	900	A	2	2400	C	2	910 x 2437	1

ORDER OF ASSEMBLY - Channel Beam Bay

- It is recommended TWO people assemble a bay.
- A rubber faced hammer is required to locate beams.

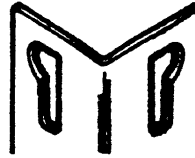
Parts list for shelving bay



Extra shelf levels contain 2 off Side Angle beams, 2 off Channel beams, 1 piece 18mm Chipboard and an Decking Support if applicable.

Before you start...

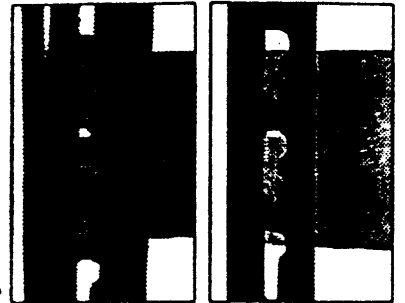
Bulge in uprights slot should always appear at the top.



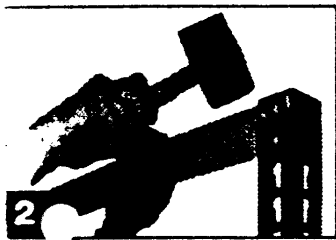
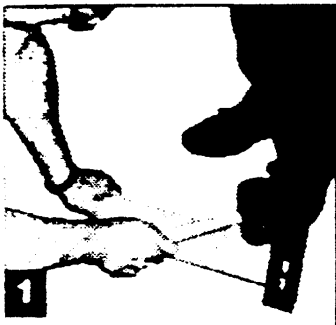
Beams will only fit one way. Small gap to top.



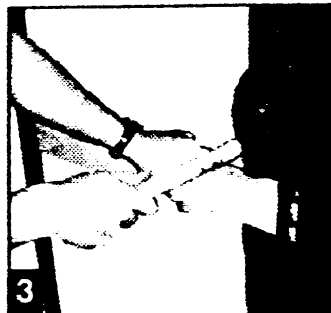
When locating beams ensure tongues on beam protrude through the upright at the top of the slot before hammering downwards to final position.



ASSEMBLE FIRST END FRAME - LOCATING SIDE ANGLE BEAMS TOP AND BOTTOM

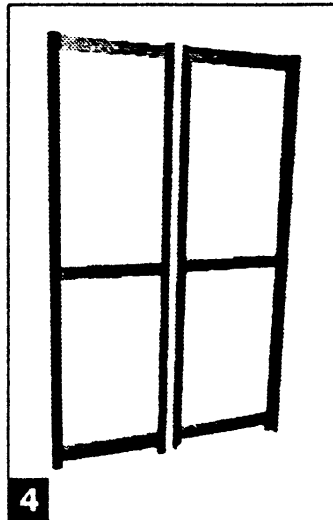


LOCATE INTERMEDIATE SIDE ANGLE BEAMS

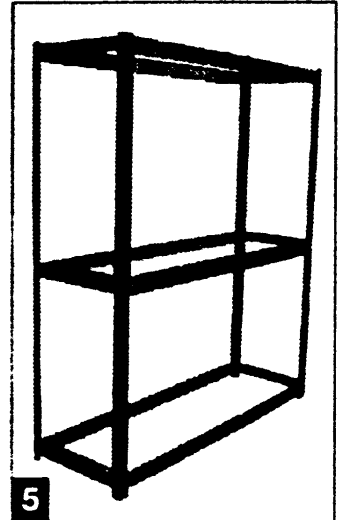


Ensure uprights are vertical before assembling beams.

ASSEMBLE SECOND FRAME

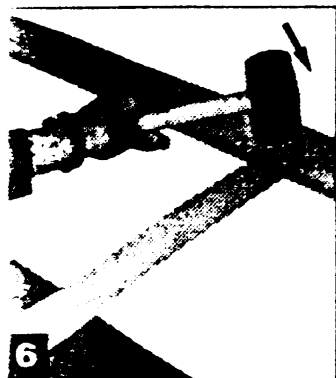


LOCATE CHANNEL BEAMS



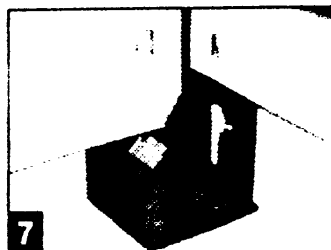
LOCATE DECKING SUPPORT

For Channel beams 1800mm and above.



Ensure slots in decking supports are square with tags and that the top face is flat against end of support before tapping into final position. Tap in until top of the support is flush with

BOLT-ON FOOTPLATES

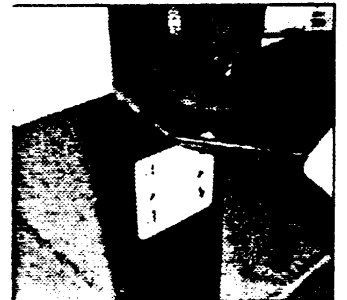


Position bay and bolt to floor if required.

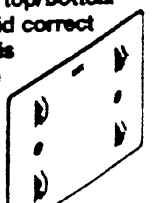
DROP IN CHIPBOARD SHELVES



BAY LINKS



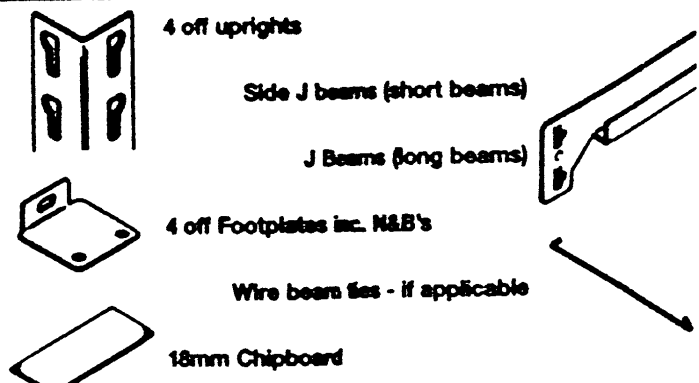
Used to join to adjacent bays together to form runs. Requires four links to join two bays together. Position with seven clear holes from top/bottom of uprights. To aid correct installation 'UK' is embossed at the top of the link.



ORDER OF ASSEMBLY - J Beam Bay

- It is recommended TWO people assemble a bay.
- A rubber faced hammer is required to locate beams.

Parts list for shelving bay

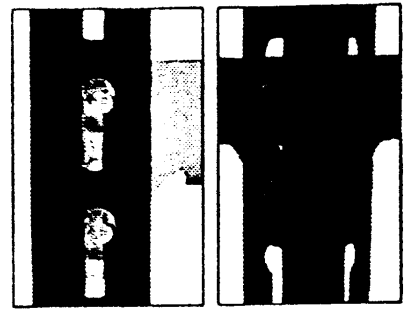
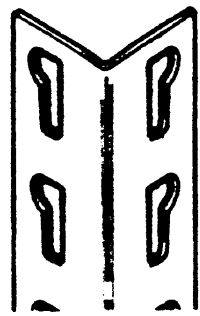


Extra shelving levels contain 2 off Side J beams, 2 off J beams, 1 piece 18mm Chipboard and an Wire Beam Tie if applicable.

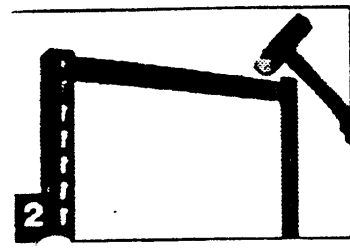
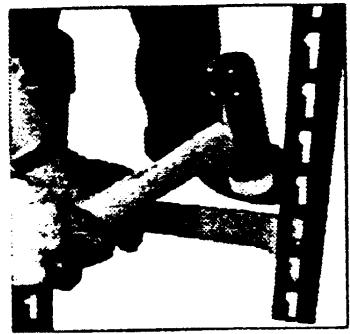
Before you start...

Bulge in uprights slot should always appear at the top.

When locating beams ensure tongues on beam protrude through the upright at the top of the slot before hammering downwards to final position.



ASSEMBLE FIRST END FRAME - LOCATING SIDE J BEAMS TOP AND BOTTOM

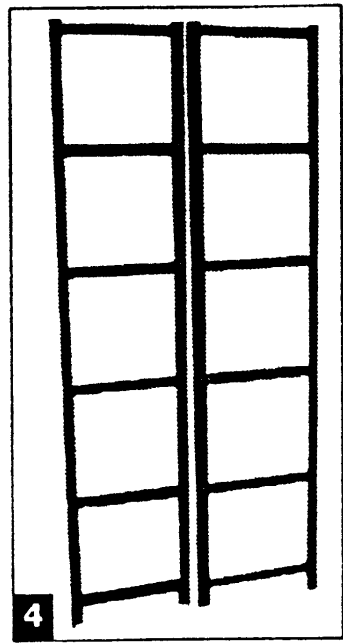


LOCATE INTERMEDIATE SIDE J BEAMS

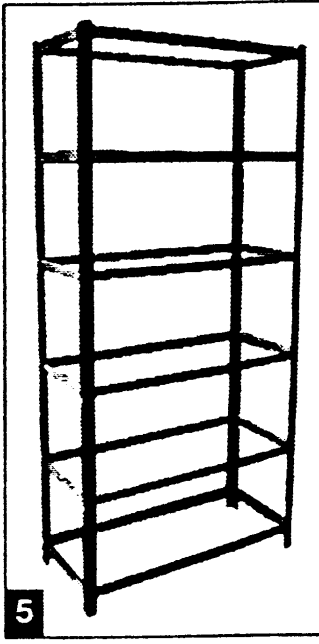


Side beams should be positioned at desired shelf level.

ASSEMBLE SECOND FRAME

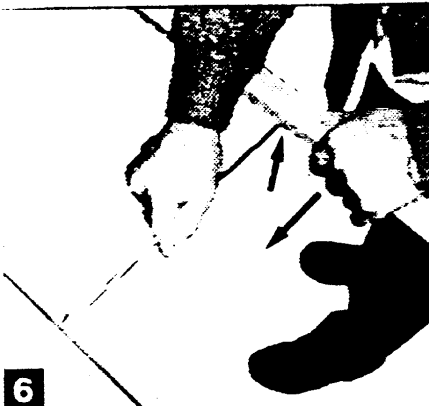


LOCATE J BEAMS



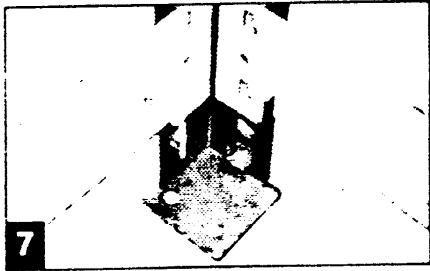
LOCATE WIRE BEAM TIE

For J beams 1500mm in length and above.



Hook wire tie into hole on back beam. Pull front beam forward and pull tie up in place.

BOLT-ON FOOTPLATES



Position bay and bolt to floor if required.

DROP IN CHIPBOARD SHELVES

