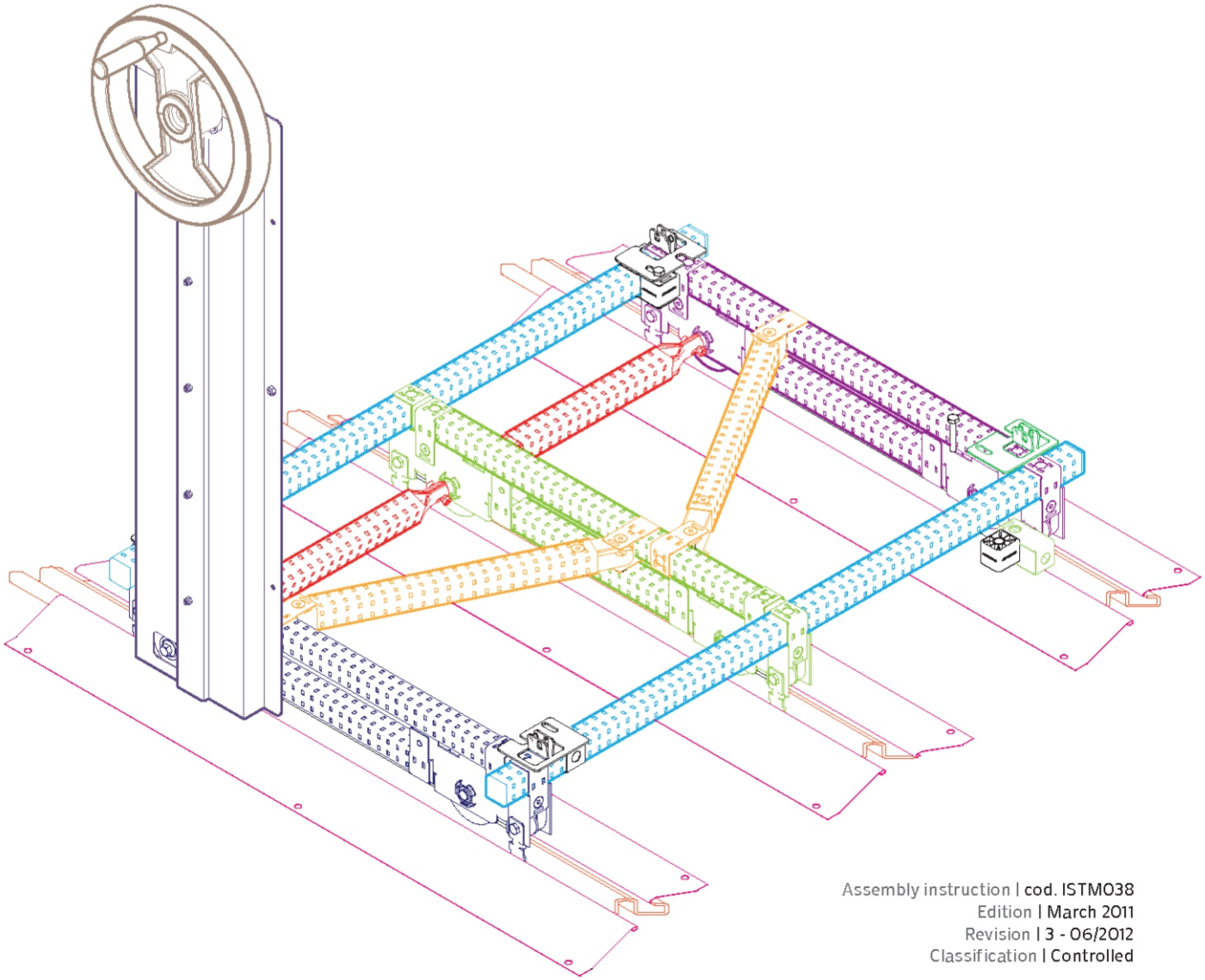
METALSISTEM®

Instructions for the correct assembly and use of the

MOBIBASIC

mobile shelving system



Assembly instruction | cod. ISTM038
Edition | March 2011
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Classification | Controlled

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Approved by	Department manager
Divisione Tecnica	ing. Lucio Gelmini

Revision list

Revisions	Description	Author	Date
01	Frame and transmission product revision New page layout	D. Terzi | P. Calzà	03/2011
02	Revised transmission code logic MOBIBASIC	D. Terzi	12/2011
03	Revised codes and assembly procedure Product technical improvements	B. Zeni | F. Marchiori	06/2012

1. GENERAL PRODUCT DESCRIPTION

The MOBIBASIC mobile base system is composed of mobile base frames running on rails which are fixed to the pavement. The SUPER 1/2/3 and Unirack shelving systems, in single and double entry configurations are bolted to these frames. The mobile bases may be moved either by handwheel or handle.

2. APPLICATION

Mobile bases are applied in areas where a high density of storage is required. In principle there are no limitations to the application of this product other than the limitations given by the load bearing capacity both of the floor and of the product.

3. RESPONSABILITY

METALSISTEM declines all responsibility for assembly in non conformity with the technical specifications contained in this document or if assembled by untrained persons or persons without adequate tools or not having applied adequate safety provisions.

4. ASSEMBLY TOOLS

Cordless impact driver

6 mm - 5 mm - 4 mm allen key socket

Hammer drill

Plastic tip mallet
and centre punch

Laser level / level

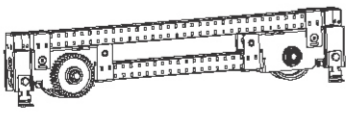
13 mm - 10 mm spanner

The use of personal safety equipment is mandatory:

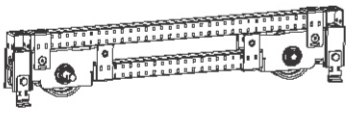
Gloves

Safety boots

5. COMPONENTS



2-WHEEL BEAM FOR STARTER FRAME
(Finish: GALVANIZED)



2-WHEEL BEAM FOR INTERNAL FRAME
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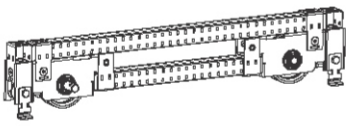
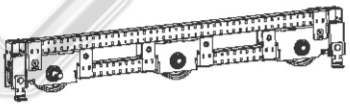


2-WHEEL BEAM FOR END FRAME
(Finish: GALVANIZED)

2-WHEEL BEAM FOR MOBILE SHELVING UNITS WITHOUT GEAR KIT
(Finish: GALVANIZED)

3-WHEEL BEAM FOR STARTER FRAME
(Finish: GALVANIZED)



3-WHEEL BEAM FOR INTERNAL FRAME
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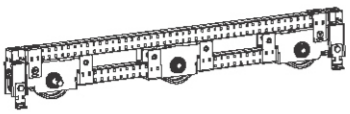

3-WHEEL-BEAM FOR END FRAME
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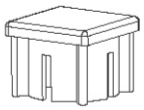
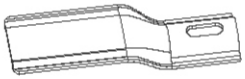
MB PRE ASSEMBLED FRAME CONNECTION STRUT - cod. MB4101.98
(Finish: GALVANIZED)



INOX UPRIGHT CAP - cod. SI01A003.98
(Material: PLASTIC)

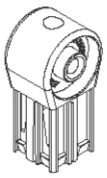
MB PRE ASSEMBLED DRIVE SHAFT
cod. MB4302.98 - length 900
cod. MB4303.98 - length 1050
cod. MB4304.98 - length 1200
cod. MB4305.98 - length 1350
cod. MB4306.98 - length 1500
cod. MB4307.98 - length 1650
cod. MB4308.98 - length 1800
(Finish: GALVANIZED)



DRIVE SHAFT CONNECTION BRACKET - cod. 00009651.95
(Finish: GALVANIZED)

MB PRE ASSEMBLED DIAGONAL STRUT - cod. MB4201.98
(Finish: GALVANIZED)

DIAGONAL STRUT COMPENSATOR - cod. 00015462.95
(Finish: GALVANIZED)



INSERT JOINT HOLE 8,5mm - cod. 0004972.98
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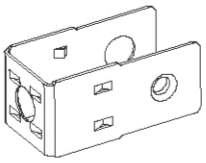

GALVANISED BRACKET - cod. ZN03A003.95
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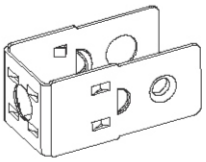

GALVANISED BRACKET WITH CUP - cod. 00016029.95
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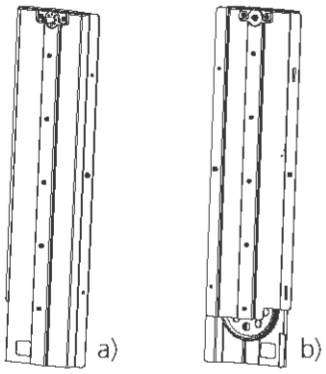
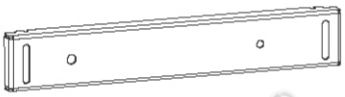
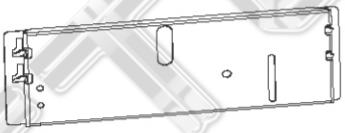


MB TRANSMISSION - cod. MB4401.98
(Finish: GALVANIZED)

a) front view
b) rear view

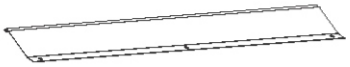


UNIRACK TRANSMISSION FIXING BRACKET
cod. MB4411.95 - depth 320
cod. MB4412.95 - depth 400
cod. MB4413.95 - depth 500
cod. MB4414.95 - depth 600
cod. MB4415.95 - depth 700
cod. MB4416.95 - depth 800
(Finish: GALVANIZED)

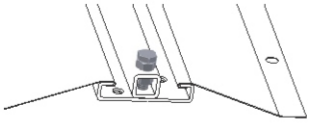


SUPER 1/2/3 TRANSMISSION FIXING BRACKET
cod. MB4421.95 - depth 320
cod. MB4422.95 - depth 400
cod. MB4423.95 - depth 500
cod. MB4424.95 - depth 600
cod. MB4425.95 - depth 700
cod. MB4426.95 - depth 800
(Finish: GALVANIZED)

MB RAIL L1000 - cod. MB330.95
MB RAIL L3000 - cod. MB331.95
MB RAIL L5000 - cod. MB332.95
MB RAIL L6000 - cod. MB333.95
(Finish: GALVANIZED)



MB SAFETY EDGE L1000 - cod. MB233.95
MB SAFETY EDGE L3000 - cod. MB234.95
(Finish: GALVANIZED)



MB RAIL STOP - cod. MB227.95
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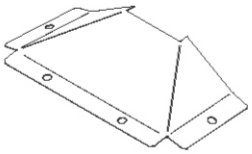

MB RAIL END SAFETY EDGE - cod. MB239.95
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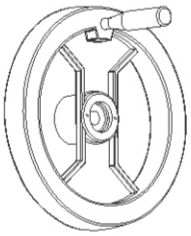
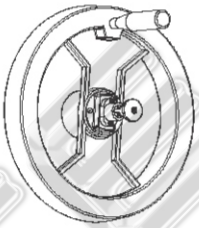


MB HANDWHEEL KIT - cod. MB4601.98
(Material: PLASTIC)



MB BUTTON LOCK HANDWHEEL KIT - cod. MB4602.98
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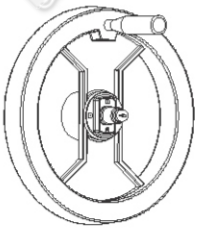

MB KEY LOCK HANDWHEEL KIT - cod. MB4603.98
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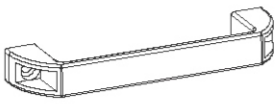

MB HANDLE KIT - cod. MB4604.98
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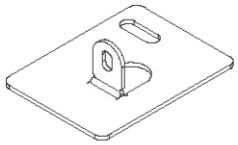

MB UNIRACK RHT SINGLE BASE KIT - cod. MB241.95
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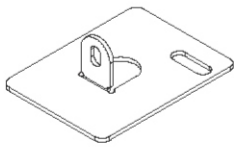

MB UNIRACK LFT SINGLE BASE KIT - cod. MB242.95
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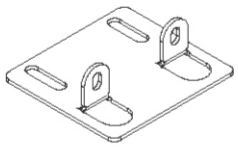

MB UNIRACK DOUBLE BASE KIT - cod. MB243.95
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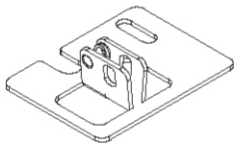

MB SUPER 1/2/3 RHT SINGLE BASE KIT - cod. MB270.95
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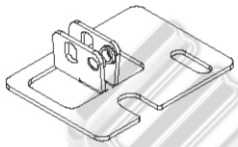

MB SUPER 1/2/3 LFT SINGLE BASE KIT - cod. MB271.95
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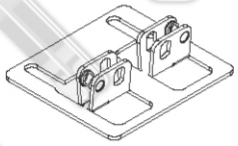

MB SUPER 1/2/3 DOUBLE BASE KIT - cod. MB272.95
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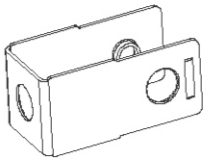
SQUARE INSERT Ø 12mm - cod. SI08A001.98
(Material: PLASTIC)



CLIP WITHOUT LUGS - cod. 00005188.95
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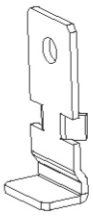

MB ANTI TILTING - cod. MB249.95
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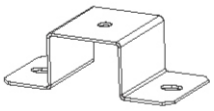
BRACING BRACKET - cod. 00013494.95
(Finish: GALVANIZED)



FRAME BACK TO BACK CLAMPS - cod. SLACC010.95
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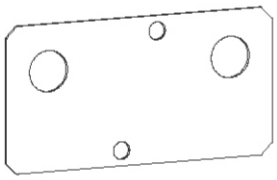
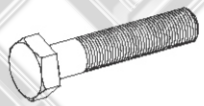


SUPER 1/2/3 METAL SHIM 1mm - cod. 66999.95
SUPER 1/2/3 METAL SHIM 2mm - cod. 67000.95
(Finish: GALVANIZED)

STAINLESS STEEL DOWEL FOR BRACKET - cod. 00005204.85
(Finish INOX)

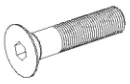


M8X45 HEX BOLT 8.8 DIN933 ZP - cod. 00046.20
(Finish: GALVANIZED)

M8X24 WASHER UNI6593 ZB - cod. 00039.20
(Finish: GALVANIZED)

M6X24 WASHER UNI6593 ZB - cod. 00010562.20
(Finish: GALVANIZED)

M6 WASHER UNI6592 ZB - cod. 00005865.20
(Finish: GALVANIZED)



M8X35 CSSH BOLT DIN7991 ZB - cod. 00011100.20
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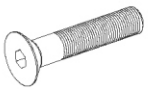

M8X400 CSSH BOLT10.9 DIN7991 ZP - cod. 00033/1.20
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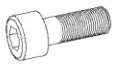
M6X10 CHS BOLT 8,8 DIN912 ZP - cod. 00001.20
(Finish: GALVANIZED)



M6X16 CHS BOLT 8.8 DIN912 ZP - cod. 00035.20
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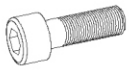

M6X20 CHS BOLT 8,8 DIN912 ZP - cod. 00014509.20
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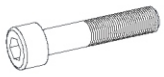
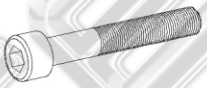


M6X30 CHS BOLT 8.8 DIN912 ZP - cod. 00027.20
(Finish: GALVANIZED)

M6X35 CHS BOLT 8,8 DIN912 ZP - cod. 00016659.20
(Finish: GALVANIZED)



M6X40 CHS BOLT 8,8 UNI5931 ZB - cod. 00005218.20
(Finish: GALVANIZED)

8X40MM NYLON ANCHOR - cod. 00019851.98
((Finish PA6)

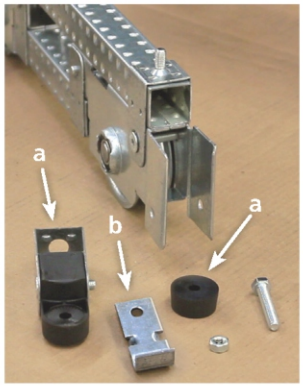
SCREW 5X60 F. WOOD ZB - cod. 00013453.20
(Finish: GALVANIZED)

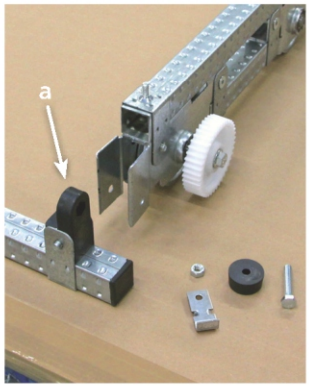
M6 NUT 8 DIN934 ZP - cod. 00020.20
(Finish: GALVANIZED)

M8 NUT 8 DIN934 ZP - cod. 00021.20
(Finish: GALVANIZED)

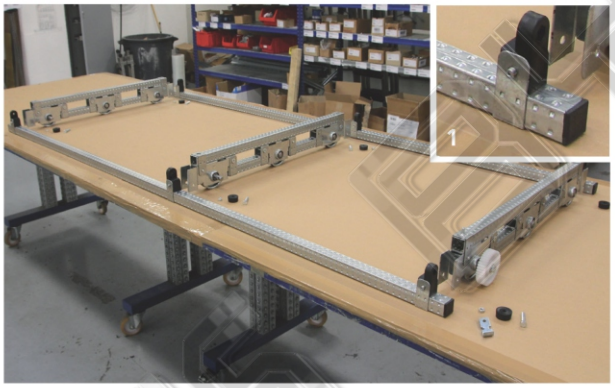
M6 HIGH NYLON INS. NUT DIN982 ZP - cod. 00029.20
(Finish: GALVANIZED)

6. TROLLEY FRAME ASSEMBLY

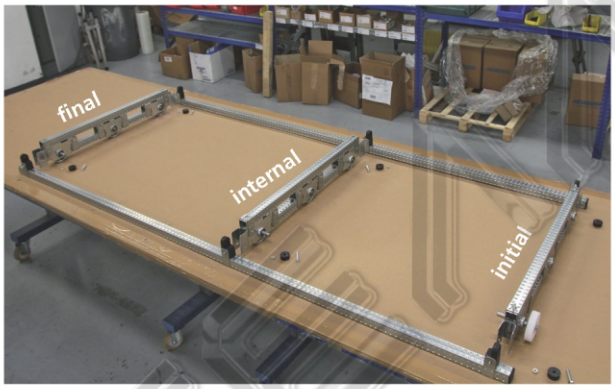




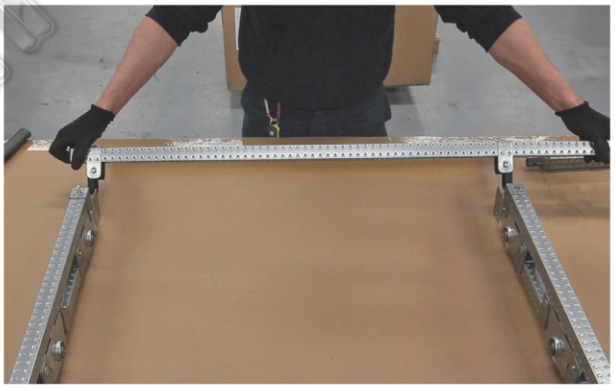
6.1 Unscrew the plastic joints from the wheel assembly (a) and the antitilting bracket (b). These shall be assembled once the wheel beam is placed on the rail (cfr. par. 10). The plastic joints will then be assembled onto the frame connection struts (a), in the locations determined by the pitch of the shelving to be assembled on the base.



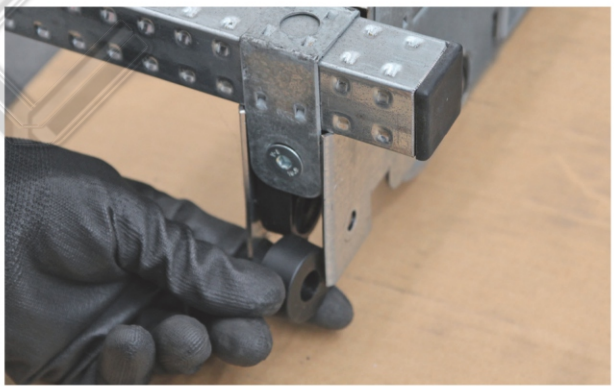
6.2 Set the beam wheels at the bay pitch of the trolley. Place the wheel beams over the marks following the trolley logic. Position the connection struts (code MB4101.98) next to the wheel beams and fix the plastic joint onto the frame connection struts.



6.3 The starter and final plastic joint ends are positions 2 pitches from the connection strut cuts. The central beam wheel locations will be adjusted slightly allowing for the pitch tolerance of 16,5mm of the connection strut.



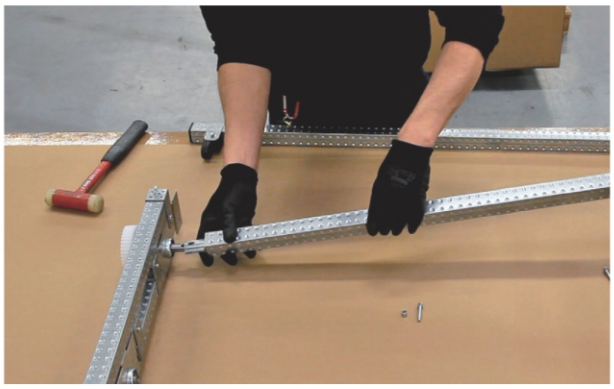
6.4 Pair a connection strut to the wheel beams at the opposite side of the drive wheels.



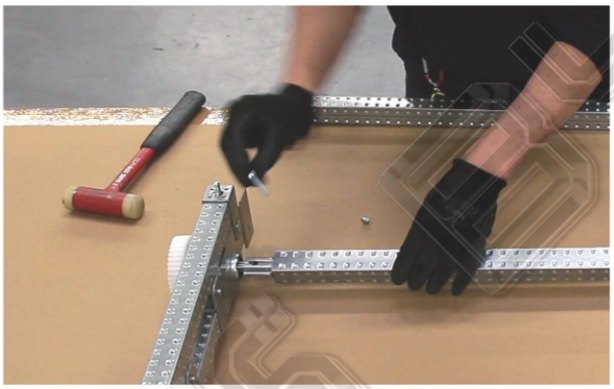
6.5 Insert the plastic wheel in the joint as shown.

6.6 Close the joint with the M8x45 hex head bolt (code 00046.20) and M8 nut (cod. 00021.20) at all connection points.

7. DRIVE SHAFT ASSEMBLY



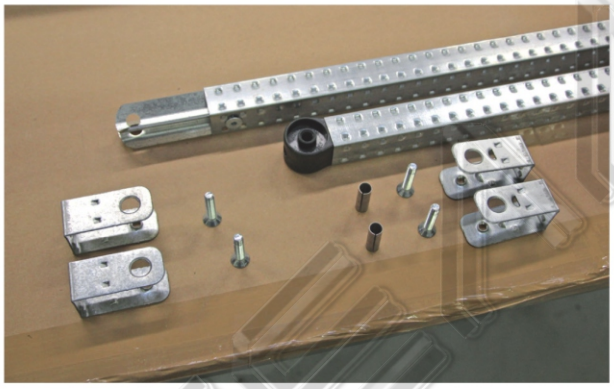
7.1 Unscrew the bolts holding the drive shaft assembly together and insert the drive shaft onto the wheel axel. Adjust the location of the brackets so that the holes align.



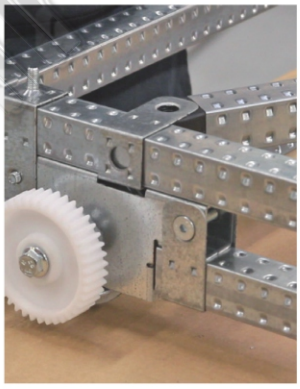
7.2 Hand tighten the M6 x 30 allen key insert bolt and nylex nut (code 00027.20 + 00029.20) at either end. Note: Do not tighten at this point.

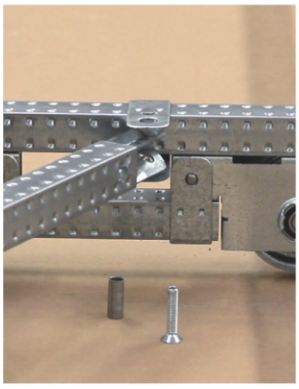
7.3 Assemble the other connection strut hand tightening the bolts.

8. DIAGONAL STRUT ASSEMBLY

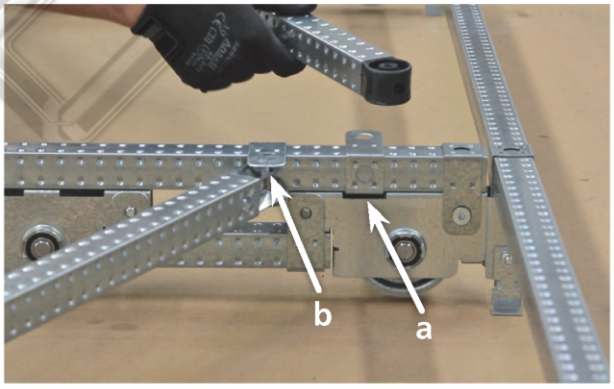


8.1 Disassemble the diagonal strut assembly. Note: the 2 different models of clips; 2 with and 2 without a slot.

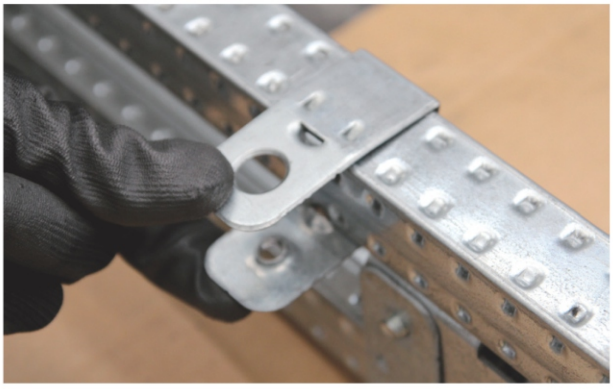




8.2 Connected the clips to the wheel beam. The clips without the slot are used at the plastic end of the strut, while the clips with the slot are used to connect the opposite end.



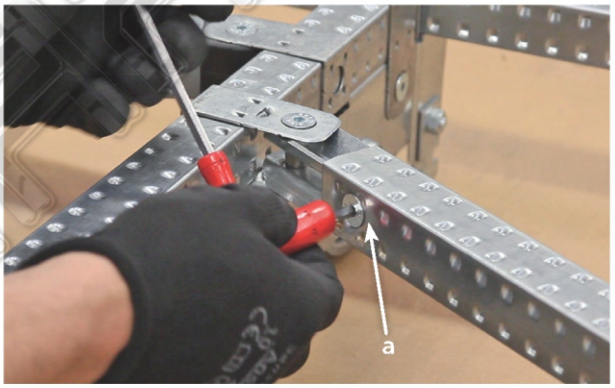
8.3 The clips are fitted onto the wheel beam as shown in the photo. The standard clip (cod. ZN03A003.95) is placed in the a position while the clip with the slot (cod. 00016029.95) is placed in the b position facing the opposite direction.



8.4 Note how the clip with the slot fits.

8.5 Assemble first the compensator side inserting first the dowel (code 00005204.85) then the M8x40 flat head bolt (code 00033/1.20). Tighten by hand.

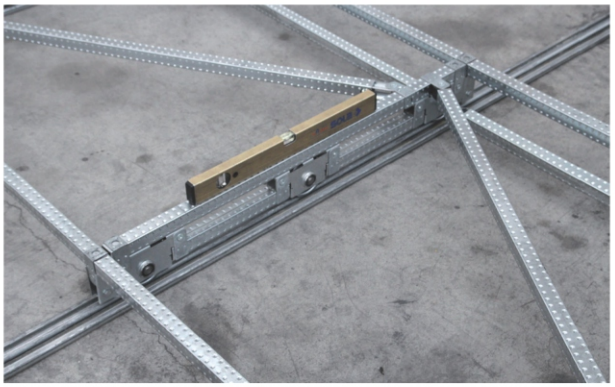
8.6 Insert the same M8x40 bolt (code 00033/1.20) at the opposite side. Tighten loosly.



8.7 Check the alignment of the wheels beams and the diagonals of the bases. The base must be true and square. Complete the assembly by tightening all the bolts.

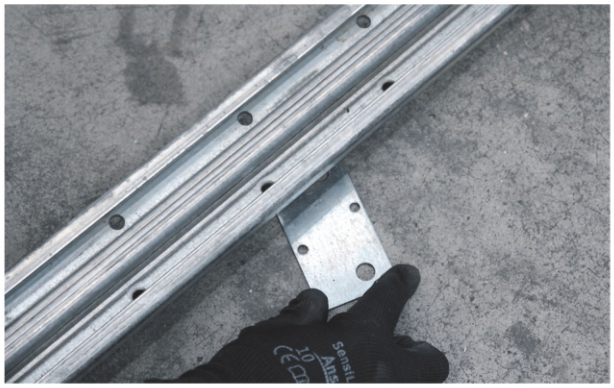
Note: Tighten with vigor the M8x35 bolts (a). The profile will deform under the pressure. This is essential for the proper function of the base.

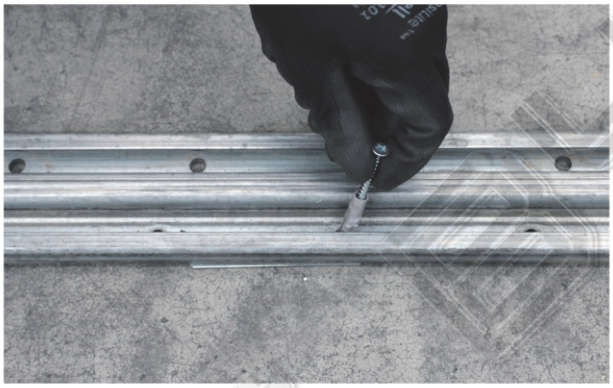
9. SETTING RAILS AND PLACEMENT OF THE TROLLEYS



9.1 Lay out the perimeter of the rails with a chalk line ensuring that all lines are square to each other by checking the diagonals. Place the rails on ground followed by a trolley. Run the trolley along the rails to ensure that it runs freely along the full length of the rails. Mark the rail fixing point locations taking note of the diagonal dimensions.

9.2 It is recommended to use a laser leveler to check the level of the pavement under the rails both along and across the rails. Distribute the shims as required.
If a laser leveler is not available use a level placed on the trolley. The rails must be placed at a tolerance of ± 1 mm / meter.



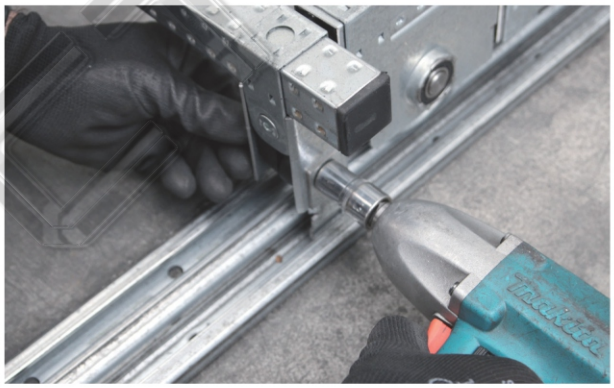


9.3 Place 2 anchors at the start and ends of every segment of rail after cross checking their alignment. Proceed with the internal anchors, fixing through the shims alternating from one side of the rail to the other. Set the anchor points at intervals as required by shimming however never more than 300mm.

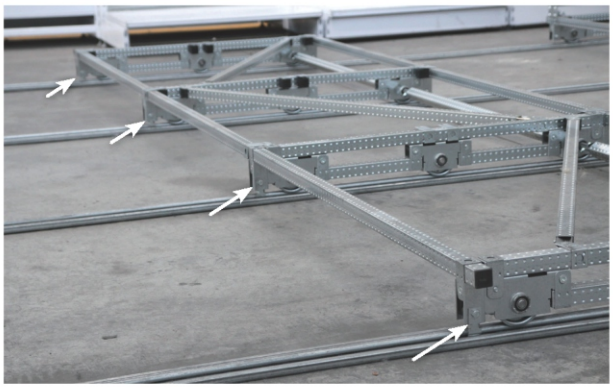
10. FIXING THE ANTITILTING DEVICE

10.1 Remove the M8 nut (code 00021.20) from the wheel beam - connection strut assembly.

10.2 Place the antitilting bracket (MB249.95) with the lip facing away from the wheel beam.



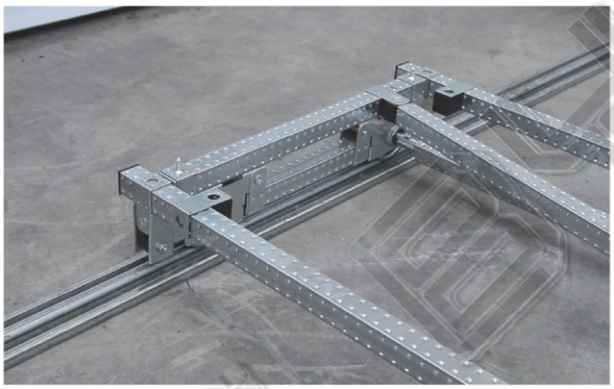
10.3 Replace the nut and complete the assembly.



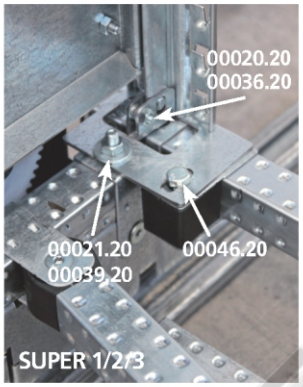
10.4 Repeat the operation for both ends of all wheel beams.

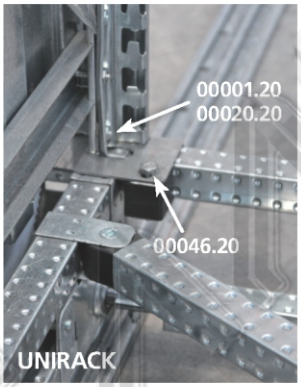
11. ASSEMBLY OF THE SHELVING

11.1 Fix the right and left, or/and right and central fixing plates (codes MB241.95 - RHT, MB242.95 - LFT, MB243.95 - double) to the Unirack frames with the allen key insert M6x10 bolts (code 0001.20) and M6 nut (code 00020.20). In the case of the double entry configuration the frames are first tied together with the frame connection bracket (code SLACC010.95) before the assembly of the double entry base.

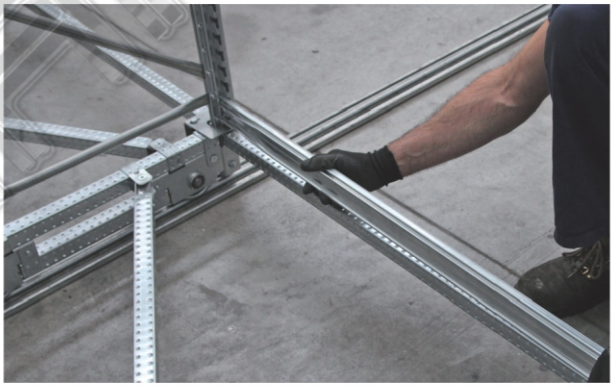


11.2 Place the clips without lugs (code 00005188.95) on the connection runners and centrally on the wheel beams (in double entry configurations). Insert the plastic square insert ø 12 (code SI08A001.98).





11.3 SUPER 1/2/3 frames: block with Hex head M8x45 (code 00046.20) with M8 nut and M8x24 washer (code 00021.20 + 00039.20).
Unirack frames. Insert the Hex head M8x45 (code 00046.20) without tightening the nut.

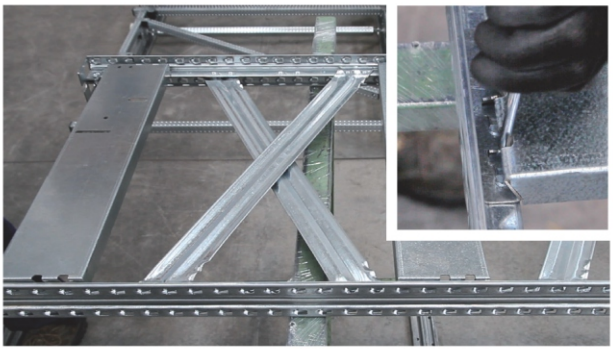


11.4 Place a pair of beams in the bays to set the position of the frames. Move the clips to that the holes of the base are well aligned with those of the clips. Tighten all the bolts.

Note: Unirack installation frames can only be tightened after the transmission has been assembled.

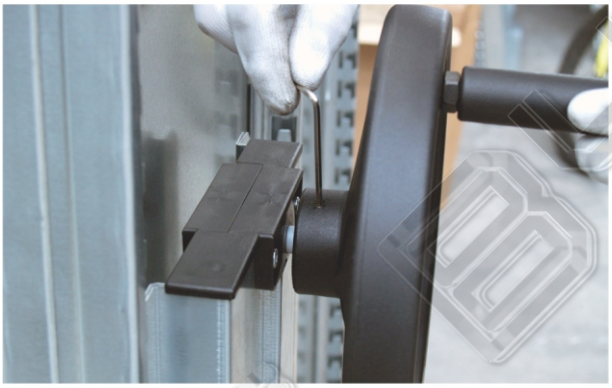
12. TRANSMISSION ASSEMBLY

12.1 **Unirack**
Remove 4 bolts (codes 00027.20, 00001.20, 00020.20, 00010562.20) from the transmission and use them Fix the transmission fixing bracket to the unit. Do not tighten the bolts.



12.1 **SUPER 1/2/3**
Fit the transmission fixing bracket to the frame and activate the safety pin with a centre punch.

12.2 Run the transmission along the slots to adjust the position of the lower cog against the wheel beam cog. Roll the base along the rail to ensure that the movement is free and fluid. Adjust if necessary and lock the bolts in position.



12.3 Place the handwheel and tighten the screw pegs.

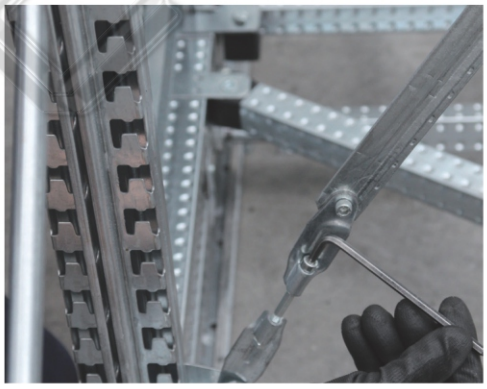
Note: ensure that the screw pegs are aligned with the holes present in the axel.

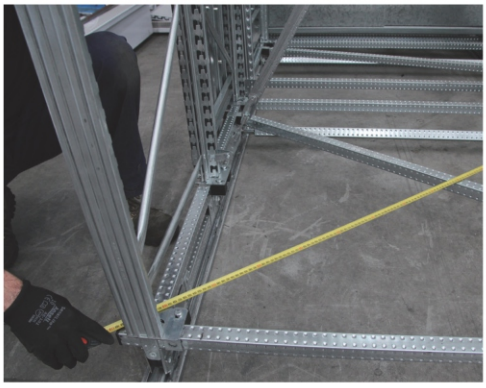
13. BRACING ASSEMBLY

Note: SUPER 1/2/3 shelving uses standard bracing accessories – refer to the SUPER 1/2/3 catalogue

13.1 The Unirack double entry frames use the vertical bracing connection bracket (code 00013494.95) which places the vertical bracing centrally between the double entry bays.

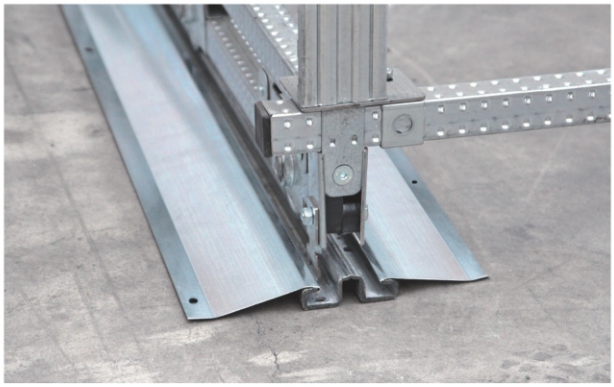
13.2 Close the ends of the bracing with the aid of a pair of plyers and fix the vertical bracing assembly with the M6x10 bolt (codes 00001.20 and 00020.20).

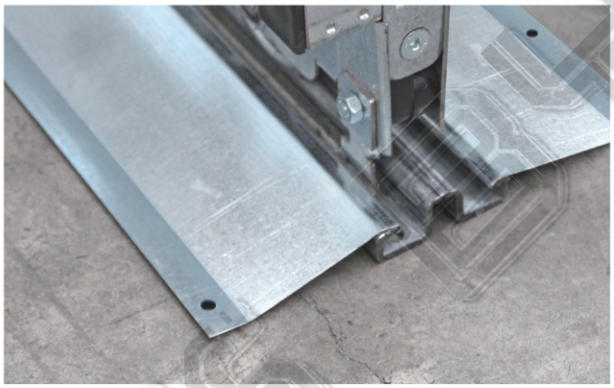




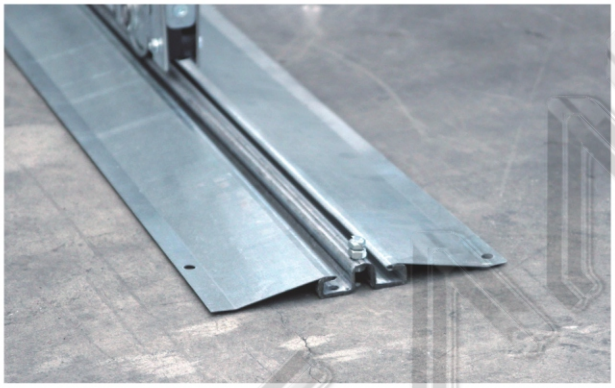
13.3 Adjust the bracing to ensure that the shelving is true and plumb and that all the compacted rows are aligned. Complete the assembly of the shelf levels and accessories.

14. RAIL END STOPS AND SAFETY EDGES

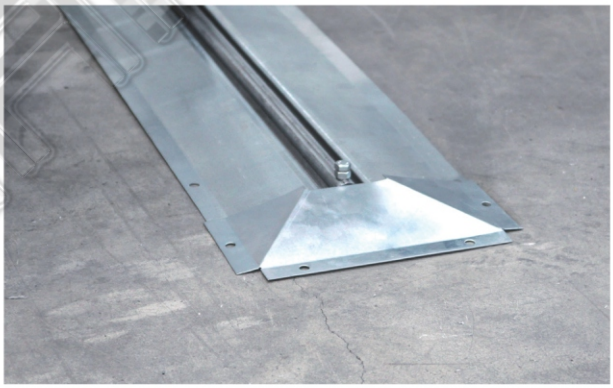




14.1 Connect the safety edges with the rails (code MB234.95 - L=3000mm and/or code MB233.95 - L=1000mm) and anchor to floor.



14.2 Drill an 8mm hole at the end of the rails, screw the first bolt over the nut (Hex head M8x45 bolt code 00046.20, and M8 nut code 00021.20) and tighten the assembly against the second nut placed on the underside of the rail.



14.3 Fix the rail end safety edge in position.