



Technical Datasheets

A world of crane
rail expertise.

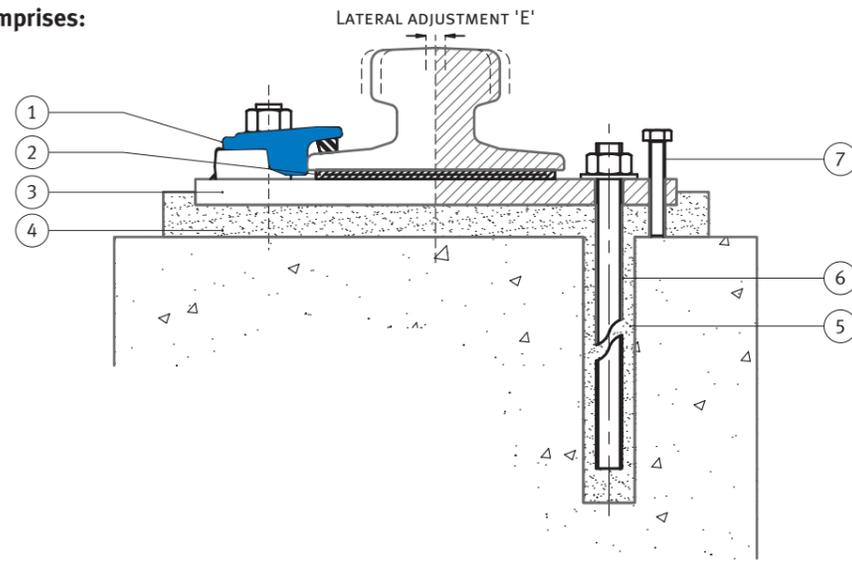
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CRANE RAIL FASTENING METHOD FOR USE ON CONCRETE BEAM

Gantrail mounting systems comprises:

- 1 Clip
- 2 Pad
- 3 Soleplate
- 4 Epoxy resin or cement based grout
- 5 Drilled or cast bolt-hole
- 6 Holding down bolt
- 7 Levelling screw



Continuous Support

- The continuous soleplates are aligned and levelled using foundation bolts, with a minimum gap between the plate and concrete. This gap is filled with special high strength non-shrink epoxy resin or cementitious grout to provide a strong and continuous support to the soleplate. 15mm is required for epoxy grout and 25mm for cement based grout.
- The rail is fixed to the soleplate in the normal way using the Gantrail clips and pads.

Discontinuous Support

- The rail is supported at regular intervals by individual soleplates that are fixed with two or four holding down bolts. They are typically grouted in place once the rail has been positioned and the Gantrail clips

and pad have been fixed. This ensures they fully and effectively support the rail. The soleplates are spaced to ensure rail stresses and deflections are within acceptable limits.

Design Characteristics

- Either method incorporating Gantrail clips and pads, as outlined above, ensures an even distribution and transmission of the vertical and horizontal load into the concrete foundation.
- It eliminates the disintegration of the concrete around the holding down bolts.
- It simplifies the mounting and adjustment of the rail.
- It permits easier replacement of rails in the future.

Gantrail systems and equipment have been installed in most countries throughout the world.

Applications include:

- | | |
|------------------------|----------------------|
| Docks & Harbours | Container Terminals |
| Shipyards | Steelworks |
| Power Stations | Cement Works |
| Automated Warehouses | Industrial Complexes |
| Aluminium Production | Nuclear Processing |
| Water Treatment Plants | Timber Yards |

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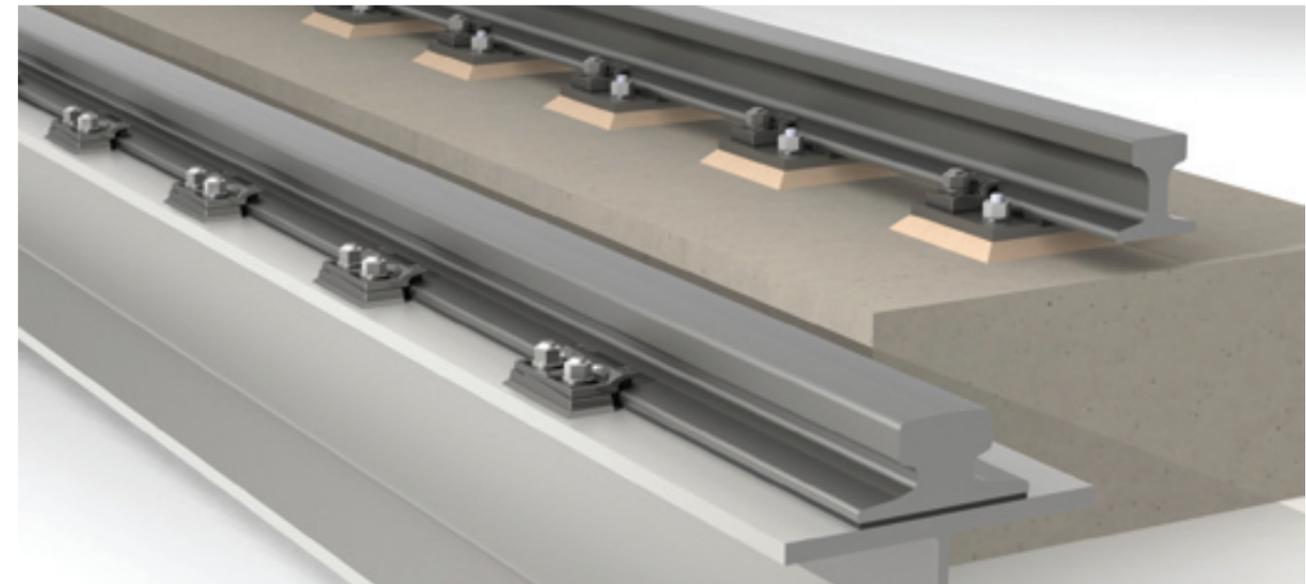


Gantrail Rail Track Mounting/ET/04/12

Rail Tracks

Gantrail Rail Track Products

www.gantrail.com



Rail tracks may, at first sight, appear to be a relatively minor part of an overall project. But a track fault can easily result in the crane being immobilized with the consequent loss of production throughout the site. The repairs which follow track failure are often costly and, of course, add to the initial disruption.

Track Failure - the causes:

Concrete Supported Crane Tracks

- Breakdown of track foundations
- Loosening of rail fastenings
- Rail movement at joint positions
- Track misalignment and out of level
- Excessive wheel wear
- Excessive rail head wear

Structural Steel Supported Crane Tracks:

- Failure of the bolts securing the rail clips
- Rails fracturing at joint positions
- Track misalignment
- Excessive crane wheel wear
- Excessive rail head wear
- Structural bolts loosening
- Fretting and corrosion of girder top surface

Failure of rails mounted on concrete normally results from unsuitable design or inadequate materials and workmanship. Rails are sometimes fixed rigidly to the concrete supporting structure. Concrete has very little ductility and readily cracks due to excessive local stress. This allows water to corrode the reinforcement. Another common problem is the use of inadequate grout below an otherwise effectively mounted rail. Cement and concrete normally shrink on setting and leave a weak surface which is not able to support the load effectively.

Traditional bolted crane rail clips were often designed to fix the rail rigidly to the structure. However, steel structures flex and move significantly during use. The top surface of a girder shortens notably when the girder is subject to bending forces. Rigid rail fixing systems give rise to high local fatigue stresses. These lead to the cracking of the components. If left unchecked deterioration accelerates rapidly thereby endangering the safe use of the craneage.

Gantrail Rail Track Products

The proven solution

Gantrail flexibly mounted systems ensure the successful integration of cranes into structures. The result, no costly repairs and greatly reduced maintenance inspections.

Gantrail have for more than 40 years recognised that rails should not be rigidly fixed to the structure but should be soft mounted. This allows the rail to adopt an optimum position in relation to the relatively rigid crane and structure. Gantrail fastenings are flexible for vertical rail movement. However, these rigidly fix the rail and prevent all lateral movement. Gantrail achieve this by the use of resilient pads on which the rail rests. These pads are made of specially formulated synthetic rubber and will withstand all normal environmental conditions experienced in any country. All Gantrail clips are infinitely adjustable within the range.

Fixing the rails is one problem, joining them is another. It is desirable to weld rails into continuous lengths in order to eliminate high point impact loadings which cause damage to the supporting structure. Using resilient rail pads below the rail, the transmitted loads are reduced and spread over a greater area while the fretting and corrosion of the rail support is eliminated. With continuous soleplates on concrete, the load effects are further reduced, although in certain situations individual soleplates spaced at intervals can be used. Having levelled the plates the gap between them and the concrete is filled with non-shrink cement based, or epoxy resin grout. This ensures that the finished track will give smooth, trouble free running to the user.

The Gantrail mounted system offers consultants and users satisfactory solutions to the long term problem of securing a live load to a fixed point without eventual failure by fatigue. Our comprehensive literature includes selection charts which enables the correct choice of Gantrail products to be made for most normally encountered situations.

Installation Service

Gantrail employ supervisors or skilled teams that include appropriately qualified erectors, welders and support staff, who install to a stringent, universally accepted specification. This covers the complete installation, including all recommended safety and quality checks that are necessary to ensure the optimum performance from the crane and structure. Adequate stocks of Gantrail products are normally available. Repairs and track replacement can be timed to coincide with works closure periods.

Ancillary Services

Consultancy and Design

Gantrail offer a free 'no obligation' facility to any company considering a new installation or the refurbishment of existing tracks. Close and early liaison in the initial planning and developing stage of any project invariably results in benefits to the user in the long term through the saving of time and avoidance of unnecessary costs. To take advantage of this facility please contact one of our technical staff.

Survey Service

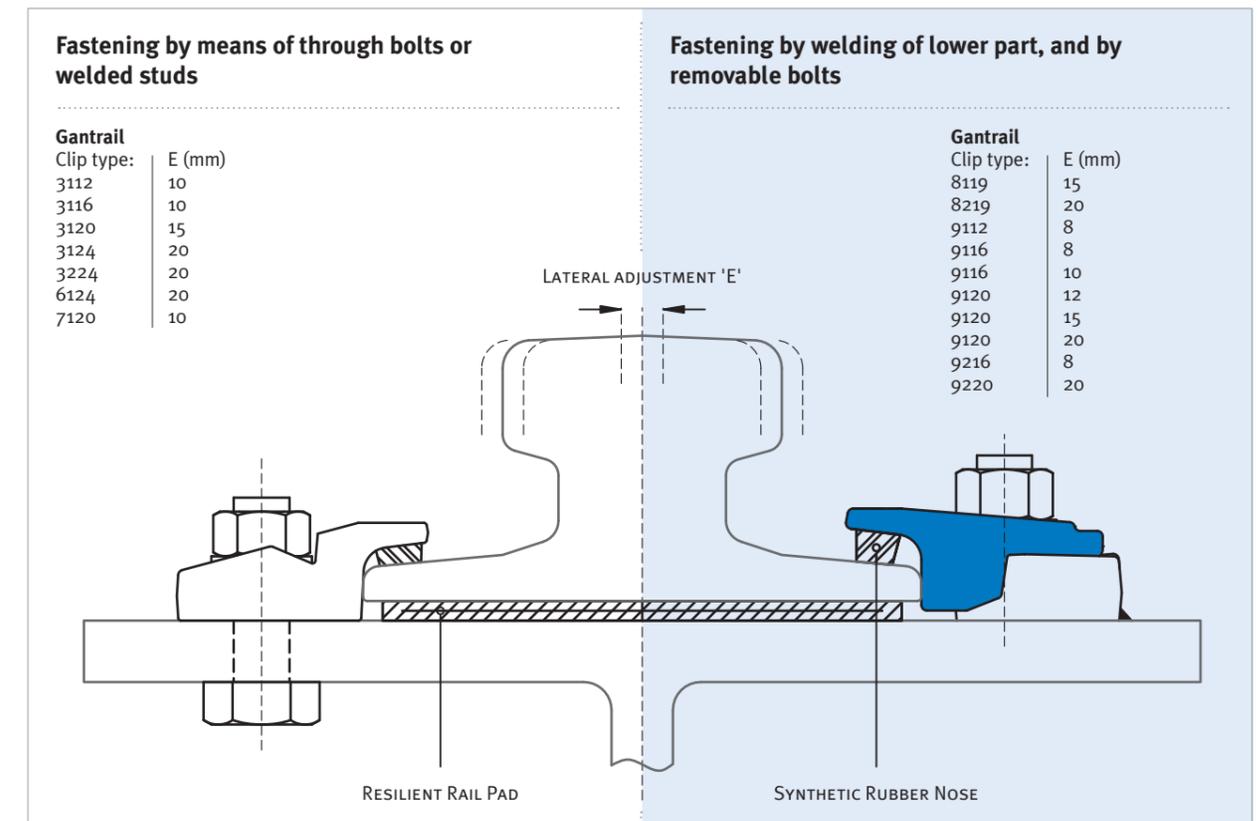
Our own qualified technicians are available to carry out instrument surveys anywhere in the world to supply detailed reports on track alignment, level and condition of rails and fastening systems. At the same time we report on any breakdown of track foundations (if concrete) and on the presence of fretting wear of girder top plate (if structural steel). The accompanying recommendations are detailed and comprehensive.

We offer surveys to conform to National and International Standards.

Preventative Maintenance

Depending on crane usage, regular six or twelve-monthly inspections are essential for trouble-free crane track installations. We offer attractive contract terms for undertaking this service, which will include a detailed examination, report and corrective recommendations where necessary.

CRANE RAIL FASTENING METHOD FOR USE ON STEEL BASE



A comprehensive range of clips to suit all crane rails and offering the following advantages:

- Lateral adjustment of the rail during and after installation, which eases mounting and track maintenance.
- Surge restraint and locking of the clip against lateral movement by system of double inclination.
- Reduced height allowing for lateral crane guide wheels
- Pressure applied onto the rail by means of an intermediate block of flexible synthetic elastomer
 - absorbing the tolerance of the rail and girder
 - eliminating the effects of fatigue on the fixing boots
 - ensuring pre-compression of the pad under the rail
 - limiting the movement of rail sections

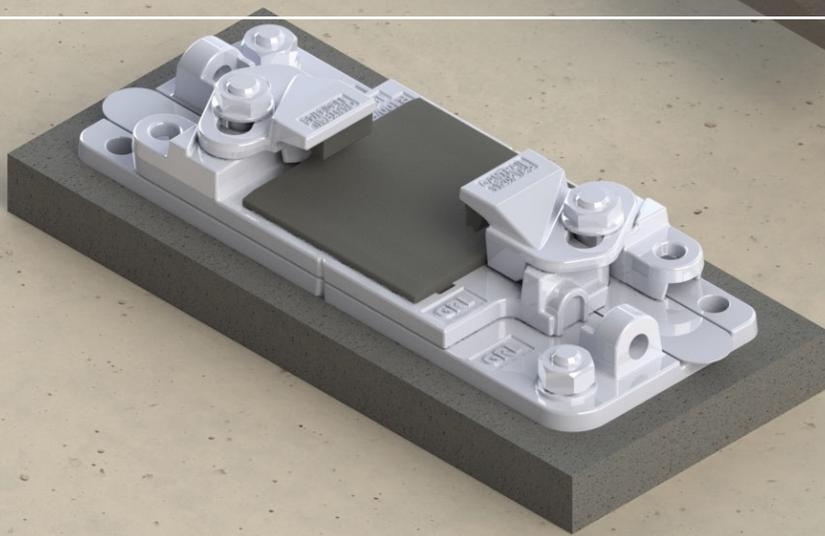
A range of resilient rail pads with the following advantages:

- Reduces stress in rail and structure
- Gives even spread of load
- Eliminates fretting between rail and structure
- Dampens vibration and noise
- Manufactured in various widths to suit all types of rail

Detailed specifications of Gantrail clips and pads are available on request.

5 YEAR GUARANTEE

Gantrail Rail Clips are covered by our five year replacement guarantee providing always that they are correctly specified and installed in accordance with our recommendations based on precise information being given to us regarding the type of environment and nature of duty they are required to withstand. Additional products supplied by ourselves but manufactured by others will be subject to the individual suppliers terms of warranty.



R100-R60

Gantrail Re-levelling & Re-alignment System

A world of crane
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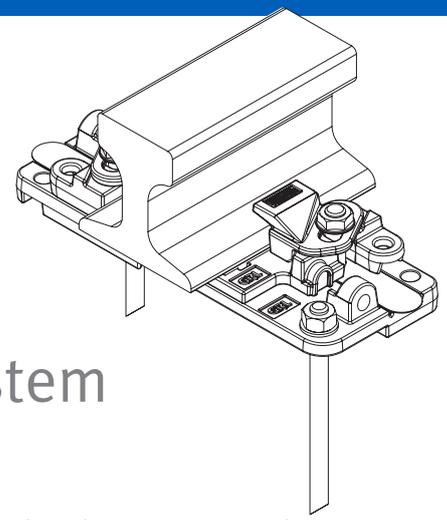
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UK Patent Application number GB1513369.7

R100-R60

Gantrail Re-levelling & Re-alignment System



The Gantrail fully adjustable re-levelling and re-alignment crane rail system has been designed for all situations where post-installation vertical and horizontal settlements/movements of the foundation are expected in both the short and long term.

With the ever increasing demands for space to build new or expand container port backup yards, reclaiming land has become commonplace but with this comes many challenges for the designers, not least is the issue of foundation settlement and how to deal with it.

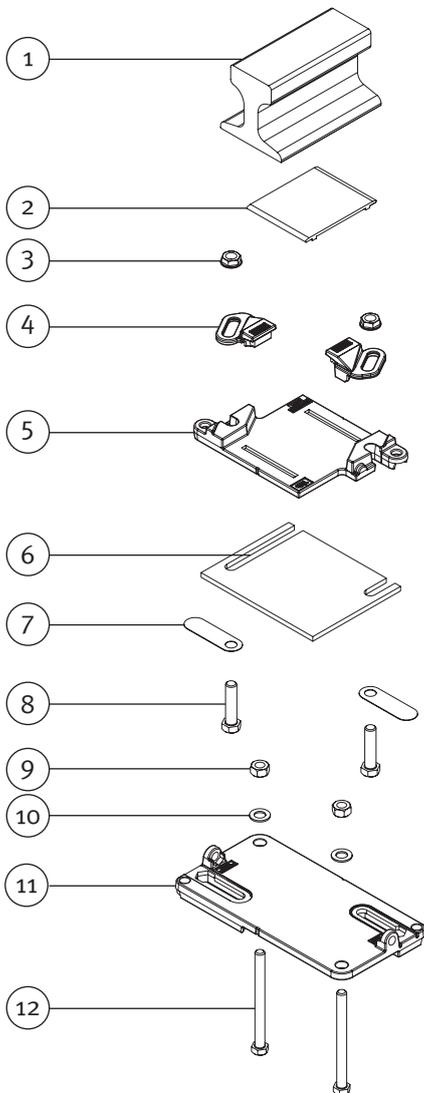
With many construction projects now taking the form of Engineering, Procurement, and Construction (EPC) or Design and Build, it is the Contractor's responsibility to develop the most cost effective solution that meets the client's performance specification.

To design a foundation that will not move is unrealistic and ultimately not cost effective. The Gantrail re-levelling and re-alignment system offers designers an economical solution that allows significant cost reductions in foundation design by allowing reasonable amounts of settlement to occur post installation.

If the crane rail system begins to move outside of operational tolerances, it can be re-levelled or re-aligned with minimal downtime.

This makes concrete beam type construction a more viable option and serious alternative to traditional concrete sleeper and ballast systems that require regular annual maintenance and associated downtime.

COMPONENTS



1. Rail
2. Gantrail MK10 pad
3. Locking nut
4. Gantrail 1120-21 clip caps
5. Top plate
6. Packing plate(s) (When required)
7. Slot cover
8. Assembly bolt
9. Nut
10. Washer
11. Bottom plate
12. Holding down bolt

SPECIFICATIONS:

RECOMMENDED MAX VERTICAL LOAD;
R100-R60-165 = 350 kN
R100-R60-220 = 500 kN
RECOMMENDED MAX HORIZONTAL LOAD = 120kN

ADJUSTMENT:

100mm VERTICAL RAIL ADJUSTMENT
60mm HORIZONTAL RAIL ADJUSTMENT

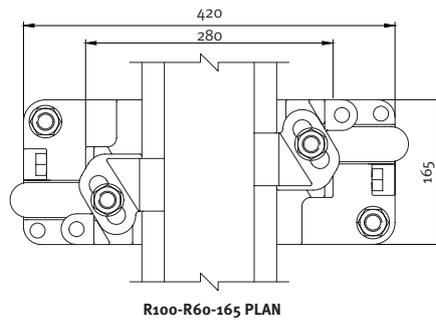
DIMENSIONS (mm):

| REF NO. | X | Y | WEIGHT (KG) |
|--------------|-----|-----|-------------|
| R100/R60/165 | 420 | 165 | 16.3 |
| R100/R60/220 | 420 | 220 | 20.9 |

FEATURES:

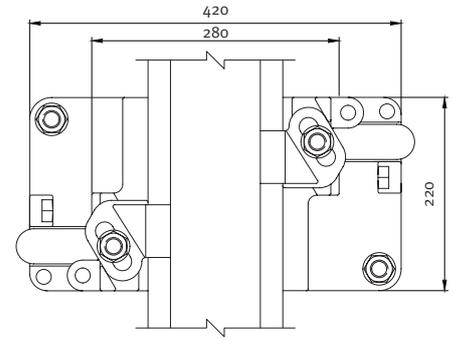
- 100mm vertical adjustment via introduction of shim plates
- 60mm horizontal adjustment via slotted holes
- Interchangeable hex head bolts to allow for variations in vertical settlements
- Integral re-levelling and re-alignment system for ease of adjustment
- Alignment markings to aid installation.

THE R100-R60 SYSTEM COMPRISES;



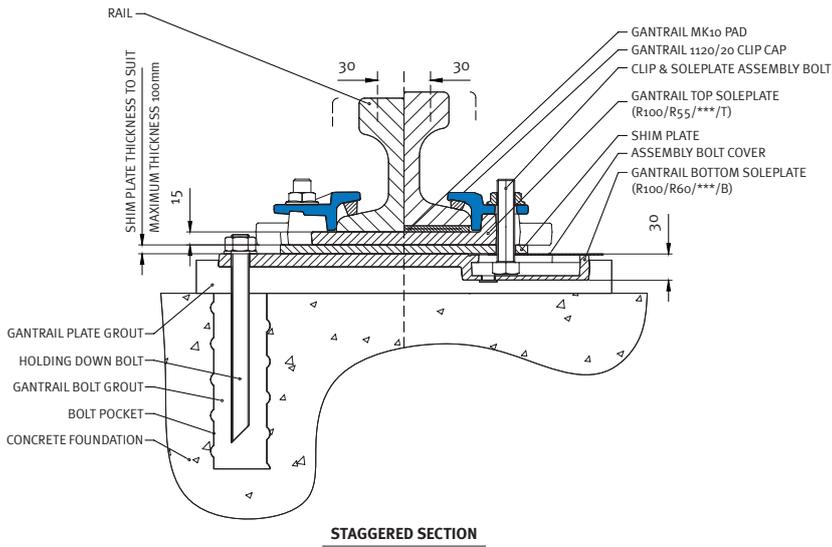
R100-R60-165 PLAN

HARD MOUNTED SYSTEM



R100-R60-165 PLAN

SOFT MOUNTED SYSTEM



STAGGERED SECTION

APPLICATIONS:

- Container port backup yards – ASC/RMG systems
- Stacker/Reclaimer systems
- Automated Warehouses

Design Characteristics

The Gantrail fully adjustable re-levelling and re-alignment crane rail system comprises individual rail support assemblies that are generally at even spacings along the rail. These can be anywhere from 500 to 900mm providing rail stress and deflection remain within acceptable limits.

Each individual assembly consists of two plates that are fixed together with two standard hexagon head assembly bolts. The bolts also act to fix the Gantrail rail clips which allows the use of their proven 'double wedge' design to provide additional locking of the plates when lateral loads are applied. The integral self-tightening Gantrail rail clips rigidly fix the rail from lateral movement whilst allowing longitudinal movement resulting from thermal variations. At the initial installation, the assembly bolts are provided in a suitable length to allow an initial amount of vertical adjustment whilst providing adequate clearance to crane guide wheels and bogeys. Between the top plate and underside of the rail is Gantrail MK10 that ensures an even distribution and transmission of vertical loads into the plates and ultimately the concrete foundation. The bottom plate is fixed to the concrete foundation by two holding down bolts. Once the precise final level of the rail is achieved, a layer of non-shrink epoxy grout is placed between the bottom plate and concrete foundation.

Regular surveys at specified intervals will determine whether the crane rail system is moving outside of operational tolerances. This will identify any areas of the rail that need vertical or horizontal adjustment.

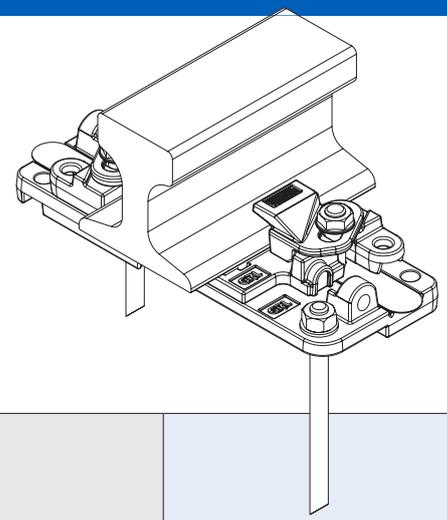
To adjust the system vertically, the nuts securing the assembly bolts are loosened or removed. Nuts are inserted into the special apertures in the top plate to create a unique levelling facility. Screws are inserted and rotated to accurately raise the level of the top plate and rail to the precise level required. Shim plates are then inserted between the top and bottom plates. If sufficient vertical adjustment cannot be achieved with the original assembly bolts these can be interchanged easily with longer bolts.

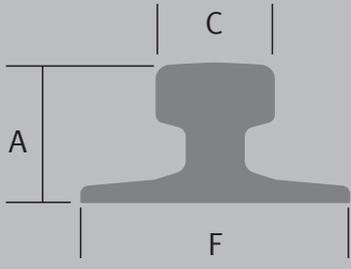
To adjust the system horizontally, this can initially be achieved with 20mm of adjustment from the Gantrail rail clips without the need to adjust the complete plate assembly. However, if this is not sufficient, the nuts securing the assembly bolts are loosened and the top plate repositioned via the 40mm slotted holes in the bottom plate. Precise repositioning is made easy by inserting nuts into the special apertures in the bottom plate to create a unique alignment facility. Screws are inserted and rotated to reposition the top plate and rail laterally to the precise alignment required.

Once all adjustments have been made, all nuts are re-tightened to the specified torque.

R100-R60

Gantrail Re-levelling & Re-alignment System



|  | F MM | C MM | A MM | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|-----------------|-----------------|-----------------|--|--|
| MRS 85 | 152.4 | 102.9 | 152.4 | 1120/21/45 | 1120/21/38 |
| AS 86 | 150 | 101.6 | 152.46 | 1120/21/45 | 1120/21/38 |
| MRS 87 A | 152.4 | 101.4 | 152.4 | 1120/21/45 | 1120/21/38 |
| MRS 87 B | 152.4 | 102.2 | 152.4 | 1120/21/38 | 1120/21/38 |
| QU 100 | 150 | 100 | 150 | 1120/21/38 | 1120/21/38 |
| ISCR 100 | 150 | 100 | 150 | 1120/21/38 | 1120/21/38 |
| UIC 60 | 150 | 72 | 172 | 1120/21/38 | 1120/21/38 |
| SP 100 | 150 | 108 | 150 | 1120/21/38 | 1120/21/38 |
| 171 CR | 152.4 | 102.9 | 152.4 | 1120/21/45 | 1120/21/38 |
| 175 CR | 152.4 | 102.2 | 152.4 | 1120/21/38 | 1120/21/38 |
| 131 AREA | 152.4 | 74.2 | 180 | 1120/21/38 | 1120/21/38 |
| 132 AREA | 152.4 | 74.6 | 181 | 1120/21/38 | 1120/21/38 |
| 66 kg | 152.4 | 75.1 | 181 | 1120/21/38 | 1120/21/38 |
| 68 kg | 152.4 | 73.4 | 185.7 | 1120/21/38 | 1120/21/38 |
| KP 100 | 150 | 100 | 150 | 1120/21/38 | 1120/21/38 |

This system is designed for rails with an approximate foot width (F) of 150mm, but can be used for a wider selection of rails than illustrated. This may result in a loss of adjustment from the clips. Please contact GANTRAIL to discuss other possible rails.
GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

HOLD DOWN BOLT TIGHTENING TORQUE to suit project requirements
(typically 120Nm)
ASSEMBLY BOLT TIGHTENING TORQUE 475Nm (impact wrenches can be used)
Please contact GANTRAIL, for full installation instructions.

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Certificate No. 5180

1 Series Clips & Mk8 Pad

Features and Benefits



www.gantrail.com

The NEW Gantrail 1 Series clips and Mark 8 pad are an evolution of the already proven and highly successful 9 Series clips and Mark 7 pad. The development of these new products has made use of finite element analysis and a wide range of testing methods, to provide products which offer real world benefits. The creative based engineering design process has been guided by in-depth research, drawing on our years of experience and knowledge. We are proud to offer a new product range designed to suit our customers' needs with new features and performance benefits for the future of crane rail systems.

New 1 Series Clips: consists of the 1116/15, 1216/15, 1120/21 and 1220/21

FEATURES

- Increased lateral adjustment
- Increased side load capacity
- New captive bolt

- Reduced mounting width
- New clip cap and base design

BENEFITS

- The increased range of adjustment makes installation of the rail easier, whilst also helping with routine maintenance adjustment.
- Improved side load capacity to suit more arduous crane applications.
- The introduction of several new features has meant that the captive bolt torque has been increased. This allows the use of impact wrenches, whilst increasing the clips' performance. The higher torque values have been achieved by:
 - Manufacturing the bolt from a higher grade material.
 - Introducing a square shank which makes loosening of the bolts easier for maintenance purposes.
 - Using an oval shape bolt head increases the contact area between bolt and base.
 - Increasing the edge radius at the interface of the square shank and head of the bolt, the stress concentration is reduced.
- The new clips will fit narrower girders and soleplates, offering material cost savings.
- Both parts have been optimised by adding and removing material where required to improve strength and performance.

New Mk8 Pad

FEATURES

- Redesigned profile

BENEFITS

- The flutes or grooves now exit the sides of the pad so that as the flutes are reduced in size during loading, any fluid is flushed out carrying with it debris and other contaminants.
- By orientating the flutes at an angle of 45 degrees, the resistance to lateral tearing induced by rotational forces from the rail, has also been vastly improved over the previous longitudinal flute design.
- This has the added advantage of improving the cross sectional area of the rubber along the edge of the steel reinforcement, further improving resistance to rupture.

Please refer to the relevant Gantrail data sheets for specific details, by visiting www.gantrail.com. Please contact Gantrail or visit the web site for more information on other Gantrail products.

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1N8/GRL/08/15

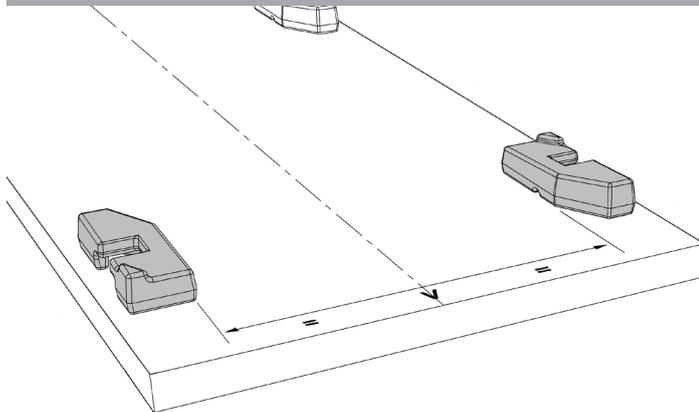
1 Series Clips

Fitting Instructions



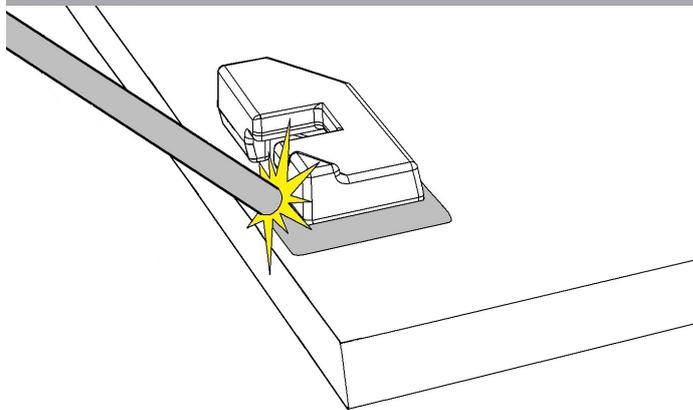
These instructions to be read in conjunction with product datasheet, available from www.gantrail.com.

FIGURE 1



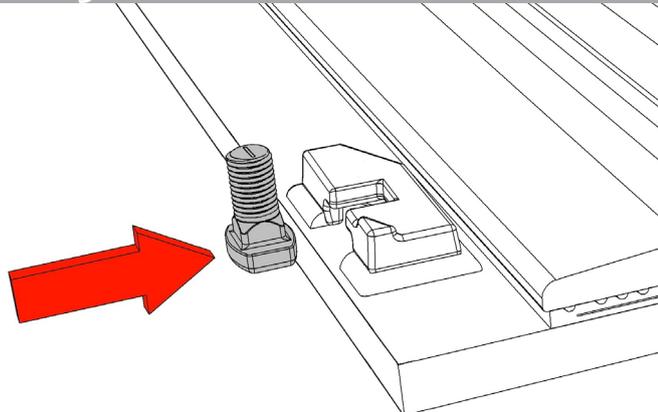
Mark out and position clip base across rail centreline according to 'V' dimension on product datasheet. Position of clip base along rail, to suit project requirements or consult GANTRAIL.

FIGURE 2



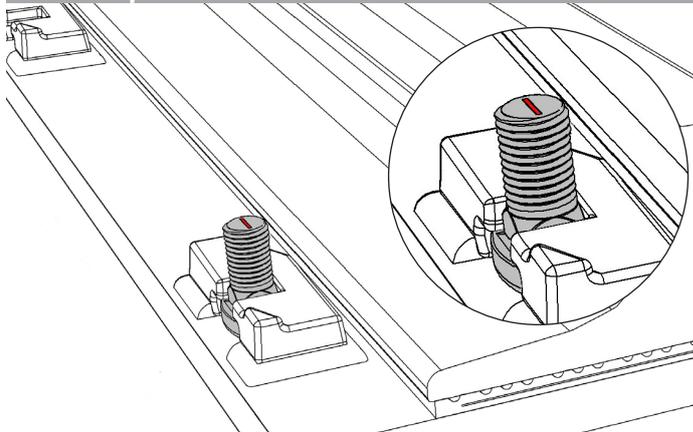
Using suitable electrode, weld clip base(s) to rail support according to 'WELD DETAIL' on product datasheet.

FIGURE 3



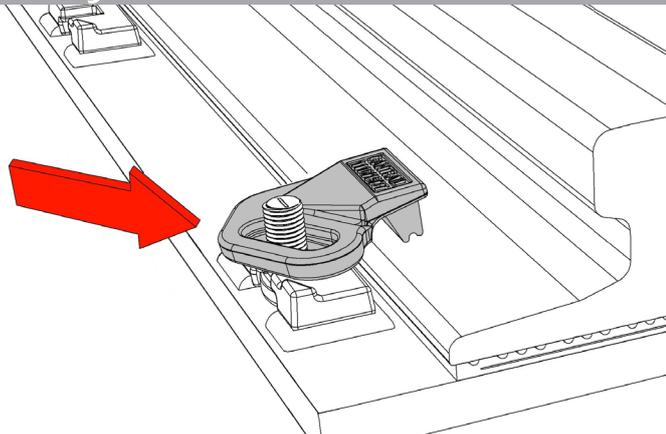
With rail and pad in position, insert special captive bolt into clip base until snug.

FIGURE 4



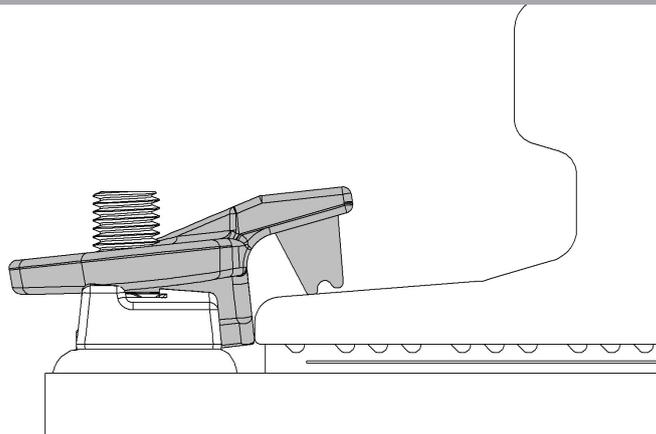
Indicator line in top of bolt will be parallel with rail.

FIGURE 5



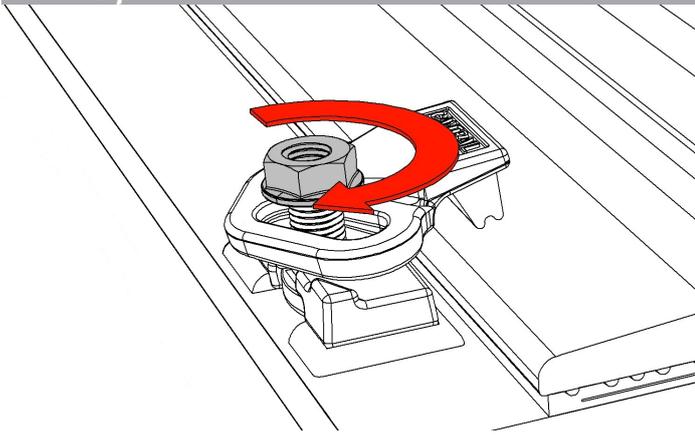
Place clip top over captive bolt(s) with rubber 'nose' resting on upper surface of bottom flange of rail.

FIGURE 6



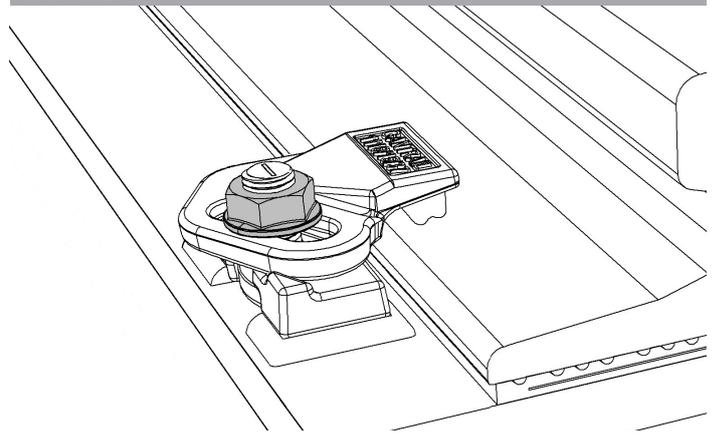
Move clip top into metal-to-metal contact with bottom edge of rail.

FIGURE 7



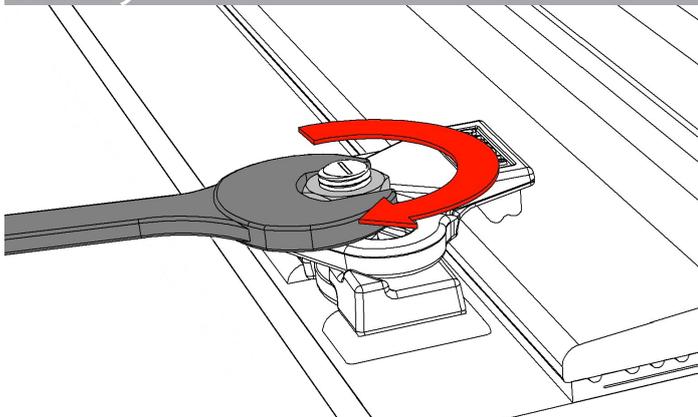
Run nut(s) down bolt(s).

FIGURE 8



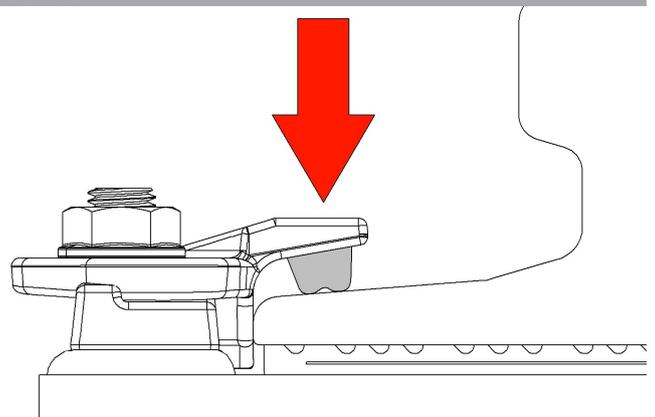
Nut(s) to make contact with clip top.

FIGURE 9



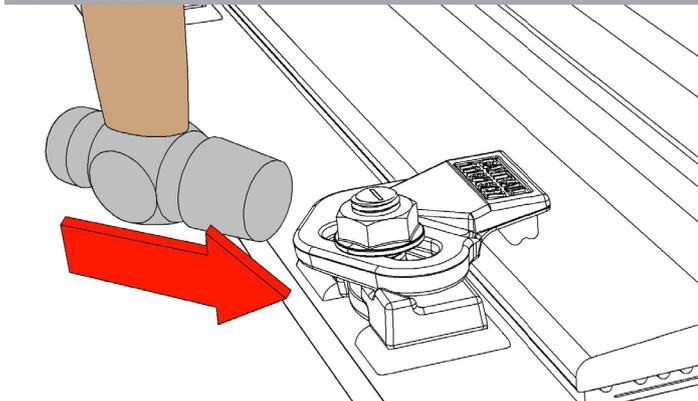
Tighten nut(s) with spanner.

FIGURE 10



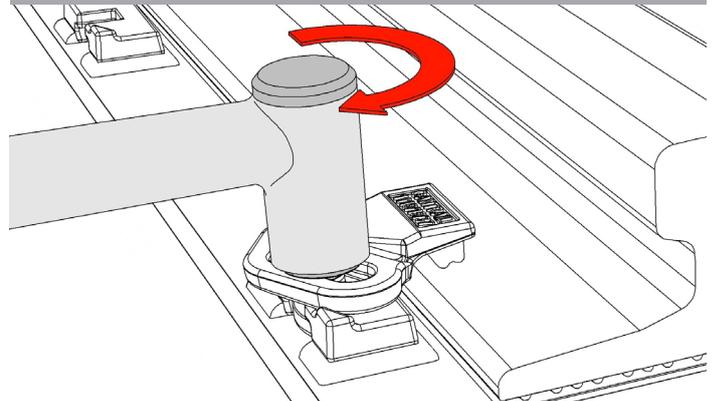
Tighten only until rubber 'nose' is compressed and bottom surface of clip top is in full metal-to-metal contact with clip base. Do not apply full torque yet.

FIGURE 11



With hammer of about 1 kilo, tap clip top towards rail along direction of slot(s) in clip top.

FIGURE 12



Tighten nut(s) to required torque given on clip datasheet.

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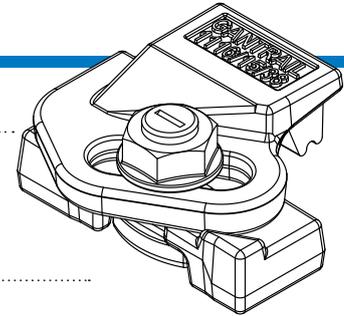


Certificate No. 5180

1116/15

Gantrail Welded Base Fixing

www.gantrail.com



1116/15

The GANTRAIL 1116/15 adjustable crane rail clip is designed to fix heavy rails, on narrow supports, in the most arduous applications. It can withstand a horizontal force from the rail of 120kN (12.2 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 120kN
15mm HORIZONTAL RAIL ADJUSTMENT

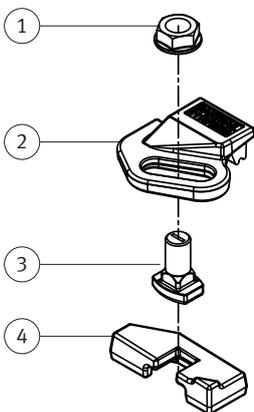
DIMENSIONS (mm):

| REF NO. | X | Y | Z | WEIGHT kg |
|------------|----|----|----|-----------|
| 1116/15/30 | 30 | 45 | 29 | 0.78 |
| 1116/15/38 | 38 | 45 | 29 | 0.81 |
| 1116/15/45 | 45 | 45 | 29 | 0.84 |

FEATURES

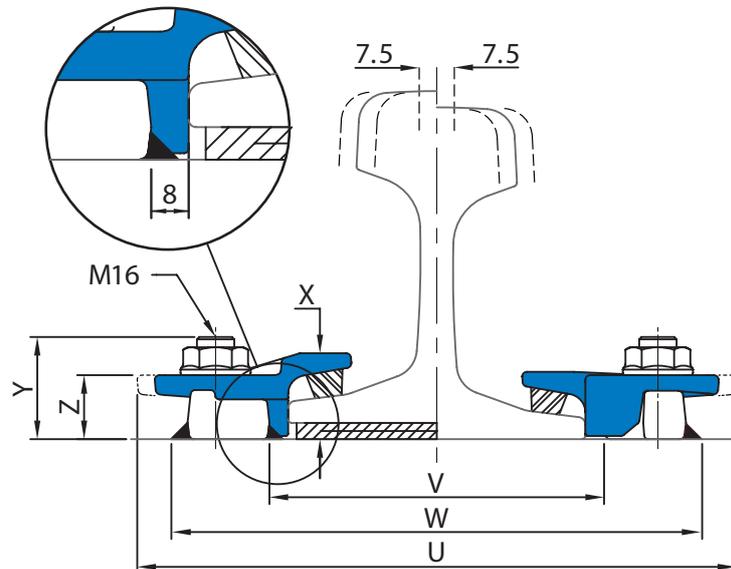
- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 10.9 bolt.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

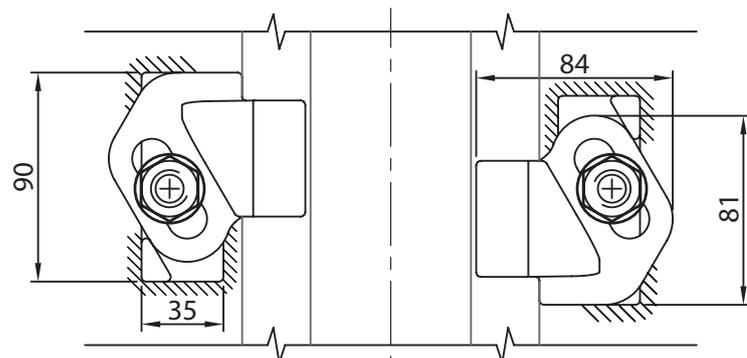


1. Flange nut
2. Clip cap with integral rubber block
3. M16 Captive bolt
4. Weldable base

1 RAIL WITH PAD



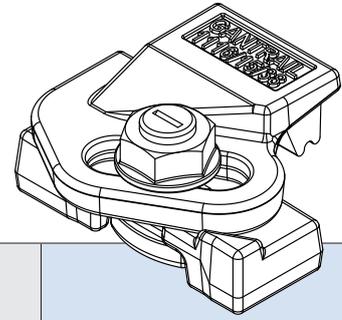
2 RAIL WITHOUT PAD

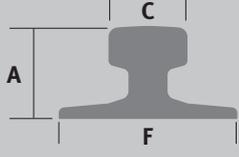


Minimum assembly width - $W = \text{Rail width (F)} + 100\text{mm}$ $V = \text{Rail width (F)} + 16\text{mm}$
 $U = \text{Rail width (F)} + 129\text{mm}$

1116/15

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|--|
| A45 | 125 | 45 | 55 | 1116/15/38 | 1116/15/30 |
| A55 | 150 | 55 | 65 | 1116/15/38 | 1116/15/30 |
| A65 | 175 | 65 | 75 | 1116/15/38 | 1116/15/30 |
| A75 | 200 | 75 | 85 | 1116/15/38 | 1116/15/30 |
| A100 | 200 | 100 | 95 | 1116/15/38 | 1116/15/30 |
| MRS 87 A | 152 | 102 | 152 | 1116/15/45 | 1116/15/38 |
| S20 | 82 | 44 | 100 | 1116/15/38 | 1116/15/30 |
| S30 | 108 | 60 | 108 | 1116/15/38 | 1116/15/30 |
| S33 | 105 | 58 | 134 | 1116/15/38 | 1116/15/30 |
| S41 | 125 | 67 | 138 | 1116/15/38 | 1116/15/30 |
| S49 | 125 | 67 | 149 | 1116/15/38 | 1116/15/30 |
| GCR 108 | 263 | 61+61 | 100 | 1116/15/38 | 1116/15/30 |
| QU 70 | 120 | 70 | 120 | 1116/15/38 | 1116/15/30 |
| QU 80 | 130 | 80 | 130 | 1116/15/38 | 1116/15/30 |
| UIC 54 | 140 | 70 | 159 | 1116/15/38 | 1116/15/30 |
| UIC 60 | 150 | 72 | 172 | 1116/15/38 | 1116/15/30 |
| JIS 37 | 122 | 63 | 122 | 1116/15/38 | 1116/15/30 |
| ASCE 80 | 127 | 64 | 127 | 1116/15/38 | 1116/15/30 |
| ACSE 85 | 132 | 65 | 132 | 1116/15/38 | 1116/15/30 |
| 56 E 1 | 140 | 70 | 159 | 1116/15/38 | 1116/15/30 |
| 31 kg AS | 108 | 64 | 118 | 1116/15/38 | 1116/15/30 |
| 41 kg AS | 127 | 64 | 137 | 1116/15/38 | 1116/15/30 |
| 50 kg AS | 127 | 70 | 154 | 1116/15/38 | 1116/15/30 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

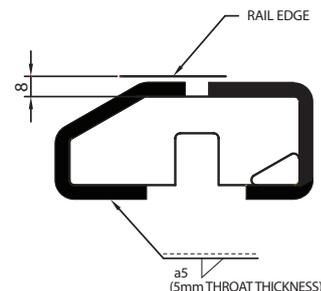
Weld all round the clip base with a 5mm throat thickness fillet weld, using low hydrogen electrodes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

* For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult Gantrail for guidance.

TIGHTENING TORQUE 200Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



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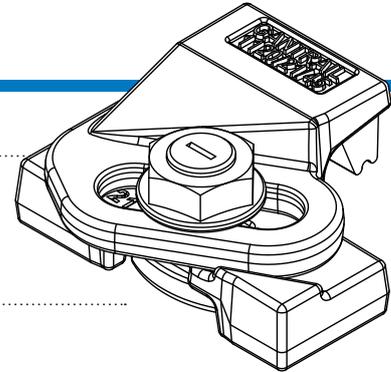


Certificate No. 5180

1120/21

Gantrail Welded Base Fixing

www.gantrail.com



1120/21

The GANTRAIL 1120/21 adjustable crane rail clip is designed to fix heavy rails, on narrow supports, in the most arduous applications. It can withstand a horizontal force from the rail of 165kN (16.8 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 165kN
21mm HORIZONTAL RAIL ADJUSTMENT

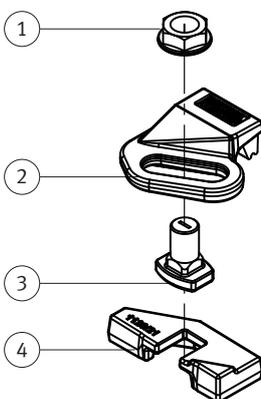
DIMENSIONS (mm):

| REF NO. | X | Y | Z | WEIGHT kg |
|------------|----|----|----|-----------|
| 1120/21/38 | 38 | 47 | 31 | 1.30 |
| 1120/21/45 | 45 | 47 | 31 | 1.37 |

FEATURES

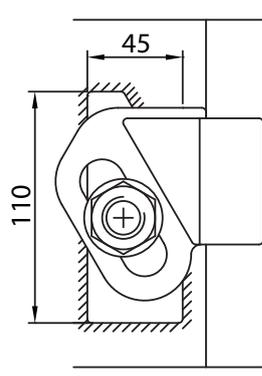
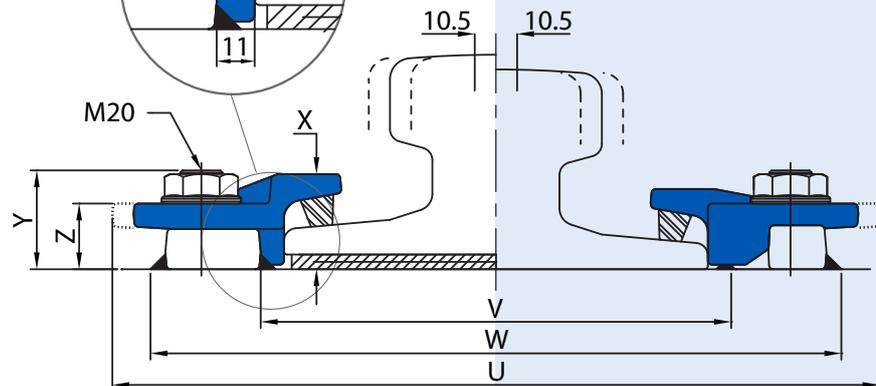
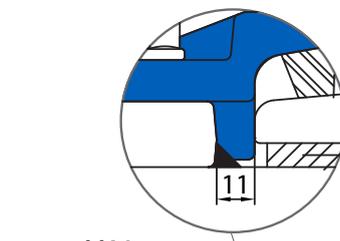
- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 10.9 bolt.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

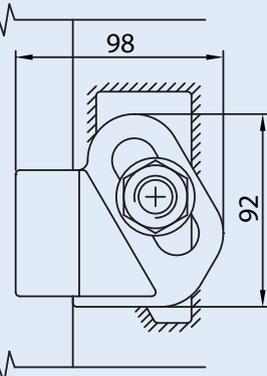
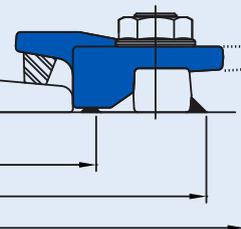


1. Flange nut
2. Clip cap with integral rubber block
3. M20 Captive bolt
4. Weldable base

1 RAIL WITH PAD



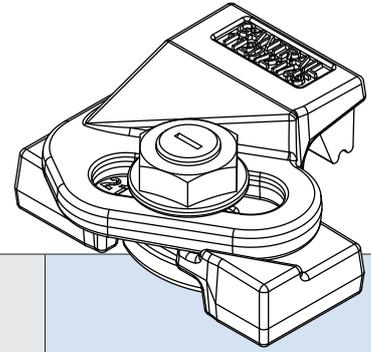
2 RAIL WITHOUT PAD*

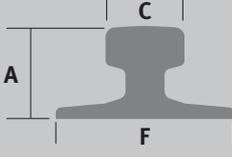


Minimum assembly width - W = Rail width (F) + 130mm **V = Rail width (F) + 22mm**
U = Rail width (F) + 162mm

1120/21

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|--|
| A 75 | 200 | 75 | 85 | 1120/21/38 | 1120/21/38 |
| A 100 | 200 | 100 | 95 | 1120/21/45 | 1120/21/38 |
| A 120 | 220 | 120 | 105 | 1120/21/45 | 1120/21/38 |
| A 150 | 220 | 150 | 150 | 1120/21/45 | 1120/21/38 |
| S 49 | 125 | 67 | 149 | 1120/21/38 | 1120/21/38 |
| 89 kg CR | 178 | 102 | 114 | 1120/21/45 | 1120/21/38 |
| MRS 67 (135 CR) | 132 | 79 | 146 | 1120/21/45 | 1120/21/38 |
| MRS 85 (171 CR) | 152 | 103 | 152 | 1120/21/45 | 1120/21/38 |
| MRS 86 | 165 | 102 | 102 | 1120/21/45 | 1120/21/38 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 1120/21/45 | 1120/21/38 |
| MRS 87 B (175 CR) | 152 | 102 | 152 | 1120/21/45 | 1120/21/38 |
| GCR 108 | 263 | 61 + 61 | 100 | 1120/21/38 | 1120/21/38 |
| GCR 183 | 280 | 75 | 120 | 1120/21/45 | 1120/21/38 |
| ISCR 100 | 150 | 102 | 150 | 1120/21/45 | 1120/21/38 |
| ISCR 120 | 170 | 120 | 170 | 1120/21/45 | 1120/21/38 |
| QU 100 | 150 | 100 | 150 | 1120/21/45 | 1120/21/38 |
| QU 120 | 170 | 120 | 170 | 1120/21/45 | 1120/21/38 |
| JIS 50 | 127 | 63 | 145 | 1120/21/45 | 1120/21/38 |
| JIS 60 | 145 | 64 | 174 | 1120/21/45 | 1120/21/38 |
| CR 73 | 140 | 100 | 135 | 1120/21/45 | 1120/21/38 |
| CR 100 | 155 | 120 | 150 | 1120/21/45 | 1120/21/38 |
| 68 kg AS | 152 | 73 | 186 | 1120/21/45 | 1120/21/38 |
| 86 kg AS | 165 | 102 | 102 | 1120/21/45 | 1120/21/38 |
| UIC 54 E | 125 | 66 | 161 | 1120/21/45 | 1120/21/38 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

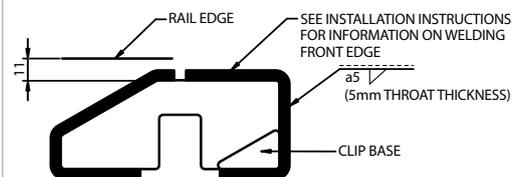
Weld all round the clip base with a 5mm throat thickness fillet weld, using low hydrogen electrodes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

* For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult Gantrail for guidance.

TIGHTENING TORQUE 350Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



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1216/15

Gantrail Welded Base Fixing

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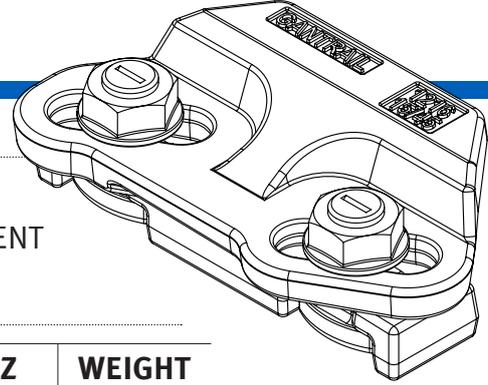
The GANTRAIL 1216/15 adjustable crane rail clip is designed to fix heavy rails, on narrow girders, in the most arduous applications. It can withstand a horizontal force from the rail of 165kN (16.8 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 165kN
15mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y | Z | WEIGHT KG |
|------------|----|----|----|--------------|
| 1216/15/38 | 38 | 45 | 29 | 1.64 |
| 1216/15/45 | 45 | 45 | 29 | 1.67 |

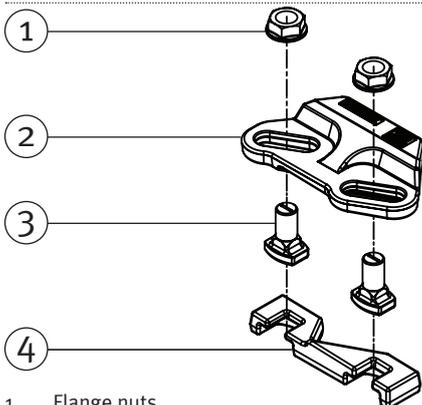


1216/15

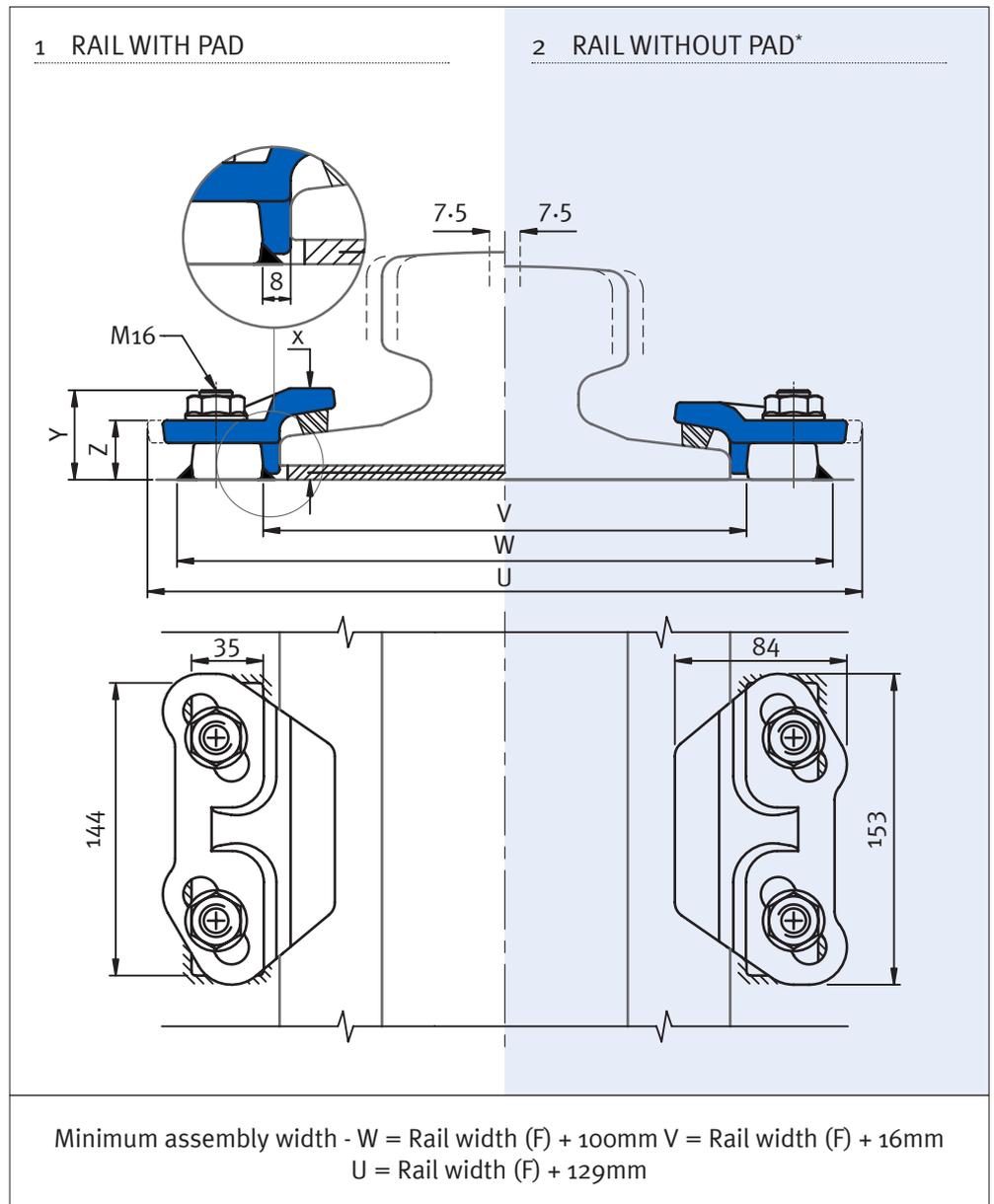
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 10.9 bolts.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

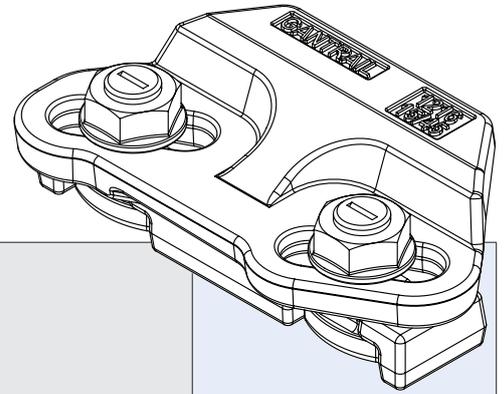


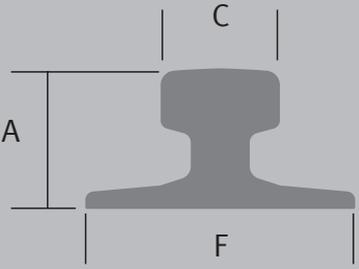
1. Flange nuts
2. Clip cap with integral rubber block
3. M16 Captive bolts
4. Weldable base



1216/15

Gantrail Welded Base Fixing



|  | F MM | C MM | A MM | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|---|
| A 75 | 200 | 75 | 85 | 1216/15/45 | 1216/15/38 |
| A 100 | 200 | 100 | 95 | 1216/15/45 | 1216/15/38 |
| A 120 | 220 | 120 | 105 | 1216/15/45 | 1216/15/38 |
| S 49 | 125 | 67 | 149 | 1216/15/45 | 1216/15/38 |
| S 54 | 125 | 67 | 154 | 1216/15/45 | 1216/15/38 |
| 56 E 1 | 140 | 70 | 159 | 1216/15/45 | 1216/15/38 |
| 89 KG CR | 178 | 102 | 114 | 1216/15/45 | 1216/15/38 |
| MRS 67 (135 CR) | 132 | 79 | 146 | 1216/15/45 | 1216/15/38 |
| MRS 86 | 165 | 102 | 102 | 1216/15/45 | 1216/15/38 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 1216/15/45 | 1216/15/38 |
| MRS 221 | 220 | 220 | 160 | - | 1216/15/45 |
| GCR 183 | 280 | 75 | 120 | 1216/15/45 | 1216/15/38 |
| ISCR 80 | 130 | 82 | 130 | 1216/15/45 | 1216/15/38 |
| ISCR 100 | 150 | 102 | 150 | 1216/15/45 | 1216/15/38 |
| ISCR 120 | 170 | 120 | 170 | 1216/15/45 | 1216/15/38 |
| QU 80 | 130 | 80 | 130 | 1216/15/45 | 1216/15/38 |
| QU 100 | 150 | 100 | 150 | 1216/15/45 | 1216/15/38 |
| QU 120 | 170 | 120 | 170 | 1216/15/45 | 1216/15/38 |
| JIS 50N | 127 | 64 | 153 | 1216/15/45 | 1216/15/38 |
| JIS 60 | 145 | 64 | 174 | 1216/15/45 | 1216/15/38 |
| CR 73 | 140 | 100 | 135 | 1216/15/45 | 1216/15/38 |
| CR 100 | 155 | 120 | 150 | 1216/15/45 | 1216/15/45 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact **GANTRAIL** for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

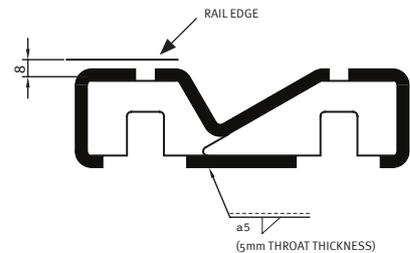
Weld all round the clip base with a 5mm throat thickness fillet weld, using low hydrogen electrodes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

* For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult Gantrail for guidance.

TIGHTENING TORQUE 200Nm

Please contact **GANTRAIL**, for full installation instructions.

WELD DETAIL



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United Arab Emirates

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Certificate No. 5180

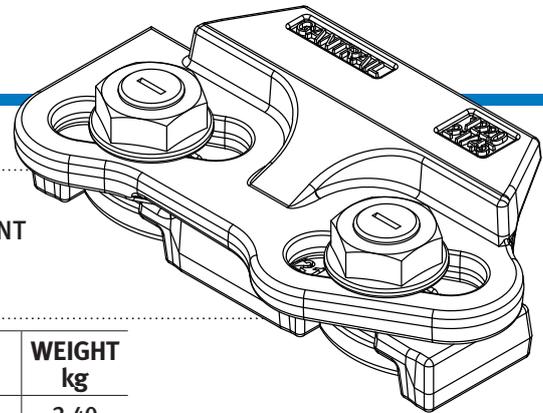
1220/21

Gantrail Welded Base Fixing

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1220/21

The GANTRAIL 1220/21 adjustable crane rail clip is designed to fix the largest rails in the most arduous applications. It can withstand a horizontal force from the rail of 300kN (30.6 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 300kN
21mm HORIZONTAL RAIL ADJUSTMENT

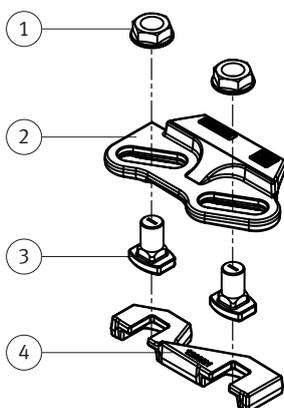
DIMENSIONS (mm):

| REF NO. | X | Y | Z | WEIGHT kg |
|------------|----|----|----|-----------|
| 1220/21/38 | 38 | 47 | 31 | 2.40 |
| 1220/21/45 | 45 | 47 | 31 | 2.47 |

FEATURES

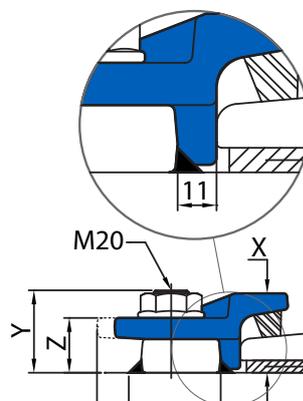
- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 10.9 bolts.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

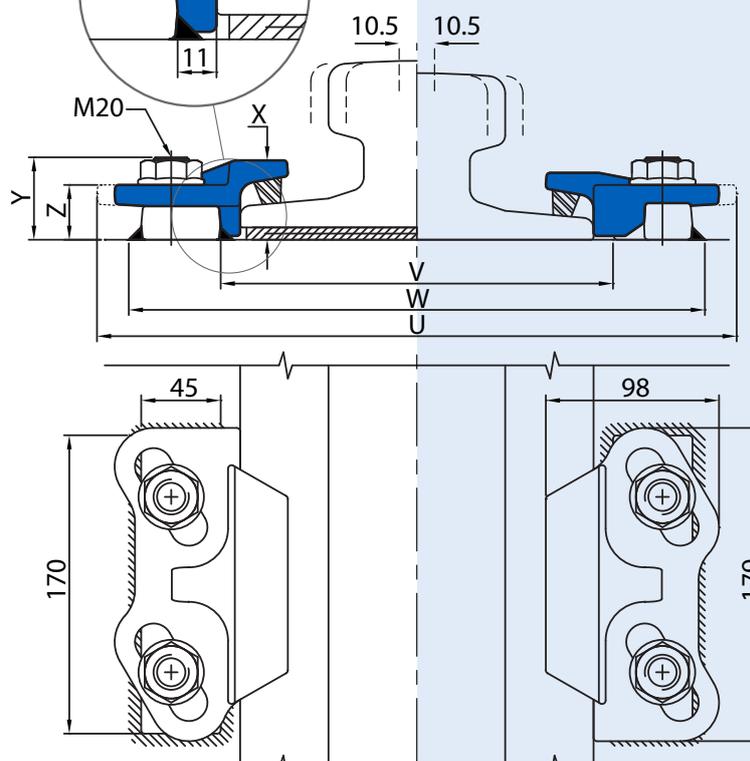


1. Flange nuts
2. Clip cap with integral rubber block
3. M20 Captive bolts
4. Weldable base

1 RAIL WITH PAD



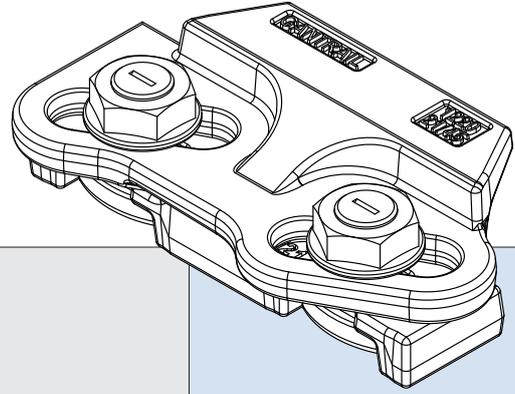
2 RAIL WITHOUT PAD*

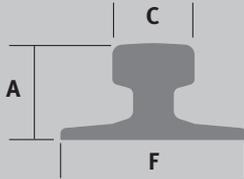


Minimum assembly width - $W = \text{Rail width (F)} + 130\text{mm}$ $V = \text{Rail width (F)} + 22\text{mm}$
 $U = \text{Rail width (F)} + 162\text{mm}$

1220/21

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|--|
| A 100 | 200 | 100 | 95 | 1220/21/45 | 1220/21/38 |
| A 120 | 220 | 120 | 105 | 1220/21/45 | 1220/21/38 |
| A 150 | 220 | 150 | 150 | 1220/21/45 | 1220/21/38 |
| 89 kg CR | 178 | 102 | 114 | 1220/21/45 | 1220/21/38 |
| MRS 86 | 165 | 102 | 102 | 1220/21/45 | 1220/21/38 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 1220/21/45 | 1220/21/38 |
| MRS 125 | 180 | 120 | 180 | - | 1220/21/45 |
| MRS 221 | 220 | 220 | 160 | - | 1220/21/45 |
| ISCR 100 | 150 | 102 | 150 | 1220/21/45 | 1220/21/38 |
| ISCR 120 | 170 | 120 | 170 | 1220/21/45 | 1220/21/38 |
| ISCR 140 | 170 | 140 | 170 | - | 1220/21/45 |
| QU 100 | 150 | 100 | 150 | 1220/21/45 | 1220/21/38 |
| QU 120 | 170 | 120 | 170 | 1220/21/45 | 1220/21/38 |
| ISCOR 57 | 140 | 70 | 165 | 1220/21/45 | 1220/21/38 |
| CR 73 | 140 | 100 | 135 | 1220/21/45 | 1220/21/38 |
| CR 100 | 155 | 120 | 150 | 1220/21/45 | 1220/21/38 |
| 73 kg AS | 146 | 70 | 157 | 1220/21/45 | 1220/21/38 |
| 86 kg AS | 165 | 102 | 102 | 1220/21/45 | 1220/21/38 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

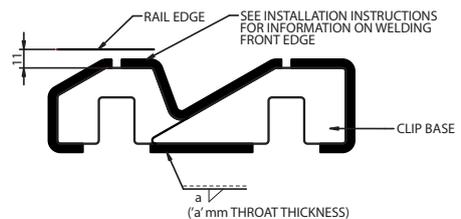
Fillet weld all round the clip base using low hydrogen electrodes. Refer to table for sizes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

* For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult Gantrail for guidance.

TIGHTENING TORQUE 350Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



| 'a' mm | MAX SIDE LOAD kN |
|--------|------------------|
| 5 | 235 |
| 6 | 300 |

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Certificate No. 5180

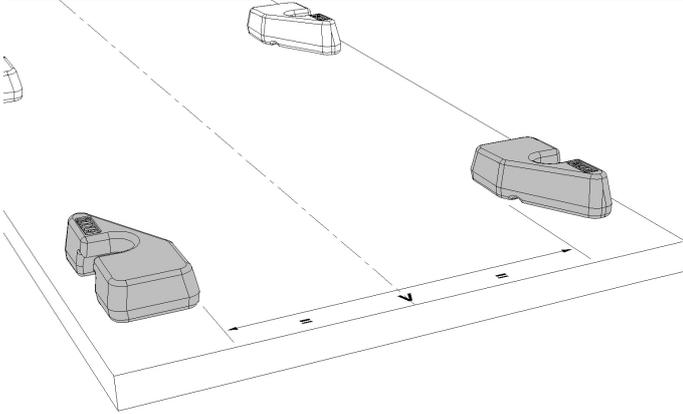
2 Series Clips

Fitting Instructions



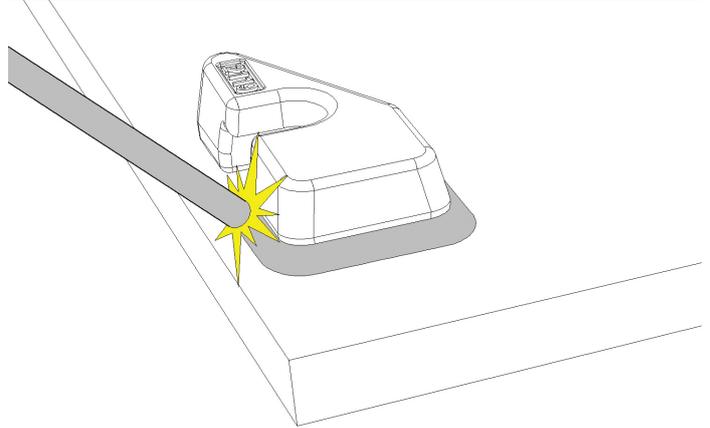
These instructions to be read in conjunction with product datasheet, available from www.gantrail.com.

FIGURE 1



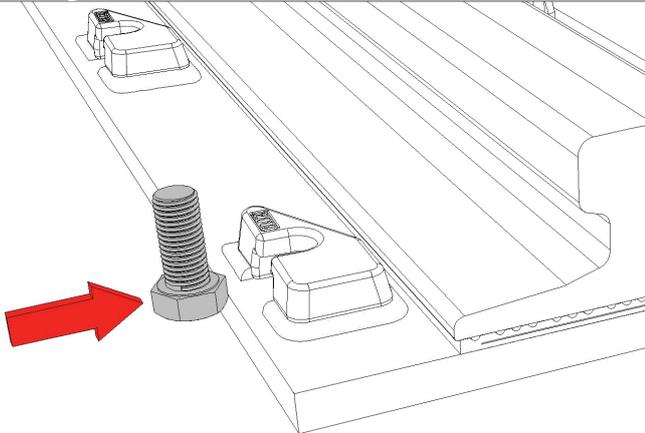
Mark out and position clip base across rail centreline according to 'V' dimension on product datasheet. Position of clip base along rail, to suit project requirements or consult GANTRAIL.

FIGURE 2



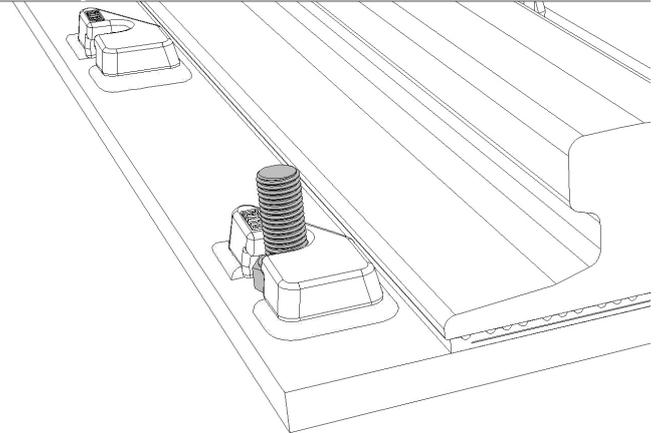
Using suitable electrode, weld clip base(s) to rail support according to 'WELD DETAIL' on product datasheet.

FIGURE 3



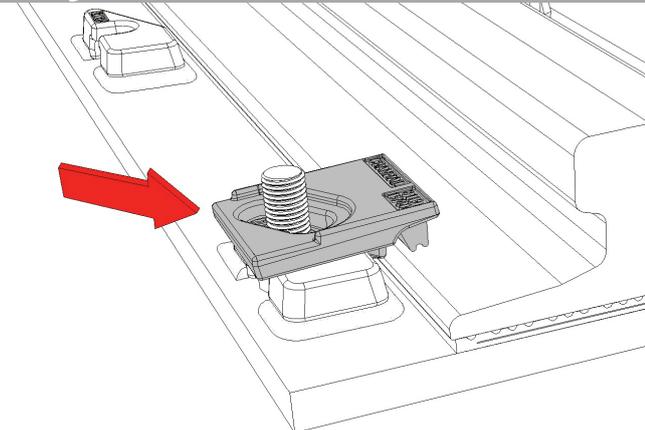
With rail and pad in position, insert hexagon headed bolt into clip base and move into final position.

FIGURE 4



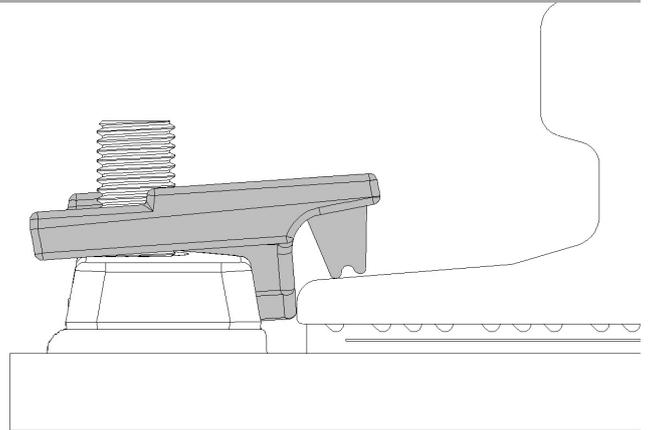
In final position, bolt(s) will be snug in semi-circular hole(s).

FIGURE 5



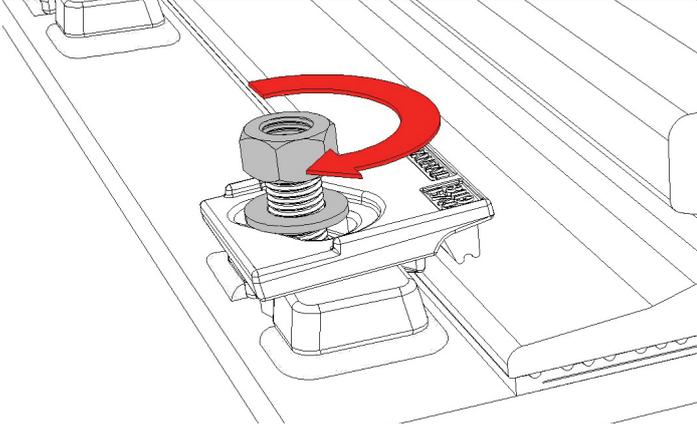
Place clip top over bolt(s) with rubber 'nose' resting on upper surface of bottom flange of rail. Move clip top into metal-to-metal contact with bottom edge of rail.

FIGURE 6



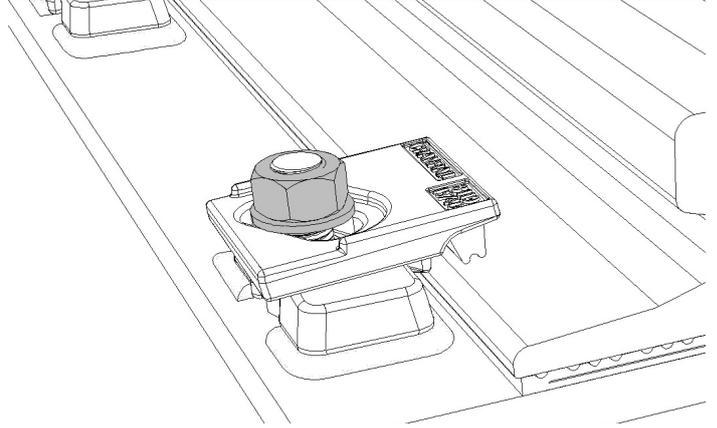
Bottom surface of clip top will not be in full metal-to-metal contact with clip base.

FIGURE 7



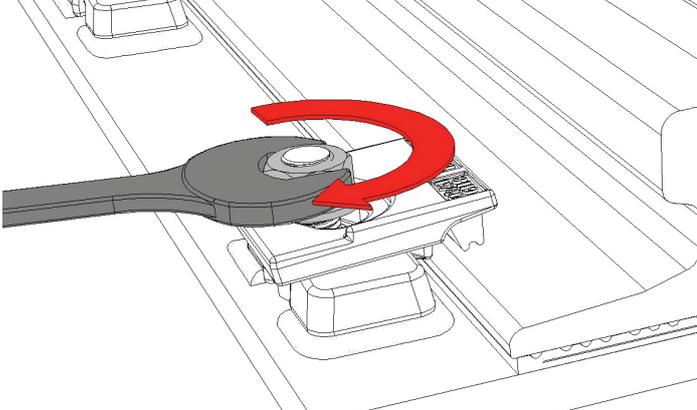
Place washer(s) over bolt(s) and run nut(s) down bolt(s).

FIGURE 8



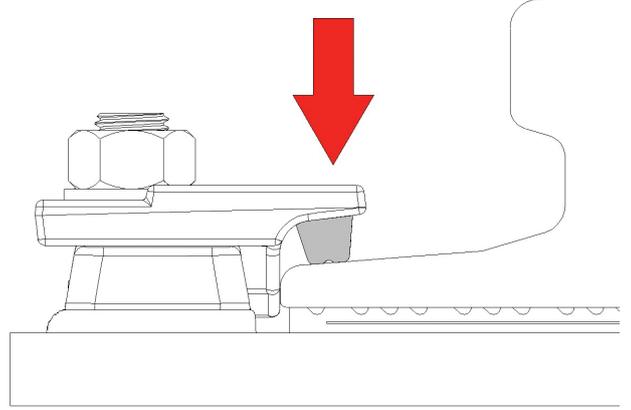
Nut(s) to make contact with washer(s).

FIGURE 9



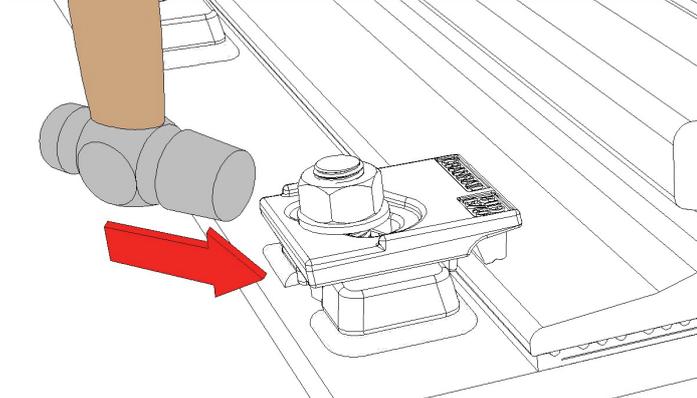
Tighten nut(s) with spanner.

FIGURE 10



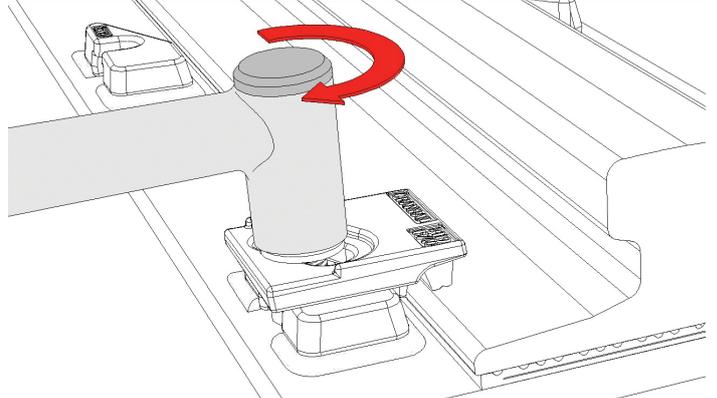
Tighten only until rubber 'nose' is compressed and bottom surface of clip top is in full metal-to-metal contact with clip base. Do not apply full torque yet

FIGURE 11



With hammer of about 1 kilo, tap clip top towards rail along direction of slot(s) in clip top.

FIGURE 12



Tighten nut(s) to required torque given on clip datasheet.

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Certificate No. 5180

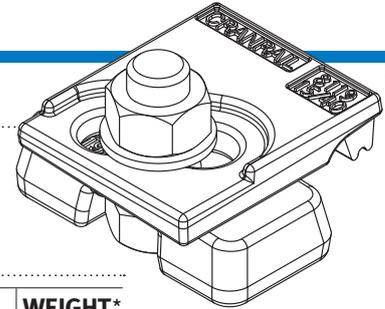
2119/15

Gantrail Welded Base Fixing

www.gantrail.com



GANTRAIL
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2119/15

The GANTRAIL 2119/15 adjustable crane rail clip is designed to fix heavy rails in the most arduous applications. It can withstand a horizontal force from the rail of 120kN (12.2 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 120kN
15mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y | Y (FLANGE NUT) | Z | WEIGHT* kg |
|------------|----|----|----------------|----|---------------|
| 2119/15/40 | 40 | 60 | 55 | 36 | 1.23 |

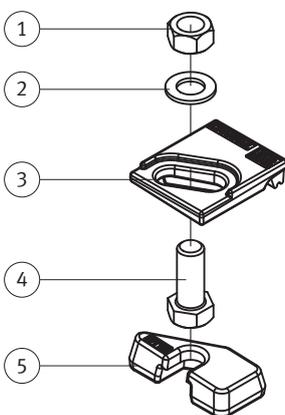
* weight without nut, bolt and washer.

2119/15/40 clip comprises of 2119/15 base and 8119/15/40 cap

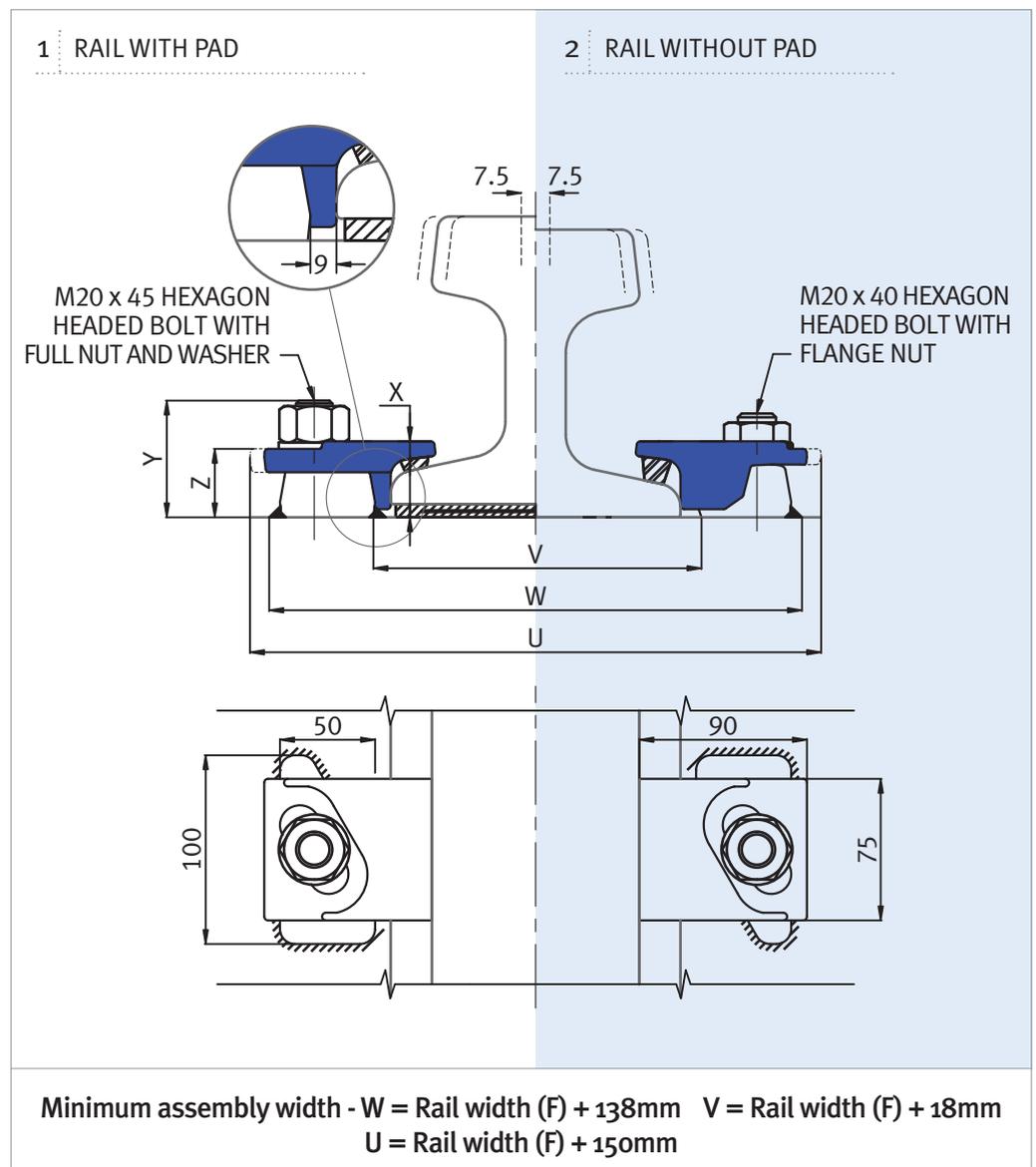
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 8.8 hexagon headed bolt.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

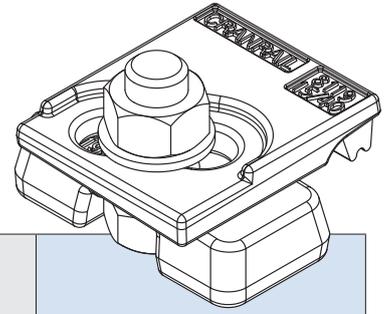


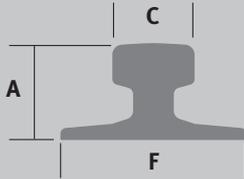
1. Nut
2. Hardened washer
3. Clip cap with integral rubber block
4. M20 hexagon headed bolt
5. Weldable base



2119/15

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 100 | 200 | 100 | 95 | 2119/15/40 | 2119/15/40 |
| A 120 | 220 | 120 | 105 | 2119/15/40 | 2119/15/40 |
| S 54 | 125 | 67 | 154 | 2119/15/40 | 2119/15/40 |
| MRS 51 (104 CR) | 127 | 64 | 127 | 2119/15/40 | 2119/15/40 |
| MRS 67 (135 CR) | 132 | 79 | 146 | 2119/15/40 | 2119/15/40 |
| MRS 85 (171 CR) | 152 | 103 | 152 | 2119/15/40 | 2119/15/40 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 2119/15/40 | 2119/15/40 |
| MRS 87 B (175 CR) | 152 | 102 | 152 | 2119/15/40 | 2119/15/40 |
| ISCR 80 | 130 | 82 | 130 | 2119/15/40 | 2119/15/40 |
| ISCR 100 | 150 | 102 | 150 | 2119/15/40 | 2119/15/40 |
| ISCR 120 | 170 | 120 | 170 | 2119/15/40 | 2119/15/40 |
| QU 80 | 130 | 80 | 130 | 2119/15/40 | 2119/15/40 |
| QU 100 | 150 | 100 | 150 | 2119/15/40 | 2119/15/40 |
| QU 120 | 170 | 120 | 170 | 2119/15/40 | 2119/15/40 |
| ISCOR 57 | 140 | 70 | 165 | 2119/15/40 | 2119/15/40 |
| CR 73 | 140 | 100 | 135 | 2119/15/40 | 2119/15/40 |
| 68 kg AS | 152 | 73 | 186 | 2119/15/40 | 2119/15/40 |
| 86 kg AS | 165 | 102 | 102 | 2119/15/40 | 2119/15/40 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

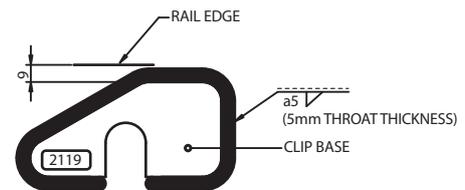
Weld all round the clip base with a 5mm throat thickness fillet weld, using low hydrogen electrodes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

* For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult GANTRAIL for guidance.

TIGHTENING TORQUE 350Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



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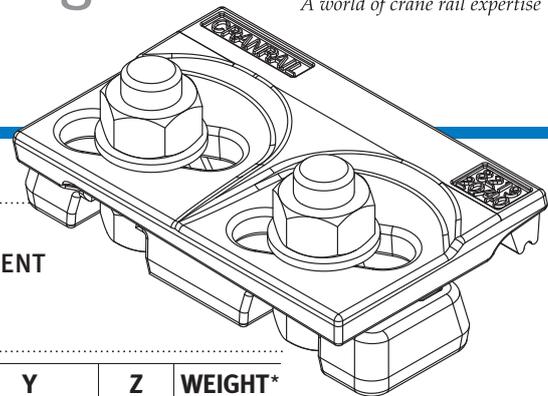
2219/20

Gantrail Welded Base Fixing

www.gantrail.com



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2219/20

The GANTRAIL 2219/20 adjustable crane rail clip is designed to fix the largest rails in the most arduous applications. It can withstand a horizontal force from the rail of 235kN (24 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 235kN
20mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT* kg |
|------------|----|--------------|--------------|----|------------|
| 2219/20/40 | 40 | 65 | 60 | 37 | 2.23 |

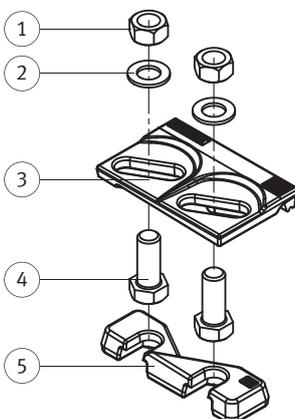
* weight without nut, bolt and washer.

2219/20 clip comprises of 2219/20 base and 8219/20/40/cap

FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 8.8 bolts.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

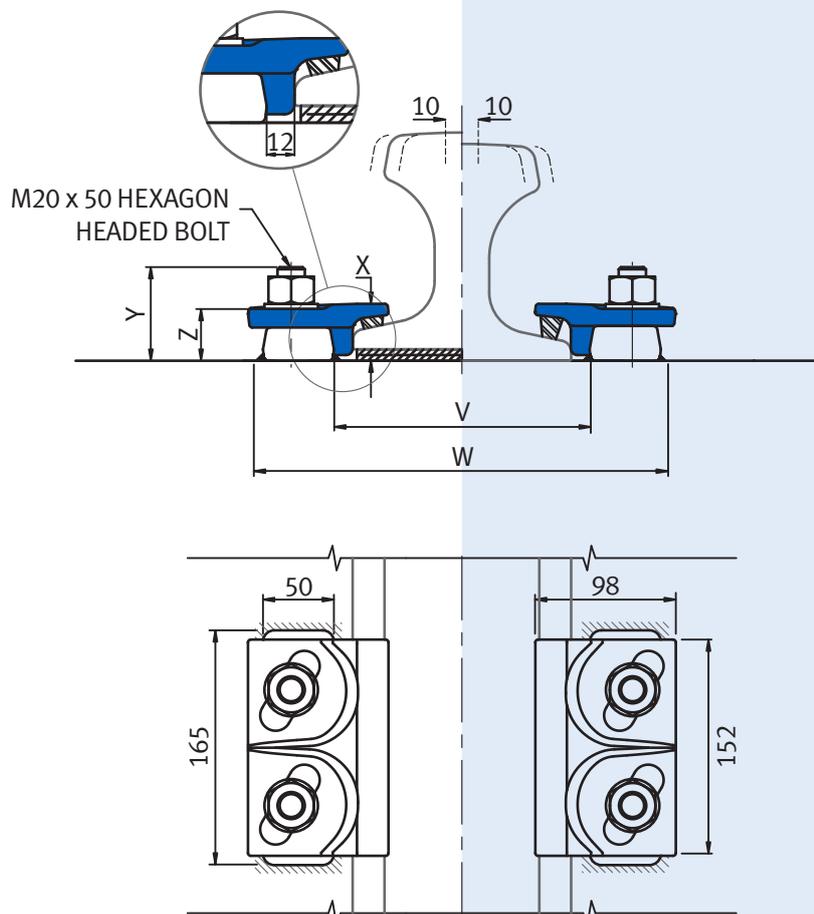
COMPONENTS



1. Nuts
2. Hardened washers
3. Clip cap with integral rubber block
4. M20 hexagon headed bolts
5. Weldable base

1 RAIL WITH PAD

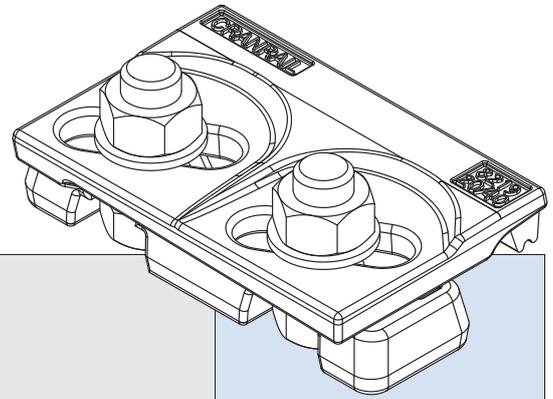
2 RAIL WITHOUT PAD

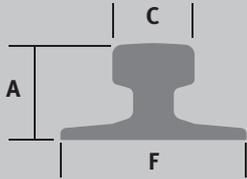


Minimum assembly width - $W = \text{Rail width (F)} + 140\text{mm}$ $V = \text{Rail width (F)} + 24\text{mm}$

2219/20

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 100 | 200 | 100 | 95 | 2219/20/40 | 2219/20/40 |
| A 120 | 220 | 120 | 105 | 2219/20/40 | 2219/20/40 |
| A 150 | 220 | 150 | 150 | 2219/20/40 | 2219/20/40 |
| 89 kg CR | 178 | 102 | 114 | 2219/20/40 | 2219/20/40 |
| MRS 86 | 165 | 102 | 102 | 2219/20/40 | 2219/20/40 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | - | 2219/20/40 |
| MRS 125 | 180 | 120 | 180 | - | 2219/20/40 |
| MRS 221 | 220 | 220 | 160 | - | 2219/20/40 |
| ISCR 100 | 150 | 102 | 150 | 2219/20/40 | 2219/20/40 |
| ISCR 120 | 170 | 120 | 170 | 2219/20/40 | 2219/20/40 |
| ISCR 140 | 170 | 140 | 170 | - | 2219/20/40 |
| QU 100 | 150 | 100 | 150 | 2219/20/40 | 2219/20/40 |
| QU 120 | 170 | 120 | 170 | 2219/20/40 | 2219/20/40 |
| 171 CR (MRS 85) | 152 | 103 | 152 | 2219/20/40 | 2219/20/40 |
| 175 CR (MRS 87B) | 152 | 102 | 152 | 2219/20/40 | 2219/20/40 |
| ISCOR 57 | 140 | 70 | 165 | 2219/20/40 | 2219/20/40 |
| CR 73 | 140 | 100 | 135 | 2219/20/40 | 2219/20/40 |
| CR 100 | 155 | 120 | 150 | - | 2219/20/40 |
| 73 kg AS | 146 | 70 | 157 | - | 2219/20/40 |
| 86 kg AS | 165 | 102 | 102 | 2219/20/40 | 2219/20/40 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

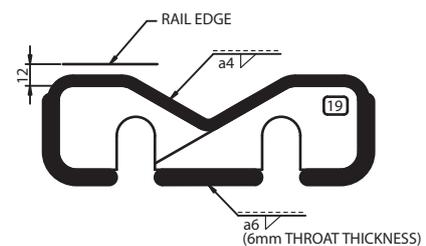
Welds along back and sides of the base to be 6mm. The weld in the 'V' and front edges next to and parallel with rail to be 4mm throat thickness fillet weld. Use low hydrogen electrodes.

* For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult GANTRAIL for guidance.

TIGHTENING TORQUE 350Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



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Fax: +971 4 8812 936
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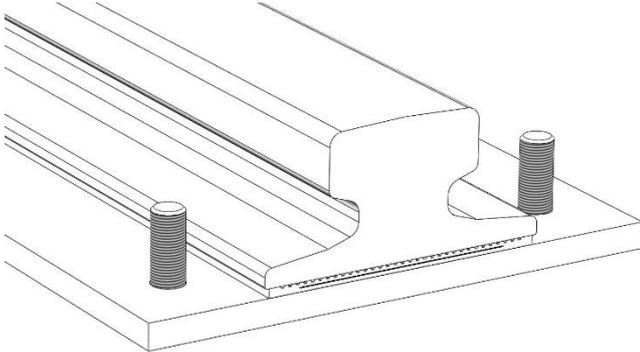
25 Series Clips

Fitting Instruction



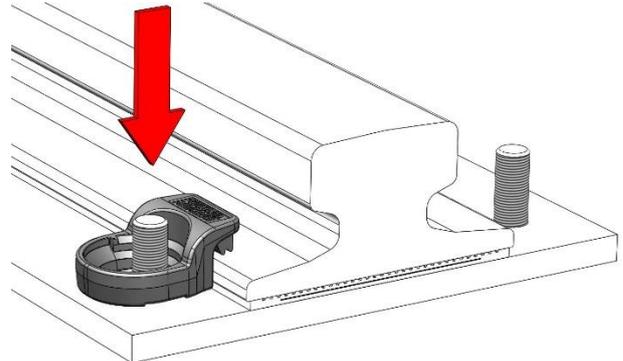
These instructions are to be read in conjunction with product datasheet. Please contact Gantrail for product datasheet.

Figure 1



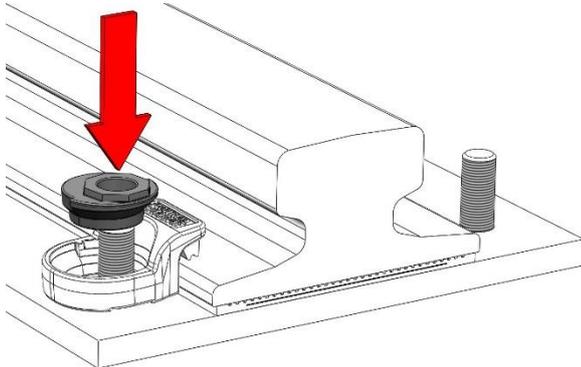
Insert bolt through hole in rail supporting structure

Figure 2



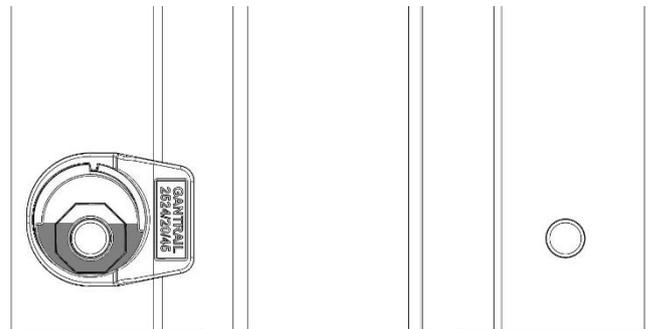
Place clip body over bolt.

Figure 3



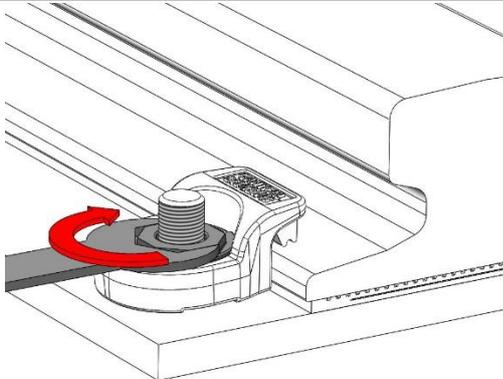
Place cam over bolt.

Figure 4



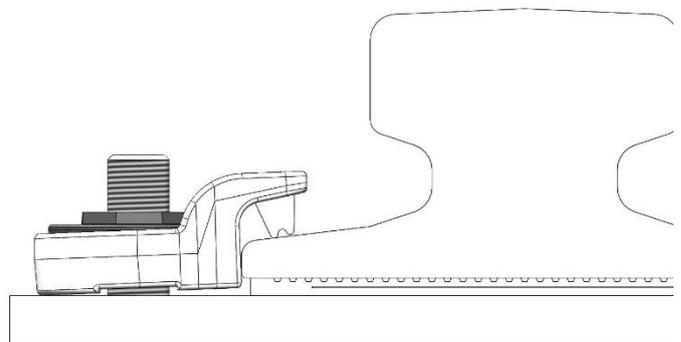
IMPORTANT : Ensure bolt is positioned in right-hand half of cam.

Figure 5



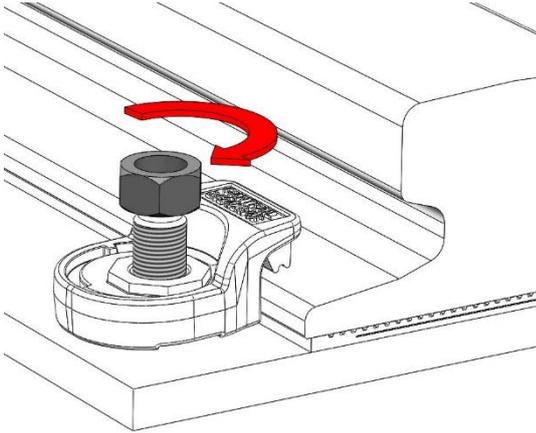
Using a C spanner, rotate cam clockwise to move clip body into metal-to-metal contact with bottom flange of rail.

Figure 6



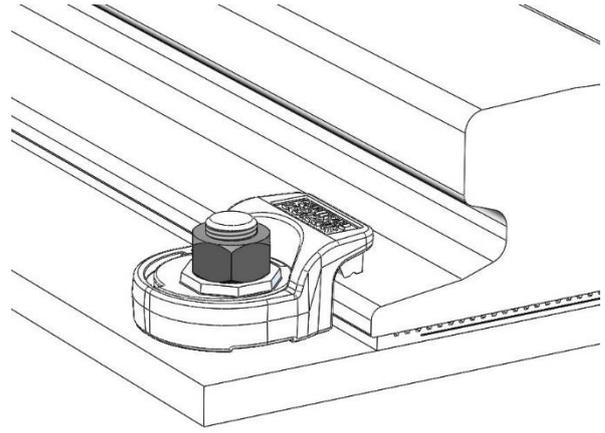
Clip in metal-to-metal contact with bottom flange of rail.

Figure 7



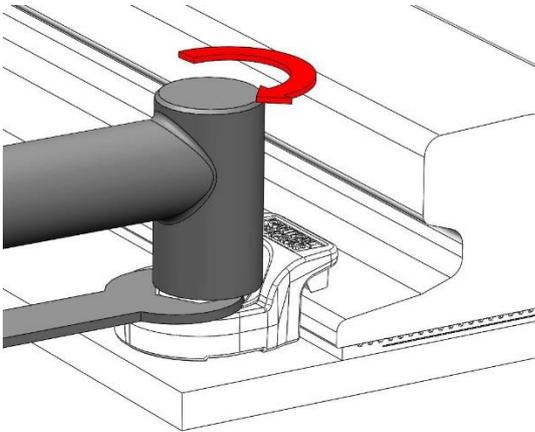
Run nut down bolt.

Figure 8



Nut to make full contact with cam.

Figure 9



Whilst maintaining clockwise pressure with C-spanner, tighten nut to required torque given on clip datasheet

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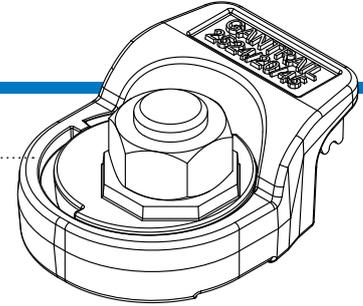


Certificate No. 5180

2524/20

Gantrail Bolted Fixing

www.gantrail.com



The GANTRAIL 2524/20 adjustable crane rail clip is designed to fix heavy rails in the most arduous applications. It can withstand a horizontal force from the rail of 125kN (12.7 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

| | | |
|---------------------------|------------|-------------|
| BOLT GRADE | 8.8 | 10.9 |
| MAX SIDE LOAD (kN) | 125 | 140 |
| BOLT TORQUE (Nm) | 600 | 750 |

20mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

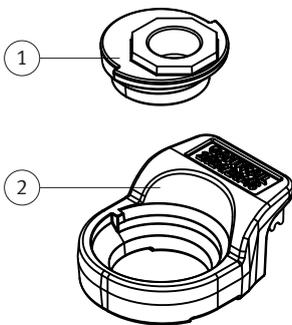
| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 2524/20/45 | 45 | 55 | 50 | 32 | 1.1 |

*weight without nut, bolt and washer.

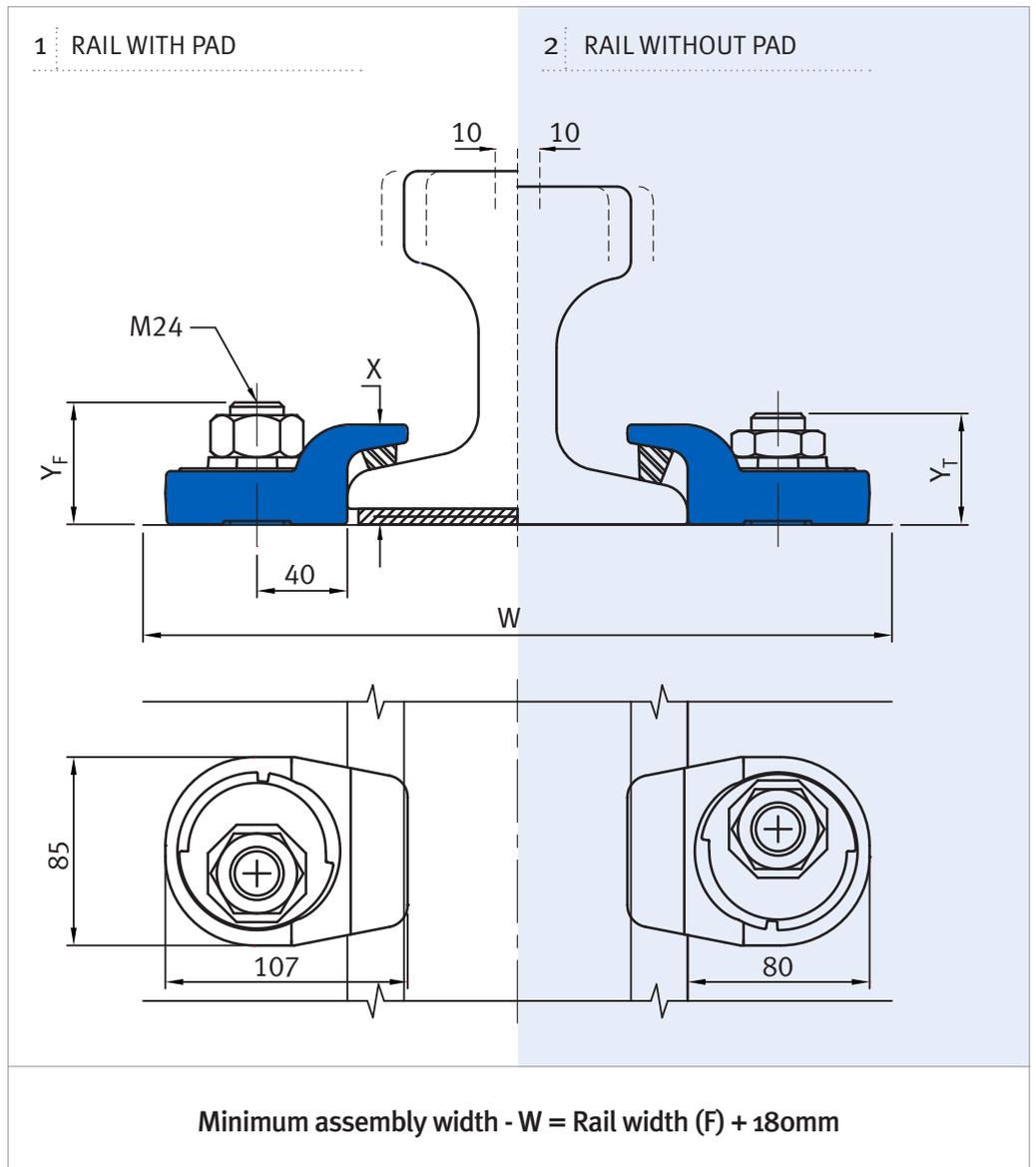
FEATURES

- The clip has a unique self-tightening mechanism (patent pending)
- The unique design ensures that incorrect installation is avoided
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS



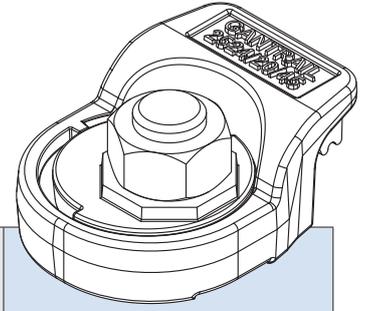
1. Clip cam
2. Clip body with integral rubber block

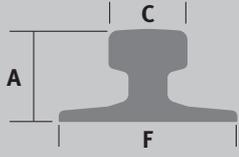


2524/20

2524/20

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR PAD MOUNTED RAIL | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|---|---|
| 68 kg | 152 | 75 | 186 | 2524/20/45 | 2524/20/45 |
| 73 kg | 146 | 70 | 157 | 2524/20/45 | 2524/20/45 |
| 86 kg | 165 | 102 | 102 | 2524/20/45 | 2524/20/45 |
| A120 | 220 | 120 | 105 | 2524/20/45 | 2524/20/45 |
| A150 | 220 | 150 | 150 | 2524/20/45 | 2524/20/45 |
| MRS 73 | 146 | 70 | 157 | 2524/20/45 | 2524/20/45 |
| MRS 86 | 165 | 102 | 102 | 2524/20/45 | 2524/20/45 |
| MRS 87A | 152 | 102 | 152 | 2524/20/45 | 2524/20/45 |
| CR 73 | 140 | 100 | 135 | 2524/20/45 | 2524/20/45 |
| CR 100 | 140 | 100 | 135 | 2524/20/45 | 2524/20/45 |
| QU 120 | 150 | 100 | 150 | 2524/20/45 | 2524/20/45 |
| ISCR 120 | 170 | 120 | 170 | 2524/20/45 | 2524/20/45 |
| SP 120 | 170 | 120 | 170 | 2524/20/45 | 2524/20/45 |
| 171 CR | 152 | 103 | 152 | 2524/20/45 | 2524/20/45 |
| 175 CR | 152 | 102 | 152 | 2524/20/45 | 2524/20/45 |

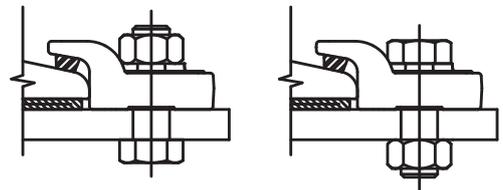
THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.
Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

TIGHTENING TORQUE
Grade 8.8 bolt 600Nm
Grade 10.9 bolt 750Nm
Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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Certificate No. 5180

2530/14

Gantrail Bolted Fixing

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UK Patent Application Number GB1612711.0



The GANTRAIL 2530/14 adjustable crane rail clip is designed to fix heavy rails in the most arduous applications. It can withstand a horizontal force from the rail of 200kN (20.4 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

| | |
|--------------------|----------|
| BOLT GRADE | 8.8 |
| MAX SIDE LOAD (kN) | 200 |
| BOLT TORQUE (Nm) | 900-1000 |

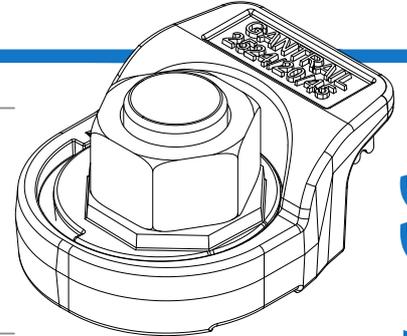
14mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y | Z | WEIGHT kg |
|------------|----|----|----|-----------|
| 2530/14/45 | 45 | 66 | 32 | 1.1 |

*weight without nut, bolt and washer.

2530/14/45 clip comprises 2524/20/45 clip body and 2530 Cam

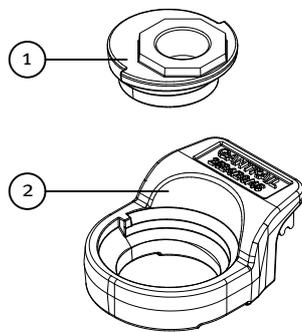


2530/14

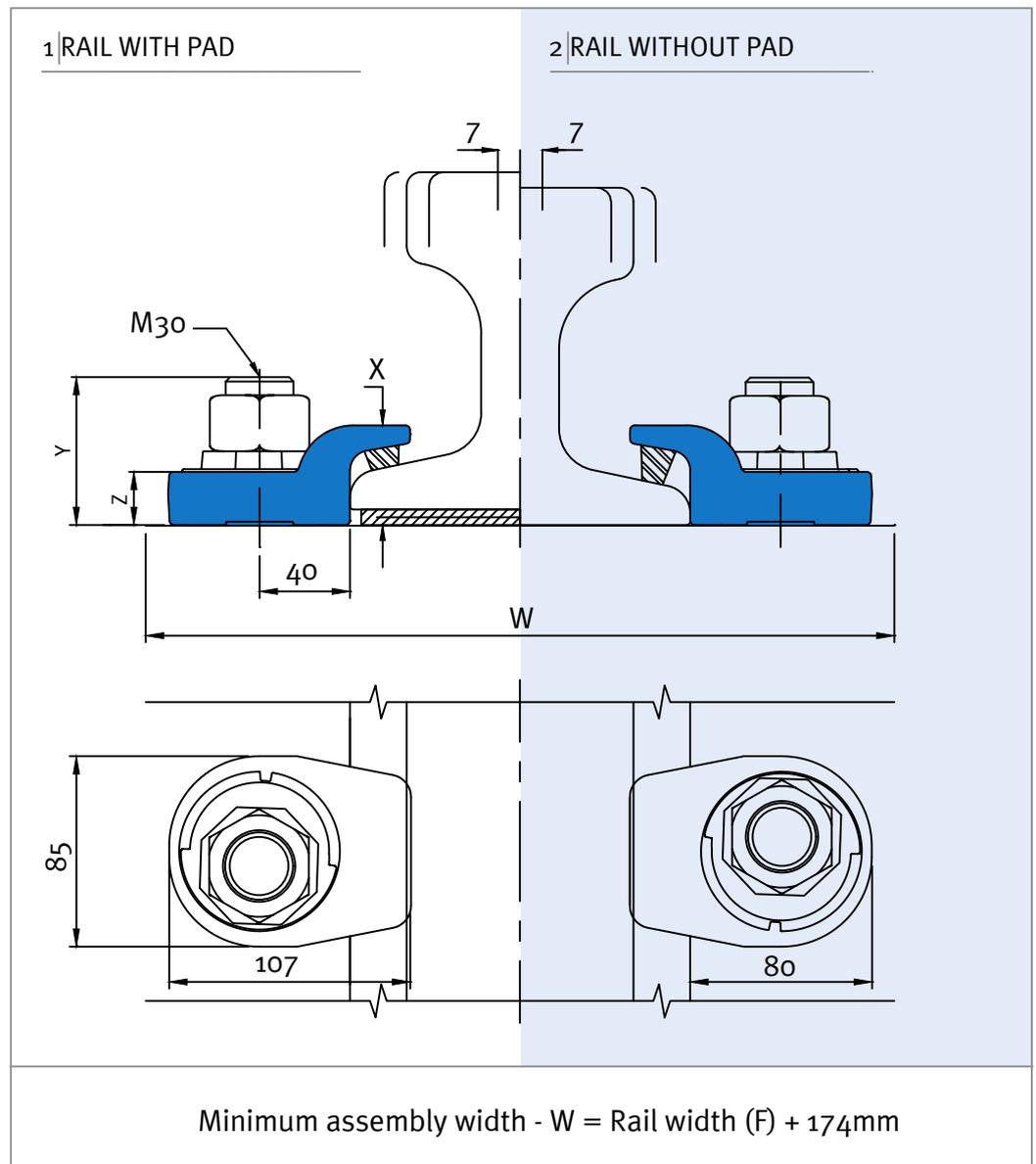
FEATURES

- The clip has a unique self-tightening mechanism (patent pending)
- The unique design ensures that incorrect installation is avoided
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

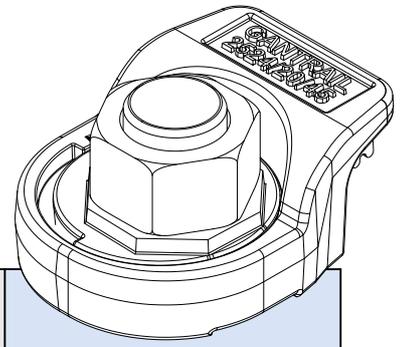


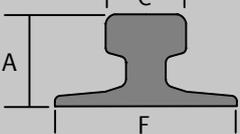
1. Clip cam
2. Clip body with integral rubber block



2530/14

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR PAD MOUNTED RAIL | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|---|---|
| 68 kg | 152 | 75 | 186 | 2530/14/45 | 2530/14/45 |
| 73 kg | 146 | 70 | 157 | 2530/14/45 | 2530/14/45 |
| 86 kg | 165 | 102 | 102 | 2530/14/45 | 2530/14/45 |
| 88 kg | 152.4 | 74.6 | 185.7 | 2530/14/45 | 2530/14/45 |
| A120 | 220 | 120 | 105 | 2530/14/45 | 2530/14/45 |
| A150 | 220 | 150 | 150 | 2530/14/45 | 2530/14/45 |
| MRS 73 | 146 | 70 | 157 | 2530/14/45 | 2530/14/45 |
| MRS 86 | 165 | 102 | 102 | 2530/14/45 | 2530/14/45 |
| MRS 87A | 152 | 102 | 152 | 2530/14/45 | 2530/14/45 |
| CR 73 | 140 | 100 | 135 | 2530/14/45 | 2530/14/45 |
| CR 100 | 140 | 100 | 135 | 2530/14/45 | 2530/14/45 |
| QU 120 | 150 | 100 | 150 | 2530/14/45 | 2530/14/45 |
| ISCR 120 | 170 | 120 | 170 | 2530/14/45 | 2530/14/45 |
| SP 120 | 170 | 120 | 170 | 2530/14/45 | 2530/14/45 |
| 171 CR | 152 | 103 | 152 | 2530/14/45 | 2530/14/45 |
| 175 CR | 152 | 102 | 152 | 2530/14/45 | 2530/14/45 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED. Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

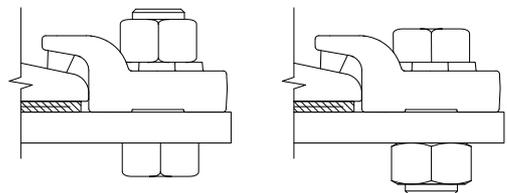
INSTALLATION INSTRUCTIONS:

The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

TIGHTENING TORQUE
Grade 8.8 bolt 900 - 1000Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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E-mail: info@gantrail.com



Certificate No. 5180

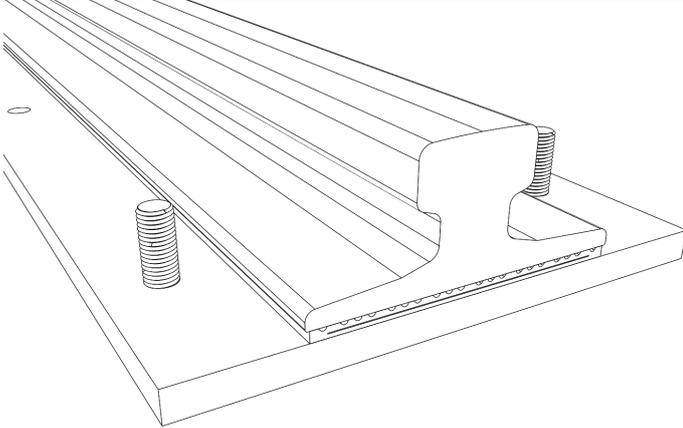
3 Series Clips

Fitting Instructions



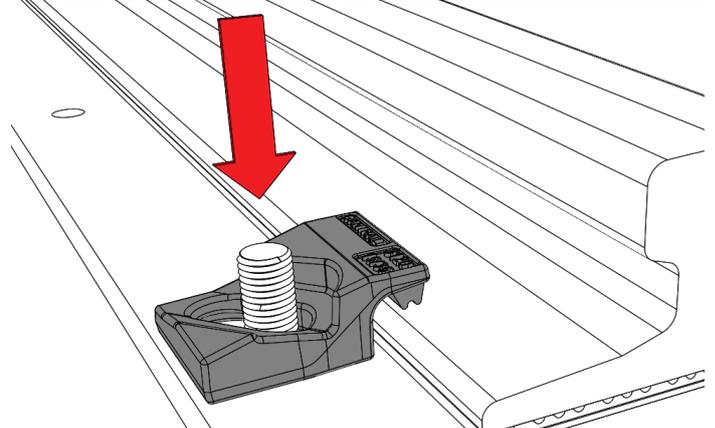
These instructions to be read in conjunction with product datasheet, available from www.gantrail.com.

FIGURE 1



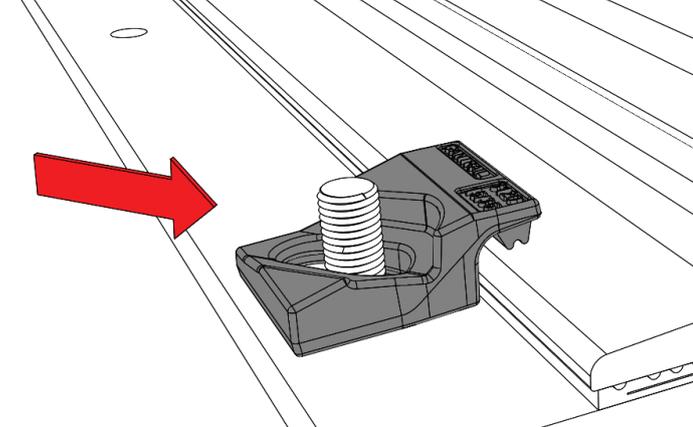
Insert bolt(s) through hole(s) in rail supporting structure.

FIGURE 2



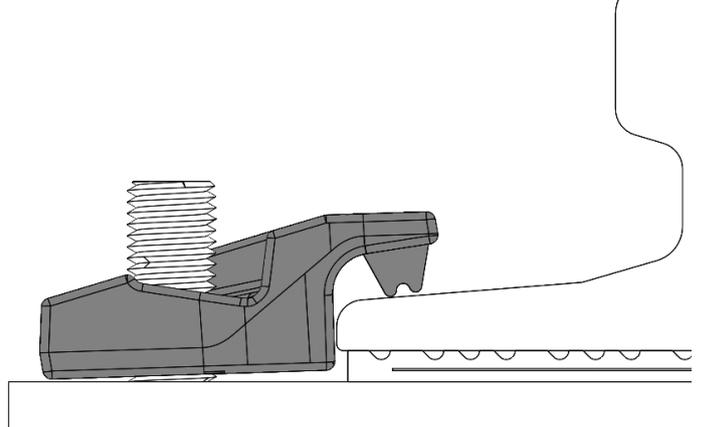
Place body of clip over bolt(s) with rubber 'nose' resting on upper surface of bottom flange of rail.

FIGURE 3



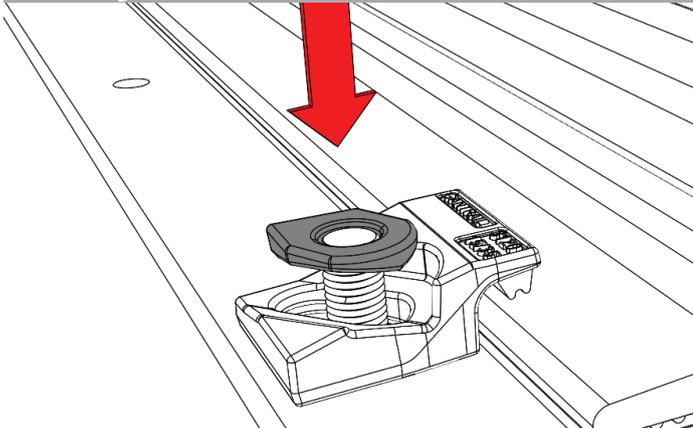
Move clip into metal-to-metal contact with bottom edge of rail.

FIGURE 4



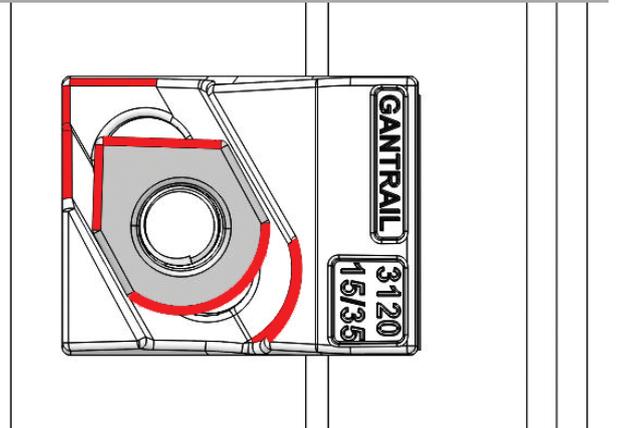
Bottom face of clip will not be in full contact with rail support.

FIGURE 5



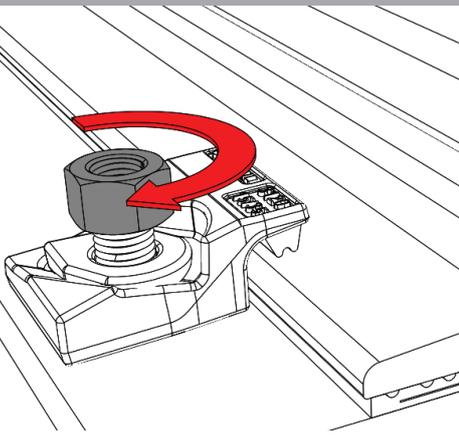
Place special washer(s) over bolt(s).

FIGURE 6



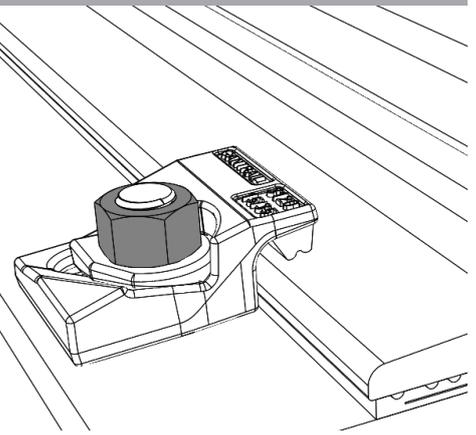
Make sure special washer(s) is fitted correctly with square corner to back and flat surface upwards.

FIGURE 7



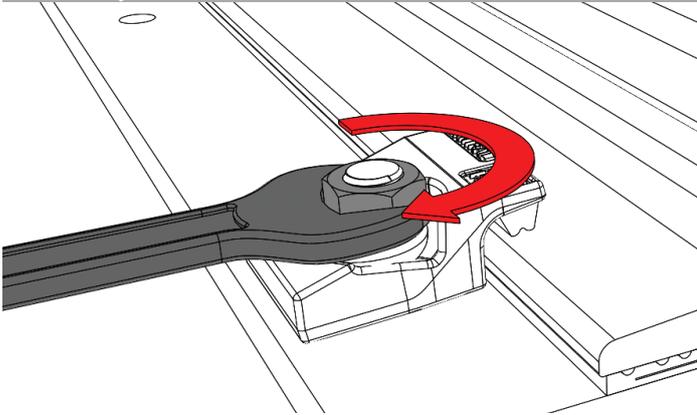
Run nut(s) down bolt(s).

FIGURE 8



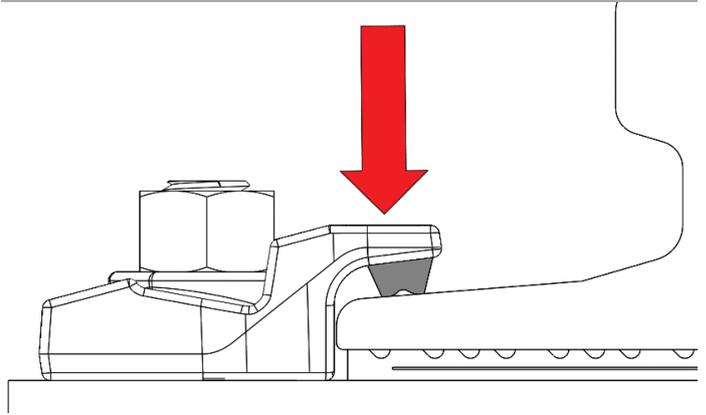
Nut(s) to make contact with special washer(s).

FIGURE 9



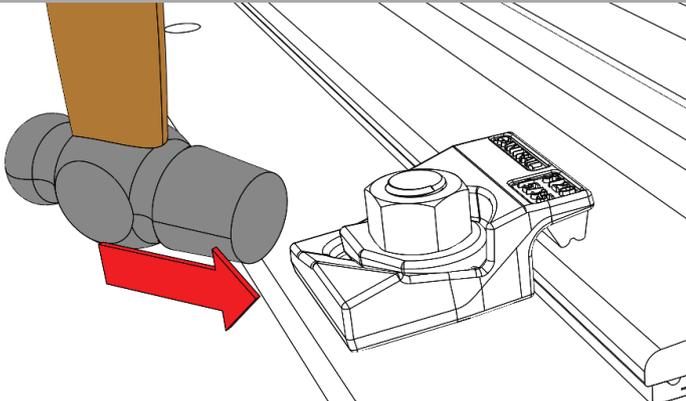
Tighten nut(s) with spanner.

FIGURE 10



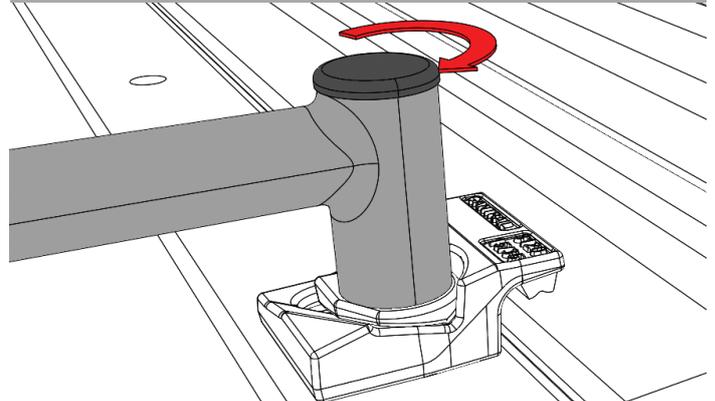
Tighten only until rubber 'nose' is compressed and bottom surface of clip is in full metal-to-metal contact with rail support. Do not apply full torque yet.

FIGURE 11



With hammer of about 1 kilo, tap clip body towards rail along direction of slot(s) in clip.

FIGURE 12



Tighten nut(s) to required torque given on product datasheet.

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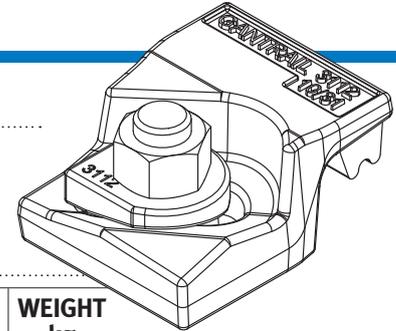
3112/10

Gantrail Bolted Fixing

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3112/10

The GANTRAIL 3112/10 adjustable crane rail clip is designed to fix light rails in the most arduous applications. It can withstand a horizontal force from the rail of 21kN (2.1 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD using Grade 8.8 bolt 21kN
10mm HORIZONTAL RAIL ADJUSTMENT

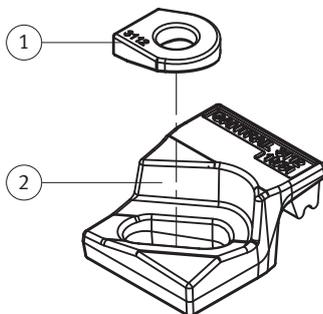
DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 3112/10/24 | 24 | 35 | 30 | 20 | 0.27 |
| 3112/10/31 | 31 | 35 | 30 | 20 | 0.29 |

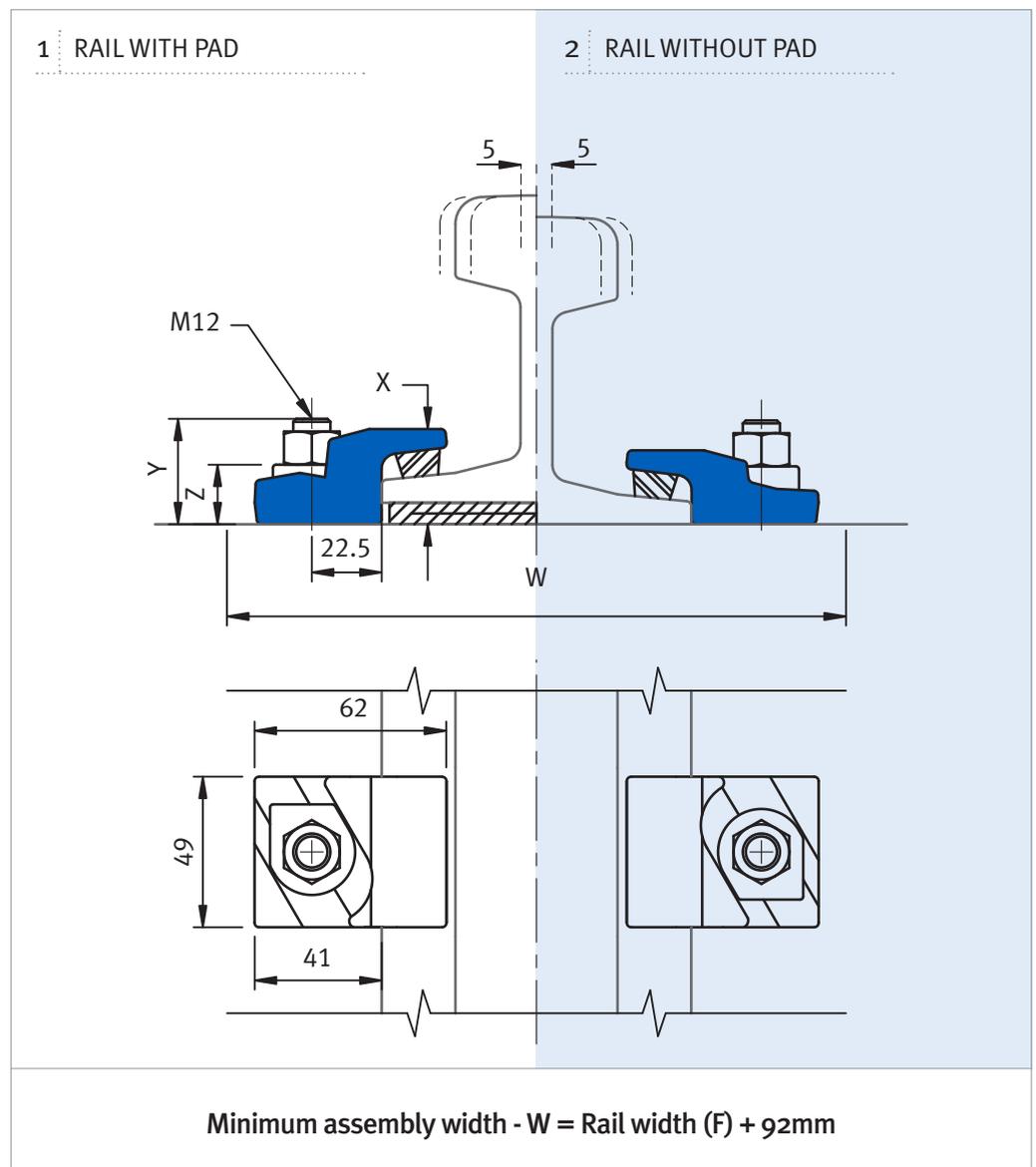
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

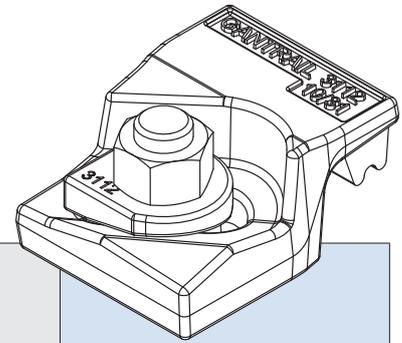


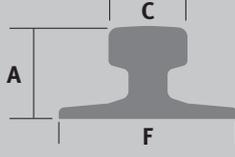
1. Special washer
2. Clip with integral rubber block



3112/10

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR PAD MOUNTED RAIL | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|---|---|
| A 45 | 125 | 45 | 55 | 3112/10/31 | 3112/10/24 |
| S 7 | 50 | 25 | 65 | 3112/10/31 | 3112/10/24 |
| S 10 | 58 | 32 | 70 | 3112/10/31 | 3112/10/24 |
| S 14 | 70 | 38 | 80 | 3112/10/31 | 3112/10/24 |
| S 18 | 82 | 43 | 92 | 3112/10/31 | 3112/10/24 |
| S 20 | 82 | 44 | 100 | 3112/10/31 | 3112/10/24 |
| S 24 | 90 | 53 | 115 | 3112/10/31 | 3112/10/24 |
| ASCE 30 | 79 | 43 | 79 | 3112/10/31 | 3112/10/24 |
| ASCE 40 | 89 | 48 | 89 | 3112/10/31 | 3112/10/24 |
| ISCOR 22 | 95 | 50 | 95 | 3112/10/31 | 3112/10/24 |
| 9 kg | 64 | 32 | 64 | 3112/10/31 | 3112/10/24 |
| 12 kg | 70 | 43 | 70 | 3112/10/31 | 3112/10/24 |
| 15 kg | 80 | 43 | 80 | 3112/10/31 | 3112/10/24 |
| 22 kg | 94 | 51 | 94 | 3112/10/31 | 3112/10/24 |
| JIS 12 | 70 | 38 | 70 | 3112/10/31 | 3112/10/24 |
| JIS 15 | 79 | 43 | 79 | 3112/10/31 | 3112/10/24 |
| JIS 22 | 94 | 51 | 94 | 3112/10/31 | 3112/10/24 |
| 15 kg BHP | 79 | 43 | 79 | 3112/10/31 | 3112/10/24 |
| 22 kg BHP | 94 | 51 | 94 | 3112/10/31 | 3112/10/24 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

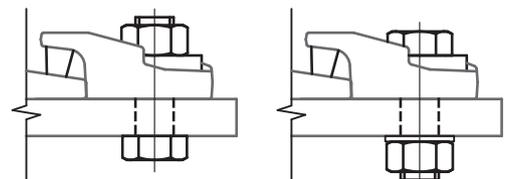
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

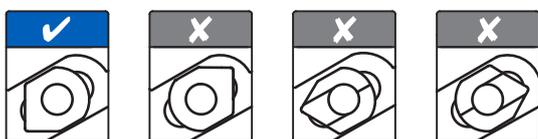
TIGHTENING TORQUE
Grade 8.8 bolt 85Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



POSITIONING OF SPECIAL WASHER



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Fax: +971 4 8812 936
E-mail: gme@gantrail.com

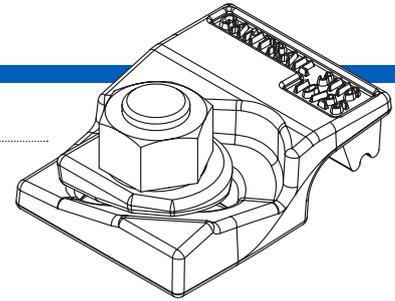


Certificate No. 5180

3116/10

Gantrail Bolted Fixing

www.gantrail.com



The GANTRAIL 3116/10 adjustable crane rail clip is designed to fix light rails in the most arduous applications. It can withstand a horizontal force from the rail of 38kN (3.9 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

| BOLT GRADE | 8.8 | 10.9 |
|--------------------|-----|------|
| MAX SIDE LOAD (kN) | 38 | 50 |
| BOLT TORQUE (Nm) | 200 | 300 |

10mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

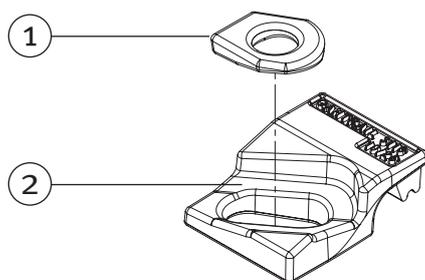
| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT KG |
|------------|----|--------------|--------------|----|-----------|
| 3116/10/25 | 25 | 35 | 30 | 19 | 0.32 |
| 3116/10/32 | 32 | 40 | 35 | 26 | 0.38 |
| 3116/10/37 | 37 | 45 | 40 | 33 | 0.44 |

3116/10

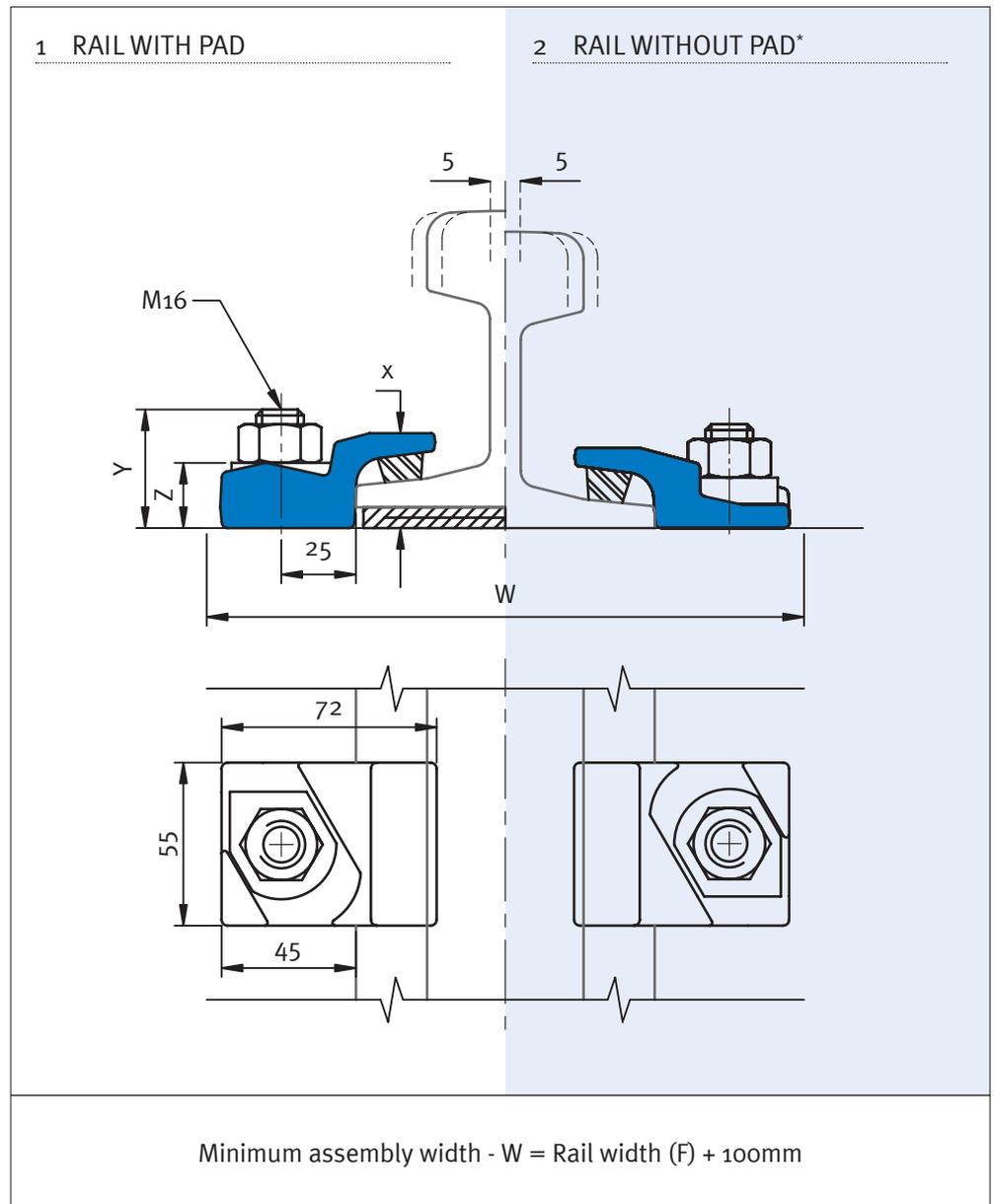
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

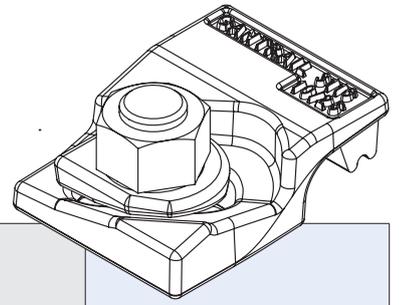


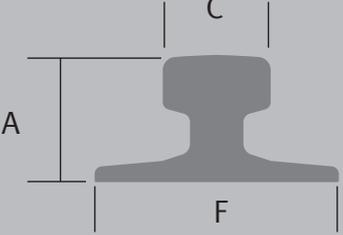
1. Special washer
2. Clip with integral rubber block



3116/10

Gantrail Welded Base Fixing



|  | F MM | C MM | A MM | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|---|
| A 45 | 125 | 45 | 55 | 3116/10/32 | 3116/10/25 |
| A 55 | 150 | 55 | 65 | 3116/10/32 | 3116/10/25 |
| A 65 | 175 | 65 | 75 | 3116/10/32 | 3116/10/25 |
| S 14 | 70 | 38 | 80 | 3116/10/32 | 3116/10/25 |
| S 20 | 82 | 44 | 100 | 3116/10/32 | 3116/10/25 |
| S 30 | 108 | 60 | 108 | 3116/10/32 | 3116/10/25 |
| S 41 | 125 | 67 | 138 | 3116/10/32 | 3116/10/25 |
| BS 50 'o' | 100 | 52 | 100 | 3116/10/32 | 3116/10/25 |
| AFNOR 26 | 100 | 50 | 100 | 3116/10/32 | 3116/10/25 |
| AFNOR 30 | 106 | 56 | 126 | 3116/10/32 | 3116/10/25 |
| ASCE 60 | 108 | 60 | 108 | 3116/10/32 | 3116/10/25 |
| ASCE 80 | 127 | 64 | 127 | 3116/10/32 | 3116/10/25 |
| ASCE 85 | 132 | 65 | 132 | 3116/10/32 | 3116/10/25 |
| ISCOR 22 | 95 | 50 | 95 | 3116/10/32 | 3116/10/25 |
| ISCOR 30 | 110 | 57 | 110 | 3116/10/32 | 3116/10/25 |
| JIS 37 | 122 | 63 | 122 | 3116/10/32 | 3116/10/25 |
| JIS 40 | 122 | 64 | 140 | 3116/10/32 | 3116/10/25 |
| 15 kg.m BHP | 79 | 43 | 79 | 3116/10/32 | 3116/10/25 |
| 22 kg.m BHP | 94 | 51 | 94 | 3116/10/32 | 3116/10/25 |
| 24kg | 92 | 51 | 107 | 3116/10/37 | N/A |
| 30kg | 107.95 | 60.33 | 107.95 | 3116/10/37 | 3116/10/37 |
| 38kg | 114 | 68 | 134 | 3116/10/37 | 3116/10/37 |
| QU 70 | 120 | 70 | 120 | 3116/10/37 | 3116/10/37 |
| QU 80 | 130 | 80 | 130 | 3116/10/37 | 3116/10/37 |
| QU 100 | 150 | 100 | 150 | 3116/10/37 | 3116/10/37 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact **GANTRAIL** for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

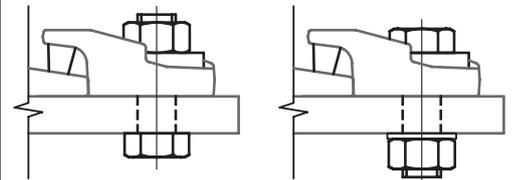
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

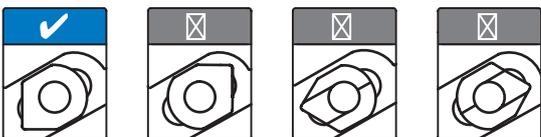
TIGHTENING TORQUE
Grade 8.8 bolt 200Nm
Grade 10.9 bolt 300Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



POSITIONING OF SPECIAL WASHER



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E-mail: gme@gantrail.com



Certificate No. 5180

3120/15

Gantrail Bolted Fixing



www.gantrail.com

The GANTRAIL 3120/15 adjustable crane rail clip is designed to fix heavy rails in the most arduous applications. It can withstand a horizontal force from the rail of 75kN (7.6 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

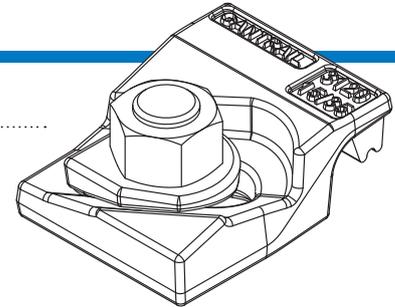
SPECIFICATIONS:

| BOLT GRADE | 8.8 | 10.9 |
|--------------------|-----|------|
| MAX SIDE LOAD (kN) | 75 | 100 |
| BOLT TORQUE (Nm) | 390 | 600 |

15mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 3120/15/35 | 35 | 45 | 40 | 23 | 0.70 |
| 3120/15/40 | 40 | 50 | 45 | 30 | 0.83 |

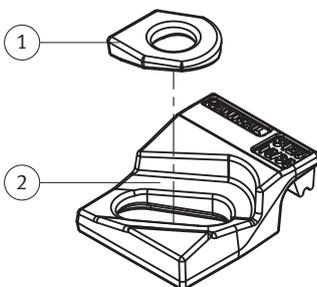


3120/15

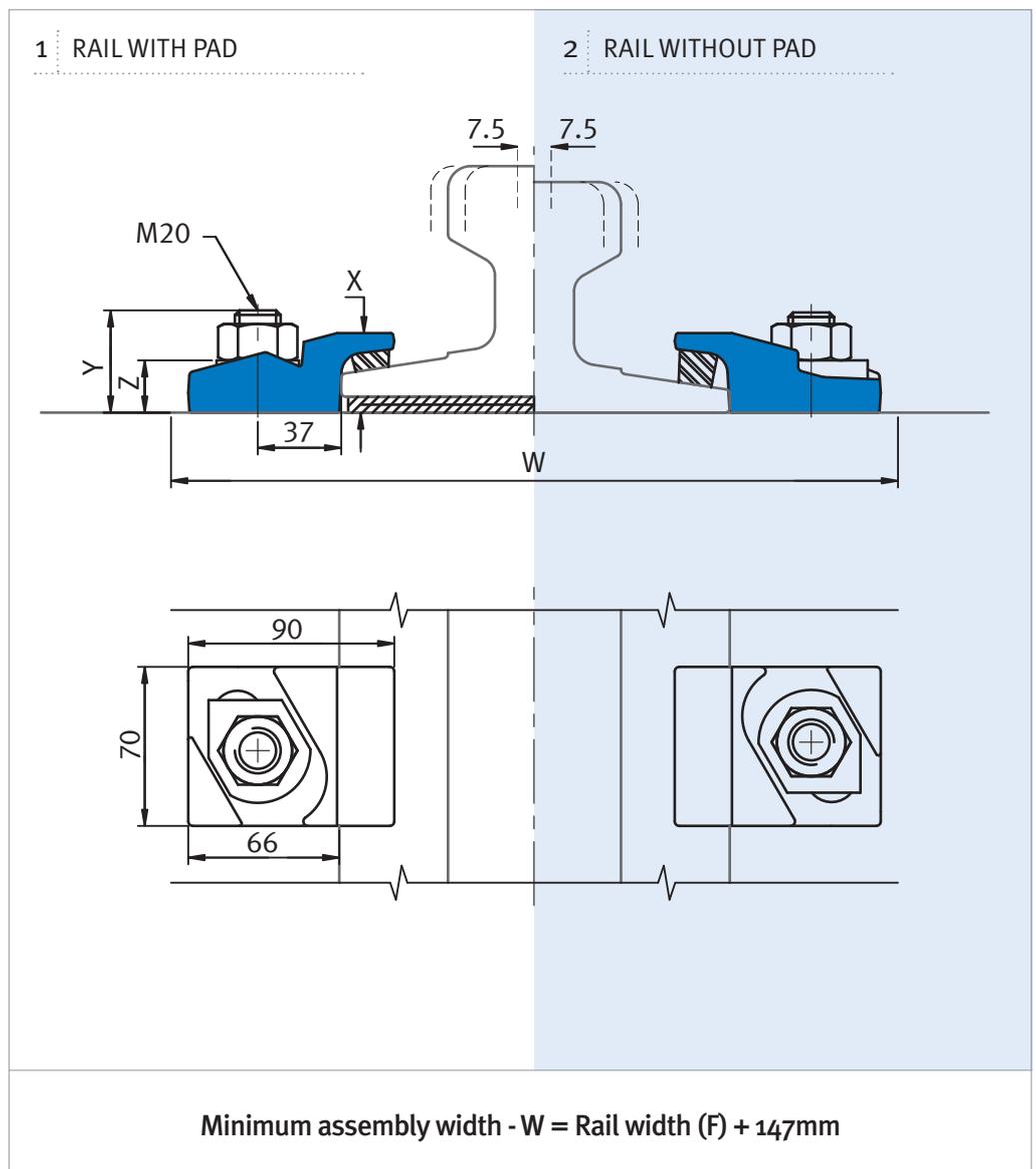
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

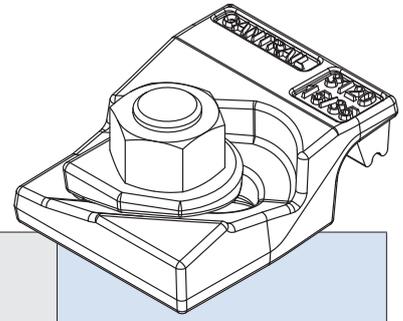


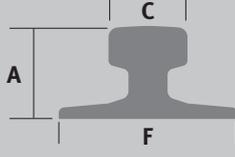
1. Special washer
2. Clip with integral rubber block



3120/15

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 65 | 175 | 65 | 75 | 3120/15/35 | 3120/15/35 |
| A 75 | 200 | 75 | 85 | 3120/15/35 | 3120/15/35 |
| A 100 | 200 | 100 | 95 | 3120/15/35 | 3120/15/35 |
| S 33 | 105 | 58 | 134 | 3120/15/35 | 3120/15/35 |
| S 41 | 125 | 67 | 138 | 3120/15/35 | 3120/15/35 |
| S 49 | 125 | 67 | 149 | 3120/15/35 | 3120/15/35 |
| S 54 | 125 | 67 | 154 | 3120/15/35 | 3120/15/35 |
| 56 E 1 | 140 | 70 | 159 | 3120/15/35 | 3120/15/35 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 3120/15/40 | 3120/15/35 |
| AFNOR 46 | 134 | 62 | 145 | 3120/15/35 | 3120/15/35 |
| ISCR 60 | 105 | 60 | 105 | 3120/15/35 | 3120/15/35 |
| ISCR 80 | 130 | 82 | 130 | 3120/15/35 | 3120/15/35 |
| QU 70 | 120 | 70 | 120 | 3120/15/35 | 3120/15/35 |
| QU 80 | 130 | 80 | 130 | 3120/15/35 | 3120/15/35 |
| JIS 37 | 122 | 63 | 122 | 3120/15/35 | 3120/15/35 |
| 41 kg AS | 127 | 65 | 136.5 | 3120/15/35 | 3120/15/35 |
| 50 kg AS | 127 | 70 | 154 | 3120/15/35 | 3120/15/35 |
| 53 kg AS | 146 | 70 | 157 | 3120/15/35 | 3120/15/35 |
| UIC 54 | 140 | 70 | 159 | 3120/15/35 | 3120/15/35 |
| UIC 60 | 150 | 72 | 172 | 3120/15/35 | 3120/15/35 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

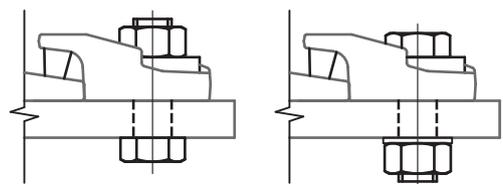
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

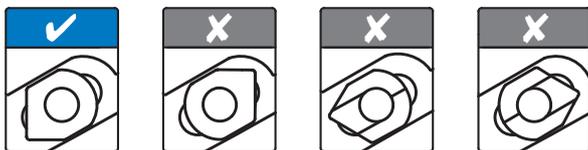
TIGHTENING TORQUE
Grade 8.8 bolt 390Nm
Grade 10.9 bolt 600Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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P O Box 61428
Jebel Ali Free Zone
Dubai
United Arab Emirates

Tel: +971 4 8812 935
Fax: +971 4 8812 936
E-mail: gme@gantrail.com



Certificate No. 5180

3120/15/v1/ET/09/14

3124/15

Gantrail Bolted Fixing



www.gantrail.com

The GANTRAIL 3124/15 adjustable crane rail clip is designed to fix the largest rails in the most arduous applications. It can withstand a horizontal force from the rail of 125kN (12.7 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

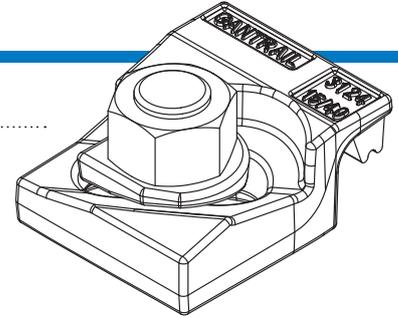
SPECIFICATIONS:

| | | |
|---------------------------|------------|-------------|
| BOLT GRADE | 8.8 | 10.9 |
| MAX SIDE LOAD (kN) | 125 | 140 |
| BOLT TORQUE (Nm) | 600 | 750 |

15mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 3124/15/40 | 40 | 55 | 45 | 30 | 0.73 |
| 3124/15/53 | 53 | 55 | 45 | 30 | 0.82 |

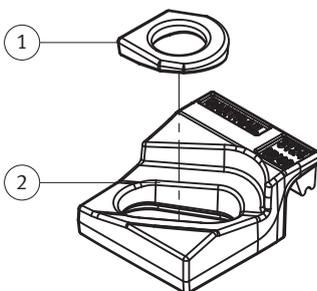


3124/15

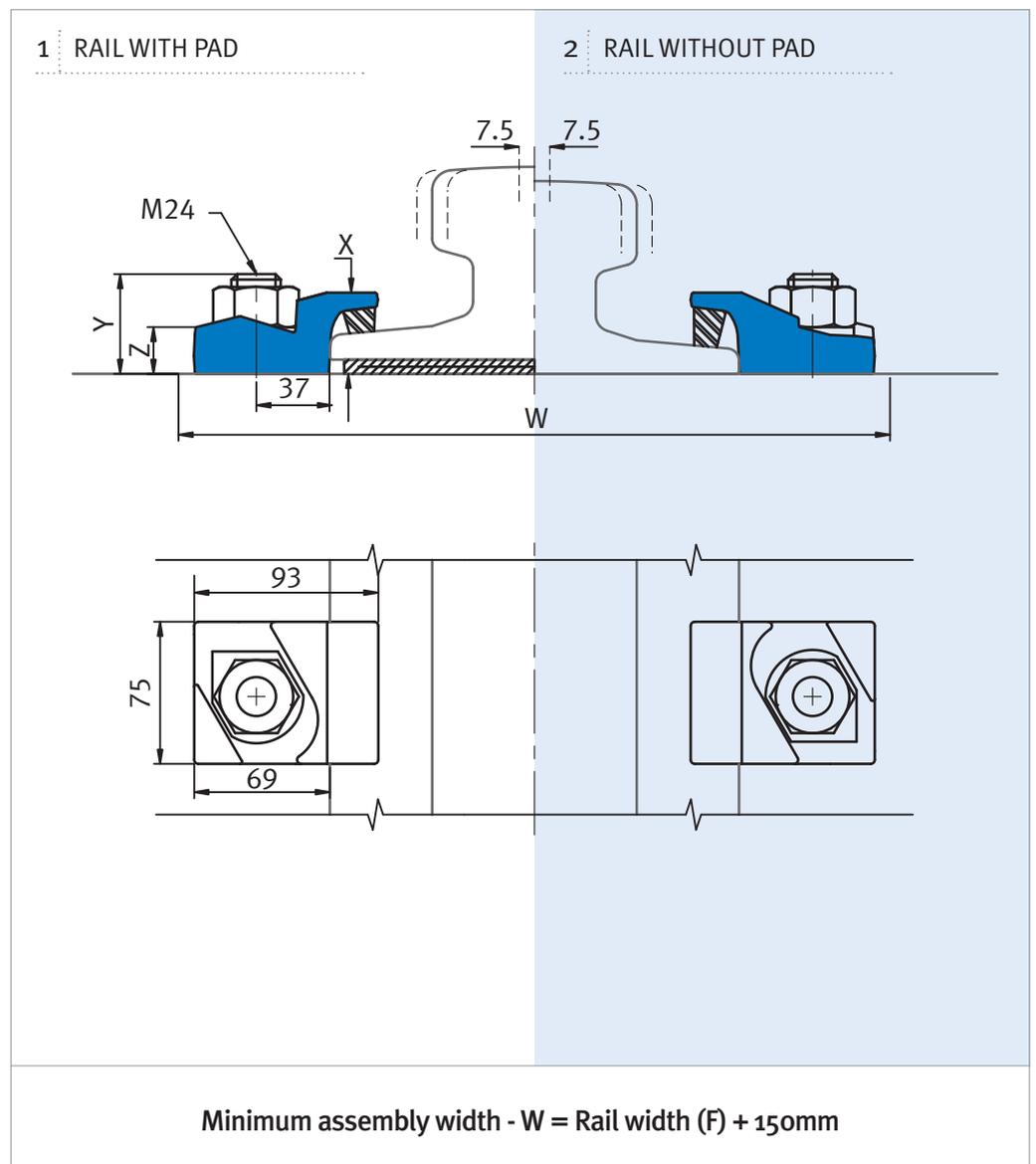
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

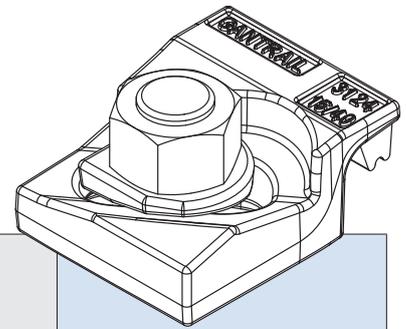


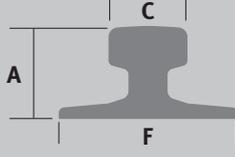
1. Special washer
2. Clip with integral rubber block



3124/15

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 100 | 200 | 100 | 95 | 3124/15/40 | 3124/15/40 |
| A 120 | 220 | 120 | 105 | 3124/15/40 | 3124/15/40 |
| A 150 | 220 | 150 | 150 | 3124/15/40 | 3124/15/40 |
| S 54 | 125 | 67 | 154 | 3124/15/40 | 3124/15/40 |
| MRS 67 (135 CR) | 132 | 79 | 146 | 3124/15/40 | 3124/15/40 |
| MRS 86 | 165 | 102 | 102 | 3124/15/40 | 3124/15/40 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 3124/15/40 | 3124/15/40 |
| MRS 87 B (175 CR) | 152 | 102 | 152 | 3124/15/40 | 3124/15/40 |
| MRS 125 | 180 | 120 | 180 | 3124/15/53 | 3124/15/40 |
| GCR 108 | 263 | 61 + 61 | 100 | 3124/15/40 | - |
| GCR 183 | 280 | 75 | 120 | 3124/15/40 | 3124/15/40 |
| ISCR 100 | 150 | 102 | 150 | 3124/15/40 | 3124/15/40 |
| ISCR 120 | 170 | 120 | 170 | 3124/15/40 | 3124/15/40 |
| QU 100 | 150 | 100 | 150 | 3124/15/40 | 3124/15/40 |
| QU 120 | 170 | 120 | 170 | 3124/15/40 | 3124/15/40 |
| JIS 50 | 127 | 63 | 145 | 3124/15/40 | 3124/15/40 |
| JIS 60 | 145 | 64 | 174 | 3124/15/40 | 3124/15/40 |
| CR 73 | 140 | 100 | 135 | 3124/15/40 | 3124/15/40 |
| UIC 54 E | 125 | 66 | 161 | 3124/15/40 | 3124/15/40 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

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GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

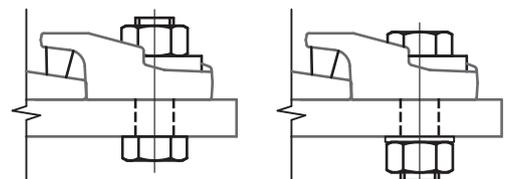
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

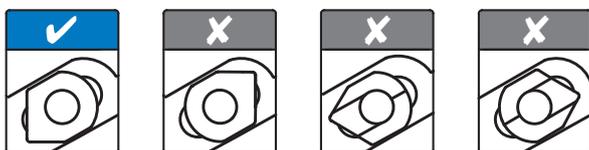
TIGHTENING TORQUE
Grade 8.8 bolt 600Nm
Grade 10.9 bolt 750Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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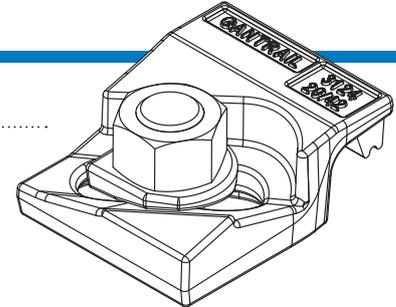
3124/20

Gantrail Bolted Fixing

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A world of crane rail expertise



3124/20

The GANTRAIL 3124/20 adjustable crane rail clip is designed to fix the largest rails in the most arduous applications. It can withstand a horizontal force from the rail of 125kN (12.7 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

| BOLT GRADE | 8.8 | 10.9 |
|--------------------|-----|------|
| MAX SIDE LOAD (kN) | 125 | 140 |
| BOLT TORQUE (Nm) | 600 | 750 |

20mm HORIZONTAL RAIL ADJUSTMENT

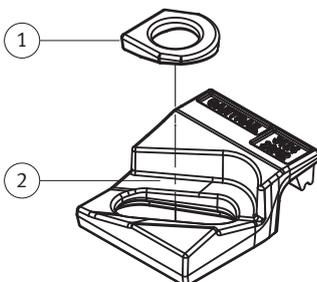
DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 3124/20/42 | 42 | 50 | 40 | 26 | 0.96 |

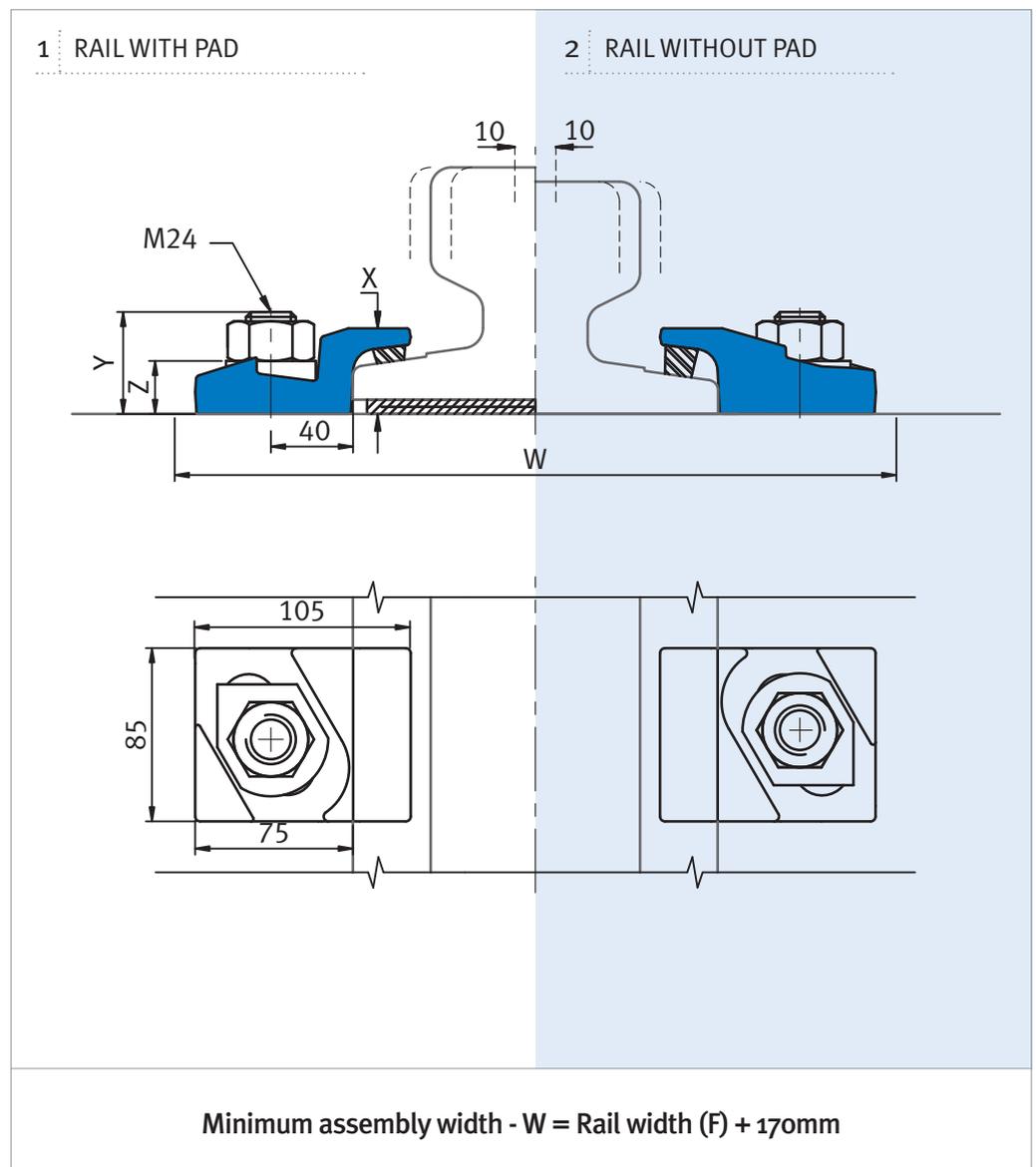
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

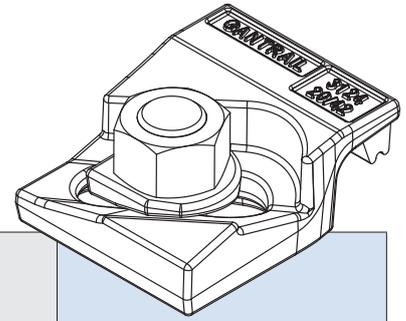


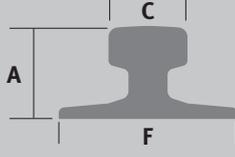
1. Special washer
2. Clip with integral rubber block



3124/20

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 100 | 200 | 100 | 95 | 3124/20/42 | - |
| A 120 | 220 | 120 | 105 | 3124/20/42 | 3124/20/42 |
| A 150 | 220 | 150 | 150 | 3124/20/42 | 3124/20/42 |
| MRS 86 | 165 | 102 | 102 | 3124/20/42 | 3124/20/42 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 3124/20/42 | 3124/20/42 |
| MRS 87 B (175 CR) | 152 | 102 | 152 | 3124/20/42 | 3124/20/42 |
| MRS 125 | 180 | 120 | 180 | - | 3124/20/42 |
| ISCR 100 | 150 | 102 | 150 | 3124/20/42 | 3124/20/42 |
| ISCR 120 | 170 | 120 | 170 | 3124/20/42 | 3124/20/42 |
| QU 100 | 150 | 100 | 150 | 3124/20/42 | 3124/20/42 |
| QU 120 | 170 | 120 | 170 | 3124/20/42 | 3124/20/42 |
| JIS 60 | 145 | 64 | 174 | 3124/20/42 | 3124/20/42 |
| CR 73 | 140 | 100 | 135 | 3124/20/42 | 3124/20/42 |
| CR 100 | 155 | 120 | 150 | - | 3124/20/42 |
| 86 kg AS | 165 | 102 | 102 | 3124/20/42 | 3124/20/42 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

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INSTALLATION INSTRUCTIONS:

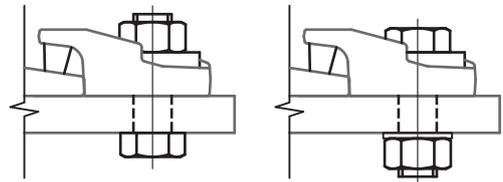
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

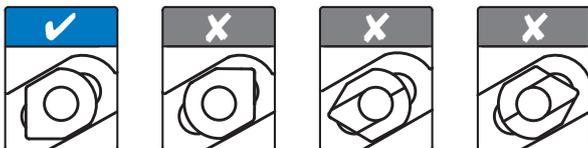
TIGHTENING TORQUE
Grade 8.8 bolt 600Nm
Grade 10.9 bolt 750Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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E-mail: gme@gantrail.com



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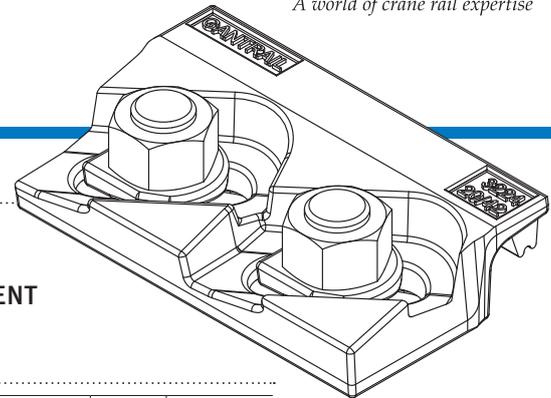
3224/20

Gantrail Bolted Fixing

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3224/20

The GANTRAIL 3224/20 adjustable crane rail clip is designed to fix the largest rails in the most arduous applications. It can withstand a horizontal force from the rail of 250kN (25.5 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD using
Grade 8.8 bolt 250kN
20mm HORIZONTAL RAIL ADJUSTMENT

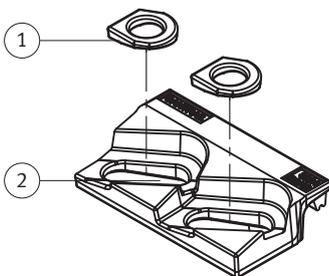
DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 3224/20/42 | 42 | 50 | 40 | 26 | 2.10 |
| 3224/20/57 | 57 | 50 | 40 | 26 | 2.45 |

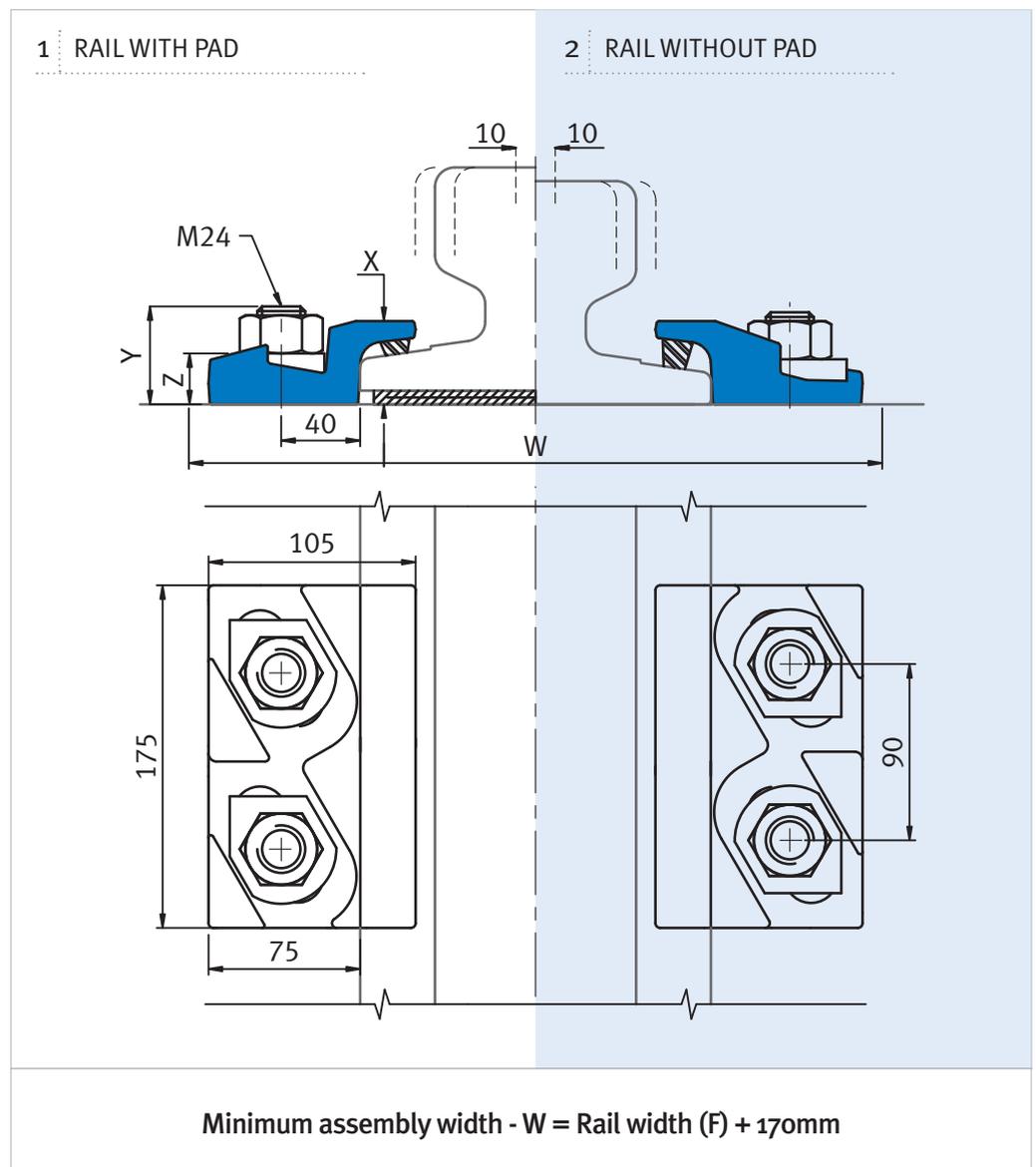
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

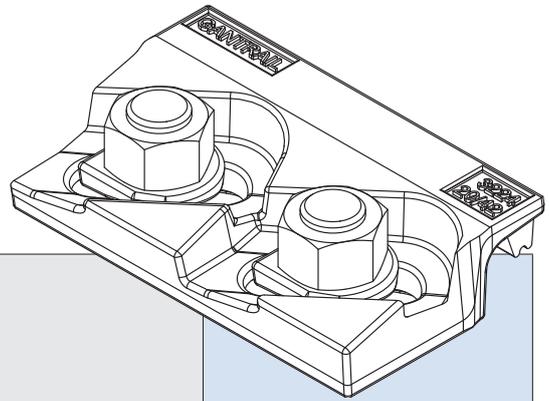


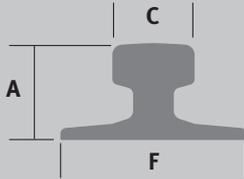
1. Special washer
2. Clip with integral rubber block



3224/20

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 120 | 220 | 120 | 105 | 3224/20/42 | 3224/20/42 |
| A 150 | 220 | 150 | 150 | 3224/20/42 | 3224/20/42 |
| MRS 86 | 165 | 102 | 102 | 3224/20/42 | 3224/20/42 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 3224/20/42 | 3224/20/42 |
| MRS 125 | 180 | 120 | 180 | 3224/20/57 | 3224/20/42 |
| ISCR 100 | 150 | 102 | 150 | 3224/20/42 | 3224/20/42 |
| ISCR 120 | 170 | 120 | 170 | 3224/20/42 | 3224/20/42 |
| ISCR 140 | 170 | 140 | 170 | 3224/20/57 | 3224/20/42 |
| QU 100 | 150 | 100 | 150 | 3224/20/42 | 3224/20/42 |
| QU 120 | 170 | 120 | 170 | 3224/20/42 | 3224/20/42 |
| CR 73 | 140 | 100 | 135 | 3224/20/42 | 3224/20/42 |
| 86 kg AS | 165 | 102 | 102 | 3224/20/42 | 3224/20/42 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

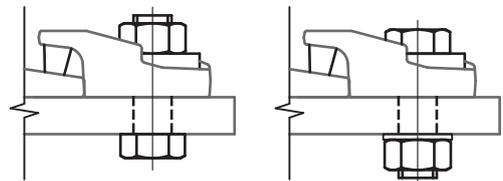
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

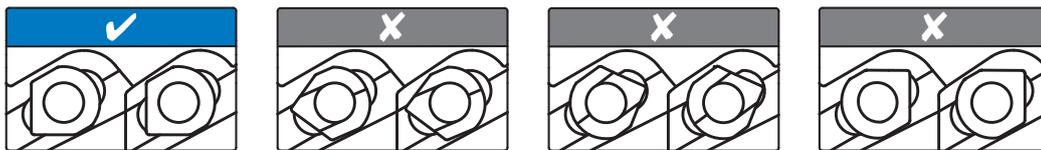
TIGHTENING TORQUE
Grade 8.8 bolt 600Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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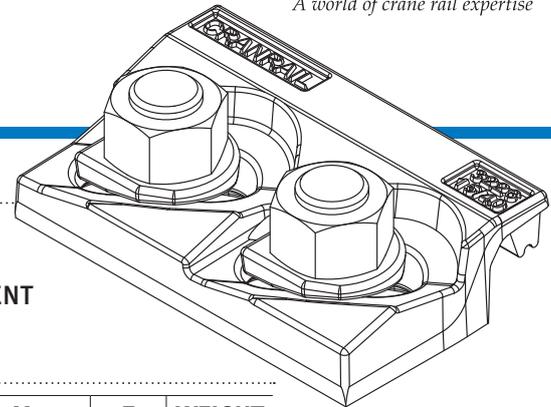
3226/15

Gantrail Bolted Fixing

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3226/15

The GANTRAIL 3226/15 adjustable crane rail clip is designed to fix the largest of rails in the most arduous applications. It can withstand a horizontal force from the rail of 250kN (25.5 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD using
Grade 8.8 bolt 250kN
15mm HORIZONTAL RAIL ADJUSTMENT

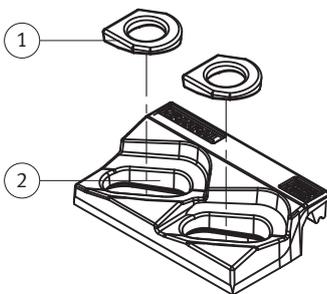
DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|-----------------|-----------------|----|--------------|
| 3226/15/40 | 40 | 55 | 45 | 30 | 1.50 |

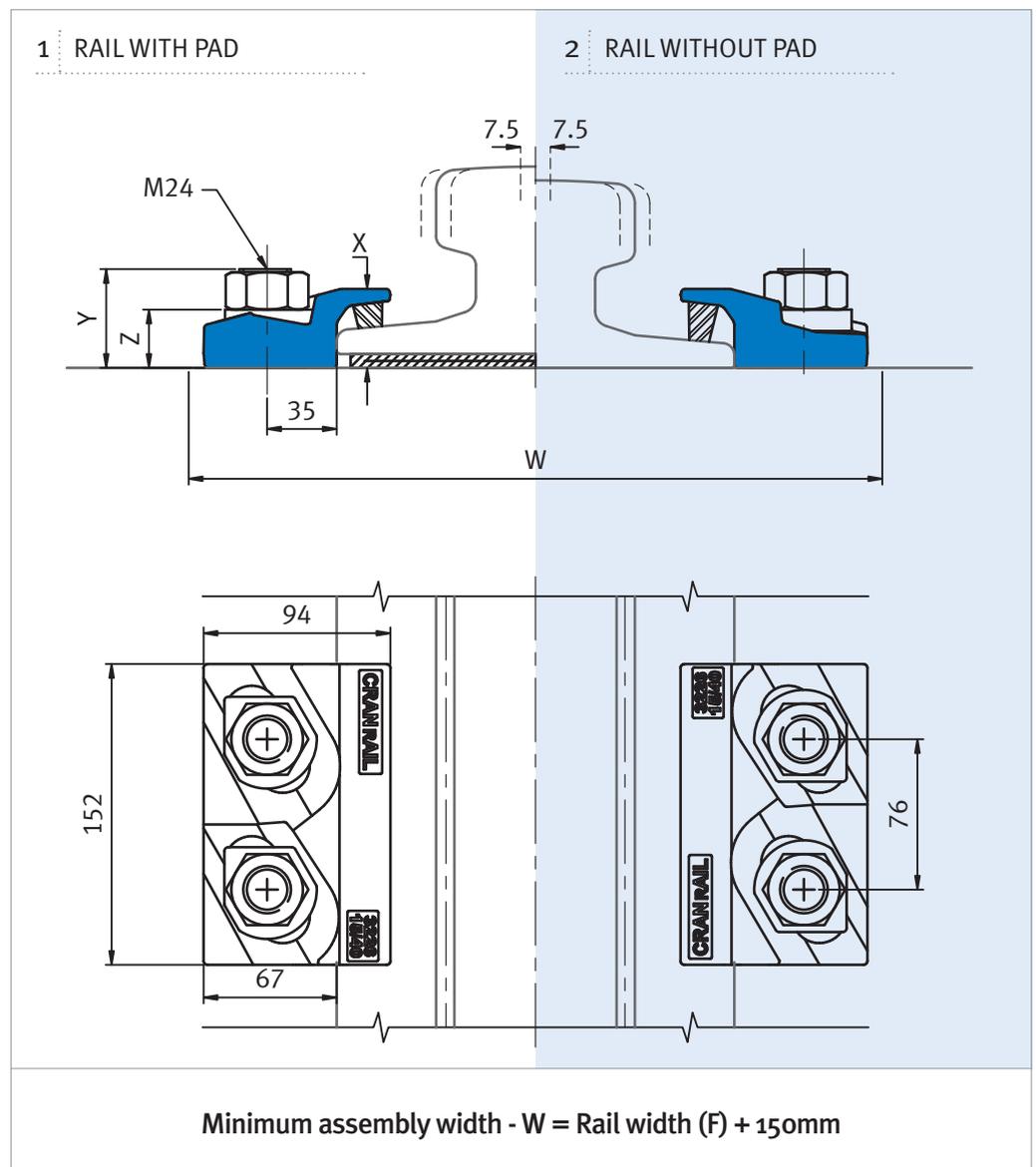
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

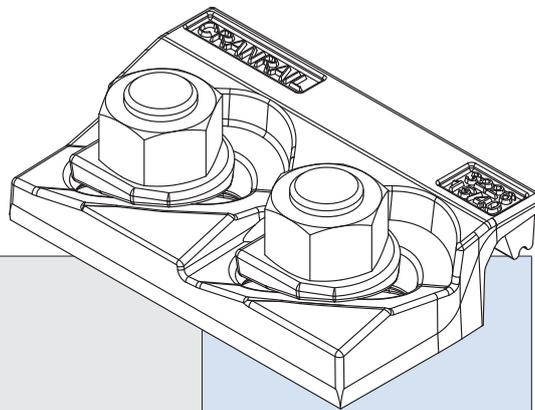


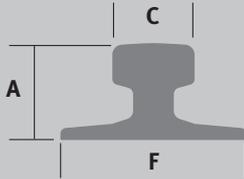
1. Special washer
2. Clip with integral rubber block



3226/15

Gantrail Bolted Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 120 | 220 | 120 | 105 | 3226/15/40 | 3226/15/40 |
| A 150 | 220 | 150 | 150 | 3226/15/40 | 3226/15/40 |
| MRS 86 | 165 | 102 | 102 | 3226/15/40 | 3226/15/40 |
| MRS 87 A (PRI85R) | 152 | 102 | 152 | 3226/15/40 | 3226/15/40 |
| MRS 87 B (175 CR) | 152 | 102 | 152 | 3226/15/40 | 3226/15/40 |
| GCR 183 | 280 | 75 | 120 | 3226/15/40 | 3226/15/40 |
| ISCR 100 | 150 | 102 | 150 | 3226/15/40 | 3226/15/40 |
| ISCR 120 | 170 | 120 | 170 | 3226/15/40 | 3226/15/40 |
| QU 100 | 150 | 100 | 150 | 3226/15/40 | 3226/15/40 |
| QU 120 | 170 | 120 | 170 | 3226/15/40 | 3226/15/40 |
| JIS 50 | 127 | 63 | 145 | 3226/15/40 | 3226/15/40 |
| CR 73 | 140 | 100 | 135 | 3226/15/40 | 3226/15/40 |
| 86 kg AS | 165 | 102 | 102 | 3226/15/40 | 3226/15/40 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

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INSTALLATION INSTRUCTIONS:

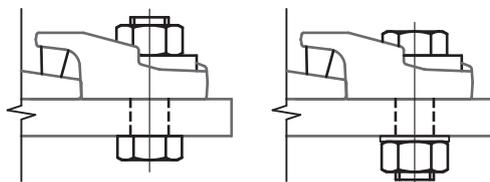
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

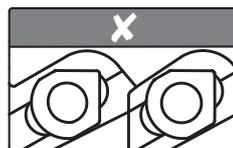
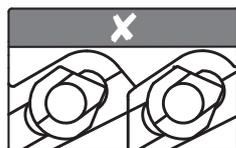
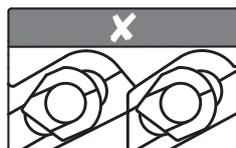
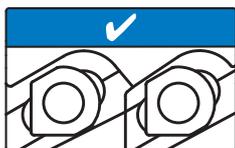
TIGHTENING TORQUE
Grade 8.8 bolt 600Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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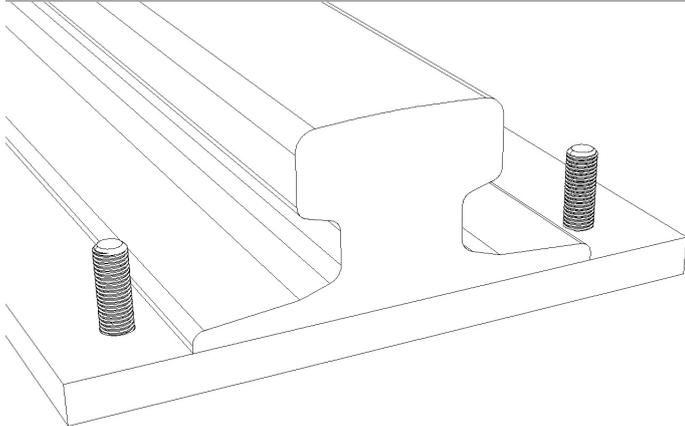
6 Series Clips

Fitting Instructions



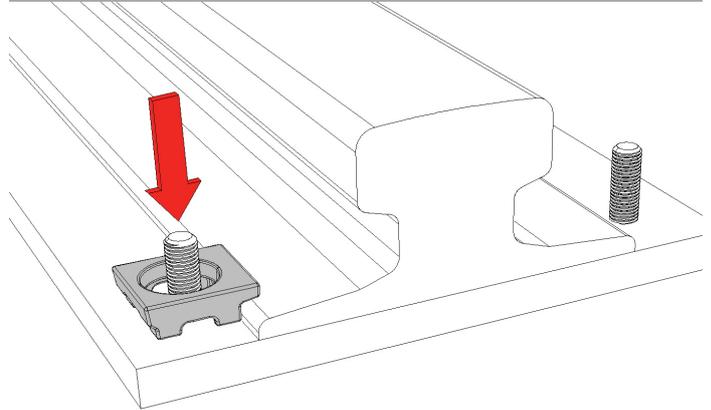
These instructions to be read in conjunction with product datasheet, available from www.gantrail.com.

FIGURE 1



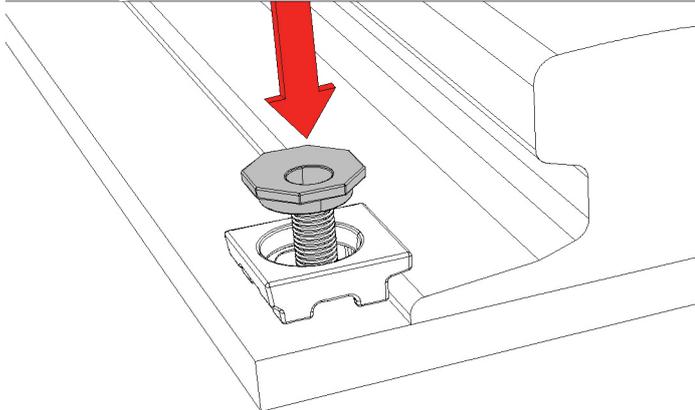
Insert bolt through hole in rail supporting structure.

FIGURE 2



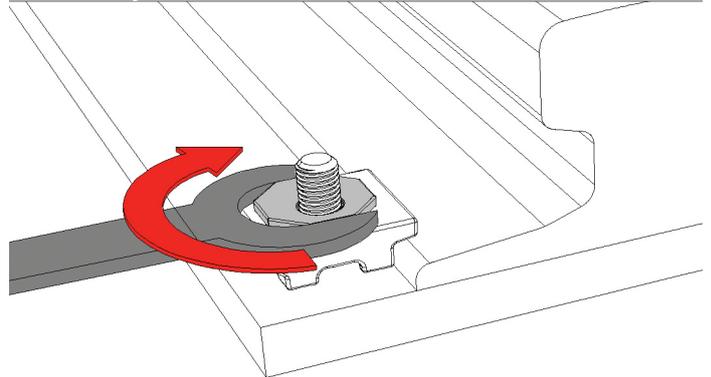
Place clip body over bolt.

FIGURE 3



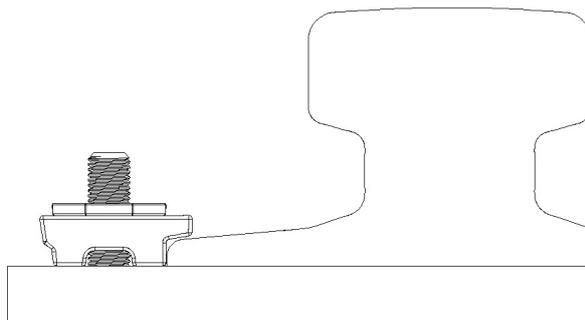
Place cam washer over bolt.

FIGURE 4



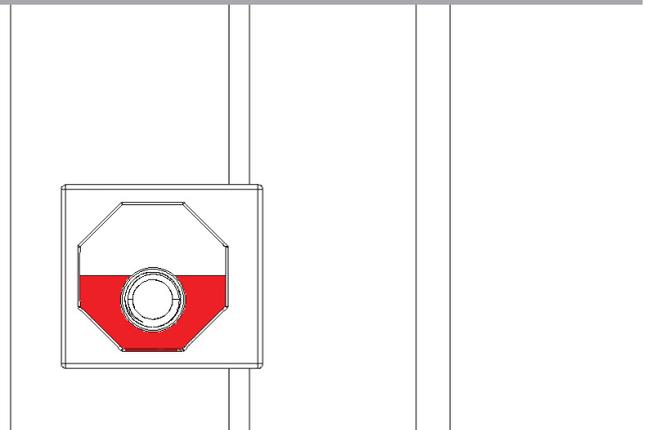
Using C Spanner to rotate cam washer to move clip into metal to metal contact with bottom edge of rail.

FIGURE 5



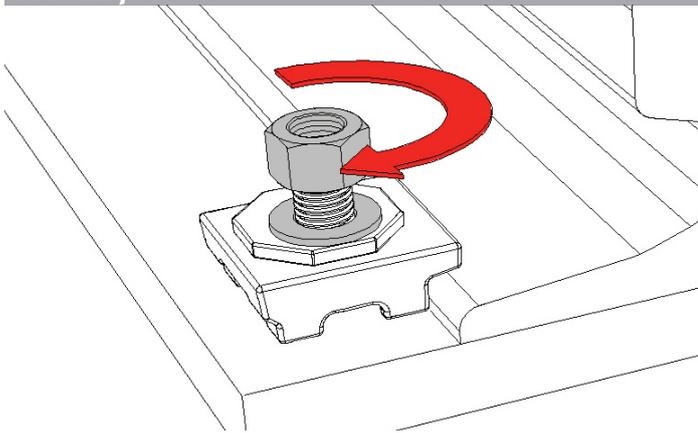
Clip in metal to metal contact with bottom edge of rail.

FIGURE 6



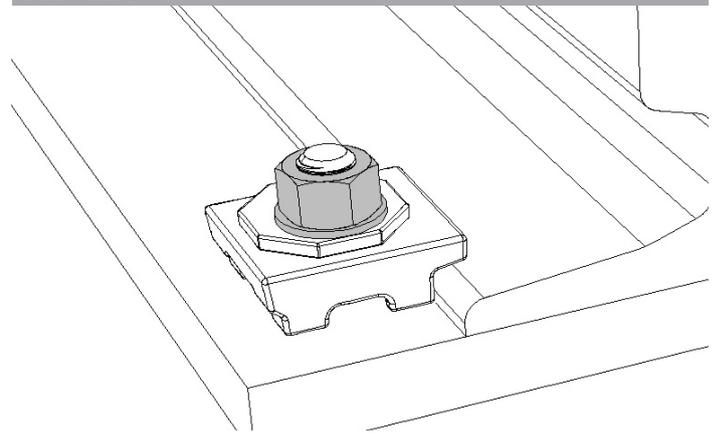
IMPORTANT: Ensure bolt is positioned in the right hand half of the cam washer.

FIGURE 7



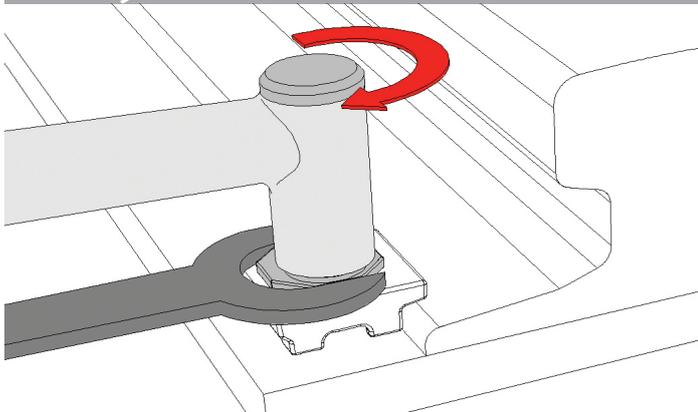
Place washer over bolt and run nut down bolt.

FIGURE 8



Nut to make full contact with washer.

FIGURE 9



Hold clip in position with C spanner, tighten nut to required torque given on clip datasheet.

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Certificate No. 5180

6124/20

Gantrail Bolted Fixing

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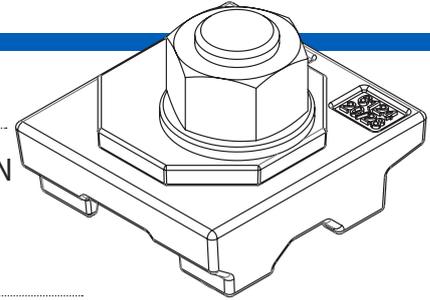
The GANTRAIL 6124/20 adjustable crane rail clip is designed to fix heavy rails in the most arduous applications. It can withstand a horizontal force from the rail of 125kN (12.7 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD using Grade 8.8 bolt 125kN
20mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT KG |
|------------|----|-----------------|-----------------|----|--------------|
| 6124/20/28 | 28 | 65 | 55 | 35 | 0.90 |
| 6124/20/31 | 31 | 65 | 55 | 38 | 0.93 |

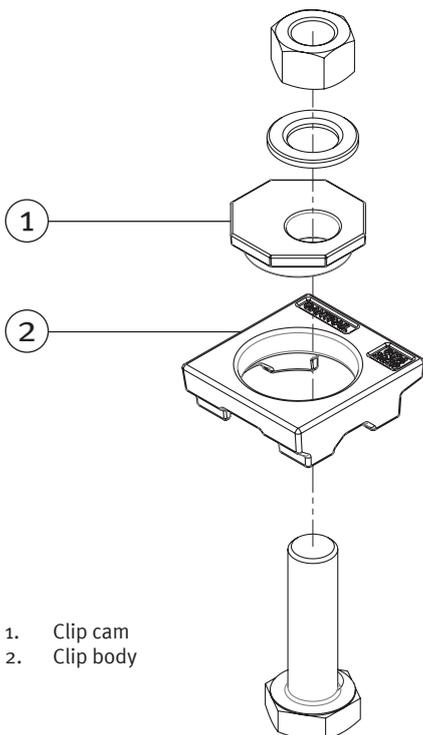


6124/20

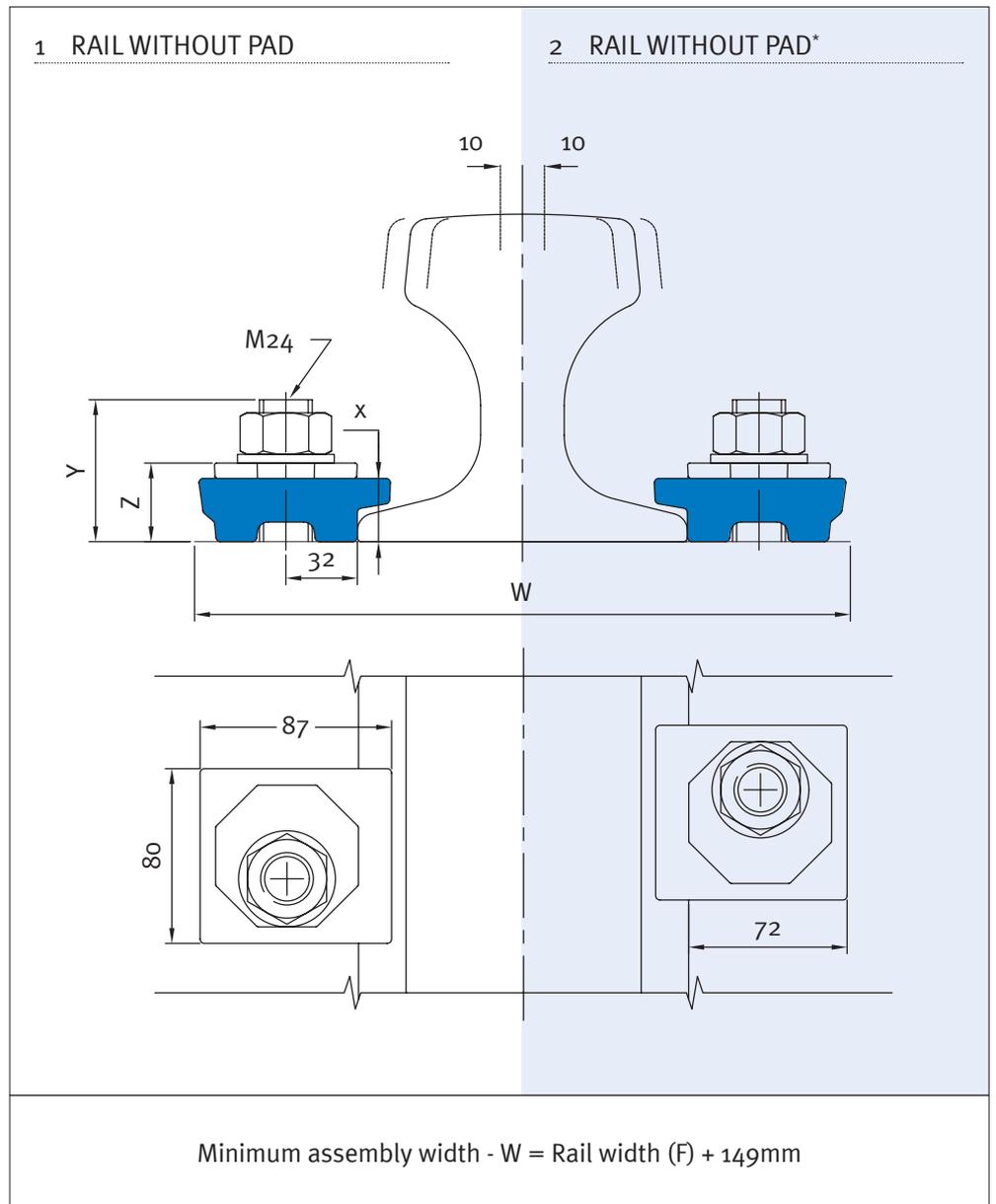
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.

COMPONENTS

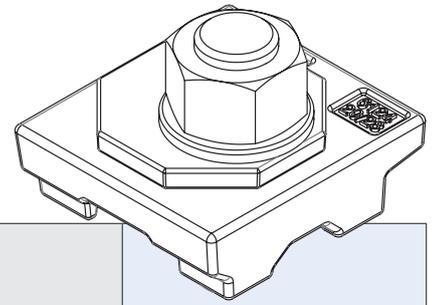


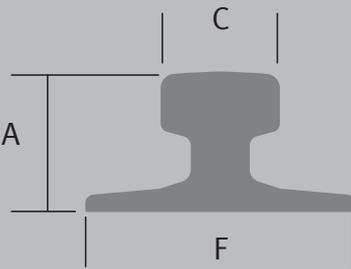
1. Clip cam
2. Clip body



6124/20

Gantrail Base Fixing



|  | F MM | C MM | A MM | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|---|
| UIC60 | 150 | 72 | 172 | Not applicable | 6124/20/28 |
| 56 E1 | 140 | 70 | 159 | Not applicable | 6124/20/28 |
| A100 | 200 | 100 | 95 | Not applicable | 6124/20/28 |
| A120 | 220 | 120 | 105 | Not applicable | 6124/20/31 |
| MRS 87A | 152 | 102 | 152 | Not applicable | 6124/20/31 |
| QU100 | 150 | 100 | 150 | Not applicable | 6124/20/28 |
| QU120 | 150 | 100 | 150 | Not applicable | 6124/20/31 |
| ISCR 100 | 150 | 100 | 150 | Not applicable | 6124/20/28 |
| ISCR 120 | 170 | 120 | 170 | Not applicable | 6124/20/31 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact **GANTRAIL** for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

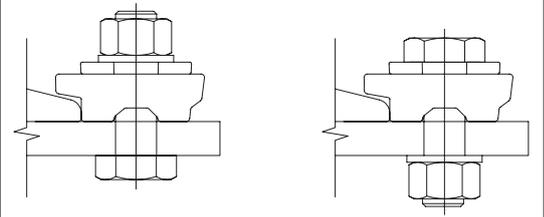
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

TIGHTENING TORQUE
Grade 8.8 bolt 200Nm
Grade 10.9 bolt 300Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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Certificate No. 5180

6124/20C

Gantrail Bolted Fixing

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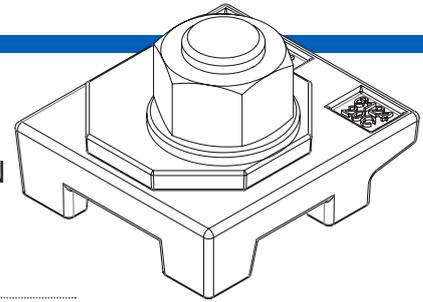
The GANTRAIL 6124/20C adjustable crane rail clip is designed to fix heavy rails in the most arduous applications. It can withstand a horizontal force from the rail of 125kN (12.7 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD using Grade 8.8 bolt 125kN
20mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT KG |
|-------------|----|--------------|--------------|----|-----------|
| 6124/20C/26 | 26 | 65 | 55 | 35 | 0.84 |

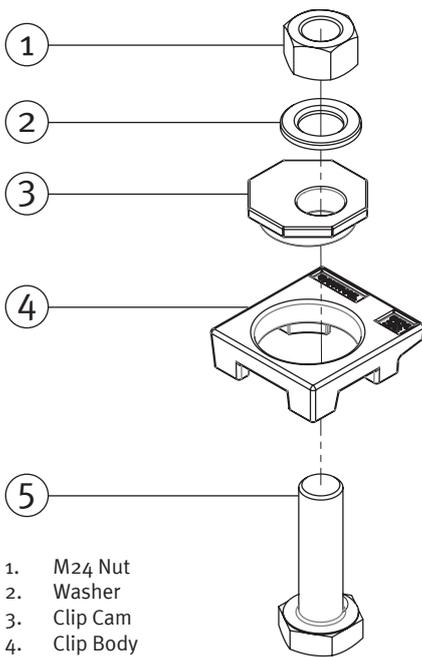


6124/20C

FEATURES

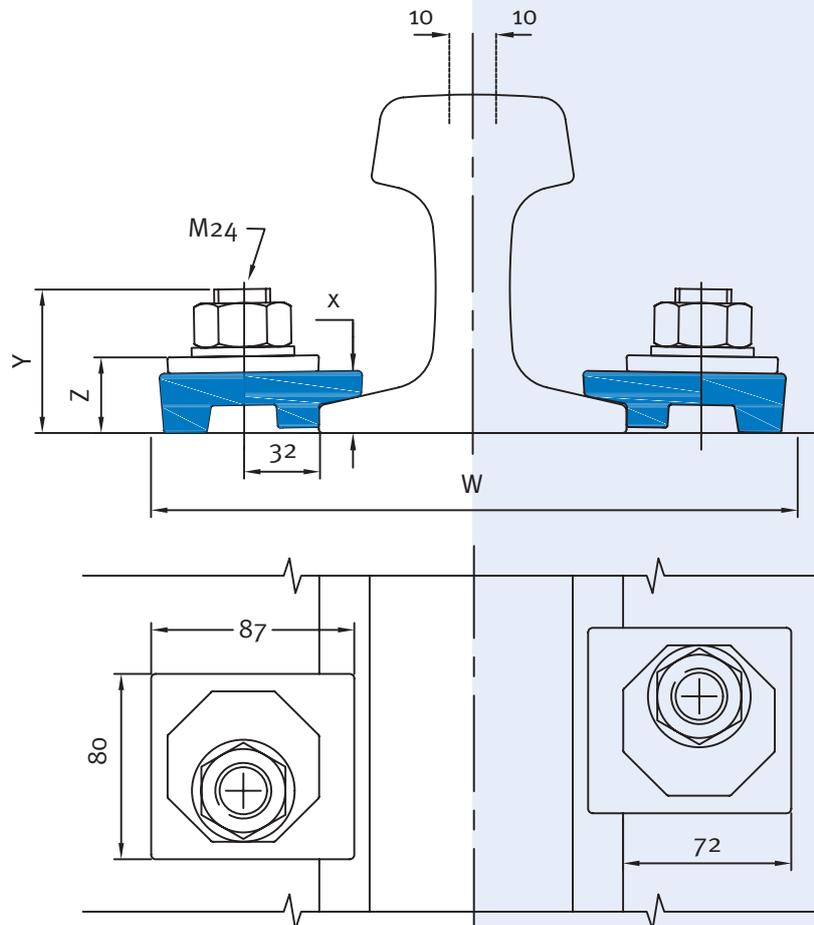
- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.

COMPONENTS



RAIL WITHOUT RAD

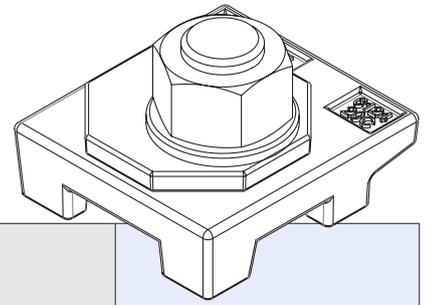
2 RAIL WITHOUT PAD*

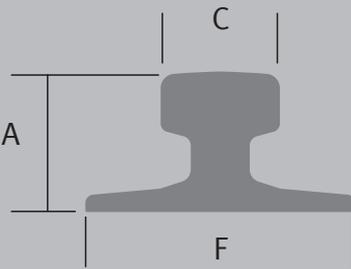


Minimum assembly width - W = Rail width (F) + 152mm

6124/20C

Gantrail Base Fixing



|  | F MM | C MM | A MM | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD* |
|---|---------|---------|---------|--|---|
| A75 | 200 | 75 | 85 | Not applicable | 6124/20C/26 |
| A100 | 200 | 100 | 95 | Not applicable | 6124/20C/26 |
| MRS67 | 131.8 | 79.4 | 146 | Not applicable | 6124/20C/26 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact **GANTRAIL** for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

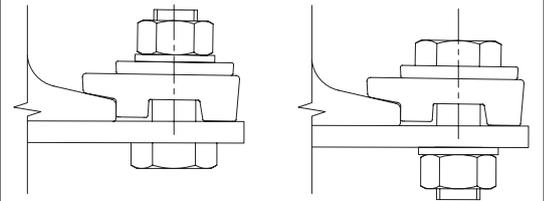
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult **GANTRAIL** for guidance.

TIGHTENING TORQUE
Grade 8.8 bolt 600Nm

Please contact **GANTRAIL** for full installation instructions.

BOLT CONFIGURATIONS



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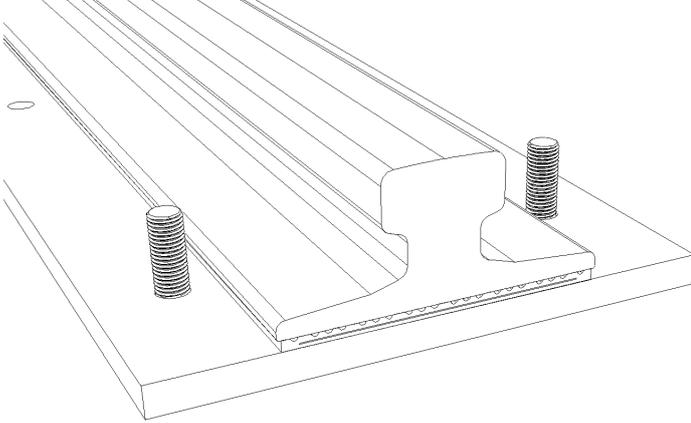
7 Series Clips

Fitting Instructions



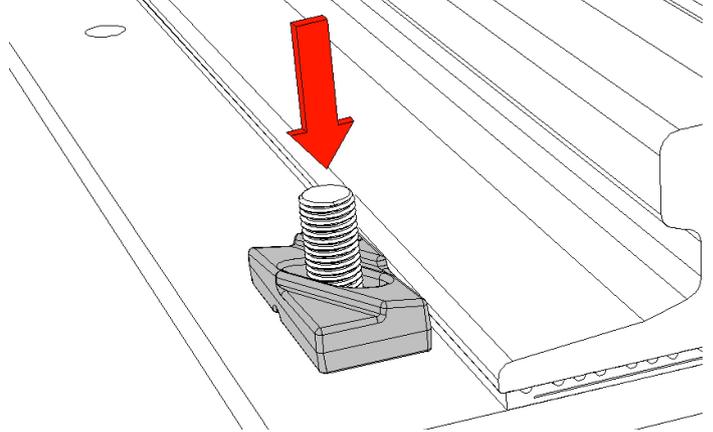
These instructions to be read in conjunction with product datasheet, available from www.gantrail.com.

FIGURE 1



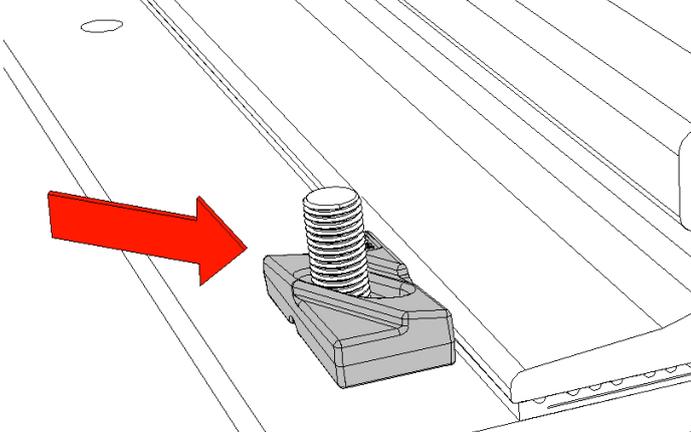
Insert bolt(s) through hole(s) in rail supporting structure.

FIGURE 2



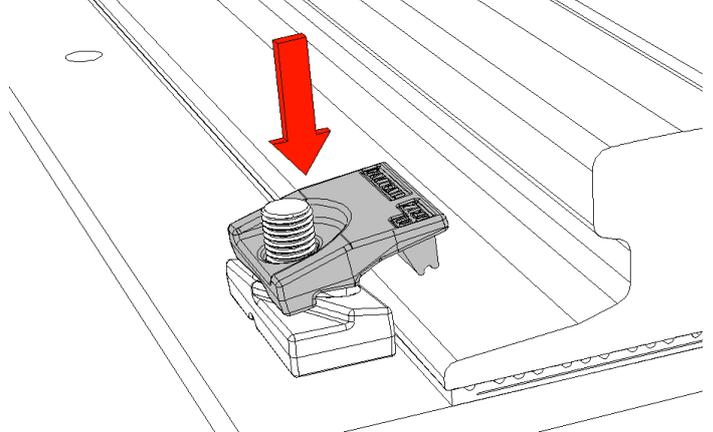
Place body of clip base over bolt.

FIGURE 3



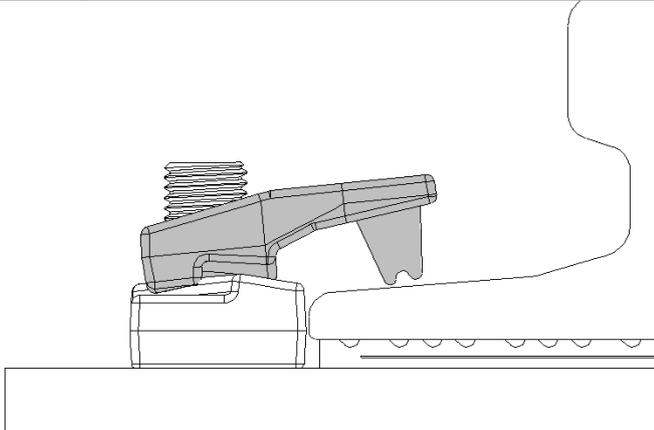
Move clip base into metal-to-metal contact with bottom edge of rail.

FIGURE 4



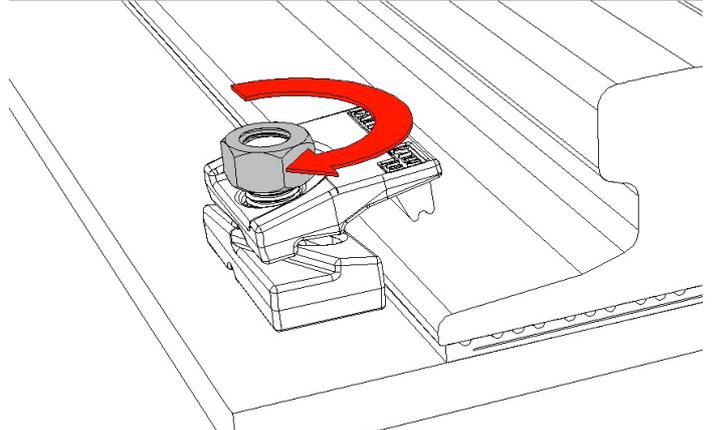
Place clip top over bolt with rubber 'nose' resting on upper surface of bottom flange of rail.

FIGURE 5



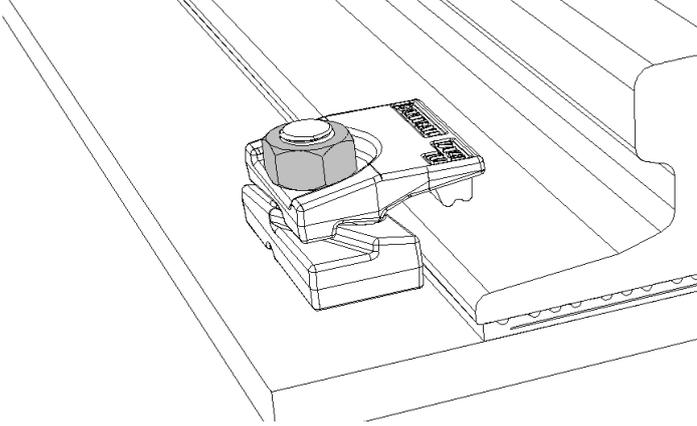
Bottom surface of clip top will not be in full metal-to-metal contact with clip base.

FIGURE 6



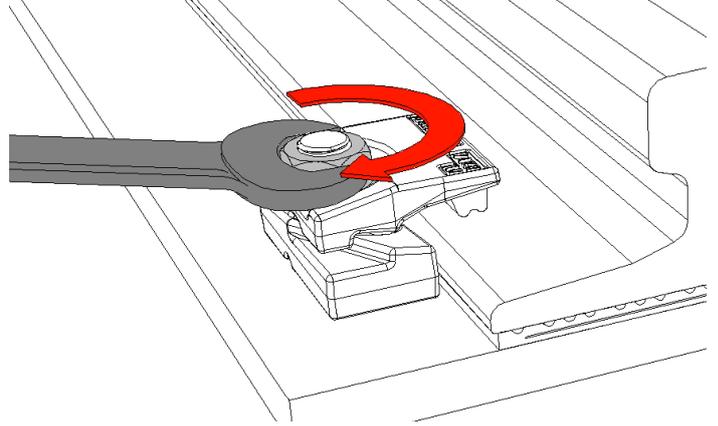
Run nut down bolt.

FIGURE 7



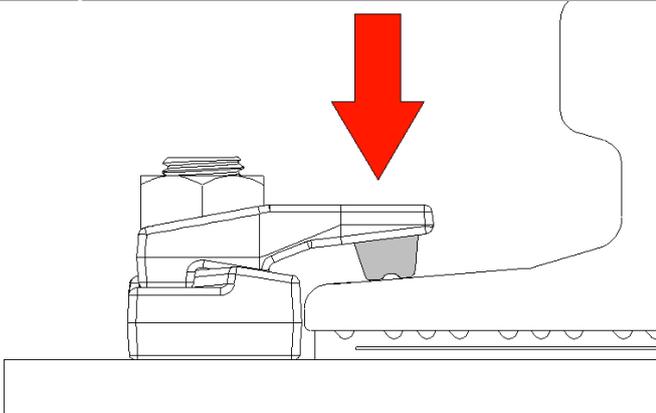
Nut to make contact with clip top.

FIGURE 8



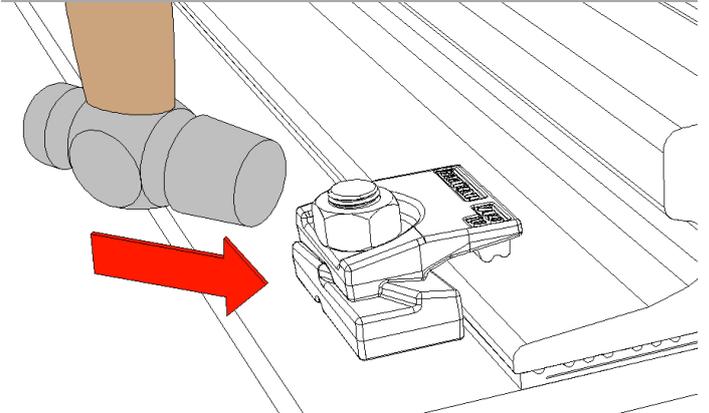
Tighten nut with spanner.

FIGURE 9



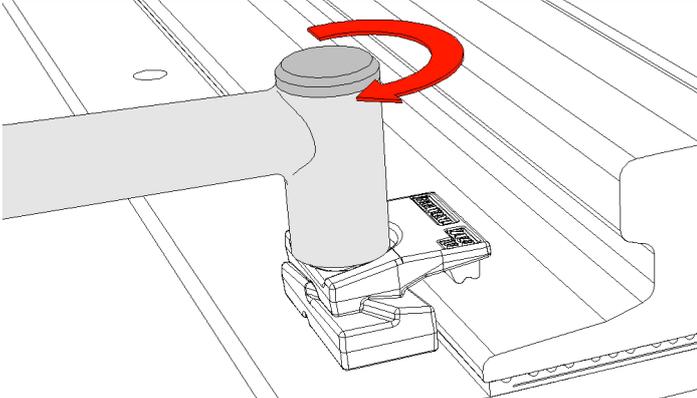
Tighten only until rubber 'nose' is compressed and bottom surface of clip top is in full metal-to-metal contact with clip base. Do not apply full torque yet.

FIGURE 10



With hammer of about 1 kilo, tap clip base towards rail along direction of slot in clip.

FIGURE 11



Tighten nut to required torque given on product datasheet.

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Certificate No. 5180

7120/10

Gantrail Bolted Base Fixing



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The GANTRAIL 7120/10 adjustable crane rail clip is designed to fix heavy rails, on narrow girders, in the most arduous applications. It can withstand a horizontal force from the rail of 75kN (7.6 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

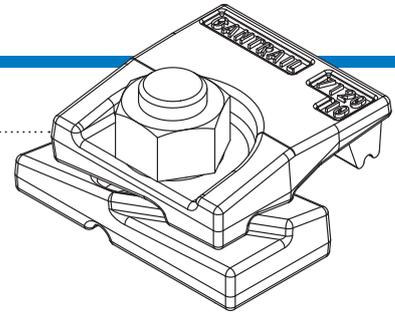
SPECIFICATIONS:

| BOLT GRADE | 8.8 | 10.9 |
|--------------------|-----|------|
| MAX SIDE LOAD (kN) | 75 | 100 |
| BOLT TORQUE (Nm) | 390 | 600 |

10mm HORIZONTAL RAIL ADJUSTMENT

DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 7120/10/35 | 35 | 45 | 45 | 25 | 0.69 |
| 7120/10/38 | 38 | 50 | 45 | 28 | 0.77 |
| 7120/10/48 | 48 | 60 | 55 | 38 | 0.98 |

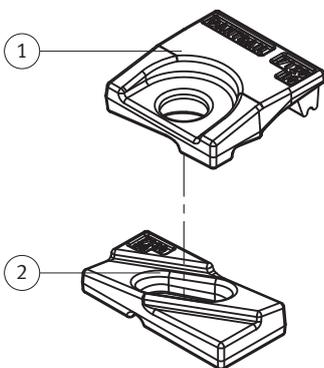


7120/10

FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is bolted to the rail support.
- The two main parts are locked together on tightening the nut.
- A special vulcanised rubber block applies a controlled force to the rail.

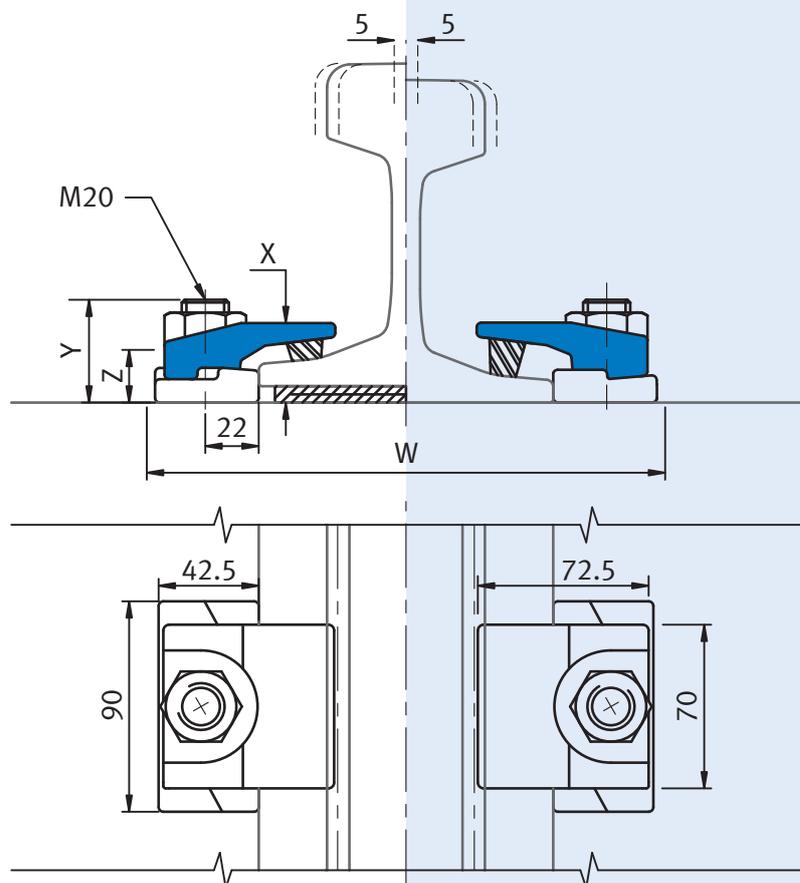
COMPONENTS



1. Clip cap with integral rubber block
2. Clip base

1 RAIL WITH PAD

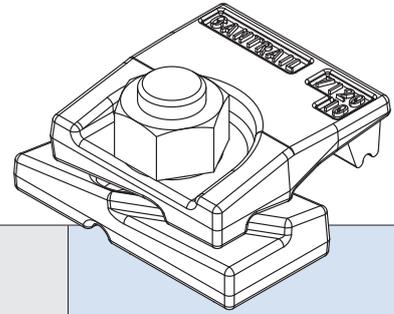
2 RAIL WITHOUT PAD

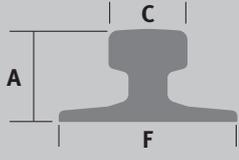


Minimum assembly width - $W = \text{Rail width (F)} + 95\text{mm}$

7120/10

Gantrail Bolted Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 65 | 175 | 65 | 75 | 7120/10/38 | 7120/10/35 |
| A 75 | 200 | 75 | 85 | 7120/10/38 | 7120/10/35 |
| A 100 | 200 | 100 | 95 | 7120/10/38 | 7120/10/35 |
| S 33 | 105 | 58 | 134 | 7120/10/38 | 7120/10/35 |
| S 41 | 125 | 67 | 138 | 7120/10/38 | 7120/10/35 |
| S 49 | 125 | 67 | 149 | 7120/10/38 | 7120/10/35 |
| 56 E 1 | 140 | 70 | 159 | 7120/10/38 | 7120/10/35 |
| ISCR 50 | 90 | 50 | 90 | 7120/10/38 | 7120/10/35 |
| ISCR 60 | 105 | 60 | 105 | 7120/10/38 | 7120/10/35 |
| ISCR 80 | 130 | 82 | 130 | 7120/10/38 | 7120/10/35 |
| QU 70 | 120 | 70 | 120 | 7120/10/38 | 7120/10/35 |
| QU 80 | 130 | 80 | 130 | 7120/10/38 | 7120/10/35 |
| JIS 37 | 122 | 63 | 122 | 7120/10/38 | 7120/10/35 |
| JIS 40 | 122 | 64 | 140 | 7120/10/38 | 7120/10/35 |
| 41 kg AS | 127 | 64 | 137 | 7120/10/38 | 7120/10/35 |
| 50 kg AS | 127 | 70 | 157 | 7120/10/38 | 7120/10/35 |
| 53 kg AS | 146 | 70 | 157 | 7120/10/38 | 7120/10/35 |
| UIC 54 | 140 | 70 | 159 | 7120/10/38 | 7120/10/35 |
| UIC 60 | 150 | 72 | 172 | 7120/10/38 | 7120/10/35 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips.

GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

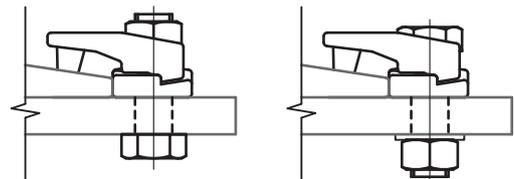
The hexagon headed fixing bolt can be inserted from above or below the supporting structure – see adjacent configurations.

If it is desired to fix the clip with a welded stud, this may be possible. Please consult GANTRAIL for guidance.

TIGHTENING TORQUE
Grade 8.8 bolt 390Nm
Grade 10.9 bolt 600Nm

Please contact GANTRAIL for full installation instructions.

BOLT CONFIGURATIONS



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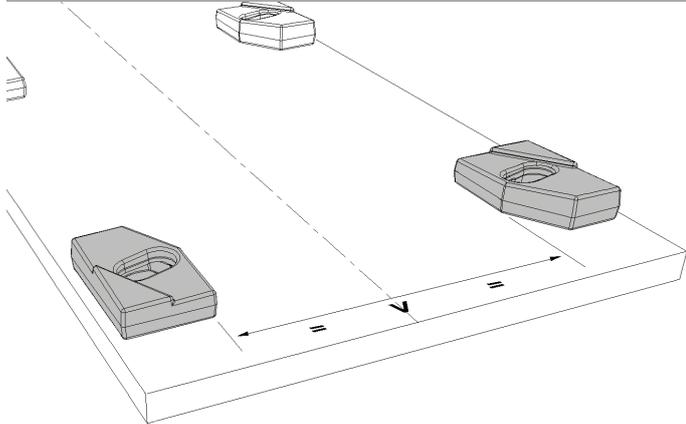
9 Series Clips

Fitting Instructions



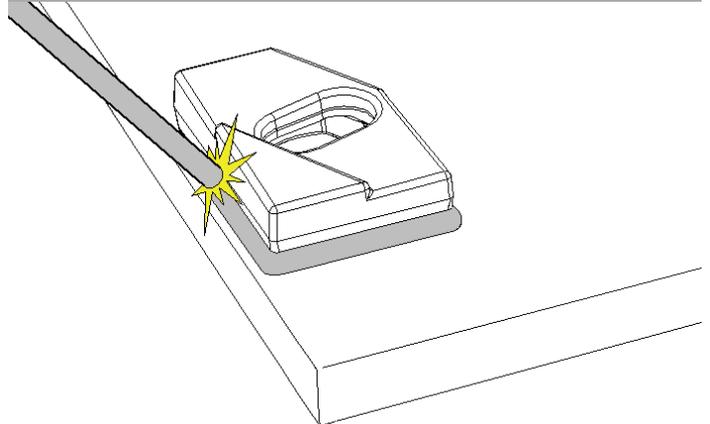
These instructions to be read in conjunction with product datasheet, available from www.gantrail.com.

FIGURE 1



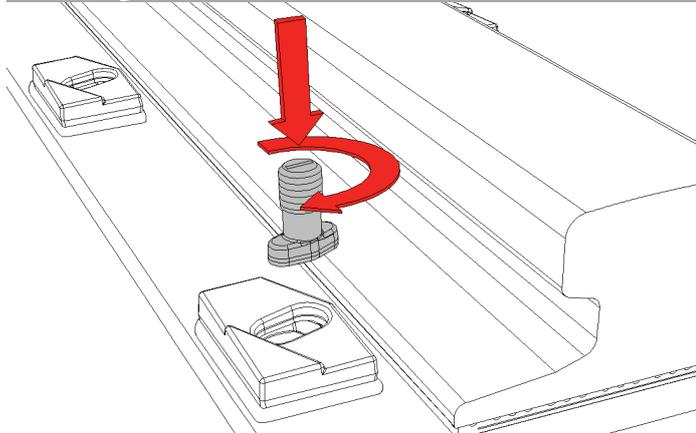
Mark out and position clip base across rail centreline according to 'V' dimension on product datasheet. Position of clip base along rail, to suit project requirements or consult GANTRAIL.

FIGURE 2



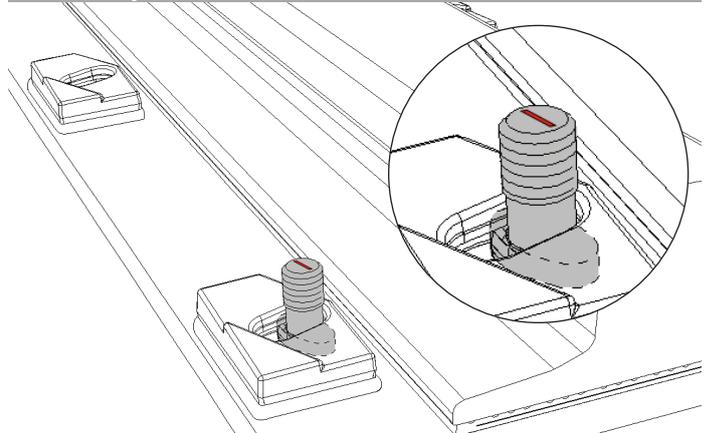
Using suitable electrode, weld clip base(s) to rail support according to 'WELD DETAIL' on product datasheet.

FIGURE 3



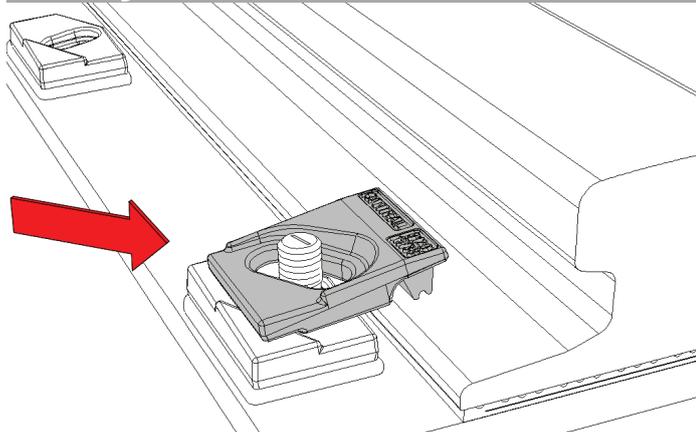
With rail and pad in position, insert special captive bolt into clip base and rotate clockwise until snug.

FIGURE 4



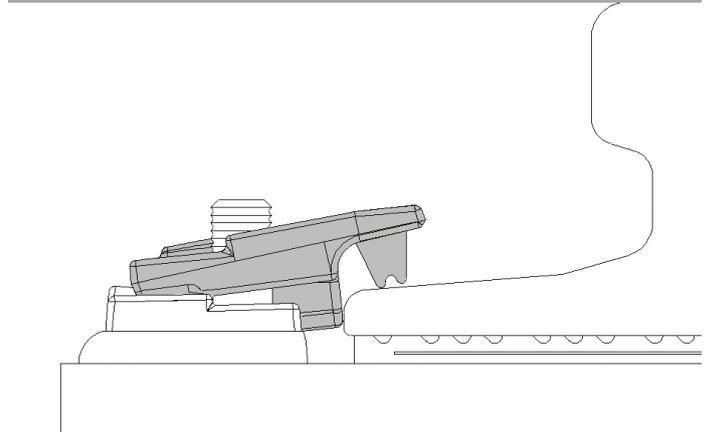
Indicator line in top of bolt will be 90 degrees to slot in clip base.

FIGURE 5



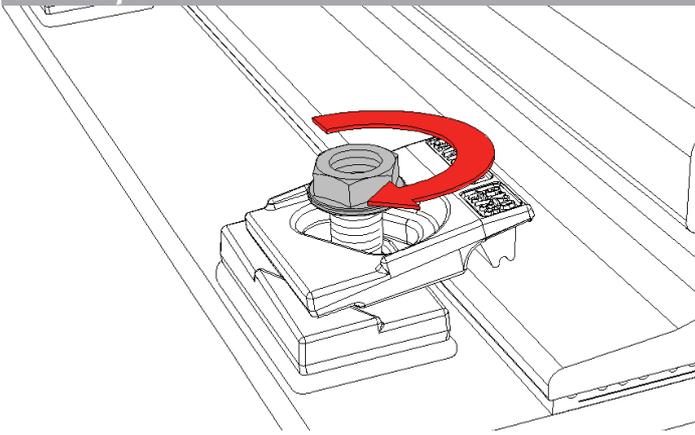
Place clip top over captive bolt(s) with rubber 'nose' resting on upper surface of bottom flange of rail. Move clip top into metal-to-metal contact with bottom edge of rail.

FIGURE 6



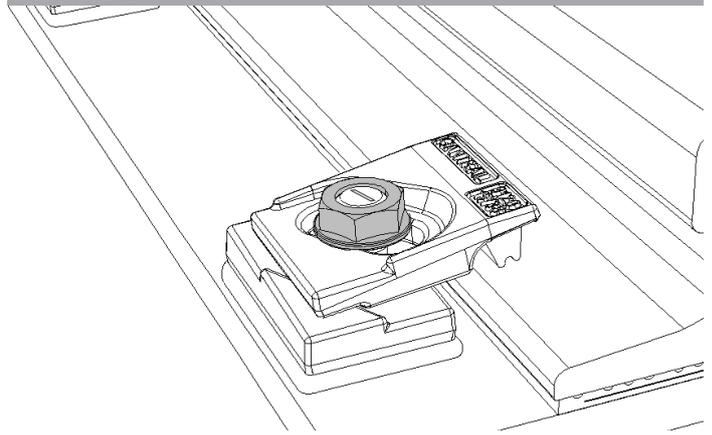
Bottom surface of clip top will not be in full metal-to-metal contact with clip base.

FIGURE 7



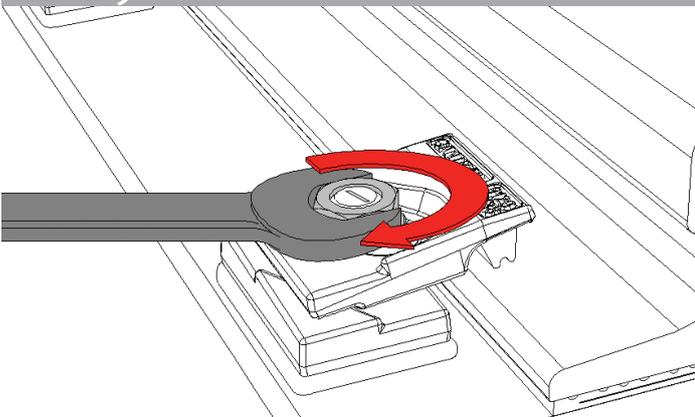
Run nut(s) down bolt(s).

FIGURE 8



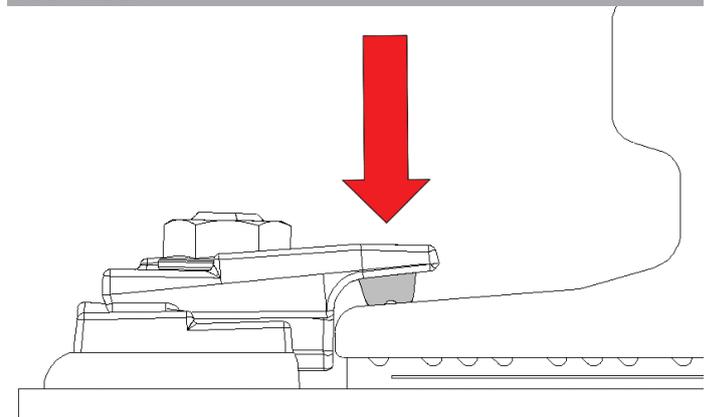
Nut(s) to make contact with clip top.

FIGURE 9



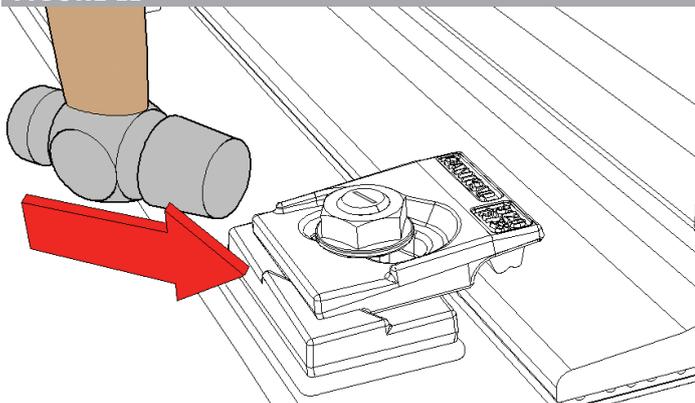
Tighten nut(s) with spanner.

FIGURE 10



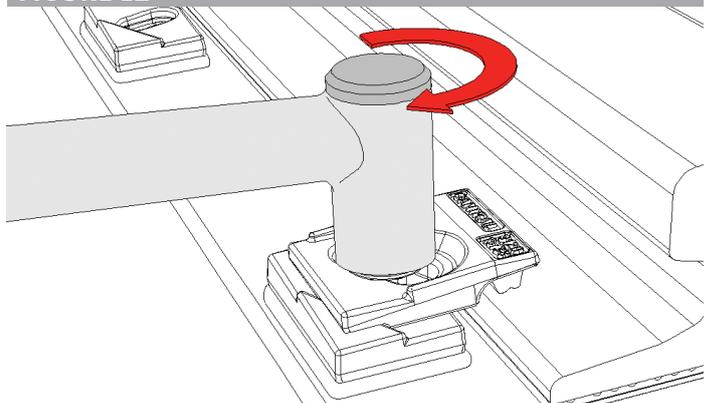
Tighten only until rubber 'nose' is compressed and bottom surface of clip top is in full metal-to-metal contact with clip base. Do not apply full torque yet.

FIGURE 11



With hammer of about 1 kilo, tap clip top towards rail along direction of slot(s) in clip top.

FIGURE 12



Tighten nut(s) to required torque given on clip datasheet.

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Certificate No. 5180

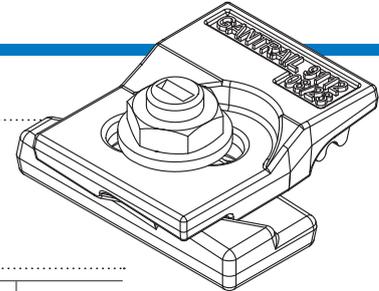
9112/08

Gantrail Welded Base Fixing

www.gantrail.com



GANTRAIL®
A world of crane rail expertise



9112/08

The GANTRAIL 9112/08 adjustable crane rail clip is designed to fix light rails, on narrow girders, in the most arduous applications. It can withstand a horizontal force from the rail of 20kN (2.0 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 20kN
8mm HORIZONTAL RAIL ADJUSTMENT

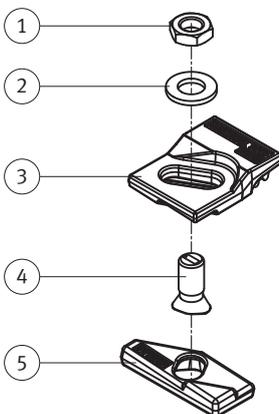
DIMENSIONS (mm):

| REF NO. | X | Y (FULL NUT) | Y (THIN NUT) | Z | WEIGHT kg |
|------------|----|--------------|--------------|----|-----------|
| 9112/08/23 | 23 | 35 | 30 | 17 | 0.26 |
| 9112/08/30 | 30 | 35 | 30 | 17 | 0.29 |

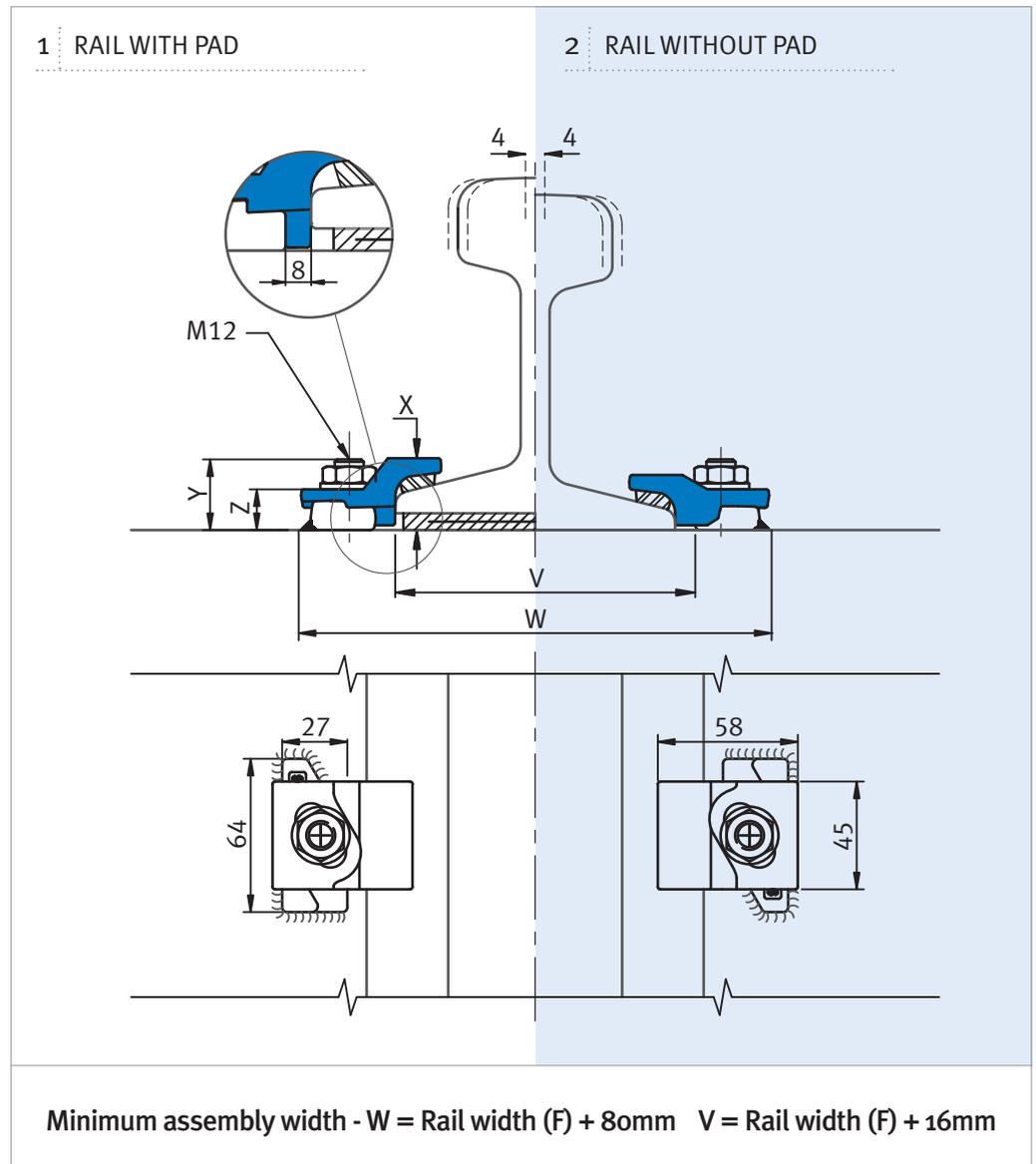
FEATURES

- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 8.8 bolt.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

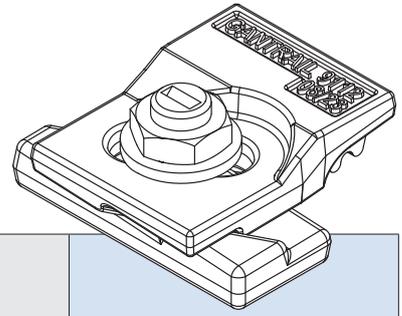


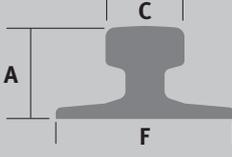
1. Nut
2. Hardened washer
3. Clip cap with integral rubber block
4. M12 Captive bolt
5. Weldable base



9112/08

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 45 | 125 | 45 | 55 | 9112/08/30 | 9112/08/30 |
| A55 | 150 | 55 | 65 | 9112/08/30 | 9112/08/30 |
| S 10 | 58 | 32 | 70 | 9112/08/30 | 9112/08/23 |
| S 14 | 70 | 38 | 80 | 9112/08/30 | 9112/08/23 |
| S 18 | 82 | 43 | 92 | 9112/08/30 | 9112/08/23 |
| S 20 | 82 | 44 | 100 | 9112/08/30 | 9112/08/23 |
| S 24 | 90 | 53 | 115 | 9112/08/30 | 9112/08/23 |
| S 30 | 180 | 60 | 108 | 9112/08/30 | 9112/08/23 |
| ISCOR 22 | 95 | 50 | 95 | 9112/08/30 | 9112/08/23 |
| ISCOR 30 | 110 | 57 | 110 | 9112/08/30 | 9112/08/23 |
| JIS 12 | 70 | 38 | 70 | 9112/08/30 | 9112/08/23 |
| JIS 15 | 79 | 43 | 79 | 9112/08/30 | 9112/08/23 |
| JIS 22 | 94 | 51 | 94 | 9112/08/30 | 9112/08/23 |
| 15 kg BHP | 79 | 43 | 79 | 9112/08/30 | 9112/08/23 |
| 22 kg BHP | 94 | 51 | 94 | 9112/08/30 | 9112/08/23 |
| ASCE 12 | 51 | 25 | 51 | 9112/08/30 | 9112/08/23 |
| ASCE 20 | 67 | 34 | 67 | 9112/08/30 | 9112/08/23 |
| ASCE 25 | 70 | 38 | 70 | 9112/08/30 | 9112/08/23 |
| ASCE 30 | 79 | 43 | 79 | 9112/08/30 | 9112/08/23 |
| ASCE 40 | 89 | 48 | 89 | 9112/08/30 | 9112/08/23 |
| ASCE 50 | 98 | 54 | 98 | 9112/08/30 | 9112/08/23 |
| ASCE 60 | 98 | 54 | 98 | 9112/08/30 | 9112/08/23 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

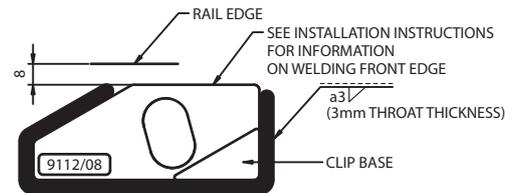
Weld all round the clip base, except the side closest and parallel to the rail, with a 3mm throat thickness fillet weld, using low hydrogen electrodes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

If a continuous weld around the clip base is required, this is possible. Please consult GANTRAIL for guidance.

TIGHTENING TORQUE 60Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



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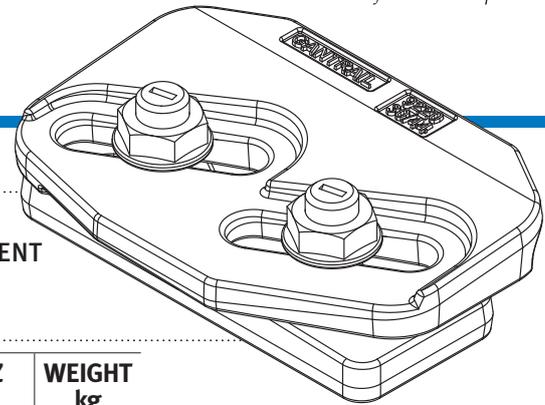
9220/30

Gantrail Welded Base Fixing

www.gantrail.com



GANTRAIL
A world of crane rail expertise



9220/30

The GANTRAIL 9220/30 adjustable crane rail clip is designed to fix the largest rails in the most arduous applications. It can withstand a horizontal force from the rail of 300kN (30.6 tonnes). Its low profile allows it to be used with cranes that are fitted with guide rollers.

SPECIFICATIONS:

MAX SIDE LOAD 300kN
30mm HORIZONTAL RAIL ADJUSTMENT

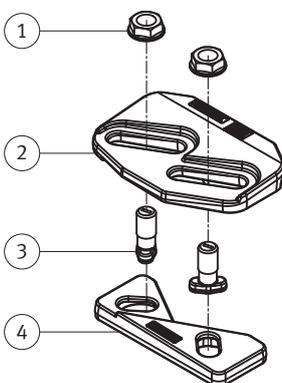
DIMENSIONS (mm):

| REF NO. | X | Y | Z | WEIGHT kg |
|------------|----|----|----|-----------|
| 9220/30/44 | 44 | 49 | 33 | 3.98 |

FEATURES

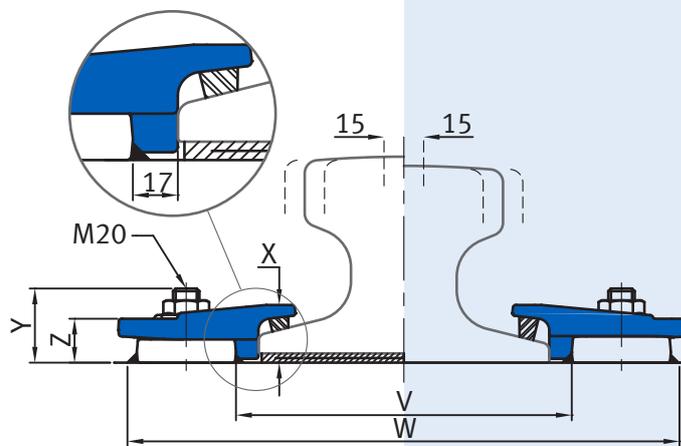
- The proven design has been used successfully for many years throughout the world.
- The clip is welded to the rail support. No access is required from below.
- The two main parts are locked together on tightening the grade 8.8 bolts.
- The clip has a self-tightening mechanism.
- A special vulcanised rubber block applies a controlled force to the rail.

COMPONENTS

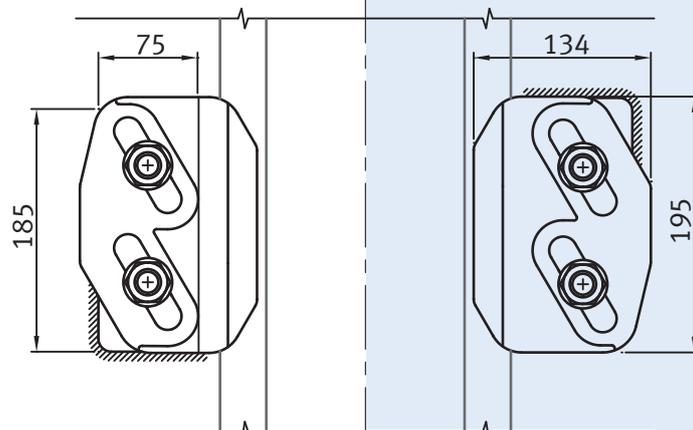


1. Flange nuts
2. Clip cap with integral rubber block
3. M20 Captive bolts
4. Weldable base

1 RAIL WITH PAD



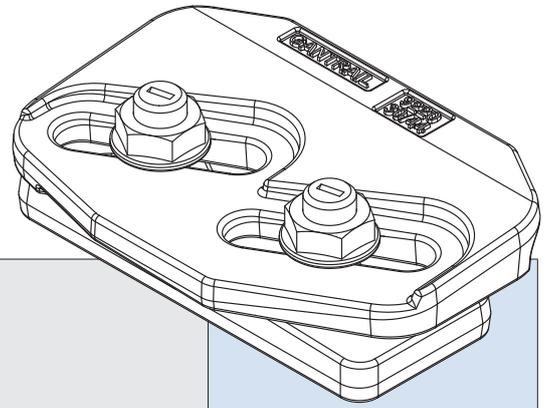
2 RAIL WITHOUT PAD

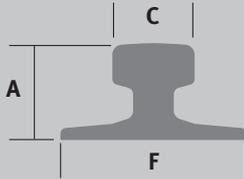


Minimum assembly width - $W = \text{Rail width (F)} + 200\text{mm}$ $V = \text{Rail width (F)} + 34\text{mm}$

9220/30

Gantrail Welded Base Fixing



|  | F mm | C mm | A mm | 1. CLIP REFERENCE FOR RAIL WITH PAD | 2. CLIP REFERENCE FOR RAIL WITHOUT PAD |
|---|---------|---------|---------|--|---|
| A 120 | 220 | 120 | 105 | 9220/30/44 | - |
| A 150 | 220 | 150 | 150 | 9220/30/44 | 9220/30/44 |
| 89 kg CR | 178 | 102 | 114 | 9220/30/44 | 9220/30/44 |
| MRS 86 | 165 | 102 | 102 | 9220/30/44 | - |
| MRS 125 | 180 | 120 | 180 | - | 9220/30/44 |
| MRS 221 | 220 | 220 | 160 | 9220/30/44 | 9220/30/44 |
| ISCR 120 | 170 | 120 | 170 | 9220/30/44 | 9220/30/44 |
| KP 140 | 170 | 140 | 170 | 9220/30/44 | 9220/30/44 |
| QU 120 | 170 | 120 | 170 | 9220/30/44 | 9220/30/44 |
| CR 100 | 155 | 120 | 150 | 9220/30/44 | 9220/30/44 |

THIS CLIP CAN BE USED FOR A WIDER SELECTION OF RAILS THAN ILLUSTRATED.

Please contact GANTRAIL for the full range of possible rails. All rails can be fastened with bolted or welded base clips. GANTRAIL may change or improve their products and also alter specifications without notice.

INSTALLATION INSTRUCTIONS:

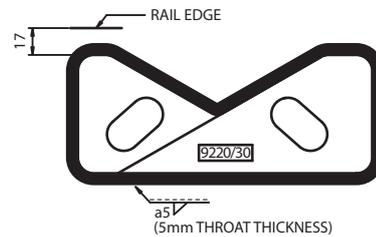
Weld all round the clip base with a 5mm throat thickness fillet weld, using low hydrogen electrodes. Recommended electrodes AWS E7018 or E7028. Clip base is made from weldable grade steel.

*For rail without pad, weld closest to and parallel with the rail must be omitted. Please consult GANTRAIL for guidance.

TIGHTENING TORQUE 350Nm

Please contact GANTRAIL, for full installation instructions.

WELD DETAIL



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9220/30/ET/09/14

Mark 2

Gantrail Resilient Pad For Discontinuous Rail Support

www.gantrail.com



Mark 2

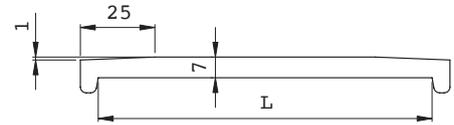
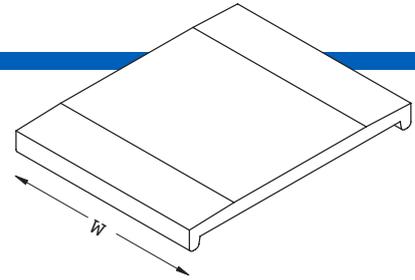
Gantrail Mark 2 crane rail pads are designed for installations where rails are mounted on individual sole plates. Front and back lips sit over the sole plate to prevent pad displacement. The pad is cut to 5mm less than the width of the rail bottom flange. The pads are made in several sizes so that the total area is chosen to suit the expected wheel load.

SPECIFICATIONS:

Soleplate width must match pad 'L' dimension from table below

DIMENSIONS (mm):

| PART No. | L MM | W MM |
|----------|------|-----------------------------|
| MK2-110 | 110 | Rail foot width less 5mm |
| MK2-120 | 120 | |
| MK2-165 | 165 | |
| MK2-205 | 205 | |
| MK2-220 | 220 | |
| MK2-250 | 250 | |
| MK2-320 | 320 | |



FEATURES

The Mark 2 pad incorporates a number of proven features. When used in conjunction with Gantrail adjustable rail clips, Mark 2 crane rail pad will significantly reduce stresses in the rail, grout and concrete below the sole plate.

It allows the rail to rotate small amounts so that it conforms to the crane wheel.

This gives an even distribution of wheel loads onto the supporting structure.

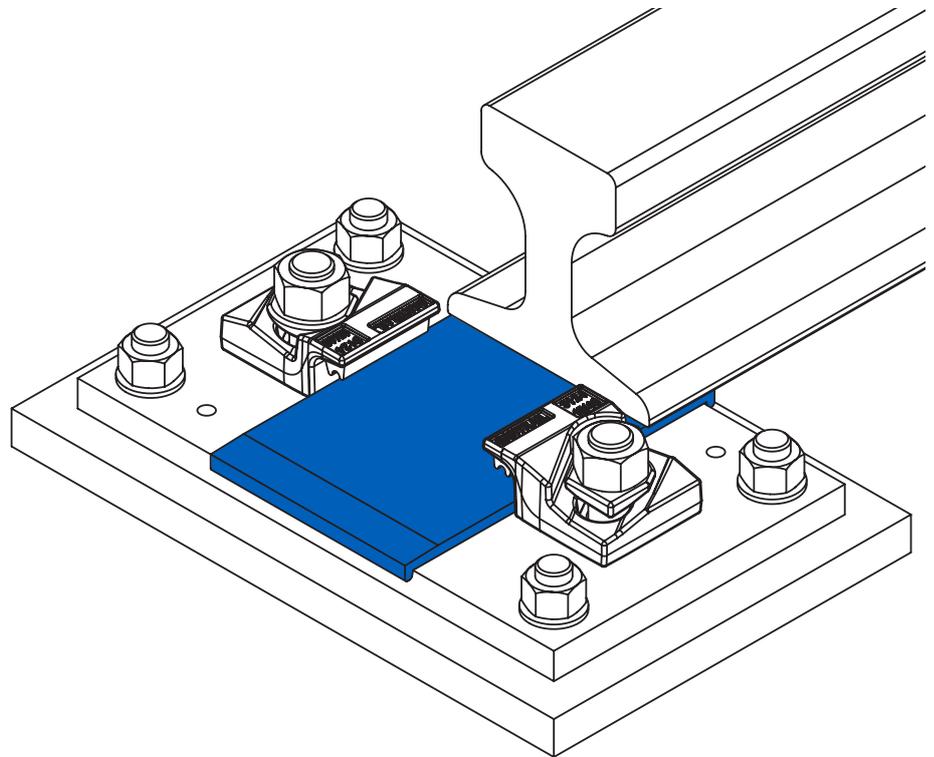
The Mark 2 pad:

Eliminates load concentrations and resultant fatigue stresses in the rail mounting.

Protects the crane mechanism and increases rail, wheel, bearing and axle life.

Reduces the wear of rail and support surface by eliminating fretting corrosion.

DISCONTINUOUS SUPPORT

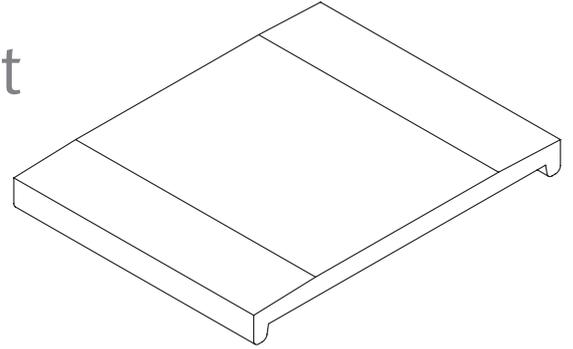


Gantrail can supply standard design details and technical information in support of all crane rail applications.

Mark 2

Gantrail Resilient Pad For Discontinuous Rail Support

Gantrail Mark 2 pads are manufactured from wear resistant durable thermoplastic that has elastomeric properties. They are unaffected by oil, grease or ultraviolet light. They have been tested to many times the design loads and show complete recovery. Tapered leading and trailing edges along the rail reduce edge loading on the sole plate and grout when the crane wheel is between sole plates.



| | |
|--|----------------------|
| Material | EVA copolymer |
| Temperature range | -25° to +75°C |
| Recommended maximum compressive stress <small>(Compressive stress is installation related and should be reduced above 50°C)</small> | 15 N/mm ² |
| Tensile strength (ISO R 527) | 16 MPa |
| Elastic modulus (ISO R 527) | 100 MPa |
| Elongation at break (ISO R 527) | 750% |
| Shore hardness (ISO 868 A scale) | 95 |

RAILS FOR DISCONTINUOUS APPLICATIONS

Probably the most widely used crane rails in the world are the A sections to DIN 536:1981. These have a wide flange originally for riveting to girders but they are weak in vertical bending. They are not the best choice for discontinuous applications.

Excellent rails for light applications are railway rails. For heavier wheel loads taller rails are preferred e.g. QU70, ISCR100 and MRS87A.

TYPICAL DISCONTINUOUS SOLEPLATE ARRANGEMENTS

| | For vertical wheel loads up to 60kN | For vertical wheel loads up to 200kN | For vertical wheel loads up to 350kN |
|------------|-------------------------------------|--|--|
| | Clips mounted on anchor bolts | Clips mounted separate to 2 anchor bolts | Clips mounted separate to 4 anchor bolts |
| | Gantrail 3116/10 clips | Gantrail 3120/15 clips | Gantrail 3124/15 clips |
| Plan view | | | |
| Front view | | | |

THESE ARE ONLY TYPICAL EXAMPLES. THERE ARE A NUMBER OF POSSIBLE ARRANGEMENTS AND GANTRAIL CAN ADVISE ON THESE FOR YOUR SPECIFIC APPLICATION.

INSTALLATION INSTRUCTIONS:

The installation method should ensure that the soleplates are level with the base of the rail. This is best achieved by levelling the rail and then bringing the sole plate plus pad, up to meet the bottom surface of the rail over its full area. Gantrail can advise as to suitable methods and supply.



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Certificate No. 5180

Mark 5

Gantrail Resilient Pad For Continuous Rail Support

www.gantrail.com



Mark 5

The use of Gantrail Mark 5 Crane Rail Pad between a rail and its support improves the performance of crane tracks. Cranes apply high forces to the structures on which they are mounted. The pad significantly reduces the stress between the rail and its support. The Gantrail pad is one of the three key ingredients in achieving a reliable track. These are:-

- Resilient Pad
- Strong, adjustable clips
- Continuously Welded Rail

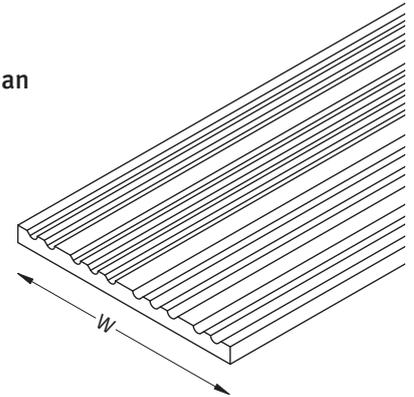
SPECIFICATIONS:

The pad width should be nominally 5mm less than the rail foot width.

DIMENSIONS:

| PART No | W mm (Flat) |
|---------|-------------|
| MK5-098 | 98 |

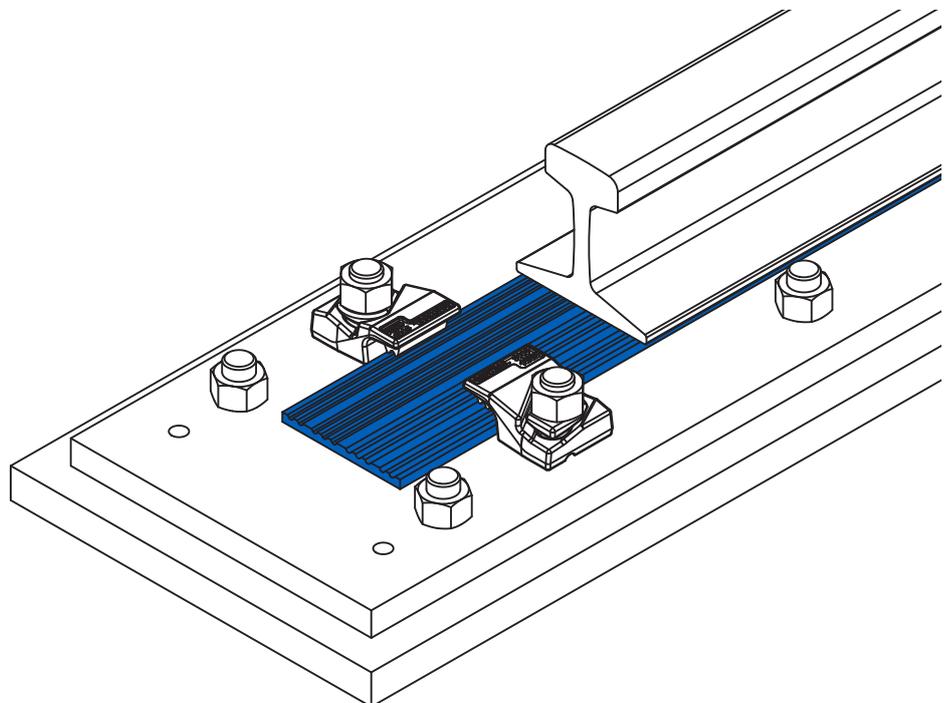
Gantrail flat pad is normally supplied in 12 metre lengths of the width shown but is also available in lengths and widths to suit customer specification. This may result in longer lead times – Please contact GANTRAIL for guidance.



FEATURES

The Gantrail pad has been designed with a fluted top surface. This results in a two stage stiffness characteristic. On loading, the voids in the top allow the Gantrail clips to pre-compress the pad a small amount. On increasing the wheel loading, the voids are filled and the pad becomes stiffer. This ensures that the rail is not over stressed.

CONTINUOUS SUPPORT



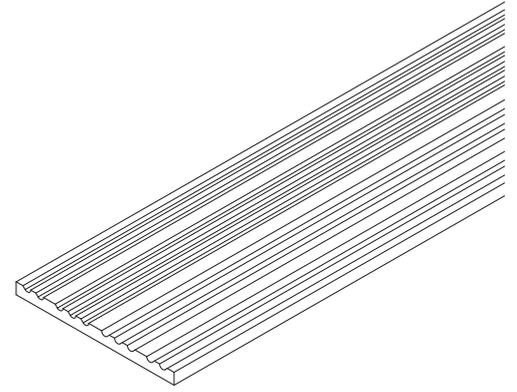
Gantrail can supply standard design details and technical information in support of all crane rail applications.

Mark 5

Gantrail Resilient Pad

For Continuous Rail Support

Gantrail Mark 5 pads are manufactured from wear resistant durable vulcanised nitrile rubber. They are unaffected by oil, grease or ultraviolet light. They have been tested to many times the design loads and show complete recovery.

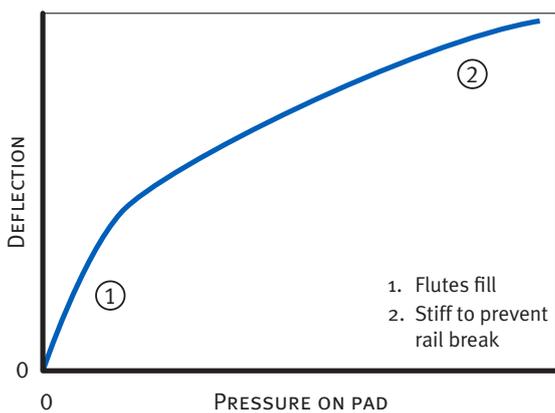


| | | After Ageing |
|------------------------------------|------------------------|----------------------|
| Material | Nitrile rubber | |
| Shore hardness (ISO 48:1994) | 75 ± 5 IRHD | 75 ± 5 IRHD |
| Tensile strength (ISO 37:1994) | 17.5 N/mm ² | 15 N/mm ² |
| Elongation (ISO 37:1994) | 305% | 240% |
| Compression set (ISO 815:1991) | 5% Max @ 23°C | |
| Rebound resilience (ISO 4662:1986) | 27% | |
| Temperature range | -25°C to 100°C | |

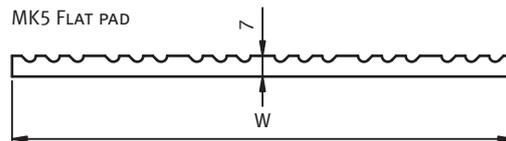
PAD FOR CONTINUOUSLY SUPPORTED APPLICATIONS

Gantrail 'flat' pad is suitable for all applications where soft mounting is desirable. Historically, pad was provided 1.5mm thicker at the centre than the edges due to the concave shape of the base of some rails. It has been shown that there is no significant benefit in using this 'crowned' pad.

STIFFNESS CHARACTERISTICS



MARK 5 PROFILE



INSTALLATION INSTRUCTIONS:

Rail pad should be narrower than the rail it is supporting (nominally 5mm). The pad is normally supplied in 12 metre lengths. The flutes of the pad are placed facing upwards. The pad may be cut to precise length of rail. It can be cut with a hacksaw or jigsaw. No installed length of pad should be less than the spacing between three pairs of crane rail fixing clips. Before installing Mark 5 pad, the supporting area should be clean and free of oil, grease or any projections likely to damage the pad. It is preferable that the steel structure below the pad is not painted. If the rail is to be welded the pad should be protected from excessive heat during welding by being removed under the weld or by being protected with a thermal barrier. Our technical department will be pleased to advise on the suitability of Mark 5 pad in specific installation conditions.

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Certificate No. 5180

Mark 7

Gantrail Steel Reinforced Resilient Pad For Continuous Rail Support

www.gantrail.com



The use of Gantrail Mark 7 Crane Rail Pad between a rail and its support substantially improves the performance of heavy duty crane tracks. Cranes apply very high forces to the structures on which they are mounted. The pad significantly reduces the stress between the rail and its support. The Gantrail pad is one of the three key ingredients in achieving a reliable track. These are:-

- Resilient Pad
- Strong, adjustable clips
- Continuously Welded Rail

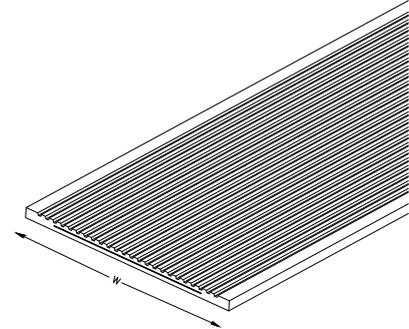
SPECIFICATIONS:

The pad width should be nominally 5mm less than the rail foot width.

DIMENSIONS

| PART No | W mm (Flat) |
|---------|-------------|
| MK7-098 | 98 |
| MK7-118 | 118 |
| MK7-128 | 128 |
| MK7-134 | 134 |
| MK7-147 | 147 |
| MK7-157 | 157 |
| MK7-168 | 168 |
| MK7-195 | 195 |
| MK7-215 | 215 |

*Pad width may vary by ± 5 mm



Mark 7

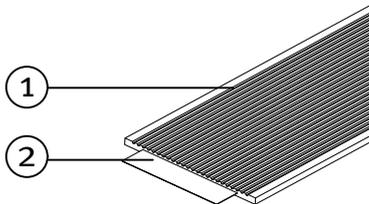
Gantrail flat pad is normally supplied in 12 metre lengths of the widths shown but is also available in lengths and widths to suit customer specification. This may result in longer lead times – Please contact Gantrail for guidance.

FEATURES:

The Gantrail pad has been designed with a fluted top surface. This results in a two stage stiffness characteristic. On loading, the voids in the top allow the Gantrail clips to pre-compress the pad a small amount. On increasing the wheel loading, the voids are filled and the pad becomes stiffer. This ensures that the rail is not over stressed.

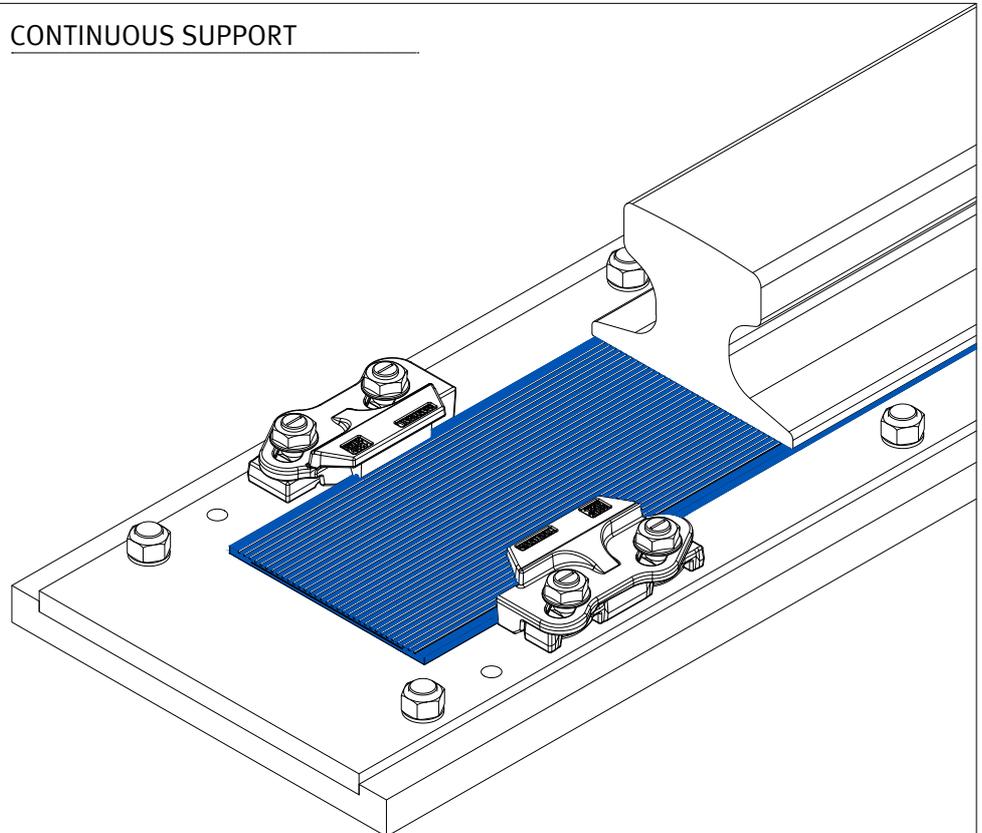
The pad is reinforced with a steel strip to ensure high lateral stiffness and prevent movement from below the rail.

COMPONENTS



1. Resilient pad
2. Steel reinforcement

CONTINUOUS SUPPORT

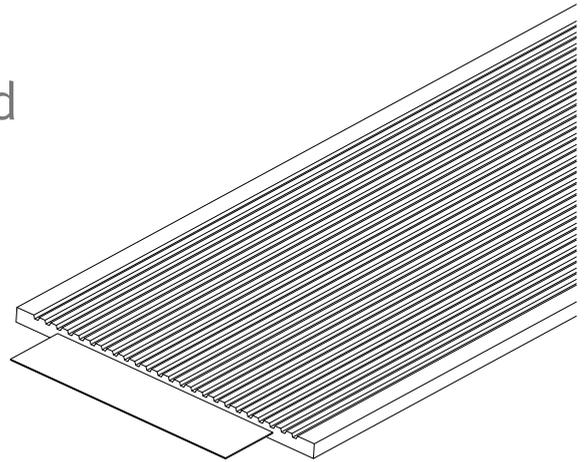


Gantrail can supply standard design details and technical information in support of all crane rail applications.

Mark 7

Gantrail Steel Reinforced Resilient Pad For Continuous Rail Support

Gantrail Mark 7 pads are manufactured from wear resistant durable vulcanised nitrile rubber. They are unaffected by oil, grease or ultraviolet light. They have been tested to many times the design loads and show complete recovery. The pad incorporates a bonded steel reinforcement strip which is encapsulated for protection against corrosion.

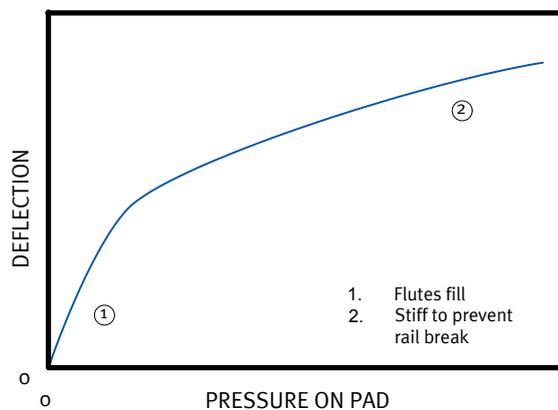


| | | |
|--------------------------------|------------------------|---------|
| Material | Nitrile rubber | |
| Shore hardness (ISO 48:1994) | 75 ± Shore A | |
| Tensile strength (ISO 37:1994) | 10.5 N/mm ² | Minimum |
| Elongation (ISO 37:1994) | 200% | Minimum |
| Temperature range | -25°C to 100°C | |
| Oil resistance ASTM Oil No.2 | Swelling 5% | Maximum |

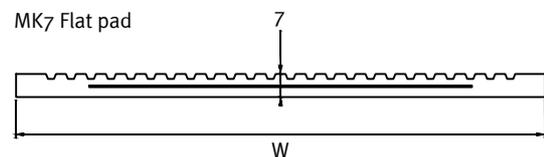
PAD FOR CONTINUOUSLY SUPPORTED APPLICATIONS:

Gantrail 'flat' pad is suitable for all applications where soft mounting is desirable. Historically, pad was provided 1.5mm thicker at the centre than the edges due to the concave shape of the base of some rails. It has been shown that there is no significant benefit in using this 'crowned' pad but Gantrail offer it to meet some older specifications.

STIFFNESS CHARACTERISTICS



MARK 7 PROFILE



INSTALLATION INSTRUCTIONS:

Rail pad should be narrower than the rail it is supporting (nominally 5mm). The pad is normally supplied in 12 metre lengths. The flutes of the pad are placed facing upwards. The pad may be cut to precise length of rail. It can be cut with a hacksaw or jigsaw. No installed length of pad should be less than the spacing between three pairs of crane rail fixing clips. Before installing Mark 7 pad, the supporting area should be clean and free of oil, grease or any projections likely to damage the pad. It is preferable that the steel structure below the pad is not painted. If the rail is to be welded the pad should be protected from excessive heat during welding by being removed under the weld or by being protected with a thermal barrier. Our technical department will be pleased to advise on the suitability of Mark 7 pad in specific installation conditions.

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Certificate No. 5180

Mark 8

Gantrail Steel Reinforced Resilient Pad For Continuous Rail Support

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UK patent application No GB141629.7

The NEW Gantrail Mark 8 pad is an evolution of the already proven and highly successful Mark 7 pad. The use of Gantrail Mark 8 Crane Rail Pad between a rail and its support substantially improves the performance of heavy duty crane tracks. Cranes apply very high forces to the structures on which they are mounted. The pad significantly reduces the stress between the rail and its support. The Gantrail pad is one of the three key ingredients in achieving a reliable track:

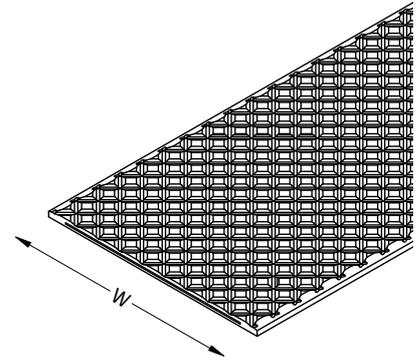
- Resilient Pad
- Strong, adjustable clips
- Continuously welded rail

SPECIFICATIONS:

The pad width should be nominally 5mm less than the rail foot width.

DIMENSIONS:

| PART No | W mm (Flat) |
|---------|-------------|
| MK8-098 | 98 |
| MK8-118 | 118 |
| MK8-128 | 128 |
| MK8-134 | 134 |
| MK8-147 | 147 |
| MK8-157 | 157 |
| MK8-168 | 168 |
| MK8-195 | 195 |
| MK8-215 | 215 |



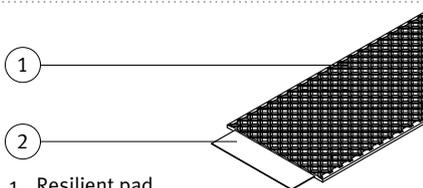
Mark 8

Gantrail pad is normally supplied in 12 metre lengths of the widths shown but is also available in lengths and widths to suit customer specification. This may result in longer lead times – Please contact GANTRAIL for guidance.

FEATURES

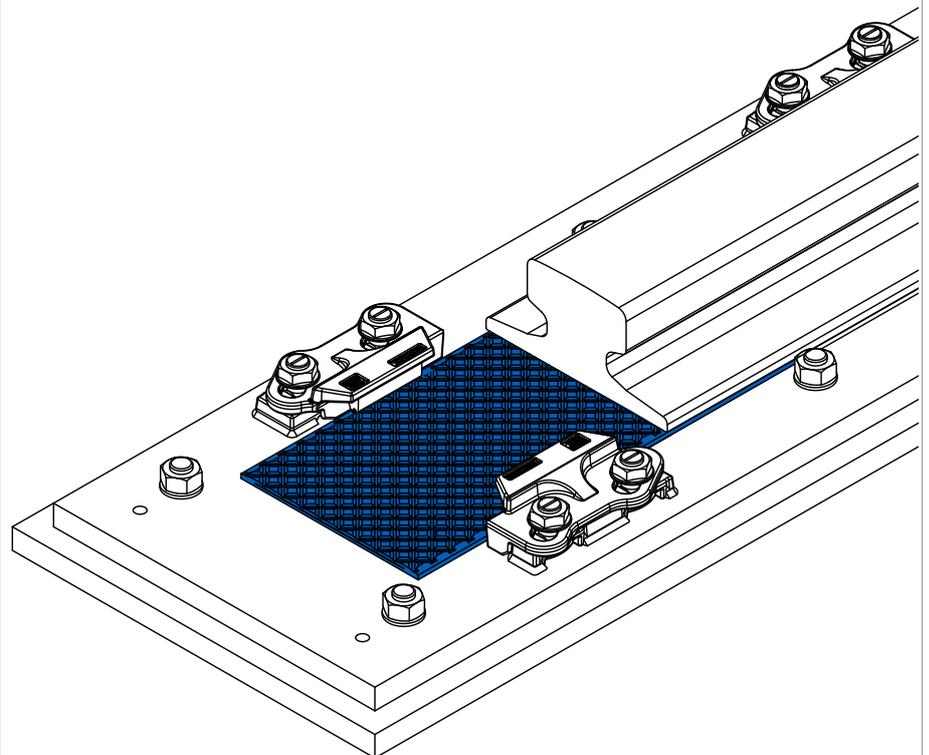
- The NEW Gantrail MK8 pad has a completely redesigned profile including a re-orientated flute pattern on its top surface.
- The fluted top surface results in a two stage stiffness characteristic. On loading, the voids in the top allow the Gantrail clips to pre-compress the pad a small amount. On increasing the wheel loading, the voids are reduced in size and the pad becomes stiffer. This ensures that the rail is not over stressed.
- The flutes now exit the sides of the pad so that as the voids are reduced in size during loading, any fluid is flushed out carrying with it debris and other contaminants.
- By orientating the flutes at an angle of 45 degrees, the resistance to lateral tearing induced by rotational forces from the rail, has also been vastly improved over the previous longitudinal flute design. This has the added advantage of improving the cross sectional area of the rubber along the edge of the steel reinforcement, improving resistance to rupture.
- The pad is reinforced with a high strength steel strip to ensure high lateral stiffness and prevent movement from below the rail.

COMPONENTS



1. Resilient pad
2. Steel reinforcement

CONTINUOUS SUPPORT

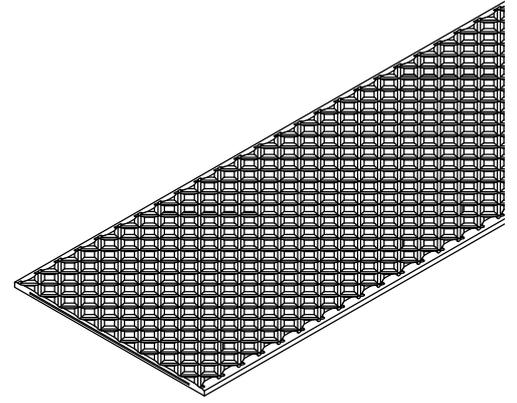


Gantrail can supply standard design details and technical information in support of all crane rail applications.

Mark 8

Gantrail Steel Reinforced Resilient Pad For Continuous Rail Support

Gantrail Mark 8 pads are manufactured from wear resistant durable vulcanised nitrile rubber. They are unaffected by oil, grease or ultraviolet light. They have been tested to many times the design loads and show complete recovery. The pad incorporates a bonded steel reinforcement strip which is encapsulated for protection against corrosion.

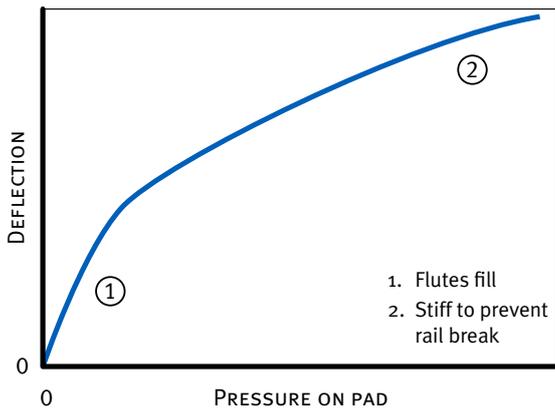


| | | After Ageing |
|------------------------------------|------------------------|----------------------|
| Material | Nitrile rubber | |
| Shore hardness (ISO 48:1994) | 75 ± 5 IRHD | 75 ± 5 IRHD |
| Tensile strength (ISO 37:1994) | 17.5 N/mm ² | 15 N/mm ² |
| Elongation (ISO 37:1994) | 305% | 240% |
| Compression set (ISO 815:1991) | 5% Max @ 23°C | |
| Rebound resilience (ISO 4662:1986) | 27% | |
| Temperature range | -25°C to 100°C | |
| Oil resistance ASTM Oil No.2 | Max swelling 10% | |

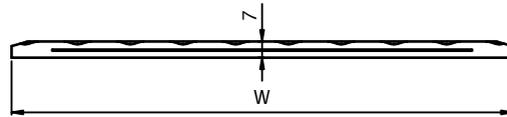
PAD FOR CONTINUOUSLY SUPPORTED APPLICATIONS

Gantrail 'flat' pad is suitable for all applications where soft mounting is desirable. Historically, pad was provided 1.5mm thicker at the centre than the edges due to the concave shape of the base of some rails. It has been shown that there is no significant benefit in using this 'crowned' pad.

STIFFNESS CHARACTERISTICS



MARK 8 PROFILE



INSTALLATION INSTRUCTIONS:

Rail pad should be narrower than the rail it is supporting (nominally 5mm). The pad is normally supplied in 12 metre lengths. The flutes of the pad are placed facing upwards. The pad may be cut to precise length of rail. It can be cut with a hacksaw or jigsaw. No installed length of pad should be less than the spacing between three pairs of crane rail fixing clips. Before installing Mark 8 pad, the supporting area should be clean and free of oil, grease or any projections likely to damage the pad. It is preferable that the steel structure below the pad is not painted. If the rail is to be welded the pad should be protected from excessive heat during welding by being removed under the weld or by being protected with a thermal barrier. Our technical department will be pleased to advise on the suitability of Mark 8 pad in specific installation conditions.

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Certificate No. 5180

Gantrail® Crane Rail Welding

Consumables for enclosed arc crane rail welding



www.gantrail.com

Gantrail® promote the use of continuously welded crane rails. This is most important for the efficient and trouble free operation of cranes. Crane rails are typically of high carbon and alloy content and cannot be welded by conventional welding techniques. Thus they must be welded following a qualified procedure by fully trained and qualified welders. This data sheet gives details of the consumables needed to weld rails and some details of the method. It should be read in conjunction with the relevant procedures and work instructions.



The benefits for continuously welded rail are considerable but they require the rail to be welded on site. Typically rails may be welded into lengths of 300 metres or more with no expansion joint. The rail cross sections are large and the metallurgy; with high carbon and manganese content; make welding difficult.

Several methods have been developed that can readily be used. Perhaps the easiest method to set up on a site is enclosed arc, sometimes known as puddle arc welding. This makes use of manual metal arc equipment and special welding rods.

METHOD

The rail ends are cut square by sawing. They are set with a gap of approximately 20 millimetres. The rails are set at a small camber to form a peak at the weld. This is then corrected with the shrinkage of the liquid weld metal leaving a flat top surface after welding. A copper strip is placed below the weld metal, this draws excess heat from the weld. This is protected with a small strip of steel, which ultimately becomes absorbed into the weld. The gap between the rail ends is filled with melted welding electrode. The bottom flange of the rail is welded with a series of passes with the slag being removed after each run. When this is complete, copper moulds are placed to each side of the rail and a little away from the rail.

The gap is then filled with weld metal in a continuous welding process. The slag is allowed to run off the top of the molten metal through the small gap between the copper and the rail. The weld is continued to above the top surface of the rail by a few millimetres. Ideally, it should then be allowed to cool slowly with a heat insulating blanket. The correct head profile of the rail is then achieved by grinding.

CONSUMABLES REQUIRED

- Railrod electrodes - 3.2mm for the foot and 5mm or 6mm for the remaining runs
- Strip in foot of rail to suit rail
- Copper mould for below the rail and for the two sides of the rail (to suit the section being welded)
- Heat insulating blanket, to be used if required

[Gantrail can supply outline weld procedures, method statements, training for welders or production welders.](#)

PRODUCT DESCRIPTION

Railrod is a manual metal arc welding electrode for rail welding utilising basic low hydrogen flux coating with low moisture absorption characteristics. Recovery is about 110% with respect to core wire, 65% with respect to whole electrode.

SPECIFICATIONS

None strictly applicable, nearest AWS E12016-G and nearest BS EN E69 Z Z B.

ASME IX QUALIFICATION

QW432 F-No -, QW442 A-No -.

MATERIALS TO BE WELDED

Rail steels with up to 0.8% carbon and nominal tensile strength of > 700 MPa.

Gantrail® Crane Rail Welding

Consumables for enclosed arc crane rail welding

APPLICATIONS

This electrode is especially designed for the butt welding of rails with square preparation. It can also be used for welding similar cross-sections such as bars, thick plates, flanges, etc. The electrode is specially designed to enable good fusion to the side walls to take place without excessive slag interference.

Weld metal has good resistance to collapse under compression by rolling loads.

MICROSTRUCTURE

Mainly auto-tempered bainitic ferrite.

WELDING GUIDELINES

Preheat typically 200°C for > 0.5%C rail steel, increasing to 300°C for > 0.7%C rail steel. It is important to maintain these minimum temperatures during welding. Maximum suggested interpass temperature 400°C. Slow cool under insulation after welding.

This electrode is normally used in the downhand (flat) position with a slag-over-slag technique. Rail ends are square butt welded by setting 15-20mm apart with a prepared 4-6mm thick steel insert at the weld root, then copper shims are stacked to form an enclosure for the weld pool whilst allowing excess slag to run free. Good surface profile underneath the weld root area will maximise fatigue resistance of the joint. Initial support for depositing the root can utilise a copper backing plate or wire-reinforced window glass. Before and during welding it is important to use a sufficient preheat-interpass range, and to retard cooling.

COMPOSITION (weld metal wt %)

| | C | Mn | Si | S | P | Cr | Ni | Mo |
|-----|------|-----|-----|-------|-------|-----|-----|-----|
| min | 0.06 | 0.7 | 0.2 | - | - | 2.0 | - | - |
| max | 0.12 | 1.5 | 0.8 | 0.020 | 0.025 | 2.6 | 0.5 | 0.5 |
| typ | 0.19 | 1 | 0.5 | 0.008 | 0.012 | 2.3 | 0.2 | 0.2 |

ALL-WELD MECHANICAL PROPERTIES

| As welded | Typical | | |
|-------------------|---------|-----|-------|
| Tensile strength | MPa | 900 | |
| 0.2% Proof stress | MPa | 700 | |
| Elongation on 4d | % | 17 | |
| Impact energy* | +20 °C | J | 18-48 |
| | 0 °C | J | 14-43 |
| Hardness | HV | 280 | |

* For comparison, typical thermit rail weld: 8J @ 20°C, 5J @ 0°C.

PARAMETERS

DC +ve or AC (OCV: 70V min)

| Ø mm | 3.2 | 5.0 | 6.0 |
|-------|-----|-----|-----|
| min A | 100 | 200 | 240 |
| max A | 160 | 280 | 360 |

WELD ROD DATA

| Ø mm | 3.2* | 5.0 | 6.0* |
|---------------|------|------|------|
| Length mm | 380 | 450 | 450 |
| kg/carton | 15.0 | 17.7 | 18.3 |
| pieces/carton | 447 | 187 | 135 |

* supplied to order

PACKAGING AND STORAGE DATA

Three hermetically sealed ring-pull metal tins per carton, with unlimited shelf life. Direct use from tin will give hydrogen < 5ml/100g weld metal during 8h working shift.

For electrodes that have been exposed: **Redry** 250-300°C/1-2h to ensure H₂ < 10ml/100g, 300-350°C/1-2h to ensure H₂ < 5ml/100g. Maximum 420°C, 3 cycles, 10h total.

Storage of redried electrodes at 100-200°C in holding oven or 50-150°C in heated quiver: no limit, but maximum 6 weeks recommended.

Recommended ambient storage conditions for opened tins (using plastic lid): < 60% RH, > 18°C.

FUME DATA

Fume composition, wt % typical:

| Ø mm | 3.2 | 5.0 | 6.0 |
|-------|-----|-----|-----|
| min A | 100 | 200 | 240 |
| max A | 160 | 280 | 360 |

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Crane Rail Welding/ET/09/14

Gantrail® Crane Rail Welding

Consumables and equipment for aluminothermic crane rail welding

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RAILTECH-PLÖTZ

Gantrail® promote the use of continuously welded crane rails. This is most important for the efficient and trouble free operation of medium and heavy duty cranes. Crane rails are made from high carbon and alloy content steel and cannot be welded by conventional shop welding techniques. This data sheet gives details of the consumables needed to weld rails by the aluminothermic process. It should be read in conjunction with the relevant procedures.

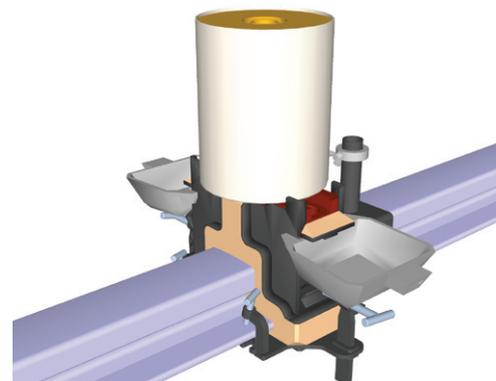


The benefits for continuously welded rail are considerable but they require the rail to be welded on site. Most crane rails are supplied in lengths of 12 metres. Typically rails may be welded into lengths of 300 metres or more with no expansion joint. The rail cross sections are large and the metallurgy; with high carbon and manganese content; make welding difficult.

Several methods have been developed that can readily be used. Aluminothermic rail welding is well established and is the most commonly used process for site welding of railway rails in many parts of the world. It is equally applicable to the site welding of crane rails.

METHOD

The rail ends are left cut square and set a distance apart. The volume around the ends is enclosed with a refractory mould and sealed. The mould is supported by reusable tooling. The gap between the two rails and the mould are preheated with the prescribed burner for the required time. Then the disposable crucible is placed above the rail and it is ignited. The casting process from then on is automatic. After a set time the tooling, the remains of the mould and excess metal of the runners and risers are removed.



The arrangement for welding. The refractory sand mould is held in place around the rail with clamps. The disposable crucible is protected in a cardboard tube. Excess slag from the casting process flows into the slag pans.

Gantrail® Crane Rail Welding

Consumables and equipment for aluminothermic crane rail welding

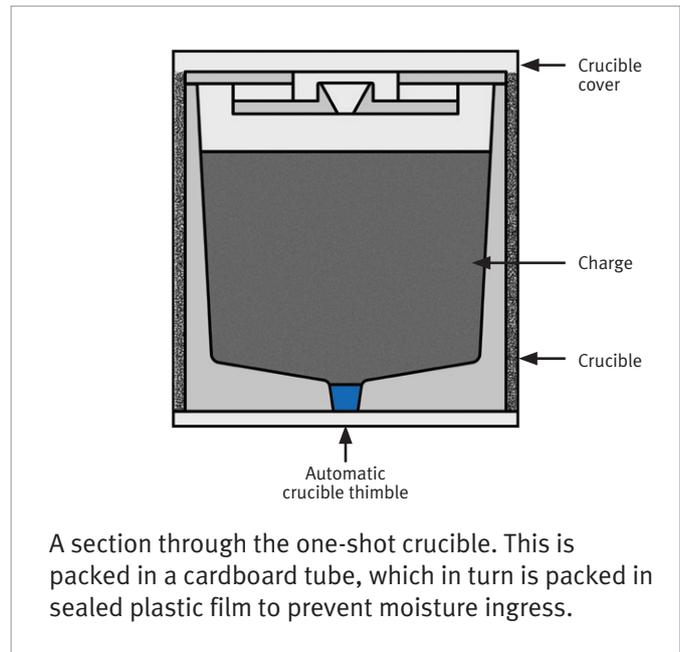
NECESSARY WELDING EQUIPMENT & CONSUMABLES

NECESSARY SPECIAL EQUIPMENT

The following welding equipment is required.

A full set of specialist equipment is required to carry out welding process. This does not include equipment for shearing off excess metal or reforming the head of the rail by grinding. Gantrail can advise on these processes and the equipment required.

- Rail space setting gauge
- DIN-straight edge, 1 metre
- Short and long wedges
- Mould files
- Universal clamp and mould clamps
- Crucible fork
- Slag pans
- Preheat burner and holding device
- Regulators, flash back arrestor and hoses for propane and oxygen
- Thermometer magnetic clamp
- Hot chisel



A section through the one-shot crucible. This is packed in a cardboard tube, which in turn is packed in sealed plastic film to prevent moisture ingress.

NECESSARY CONSUMABLES REQUIRED

The following welding consumables are required for each weld.

- Welding charges in one-shot crucible suitable for the crane rail profile and rail grade
- Welding moulds suitable to the crane rail profile (three parts, one bottom and two sides.)
- Paste and/or luting sand for sealing the moulds
- Starter to ignite the crucible
- Sufficient oxygen and propane for the preheating burner.

WELDING

The welding should be completed by personnel trained in the use of this brand of aluminothermic welding materials. There are differences between the different makers materials and procedures. The process should follow the appropriate instructions and with regard to the required safety measures.

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