



GANT001

Gantrex Crane Runway Products.

The Cavotec Group

Cavotec is the name of a group of companies specialized in power supply technology for cranes and other industrial equipment. It is formed by 5 manufacturing "Centres of Excellence" located in Canada, France, Germany, Italy and Sweden and by 5 local manufacturing units located in Australia, China, Germany, Sweden and USA.

For distribution of their products and support to customers Cavotec has 22 sales companies which, together with a network of Distributors, serve more than 30 countries on five continents.

Each manufacturing company, no matter where it is located, aims at being a market leader in its field by providing innovative and reliable products to Group customers.

Although they manufacture different products in different countries, they are globally supported and coordinated by the Cavotec Group in their product development and marketing activities.

Each sales company, and each distributor, has a policy aiming at better serving its local market with the full support of the Cavotec Group.

Our aim is to be local everywhere

Great emphasis is put in providing the highest quality not only in the selected products, but also in service and backing to their customers.

Our philosophy in fact is to be local everywhere.

Our fields of activity are



**Mining,
tunnelling**



Steel Mills



Airports



**Ports,
Terminals**



**Robots,
Automation**



Offshore



Constructions

The Gantrex Company

Gantrex is a North American company specialised in the design, development and manufacturing of a complete range of crane rail fastening products, including state of the art rail fastening systems utilising Gantrex rail clips and pads. Additionally, Gantrex, offers complete installation services for any runway application.

The products are used in a wide variety of fields of industries including: ports and shipyards, automotive, steel, power generation, pulp and paper, aluminium and metal buildings.

The company was formed in 1975 and its products have become the accepted standard in their field. The company has an excellent track record for continuity and reliability backed up by the excellent service provided by the sales and support offices. Gantrex, thanks to its commitment to high quality standards is also listed as an ISO-9002 certified company.

In 2002 Gantrex became a member of the Cavotec Group, world leader in power supply and crane technology.

Contents.

Gantrex Crane Runway Products	4
Questionnaire	5
Gantrex Boltable Clips	
Stelcam Series, general characteristics	7
Stelcam 4	8
Stelcam 9	9
Stelcam 13	10
Stelcam 17	11
Stelcam 22	12
Boltlok 3116	13
Boltlok 3120	14
Boltlok 3124	15
Boltlok 3220	16
Boltlok 3224	17
Gantrex Weldable Clips	
Weldlok Series, general characteristics	19
Weldlok 8	20
Weldlok 10	21
Weldlok 15	22
Weldlok 18	23
Weldlok 20	24
Weldlok 24	25
Weldlok 28	26
Weldlok 32	27
Weldlok 43	28
Installation guidelines	29
Complementary products	
Crane Rail Pads MK6 & MK2	31
Steel Soleplates and Adhesive Anchor Bolt	33
Epoxy Grout	34
List of rail sizes	35



The production facility of Gantrex Canada Inc. in Ajax (Toronto).

GANT002

Gantrex Crane Runway Products.

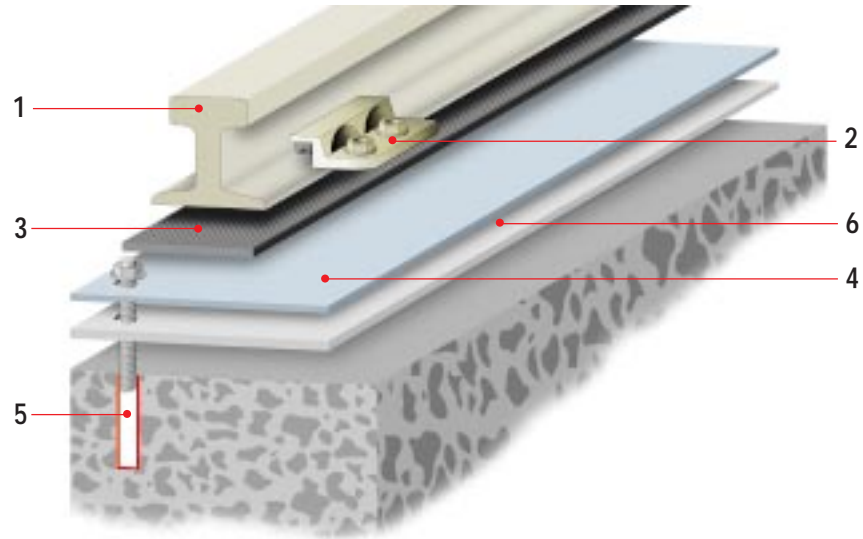
Our crane runway products consist of different key components developed during 27 years of experience. Although each element can be purchased separately, Gantrex also supplies the complete system, designed to the specific needs of each application. Our strength resides in the capability to engineer a total solution to rail fastening needs, beginning with the design and following it through to the installation.

The Gantrex system is based on the soft mounting principle: its primary feature is to achieve a firm lateral anchoring of the rail, thus ensuring a long-lasting and precise alignment, while allowing a controlled vertical movement which avoids the transmission of damaging uplift forces to the fastener.

The rail is mounted over a steel reinforced, vulcanised, synthetic rubber pad and contained from above by a pre-compressed rubber nose, vulcanise bonded to the upper component of the clip. The lateral restraint is achieved through direct metal to metal contact between the clip and the rail foot.

Once the rail is aligned and the clip bolt torqued to specification, the clip wedge design ensures that the lateral forces generated by the crane will not cause it to yield. Thus the system can also be considered virtually maintenance free, as there is seldom the need to retighten the bolts.

A further advantage of the Gantrex design is the ability to re-use its components when replacing a worn out rail or realigning the original rail.



1. Rail.

Although DIN A-type rails are the most commonly used in the industry, the Gantrex system can be used with any rail profile. See page 35 of this catalogue for rail sizes details.

2 Boltable Clips & Weldable Clips.

Gantrex offers both weldable and boltable clip designs for varying applications and installation arrangements. The clips allow up to 20mm lateral adjustment, thus compensating for any misalignment due to rail and installation tolerances.

3. Rail Pads.

Manufactured in-house through an extrusion process, Gantrex's vulcanized rubber pad for continuous support is reinforced with a galvanized steel plate covering 90% of its width, a unique feature in the market. Gantrex also supplies pads designed to reduce edge load for discontinuously supported rail.

4. Soleplates.

For rail-on-concrete applications, whether continuous or discontinuous, Gantrex supplies high quality metal soleplates for proper anchoring and load distribution.

5. Anchor Bolts.

Gantrex system designs include dimensioning of our resin-set anchor bolts, allowing for best load transmission.

6. Grout.

Gantrex Epoxy Grout, vital to performance and long life of the system, is a self-leveling, readily pourable grout, consisting of epoxy resin, hardener and carefully graded aggregate.

7. Installation Services.

Gantrex offers track installation services performed by experienced field personnel. Our rail specialists provide proven solutions to common runway problems such as rail misalignment, failed grout, broken anchors, improper rail fasteners, etc., for any runway application.



RAIL FASTENING SYSTEM APPLICATION DATA QUESTIONNAIRE

In order to allow us to prepare a detailed proposal of our rail fixing system, please provide as much of the data required in this questionnaire: Data marked with "►" is critical for the calculations and should not be omitted.

Company Name: _____ Tel. n° _____

Contact Person: _____ Fax. n° _____

Project Name: _____ Email _____

General Information:

● Type of Industry: ► _____

● Crane Application/Use: ► _____

● Crane Location: ☐ Indoor ☐ Outdoor ● Temperature Range: _____

● Special ambient conditions (marine environment, acid vapours etc.); please specify: _____

Rail & Runway Information:

● Runway Type: ► ☐ Concrete Supported ☐ Overhead Girder
☐ Continuous Support ☐ Discontinuous Support

● Runway Status: ☐ New Runway ☐ Existing Runway
(please provide as many details and dimensional drawings as possible)

● Total Runway Length: ► _____ ● Width of Girder or Support: ► _____

● Rail Type: ► _____ ● Rail Joint: ☐ Bolted Splice Bar ☐ Welded

● Preferred Fixing System: ☐ Weldable Clip ☐ Boltable Clip
☐ With Rail Pad ☐ Without Rail Pad

Crane Application Data:

● Crane Capacity: _____ ● Crane Span: _____

● Gantry Speed: _____ ● Gantry Duty Cycle (%ED): _____

● N° of Wheels Per Corner: _____ ● Wheel diameter: _____

● Wheels Centre Distance: _____ ● Max. Vertical Wheel load: ► _____

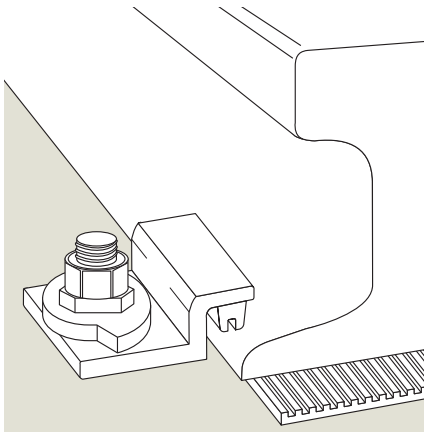
● Estimated Max. Side Thrust per Wheel: ► _____

● Wheel Guidance System: ► ☐ Flanged Wheel ☐ Side Rollers
(Provide dimensional drawings for clip clearance verification)

Comments:

Please provide any additional information regarding the application, ambient conditions or special circumstances that might be important to take in consideration when designing in the rail fixing system.



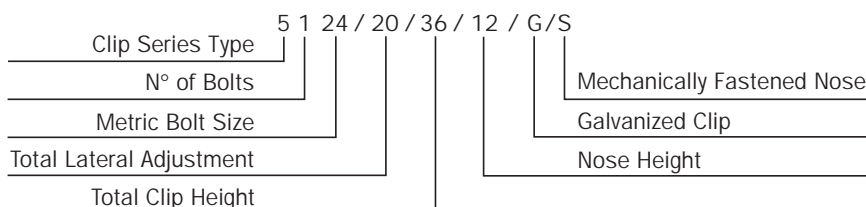


All Gantrex boltable clips are specifically designed for the mounting of crane rails, with or without pad. A full range of bolt or stud-attached clips is available to the designer to optimize the economy as well as the technical integrity of the installation.

All boltable clips consist of two interacting components which allow easy lateral rail adjustment and, once correctly installed, are self-locking. A controlled vertical force is applied to the rail flange through a synthetic rubber 'nose', which is vulcanize-bonded to the appropriate clip component. The true cam design ensures that the force is transmitted to the fastener (bolt or stud) by the most efficient means possible and is completely independent of friction. All components are made from high-quality ductile cast iron (50,000 psi, minimum yield).

Clip identification and numbering system

The Gantrex clip numbering system applies to most current products and concisely describes the product as illustrated below:



Technical advantages of Gantrex boltable clips

- Simple and positive lateral rail adjustment of up to 20 mm, depending on the type of clip.
- The cam adjustment is self-locking.
- Minimizes crane runway maintenance and down-time.
- Reduces noise and vibration.
- Controlled vertical force applied to rail through the synthetic rubber 'nose':
 - accomodates rail and girder tolerances
 - eliminates fatigue effects on the attachment device (bolt or stud)
 - ensures contact between rail and pad under the rail
 - restrains cross-axial movement of broken rails
 - eliminates loosening of bolts

Maximum allowable side load (R) for standard clips

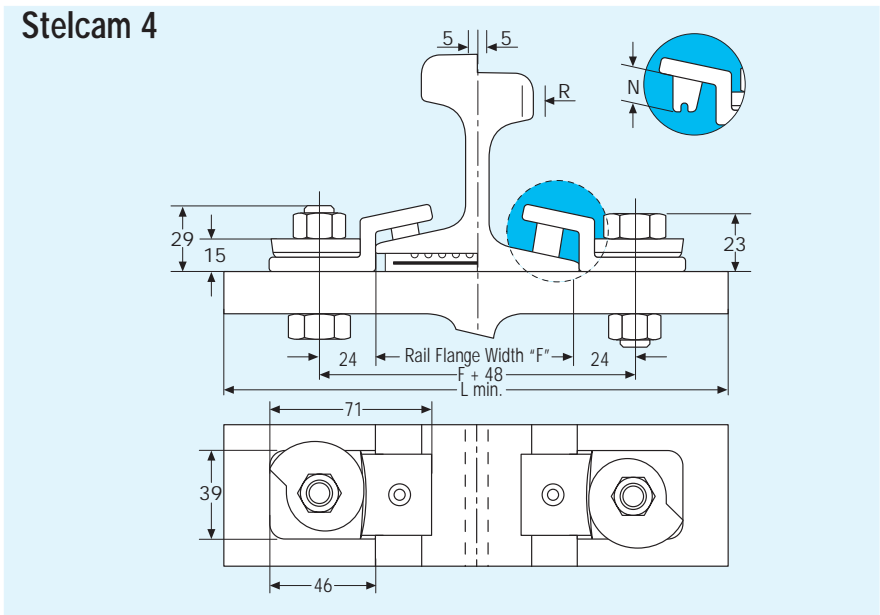
Clip Type	R Max in kN
Stelcam 4	30
Stelcam 9	40
Stelcam 13	58
Stelcam 17	76
Stelcam 22	98
Boltlok 3116	40
Boltlok 3120	58
Boltlok 3124	98
Boltlok 3220	116
Boltlok 3224	196

Clip selection

In order to select the correct Gantrex boltable clip for your installation some specific information is necessary:

- rail designation
- thickness of pad or wear plate under the rail
- vertical clearance tolerances where side rollers are used
- girder top flange width
- lateral adjustment required
- maximum wheel load
- maximum side thrust per wheel

See questionnaire for further information.



SPECIFICATIONS				
Bolt grade		4.6	8.8	10.9
Bolt size		M12	M12	N.A.
Bolt torque	Nm	30	80	N.A.
Resistance to lateral force R ⁽¹⁾	kN	8	20	30
Total lateral adjustment	mm		10	
Weight (clip & special nut)	Kg		0.27	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for application without Pad	Gantrex MK6 Pad Model	Clip model for application with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A 45	125	173	5112/10/30/15	125RFS	N.A.
A 55	150	198	5112/10/30/15	150RFS	N.A.
S 12	65	113	5112/10/30/15	65RFS	5112/10/30/15
S 14	70	118	5112/10/30/15	65RFS	N.A.
S 18	82	130	5112/10/30/15	85RFS	N.A.
S 20	82	130	5112/10/30/15	85RFS	N.A.



Materials

- Clip:
Ductile Cast Iron (ASTM A536)
 - Self Locking Cam:
Ductile Cast Iron (ASTM A536)
 - Pressure Block (Nose):
Synthetic rubber
- The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range
-25° / +100°C

Components

5112/10/30/N*
1 Clip Part n° 5112\10\34\N
1 Self locking cam Part n° 5112\10

Gantrex can also supply the bolt if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation.

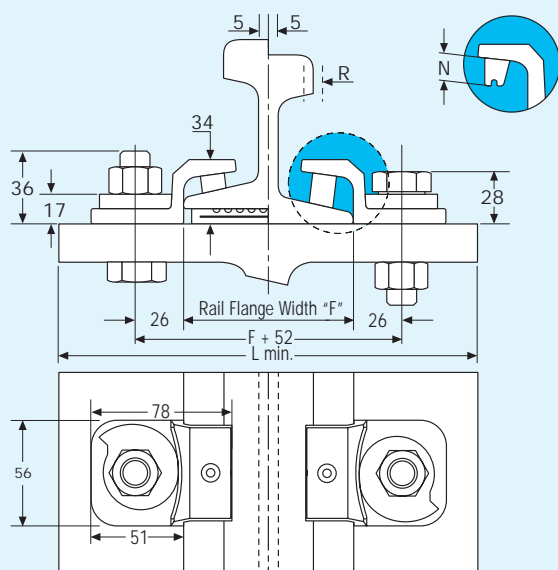
* N indicates the nose length, as stated in each clip model. Available nose sizes for this clip are 8, 10, 15 & 17 mm.

¹ Gantrex clips are available to suit any rail sections; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

² **Lmin** indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:
Lmin = Rail foot width + 48.0 mm

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Stelcam 9



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M16	M16	M16
Bolt torque	Nm	95	135	162
Resistance to lateral force R ⁽¹⁾	kN	13.0	27.0	40.0
Total lateral adjustment	mm		10.0	
Weight (clip & special washer)	Kg		0.32	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Self Locking Cam:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Size ⁽¹⁾	Rail Details		Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use application with Gantrex MK6 Pad
	Foot F (mm)	Lmin ⁽²⁾ (mm)			
A 45	125	237	5116/10/34/19	125 RFS	5116/10/34/12
A 55	150	262	5116/10/34/19	150 RFS	5116/10/34/12
A 65	175	287	5116/10/34/19	175 RBS	5116/10/34/12
AS 22 Kg	93.7	205.7	5116/10/34/19	100 RFS	5116/10/34/12
AS 31 Kg	108	220	5116/10/34/19	105 RFS	5116/10/34/12
ASCE 40 Lb	88.9	200.9	5116/10/34/19	85 RFS	5116/10/34/12
ASCE 60 Lb	108	220	5116/10/34/19	105 RFS	5116/10/34/12
ASCE 85 Lb	131.8	243.8	5116/10/34/19	130 RFS	5116/10/34/12
BSC 16 Kg BR	108	220	5116/10/34/19	105 RFS	5116/10/34/12
BSC 20 Kg BR	127	239	5116/10/34/19	125 RFS	5116/10/34/12
BSC 28 Kg BR	152	264	5116/10/34/19	150 RFS	5116/10/34/12
JIS 30 Kg	108	220	5116/10/34/19	105 RFS	5116/10/34/12
JIS 37 Kg	122.2	234.2	5116/10/34/19	120 RFS	5116/10/34/12
JIS 40 N	122	234	5116/10/34/19	120 RFS	5116/10/34/12
S 12	65	177	5116/10/34/19	MK4 65 RF	5116/10/34/12
S 14	70	182	5116/10/34/19	MK4 65 RF	5116/10/34/12
S 18	82	194	5116/10/34/19	75 RFS	5116/10/34/12
S 20	82	194	5116/10/34/19	75 RFS	5116/10/34/12
S 24	90	202	5116/10/34/19	90 RFS	5116/10/34/12
S 30	108	220	5116/10/34/19	105 RFS	5116/10/34/12
S 33	105	217	5116/10/34/19	105 RFS	5116/10/34/12
S 34	117.5	229.5	5116/10/34/19	115 RFS	5116/10/34/12

Components

Clip Model 5116/10/34/N*

- 1 Clip Part n° 5116\10\34\N
- 1 Self locking cam Part n° 5116\10

* N indicates the nose length, as stated in each clip type. Available nose heights for this clip are 12 & 19 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation.

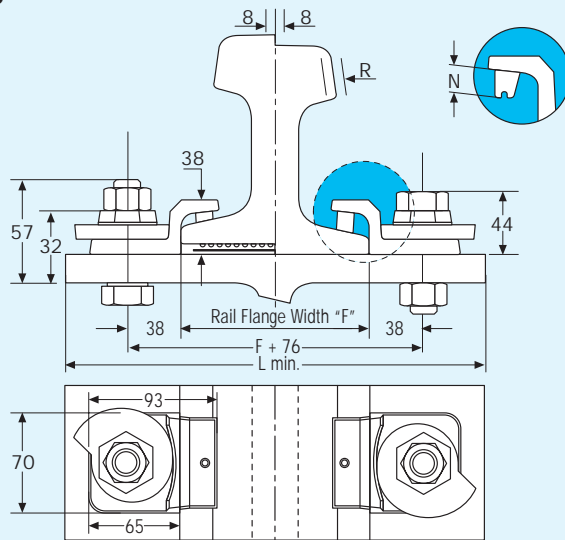
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 112.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Stelcam 13



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M20	M20	M20
Bolt torque	Nm	170	270	270
Resistance to lateral force R ⁽¹⁾	kN	18	40	58
Total lateral adjustment	mm		16	
Weight (clip & special washer)	Kg		0.68	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Components

Clip Model 5120/16/38/N*

1 Clip Part n° 5120\16\38\N

1 Self locking cam Part n° 5120\16

* N indicates the nose height, as stated in each clip type. Available nose heights for this clip are 11, 16 & 24 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation.

Rail Details			Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)			
A 65	175	321	5120/16/38/24	175 RBS	5120/16/38/16
A 75	200	346	5120/16/38/24	200 RBS	5120/16/38/16
A100	200	346	5120/16/38/24	200 RBS	5120/16/38/11
A120	220	366	5120/16/38/16	220 RBS	5120/16/38/11
AS 50 Kg	127	273	5120/16/38/16	125 RFS	5120/16/38/11
AS 60 Kg	146	292	5120/16/38/16	140 RFS	5120/16/38/11
AS 86 Kg	165	311	5120/16/38/16	175 RFS	5120/16/38/11
ASCE 60 Lb	108	254	5120/16/38/24	105 RFS	5120/16/38/16
ASCE 85 Lb	131.8	277.8	5120/16/38/24	130 RFS	5120/16/38/16
BSC 50 Kg BR	165	311	5120/16/38/16	175 RFS	5120/16/38/11
BSC 56 Kg CR	171	317	5120/16/38/24	175 RFS	5120/16/38/16
CR 73 Kg	140	286	5120/16/38/16	140 RFS	5120/16/38/11
CR 104 Lb	127	273	5120/16/38/16	125 RFS	5120/16/38/11
CR 135 Lb	131.8	277.8	5120/16/38/24	130 RFS	5120/16/38/11
JIS 50 Kg	127	273	5120/16/38/16	125 RFS	5120/16/38/11
JIS 50 N	127	273	5120/16/38/24	125 RFS	5120/16/38/11
JIS 60 Kg	145	291	5120/16/38/16	140 RFS	5120/16/38/11
MR 77	200	346	5120/16/38/24	200 RFS	5120/16/38/16
MRS 87 B	152.4	298.4	5120/16/38/16	150 RFS	5120/16/38/11
QU 70	120	266	5120/16/38/24	120 RFS	5120/16/38/16
QU 80	130	276	5120/16/38/24	130 RFS	5120/16/38/11
QU 100	150	296	5120/16/38/16	150 RFS	5120/16/38/11
S 49	125	271	5120/16/38/24	125 RFS	5120/16/38/16
S 54	125	271	5120/16/38/24	125 RFS	5120/16/38/11
S 64	150	296	5120/16/38/24	150 RFS	5120/16/38/11
UIC 54	140	286	5120/16/38/24	140 RFS	5120/16/38/16
UIC 60	150	296	5120/16/38/24	150 RFS	5120/16/38/16

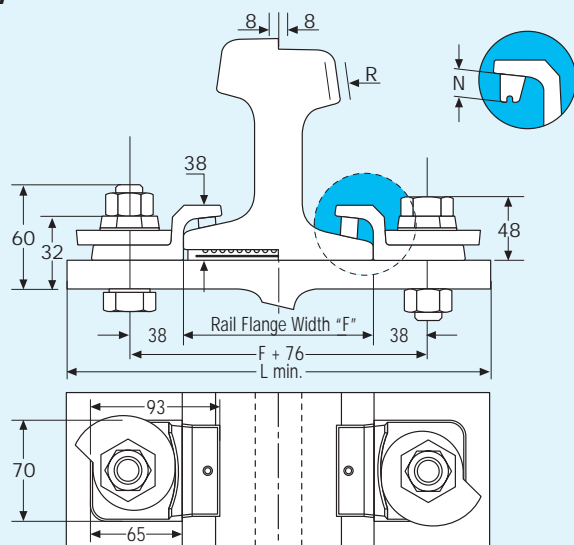
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 146.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Stelcam 17



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M22	M22	M22
Bolt torque	Nm	270	270	270
Resistance to lateral force R ⁽¹⁾	kN	27	58	76
Total lateral adjustment	mm		16.0	
Weight (clip & special washer)	Kg		0.68	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Rail Details			Clip model for without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)			
A 65	175	321	5122/16/38/24	175 RBS	5122/16/38/16
A 75	200	346	5122/16/38/24	200 RBS	5122/16/38/16
A100	200	346	5122/16/38/24	200 RBS	5122/16/38/11
A120	220	366	5122/16/38/16	220 RBS	5122/16/38/11
AS 50 Kg	127	273	5122/16/38/16	125 RFS	5122/16/38/11
AS 60 Kg	146	292	5122/16/38/16	140 RFS	5122/16/38/11
AS 86 Kg	165	311	5122/16/38/16	175 RFS	5122/16/38/11
ASCE 60 Lb	108	254	5122/16/38/24	105 RFS	5122/16/38/16
ASCE 85 Lb	131.8	277.8	5122/16/38/24	130 RFS	5122/16/38/16
BSC 50 Kg BR	165	311	5122/16/38/16	175 RFS	5122/16/38/11
BSC 56 Kg CR	171	317	5122/16/38/24	175 RFS	5122/16/38/16
CR 73 Kg	140	286	5122/16/38/16	140 RFS	5122/16/38/11
CR 104 Lb	127	273	5122/16/38/16	125 RFS	5122/16/38/11
CR 135 Lb	131.8	277.8	5122/16/38/24	130 RFS	5122/16/38/11
JIS 50 Kg	127	273	5122/16/38/16	125 RFS	5122/16/38/11
JIS 50 N	127	273	5122/16/38/24	125 RFS	5122/16/38/11
JIS 60 Kg	145	291	5122/16/38/16	140 RFS	5122/16/38/11
MR 77	200	346	5122/16/38/24	200 RFS	5122/16/38/16
MRS 87 B	152.4	298.4	5122/16/38/16	150 RFS	5122/16/38/11
QU 70	120	266	5122/16/38/24	120 RFS	5122/16/38/16
QU 80	130	276	5122/16/38/24	130 RFS	5122/16/38/11
QU 100	150	296	5122/16/38/16	150 RFS	5122/16/38/11
S 49	125	271	5122/16/38/24	125 RFS	5122/16/38/16
S 54	125	271	5122/16/38/24	125 RFS	5122/16/38/11
S 64	150	296	5122/16/38/24	150 RFS	5122/16/38/11
UIC 54	140	286	5122/16/38/24	140 RFS	5122/16/38/16
UIC 60	150	296	5122/16/38/24	150 RFS	5122/16/38/16

Components

Clip Model 5122/16/38/N*

1 Clip Part n° 5122\16\38\N

1 Self locking cam Part n° 5122\16

* N indicates the nose height, as stated in each clip type. Available nose heights for this clip are 11, 16 & 24 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation

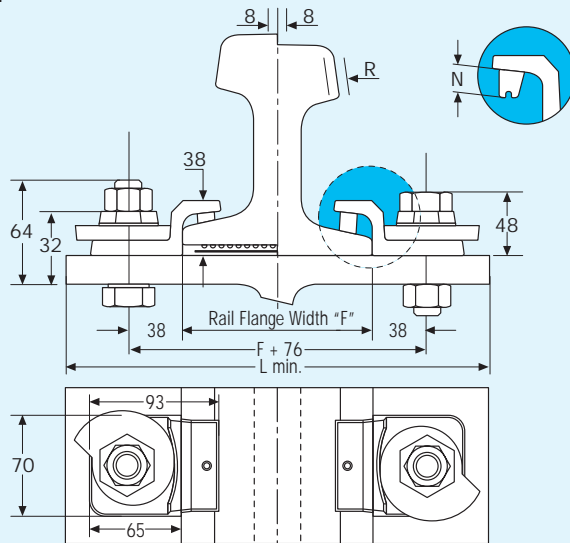
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 146.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Stelcam 22



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		24	24	24
Bolt torque	Nm	270	270	270
Resistance to lateral force R ⁽¹⁾	kN	36	76	98
Total lateral adjustment	mm		16	
Weight (clip & special washer)	Kg		0.68	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.**

Please consult Gantrex for details.

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A 65	175	321	5124/16/38/24	175 RBS	5124/16/38/16
A 75	200	346	5124/16/38/24	200 RBS	5124/16/38/16
A100	200	346	5124/16/38/24	200 RBS	5124/16/38/11
A120	220	366	5124/16/38/16	220 RBS	5124/16/38/11
AS 50 Kg	127	273	5124/16/38/16	125 RFS	5124/16/38/11
AS 60 Kg	146	292	5124/16/38/16	140 RFS	5124/16/38/11
AS 86 Kg	165	311	5124/16/38/16	175 RFS	5124/16/38/11
ASCE 60 Lb	108	254	5124/16/38/24	105 RFS	5124/16/38/16
ASCE 85 Lb	131.8	277.8	5124/16/38/24	130 RFS	5124/16/38/16
BSC 50 Kg BR	165	311	5124/16/38/16	175 RFS	5124/16/38/11
BSC 56 Kg CR	171	317	5124/16/38/24	175 RFS	5124/16/38/16
CR 73 Kg	140	286	5124/16/38/16	140 RFS	5124/16/38/11
CR 104 Lb	127	273	5124/16/38/16	125 RFS	5124/16/38/11
CR 135 Lb	131.8	277.8	5124/16/38/24	130 RFS	5124/16/38/11
JIS 50 Kg	127	273	5124/16/38/16	125 RFS	5124/16/38/11
JIS 50 N	127	273	5124/16/38/24	125 RFS	5124/16/38/11
JIS 60 Kg	145	291	5124/16/38/16	140 RFS	5124/16/38/11
MR 77	200	346	5124/16/38/24	200 RFS	5124/16/38/16
MRS 87 B	152.4	298.4	5124/16/38/16	150 RFS	5124/16/38/11
QU 70	120	266	5124/16/38/24	120 RFS	5124/16/38/16
QU 80	130	276	5124/16/38/24	130 RFS	5124/16/38/11
QU 100	150	296	5124/16/38/16	150 RFS	5124/16/38/11
S 49	125	271	5124/16/38/24	125 RFS	5124/16/38/16
S 54	125	271	5124/16/38/24	125 RFS	5124/16/38/11
S 64	150	296	5124/16/38/24	150 RFS	5124/16/38/11
UIC 54	140	286	5124/16/38/24	140 RFS	5124/16/38/16
UIC 60	150	296	5124/16/38/24	150 RFS	5124/16/38/16

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Components

Clip model 5124/16/38/N*

- 1 Clip Part n° 5124\16\38\N
- 2 Self locking cam Part n° 5124\16

* N indicates the nose height, as stated in each clip type. Available nose heights for this clip are 11, 16 & 24 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation.

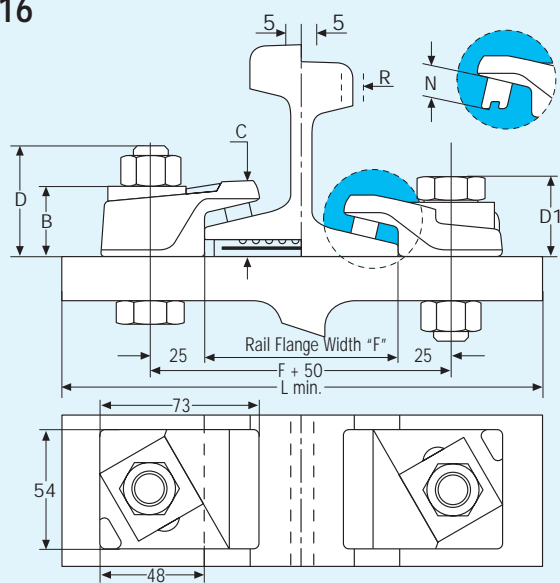
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 146.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Boltlok 3116



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M16	M16	M16
Bolt torque	Nm	95	135	162
Resistance to lateral force R ⁽¹⁾	kN	13	27	40
Total lateral adjustment	mm	10.0		

⁽¹⁾ R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Clip Type	Weight Kg	Dimensions				
		B	C	D	D1	N
3116/10/25/10	0.41	26	28	45	36	10
3116/10/32/10	0.55	32	34	51	43	10

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A 45	125	231	3116/10/25/10	125 RFS	3116/10/32/10
A 55	150	256	3116/10/25/10	150 RFS	3116/10/32/10
A 65	175	281	3116/10/25/10	175 RBS	N/A
AS 22 Kg	93.7	199.7	3116/10/25/10	100 RFS	3116/10/32/10
AS 31 Kg	108	214	3116/10/25/10	105 RFS	3116/10/32/10
ASCE 40 Lb	88.9	194.9	3116/10/25/10	85 RFS	3116/10/32/10
ASCE 60 Lb	108	214	3116/10/25/10	105 RFS	N/A
ASCE 85 Lb	131.8	237.8	3116/10/25/10	130 RFS	N/A
BSC 16 Kg BR	108	214	3116/10/25/10	105 RFS	3116/10/32/10
BSC 20 Kg BR	127	233	3116/10/25/10	125 RFS	3116/10/32/10
BSC 28 Kg BR	152	258	3116/10/25/10	150 RFS	3116/10/32/10
JIS 30 Kg	108	214	3116/10/25/10	105 RFS	N/A
JIS 37 Kg	122.2	228.2	3116/10/25/10	120 RFS	N/A
JIS 40 N	122	228	3116/10/25/10	120 RFS	N/A
S 12	65	171	3116/10/25/10	MK4 65 RF	3116/10/32/10
S 14	70	176	3116/10/25/10	MK4 65 RF	3116/10/32/10
S 18	82	188	3116/10/25/10	75 RFS	3116/10/32/10
S 20	82	188	3116/10/25/10	75 RFS	3116/10/32/10
S 24	90	196	3116/10/25/10	90 RFS	3116/10/32/10
S 30	108	214	3116/10/25/10	105 RFS	N/A
S 33	105	211	3116/10/25/10	105 RFS	N/A
S 34	117.5	223.5	3116/10/25/10	115 RFS	N/A

Materials

- Clip:
Forged Steel (AISI 1045)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Components

Clip Model 3116/10/25/10

- 1 Clip Part n° 3116\10\25\10
- 1 Special Washer Part n° 3116R

Clip Model 3116/10/32/10

- 1 Clip Part n° 3116\10\32\10
- 1 Special Washer Part n° 3116R

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation

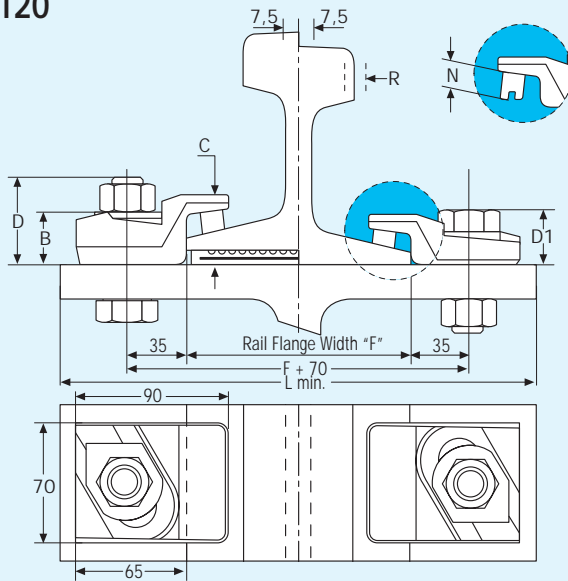
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 106.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Boltlok 3120



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M20	M20	M20
Bolt torque	Nm	170	270	270
Resistance to lateral force R ⁽¹⁾	kN	18	40	58
Total lateral adjustment	mm		15.0	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Clip Type	Weight Kg	Dimensions				
		B	C	D	D1	N
3120/15/28/N	0.6	22	28	47	36	10/15
3120/15/35/N	0.68	27	35	52	41	10/15
3120/15/40/N	0.8	30	40	55	44	10/15

Size ⁽¹⁾	Rail Details		Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
	Foot F (mm)	Lmin ⁽²⁾ (mm)			
A 65	175	320	3120/15/28/10	175 RBS	3120/15/40/15
A 75	200	345	3120/15/28/10	200 RBS	3120/15/40/15
A100	200	345	3120/15/28/10	200 RBS	3120/15/40/15
A120	220	365	3120/15/35/10	220 RBS	3120/15/40/10
AS 50 Kg	127	272	3120/15/35/15	125 RFS	3120/15/40/10
AS 60 Kg	146	291	3120/15/35/15	140 RFS	3120/15/40/15
AS 86 Kg	165	310	3120/15/35/10	175 RFS	N/A
ASCE 60 Lb	108	253	3120/15/28/15	105 RFS	3120/15/35/10
ASCE 85 Lb	131.8	276.8	3120/15/28/10	130 RFS	3120/15/40/15
BSC 50 Kg BR	165	310	3120/15/35/10	175 RFS	3120/15/40/10
BSC 56 Kg CR	171	316	3120/15/28/10	175 RFS	3120/15/40/15
CR 104 Lb	127	272	3120/15/35/15	125 RFS	3120/15/40/10
CR 135 Lb	131.8	276.8	3120/15/35/15	130 RFS	3120/15/40/10
JIS 50 Kg	127	272	3120/15/35/10	125 RFS	N/A
JIS 50 N	127	272	3120/15/35/15	125 RFS	3120/15/40/10
MR 77	200	345	3120/15/28/10	200 RFS	3120/15/40/15
MRS 87 B	152.4	297.4	3120/15/35/15	150 RFS	3120/15/40/10
QU 70	120	265	3120/15/28/10	120 RFS	3120/15/40/15
QU 80	130	275	3120/15/35/15	130 RFS	3120/15/40/15
QU 100	150	295	3120/15/35/15	150 RFS	3120/15/40/10
S 49	125	270	3120/15/35/15	125 RFS	3120/15/40/15
S 54	125	270	3120/15/35/15	125 RFS	3120/15/40/10
UIC 54	140	285	3120/15/28/10	140 RFS	3120/15/40/15
UIC 60	150	295	3120/15/28/10	150 RFS	3120/15/40/15



Materials

- Clip: Forged Steel (AISI 1045)
- Special Washer: Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose): Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Components

Clip Model 3120/15/28/N*

- 1 Clip Part n° 3120\15\28\N
- 1 Special Washer Part n° 3120R

Clip Model 3120/15/35/N*

- 1 Clip Part n° 3120\15\35\N
- 1 Special Washer Part n° 3120R

Clip Model 3120/15/40/N*

- 1 Clip Part n° 3120\15\40\N
- 1 Special Washer Part n° 3120R

* N indicates the nose height, as stated in each clip type. Available nose heights for this clip are 10 & 15 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 145.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Boltlok 3124

Technical drawing of the Boltlok 3124 component, showing side and end views with dimensions.

Side View Dimensions:

- Top flange thickness: 10
- Top flange width: 10
- Top flange radius: R
- Top flange height: N
- Top flange width: D
- Top flange width: B
- Top flange width: C
- Top flange width: D1
- Rail Flange Width "F"
- Bottom flange width: 38
- Bottom flange width: F + 76
- Bottom flange width: L min.
- Bottom flange width: 103
- Bottom flange width: 86
- Bottom flange width: 76

End View Dimensions:

- End view width: 103
- End view height: 86
- End view width: 76



SPECIFICATIONS

(1) R is calculated on the assumption that bolt threads are included in the shear plane. A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane. Please consult Gantrex for details.

Clip Type	Weight Kg	Dimensions				
		B	C	D	D1	N
3124/20/36/12	0.9	22	37	54	38	12
3124/20/42/12	1.0	24	42	56	39	12

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Components

Clip Model 3124/20/36/12

1 Clip Part n° 3124\20\36\12
1 Special Washer Part n° 3124R

Clip Model 3124/20/42/12

1 Clip Part n° 3124\20\42\12
1 Special Washer Part n° 3124R

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation

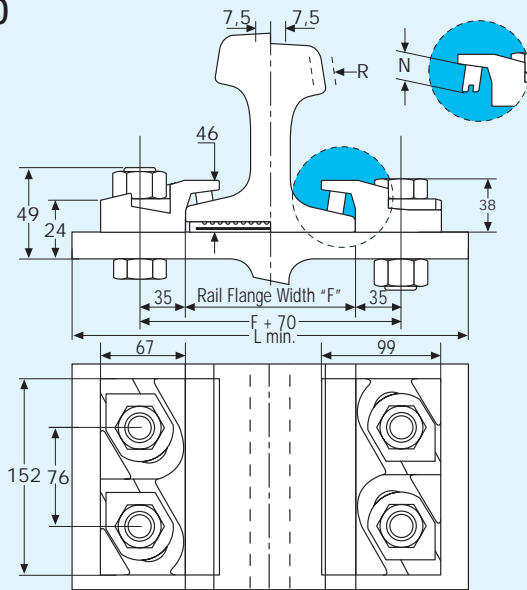
(1) Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

(2) *L*_{min} indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$L_{min} = \text{Rail foot width} + 172.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Boltlok 3220



SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M20	M20	M20
Bolt torque	Nm	170	270	270
Resistance to lateral force R ⁽¹⁾	kN	36	80	116
Total lateral adjustment	mm		15.0	
Weight (clip & special washer)	Kg		1.8	

(1) R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A100	200	349	3220/15/45/21	200 RBS	3220/15/45/17
A120	220	369	3220/15/45/21	220 RBS	3220/15/45/17
AS 50 Kg	127	276	3220/15/45/21	125 RFS	3220/15/45/17
AS 60 Kg	146	295	3220/15/45/21	140 RFS	3220/15/45/17
AS 86 Kg	165	314	3220/15/45/17	155 RFS	3220/15/45/10
ASCE 85 lb	131.8	280.8	3220/15/45/21	130 RFS	3220/15/45/17
ASCE 100 lb	146	295	3220/15/45/21	140 RFS	3220/15/45/17
BSC 50 Kg BR	165	314	3220/15/45/21	155 RFS	3220/15/45/10
BSC 56 Kg CR	171	320	3220/15/45/21	155 RFS	3220/15/45/17
BSC 89 Kg CR	178	327	3220/15/45/17	155 RFS	3220/15/45/10
CR 73 Kg	140	289	3220/15/45/17	140 RFS	3220/15/45/10
CR 104 lb	127	276	3220/15/45/21	125 RFS	3220/15/45/10
CR 135 lb	131.8	280.8	3220/15/45/21	130 RFS	3220/15/45/10
CR 175 Lb	152.4	301.4	3220/15/45/17	150 RFS	3220/15/45/10
JIS 50 Kg	127	276	3220/15/45/17	125 RFS	3220/15/45/10
JIS 50 N	127	276	3220/15/45/21	125 RFS	3220/15/45/17
JIS 60 Kg	145	294	3220/15/45/21	140 RFS	3220/15/45/10
MR 77	200	349	3220/15/45/21	200 RFS	3220/15/45/17
MR 151	220	369	3220/15/45/17	220 RFS	3220/15/45/10
MRS 67	131.8	280.8	3220/15/45/21	130 RFS	3220/15/45/10
MRS 87 B	152.4	301.4	3220/15/45/21	150 RFS	3220/15/45/10
QU 70	120	269	3220/15/45/21	120 RFS	3220/15/45/17
QU 80	130	279	3220/15/45/21	130 RFS	3220/15/45/17
QU 100	150	299	3220/15/45/21	150 RFS	3220/15/45/10
S 49	125	274	3220/15/45/21	125 RFS	3220/15/45/17
S 54	125	274	3220/15/45/21	125 RFS	3220/15/45/17
S 64	150	299	3220/15/45/21	150 RFS	3220/15/45/17
UIC 54	140	289	3220/15/45/21	140 RFS	3220/15/45/17
UIC 60	150	299	3220/15/45/21	150 RFS	3220/15/45/17

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° / +100°C

Components

Clip Model 3220/15/45/N*

- 1 Clip Part n° 3226\15\45\N
- 2 Special Washers Part n° 3120R

* N indicates the nose height, as stated in each clip type. Available nose heights for this clip are 10, 17 & 21 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation

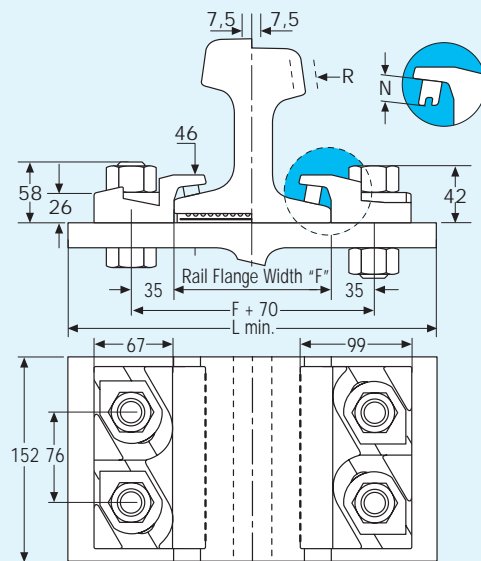
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 149.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Boltlok 3224



GANTOT3

SPECIFICATIONS

Bolt grade		4.6	8.8	10.9
Bolt size		M24	M24	M24
Bolt torque	Nm	270	270	270
Resistance to lateral force R ⁽¹⁾	kN	72	152	196
Total lateral adjustment	mm		15.0	
Weight (clip & special washer)	Kg		1.75	

⁽¹⁾ R is calculated on the assumption that bolt threads are included in the shear plane. **A higher resistance than stated can be achieved if it can be ensured that the bolt threads are excluded from the shear plane.** Please consult Gantrex for details.

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A100	200	349	3224/15/45/21	200 RBS	3224/15/45/17
A120	220	369	3224/15/45/21	220 RBS	3224/15/45/17
AS 50 Kg	127	276	3224/15/45/21	125 RFS	3224/15/45/17
AS 60 Kg	146	295	3224/15/45/21	140 RFS	3224/15/45/17
AS 86 Kg	165	314	3224/15/45/21	155 RFS	3224/15/45/10
ASCE 85 lb	131.8	280.8	3224/15/45/21	130 RFS	3224/15/45/17
ASCE 100 lb	146	295	3224/15/45/21	140 RFS	3224/15/45/17
BSC 50 Kg BR	165	314	3224/15/45/21	155 RFS	3224/15/45/10
BSC 56 Kg CR	171	320	3224/15/45/21	155 RFS	3224/15/45/17
BSC 89 Kg CR	178	327	3224/15/45/17	155 RFS	3224/15/45/10
CR 73 Kg	140	289	3224/15/45/17	140 RFS	3224/15/45/10
CR 104 lb	127	276	3224/15/45/21	125 RFS	3224/15/45/10
CR 135 lb	131.8	280.8	3224/15/45/21	130 RFS	3224/15/45/10
CR 175 Lb	152.4	301.4	3224/15/45/17	150 RFS	3224/15/45/10
JIS 50 Kg	127	276	3224/15/45/17	125 RFS	3224/15/45/10
JIS 50 N	127	276	3224/15/45/21	125 RFS	3224/15/45/17
JIS 60 Kg	145	294	3224/15/45/21	140 RFS	3224/15/45/10
MR 77	200	349	3224/15/45/21	200 RFS	3224/15/45/17
MR 151	220	369	3224/15/45/17	220 RFS	3224/15/45/10
MRS 67	131.8	280.8	3224/15/45/21	130 RFS	3224/15/45/10
MRS 87 B	152.4	301.4	3224/15/45/21	150 RFS	3224/15/45/10
QU 70	120	269	3224/15/45/21	120 RFS	3224/15/45/17
QU 80	130	279	3224/15/45/21	130 RFS	3224/15/45/17
QU 100	150	299	3224/15/45/21	150 RFS	3224/15/45/10
S 49	125	274	3224/15/45/21	125 RFS	3224/15/45/17
S 54	125	274	3224/15/45/21	125 RFS	3224/15/45/17
S 64	150	299	3224/15/45/21	150 RFS	3224/15/45/17
UIC 54	140	289	3224/15/45/21	140 RFS	3224/15/45/17
UIC 60	150	299	3224/15/45/21	150 RFS	3224/15/45/17

Materials

- Clip:
Ductile Cast Iron (ASTM A536)
- Special Washer:
Ductile Cast Iron (ASTM A536)
- Pressure Block (Nose):
Synthetic rubber

The clip and special washer are available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 3224/15/45/N*

- 1 Clip Part n° 3226\15\45\N
- 2 Special Washers Part n° 3126R

* N indicates the nose height, as stated in each clip model. Available nose heights for this clip are 10, 17 & 21 mm.

Gantrex can also supply the bolt assembly if required. In order to receive a specific quotation, please supply the thickness of the support for bolt length calculation.

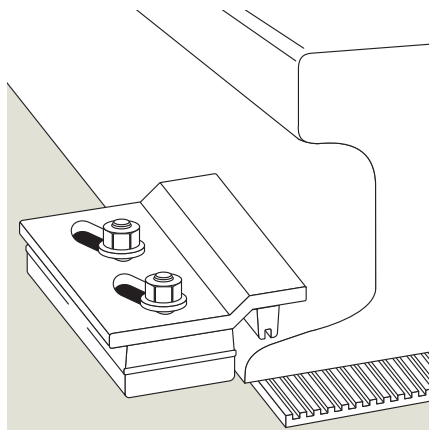
⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 149.0 \text{ mm}$$

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.





All Gantrex Weldlok series clips are specifically designed for the mounting of crane rails, with or without a pad. A full range of weldable clips is available to the designer to optimize the economy as well as the technical integrity of the installation.

All Weldlok clips consist of two interacting components which allow easy lateral rail adjustment and, once correctly installed, are self-locking and self-tightening. A controlled vertical force is applied to the rail flange through a synthetic rubber 'nose', which is vulcanize-bonded (or mechanically fastened) to the appropriate clip component.

Technical advantages of Gantrex Weldlok clips

- Simple and positive lateral rail adjustment of up to 20 mm, depending on the type of clip.
- Self-locking and self-tightening features through a system of double wedging action.
- Minimizes crane runway maintenance and down-time.
- Reduces noise and vibration.
- Controlled vertical force applied to rail through the synthetic rubber 'nose':
 - accomodates rail and girder tolerances
 - eliminates fatigue effects on the bolt
 - ensures contact between rail and pad under the rail
 - restrains cross-axial movement of broken rails
 - eliminates loosening of bolts

Maximum allowable side-load (R) for standard clips

Clip Type kN	R Max in kN
Weldlok 8	35
Weldlok 10	45
Weldlok 15	66
Weldlok 18	80
Weldlok 20	90
Weldlok 24	105
Weldlok 28	125
Weldlok 32	142
Weldlok 43	191

Clip Selection

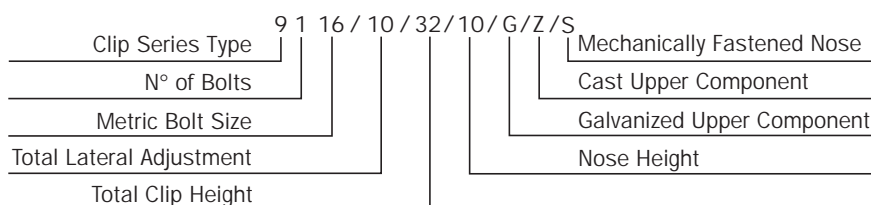
In order to select the correct Gantrex Weldlok clip for your installation some specific information is necessary:

- rail designation
- thickness of pad or wear plate under the rail
- maximum side thrust per wheel
- vertical clearance tolerances where side rollers are used
- girder top flange width
- lateral adjustment required
- maximum wheel load

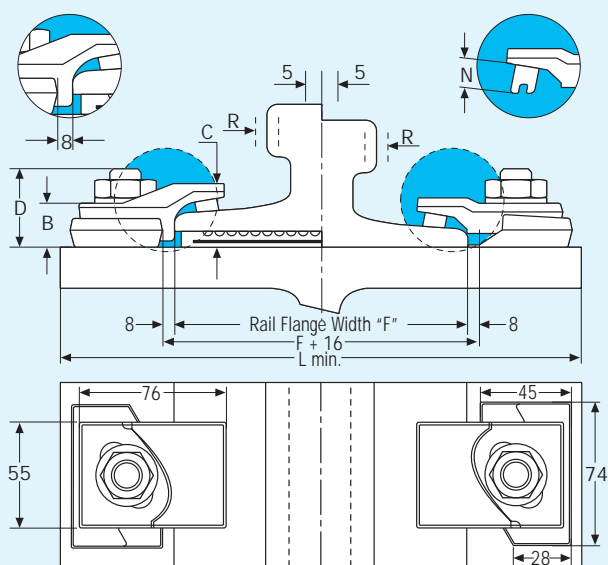
See questionnaire for further information.

Clip identification and numbering system

The Gantrex clip numbering system applies to the most current products and concisely describes the product as illustrated below:



Weldlok 8



SPECIFICATIONS

Bolt torque	Nm	125.0
Resistance to lateral force R max	kN	35.0
Total lateral adjustment	mm	10.0

Clip Model	Weight Kg	DIMENSIONS			
		B	C	D	N
9116/10/25/10	0.60	24	28	38	10
9116/10/32/10	0.62	24	32	38	10

Materials

- Clip Upper Component:
Ductile Cast Iron (ASTM A536)
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9116/10/25/10

- 1 Upper Part n° 9116\10\24\10
1 Lower Part n° 9116\10\17
1 M16 Flat Washer DIN 6916
1 M16 Cl. 5 Hex. Thin Nut DIN 429
1 M16x36 mm 8.8 Conical head Bolt

Clip Model 9116/10/32/10

- 1 Upper Part n° 9116\10\29\10
1 Lower Part n° 9116\—\17
1 M16 Flat Washer DIN 6916
1 M16 Cl. 5 Hex. Thin Nut DIN 429
1 M16x36 mm 8.8 Conical head Bolt

Rail Details			Clip model for use	Gantrex	Clip model for use
Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)	without Pad	MK6 Pad Model	with Gantrex MK6 Pad
A 45	125	245	9116/10/25/10	125 RFS	9116/10/32/10
A 55	150	270	9116/10/25/10	150 RFS	9116/10/32/10
A 65	175	295	9116/10/25/10	175 RBS	9116/10/32/10
AS 22 Kg	93.7	213.7	9116/10/25/10	100 RFS	9116/10/32/10
AS 31 Kg	108	228	9116/10/25/10	105 RFS	9116/10/32/10
ASCE 40 Lb	88.9	208.9	9116/10/25/10	85 RFS	9116/10/32/10
ASCE 60 Lb	108	228	9116/10/25/10	105 RFS	9116/10/32/10
ASCE 85 Lb	131.8	251.8	9116/10/25/10	130 RFS	9116/10/32/10
BSC 16 Kg BR	108	228	9116/10/25/10	105 RFS	9116/10/32/10
BSC 20 Kg BR	127	247	9116/10/25/10	125 RFS	9116/10/32/10
BSC 28 Kg BR	152	272	9116/10/25/10	150 RFS	9116/10/32/10
JIS 30 Kg	108	228	9116/10/25/10	105 RFS	9116/10/32/10
JIS 37 Kg	122.2	242.2	9116/10/25/10	120 RFS	9116/10/32/10
JIS 40 N	122	242	9116/10/25/10	120 RFS	9116/10/32/10
S 12	65	185	9116/10/25/10	MK4 65 RF	9116/10/32/10
S 14	70	190	9116/10/25/10	MK4 65 RF	9116/10/32/10
S 18	82	202	9116/10/25/10	75 RFS	9116/10/32/10
S 20	82	202	9116/10/25/10	75 RFS	9116/10/32/10
S 24	90	210	9116/10/25/10	90 RFS	9116/10/32/10
S 30	108	228	9116/10/25/10	105 RFS	9116/10/32/10
S 33	105	225	9116/10/25/10	105 RFS	9116/10/32/10
S 34	117.5	237.5	9116/10/25/10	115 RFS	9116/10/32/10

(1) Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

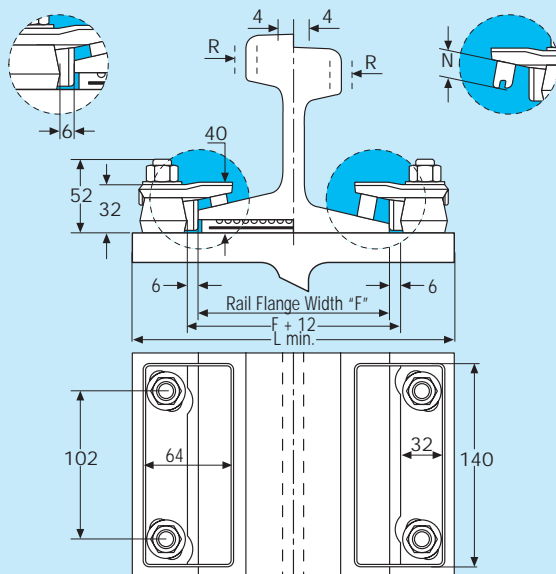
(2) *L_{min}* indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$L_{min} = \text{Rail foot width} + 120 \text{ mm.}$$

See also welding & installation instructions for details

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Weldlok 10



SPECIFICATIONS

Bolt torque	Nm	95.0
Resistance to lateral force R max	kN	76.0
Total lateral adjustment	mm	8.0
Weight	kg	1.36

Rail Details Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
A 65	175	265	9212/08/34/18	175 RBS	9212/08/34/10
A 75	200	290	9212/08/34/18	200 RBS	9212/08/34/10
A 100	200	290	9212/08/34/15	200 RBS	9212/08/34/10
A 120	220	310	9212/08/34/15	N/A	N/A
AS 31 Kg	108	198	9212/08/34/18	105 RFS	9212/08/34/10
AS 41 Kg	127	217	9212/08/34/18	125 RFS	9212/08/34/10
AS 50 Kg	127	217	9212/08/34/15	125 RFS	9212/08/34/10
AS 60 Kg	146	236	9212/08/34/15	140 RFS	9212/08/34/10
AS 73 Kg	146	236	9212/08/34/10	N/A	N/A
ASCE 40 Lb	88.9	178.9	N/A	85 RFS	9212/08/34/15
ASCE 60 Lb	108	198	9212/08/34/18	105 RFS	9212/08/34/10
ASCE 80 Lb	127	217	9212/08/34/18	130 RFS	9212/08/34/10
ASCE 85 Lb	131.8	221.8	9212/08/34/18	130 RFS	9212/08/34/10
CR 73 Kg	140	230	9212/08/34/15	N/A	N/A
CR 100 Kg	155	245	9212/08/34/10	N/A	N/A
CR 104 Lb	127	217	9212/08/34/15	N/A	N/A
CR 105 Lb	131.8	221.8	9212/08/34/15	N/A	N/A
CR 135 Lb	131.8	221.8	9212/08/34/15	N/A	N/A
JIS 30 Kg	108	198	9212/08/34/18	105 RFS	9212/08/34/10
JIS 37 Kg	122	212	9212/08/34/18	120 RFS	9212/08/34/10
JIS 40 N	122	212	9212/08/34/18	120 RFS	9212/08/34/15
JIS 50 N	127	217	9212/08/34/18	N/A	N/A
JIS 50 Kg	127	217	9212/08/34/15	N/A	N/A
JIS 60	145	235	9212/08/34/15	N/A	N/A
MR 77	200	290	9212/08/34/18	200 RFS	9212/08/34/10
MR 151	220	310	9212/08/34/15	N/A	N/A
S 33	105	195	9212/08/34/18	105 RFS	9212/08/34/10
S 41	125	215	9212/08/34/18	125 RFS	9212/08/34/10
S 49	125	215	9212/08/34/18	125 RFS	9212/08/34/10
S 54	125	215	9212/08/34/15	125 RFS	9212/08/34/10
S 64	150	240	9212/08/34/15	N/A	N/A

Materials

- Clip Upper Component:
Ductile Cast Iron (ASTM A536)
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9212/08/34/N*

- 1 Upper Part n° 9212\08\33\N
- 1 Lower Part n° 9212\—\25
- 2 M12 Flat Washers DIN 6916
- 2 M12 Cl. 8 Hexagonal Nut
- 2 M12x35 mm 8.8 Hex. H. Bolt

* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 10, 15 & 18 mm.

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

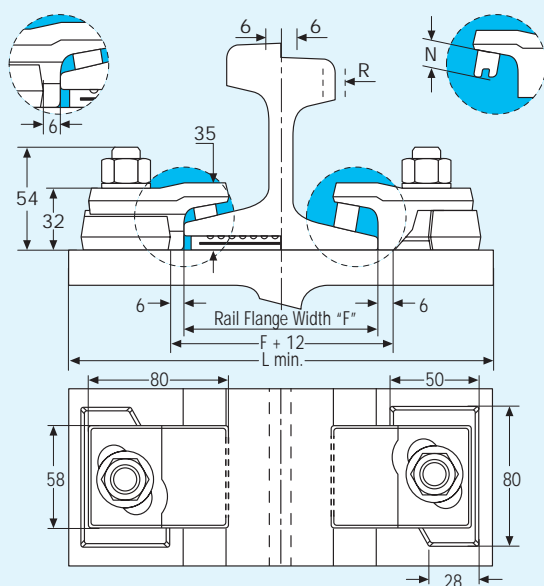
$$Lmin = \text{Rail foot width} + 90.0 \text{ mm.}$$

See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order specialcut cut clips for installation at the joints.

Gantrex Weldable Clips

Weldlok 15



SPECIFICATIONS

Bolt torque	Nm	200.0
Resistance to lateral force R max	kN	66.0
Total lateral adjustment	mm	12.0
Weight	kg	0.95



Materials

- Clip Upper Component:
Forged Steel (AISI 1045)
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9116/12/37/N*

- 1 Upper Part n° 9116\12\31\N
1 Lower Part n° 9116\—\22
1 M16 Flat Washer DIN 6916
1 M16 Cl. 8 Hexagonal Nut
1 M16x40 mm 8.8 Hex. H. Bolt

* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 12 & 17 mm

Rail Details			Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)			
A 65	175	300	9116/12/37/17	N/A	N/A
A 75	200	325	9116/12/37/17	N/A	N/A
A 100	200	325	9116/12/37/17	N/A	N/A
AS 31 Kg	108	233	9116/12/37/17	105 RFS	9116/12/37/12
ASCE 40 Lb	88.9	213.9	9116/12/37/17	85 RFS	9116/12/37/12
ASCE 60 Lb	108	233	9116/12/37/17	105 RFS	9116/12/37/12
CR 104 Lb	127	253	9116/12/37/12	N/A	N/A
CR 105 Lb	131.8	256.8	9116/12/37/17	N/A	N/A
CR 135 Lb	131.8	256.8	9116/12/37/12	N/A	N/A
JIS 30 Kg	108	233	9116/12/37/17	105 RFS	9116/12/37/12
JIS 37 Kg	122	247	9116/12/37/17	N/A	N/A
JIS 40 N	122	247	9116/12/37/17	120 RFS	9116/12/37/12
UIC 54	140	265	9116/12/37/17	N/A	N/A
UIC 60	150	275	9116/12/37/17	N/A	N/A
S 33	105	230	9116/12/37/17	105 RFS	9116/12/37/12
S 41	125	250	9116/12/37/17	N/A	N/A

(1) Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

(2) *L*_{min} indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:
*L*_{min} = Rail foot width + **125 mm**.
 See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.



Bolt torque	Nm	245.0
Resistance to lateral force R max	kN	80.0
Total lateral adjustment	mm	15.0
Weight	kg	1.7

- Clip Upper Component:
Forged Steel (AISI 1045) or
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

Ambient temperature range
-25° C / +100° C

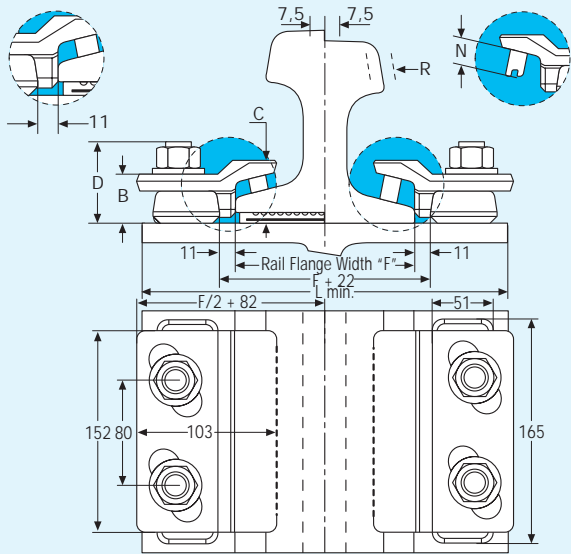
1 Upper Part n° 9120\15\37\N
1 Lower Part n° 9120\—\22
1 M20 Flat Washer DIN 6916
1 M20 Cl. 5 Hexagonal Thin Nut
1 M20x35 mm 8.8 Modified Hex. Head Bolt

Rail Details			Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)			
A 65	175	345	N/A	175 RBS	9120/15/39/15
A 75	200	370	N/A	200 RBS	9120/15/39/15
A100	200	370	9120/15/39/18	200 RBS	9120/15/39/12
A120	220	390	9120/15/39/18	220 RBS	9120/15/39/10
ASCE 60 Lb	108	278	N/A	105 RFS	9120/15/39/15
ASCE 85 Lb	131.8	301.8	N/A	130 RFS	9120/15/39/15
ASCE 100 Lb	146	316	N/A	140 RFS	9120/15/39/15
BSC 35 Kg BR	160	330	N/A	150 RFS	9120/15/39/15
BSC 56 Kg CR	171	341	N/A	155 RFS	9120/15/39/12
CR 104 Lb	127	297	9120/15/39/18	125 RFS	9120/15/39/10
CR 105 Lb	131.8	301.8	9120/15/39/18	130 RFS	9120/15/39/12
CR 135 Lb	131.8	301.8	9120/15/39/18	130 RFS	9120/15/39/10
CR 171 Lb	152.4	322.4	9120/15/39/15	N/A	N/A
JIS 50 N	127	297	9120/15/39/18	125 RFS	9120/15/39/12
MR 77	200	370	9120/15/39/18	200 RFS	9120/15/39/12
MR 151	220	390	9120/15/39/15	N/A	N/A
QU 70	120	290	N/A	120 RFS	9120/15/39/15
QU 80	130	300	9120/15/39/18	130 RFS	9120/15/39/12
QU 100	150	320	9120/15/39/18	150 RFS	9120/15/39/10
S 33	105	275	N/A	105 RFS	9120/15/39/15
S 49	125	295	9120/15/39/18	125 RFS	9120/15/39/12
S 54	125	295	9120/15/39/18	125 RFS	9120/15/39/10
S 64	150	320	9120/15/39/18	150 RFS	9120/15/39/10
UIC 54	140	310	9120/15/39/18	140 RFS	9120/15/39/12
UIC 60	150	320	9120/15/39/18	150 RFS	9120/15/39/12

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Gantrex Weldable Clips

Weldlok 20



SPECIFICATIONS

Bolt torque	Nm	340.0
Resistance to lateral force R max	kN	90.0
Total lateral adjustment	mm	15.0

Clip Model	Weight Kg	DIMENSIONS			
		B	C	D	N
9519/20/34/N	2.3	40	38	65	12/15
9519/20/40/N	2.3	40	43	65	12/15
9519/20/47/N	2.3	40	50	65	12/15

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A 75	200	312 (338)	N/A	200 RBS	9519/20/40/12
A100	200	312 (338)	9519/20/34/12	200 RBS	9519/20/40/12
A120	220	332 (358)	9519/20/40/15	220 RBS	9519/20/47/15
AS 73 Kg	146	258 (284)	9519/20/40/12	140 RFS	9519/20/47/12
AS 86 Kg	165	277 (303)	9519/20/40/15	155 RFS	9519/20/47/12
ASCE 85 Lb	131.8	243.8 (269.8)	N/A	130 RFS	9519/20/40/12
ASCE 100 Lb	146	258 (284)	9519/20/34/15	140 RFS	9519/20/40/12
BSC 50 Kg BR	165	277 (303)	9519/20/40/15	155 RFS	9519/20/47/12
BSC 89 Kg CR	178	290 (316)	9519/20/40/12	175 RFS	9519/20/47/12
CR 73 Kg	140	252 (278)	9519/20/40/15	140 RFS	9519/20/47/15
CR 104 Lb	127	239 (265)	9519/20/40/15	125 RFS	9519/20/47/15
CR 135 Lb	131.8	243.8 (269.8)	9519/20/40/15	130 RFS	9519/20/47/15
CR 171 Lb	152.4	264.4 (290.4)	9519/20/40/12	150 RFS	9519/20/47/12
CR 175 Lb	152.4	264.4 (290.4)	9519/20/40/15	150 RFS	9519/20/47/15
JIS 50 Kg	127	239 (265)	9519/20/40/15	125 RFS	9519/20/47/15
JIS 50 N	127	239 (265)	9519/20/34/12	125 RFS	9519/20/47/15
JIS 60 Kg	145	257 (283)	9519/20/40/15	140 RFS	9519/20/47/15
MR 77	200	312 (338)	9519/20/34/12	200 RFS	9519/20/40/12
MR 151	220	332 (358)	9519/20/40/12	220 RFS	9519/20/47/12
MRS 85	152.4	264.4 (290.4)	9519/20/40/12	150 RFS	9519/20/47/12
MRS 87 B	152.4	264.4 (290.4)	9519/20/40/15	150 RFS	9519/20/47/15
QU 80	130	242 (268)	9519/20/34/12	130 RFS	9519/20/40/12
QU 100	150	262 (288)	9519/20/40/15	150 RFS	9519/20/47/15
QU 120	170	282 (308)	9519/20/40/12	155 RFS	9519/20/47/12
S 49	125	237 (263)	9519/20/34/12	125 RFS	9519/20/40/12
S 54	125	237 (263)	9519/20/34/12	125 RFS	9519/20/47/15
S 64	150	262 (288)	9519/20/40/15	150 RFS	9519/20/47/15
UIC 54	140	252 (278)	9519/20/34/12	140 RFS	9519/20/40/12
UIC 60	150	262 (288)	9519/20/34/15	150 RFS	9519/20/40/12

Materials

- Clip Upper Component:
Forged Steel (AISI 1045) or
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9519/20/34/N*

- 1 Upper Part n° 9220\20\33\N
- 1 Lower Part n° 9519\—\25
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl.5 Hexagonal Nuts
- 2 M20x50 mm 8.8 Hex. Head Bolts

Clip Model 9519/20/40/N*

- 1 Upper Part n° 9220\20\36\N
- 1 Lower Part n° 9519\—\25
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl.5 Hexagonal Nuts
- 2 M20x50 mm 8.8 Hex. Head Bolts

Clip Model 9519/20/47/N*

- 1 Upper Part n° 9220\20\41\N
- 1 Lower Part n° 9519\—\25
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl.5 Hexagonal Nuts
- 2 M20x50 mm 8.8 Hex. Head Bolts

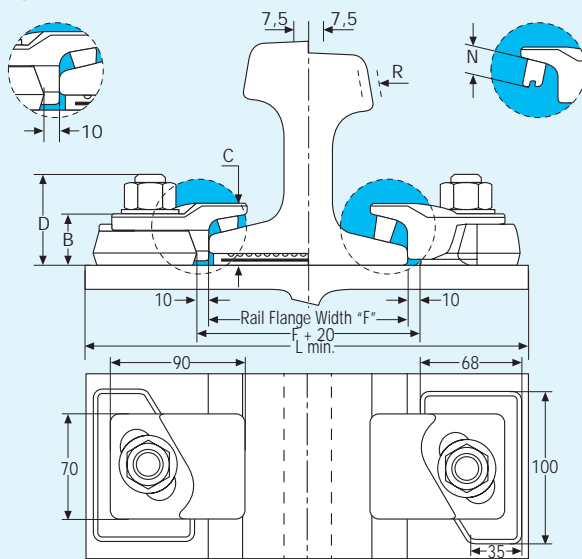
* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 12 & 15 mm.

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:
Lmin = Rail foot width + **112.0 mm** (138.0 mm if weld Z is to be applied). See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Weldlok 24



SPECIFICATIONS

Bolt torque	Nm	340.0
Resistance to lateral force R max	kN	105.0
Total lateral adjustment	mm	15.0

Clip Model	Weight Kg	DIMENSIONS			
		B	C	D	N
9120/15/34/N	1.7	40	37	65	7/10/12/15/18
9120/15/41/N	1.7	40	45	65	7/10/12/15/18
9120/15/45/N	1.7	40	45	65	7/10/12/15/18

Rail Details		Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK 6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾	Foot F (mm)				
A 65	175	345	9120/15/34/18	175 RBS	9120/15/45/12
A 75	200	370	9120/15/34/15	200 RBS	9120/15/45/12
A100	200	370	9120/15/45/18	200 RBS	9120/15/45/10
A120	220	390	9120/15/45/15	220 RBS	9120/15/45/10
AS 50 Kg	127	297	9120/15/45/18	125 RFS	9120/15/45/10
AS 60 Kg	146	316	9120/15/45/18	140 RFS	9120/15/45/10
AS 86 Kg	165	335	9120/15/45/15	175 RFS	9120/15/45/07
ASCE 60 Lb	108	278	9120/15/34/18	105 RFS	9120/15/45/15
ASCE 85 Lb	131.8	301.8	9120/15/34/15	130 RFS	9120/15/45/12
BSC 50 Kg BR	165	335	9120/15/45/15	175 RFS	9120/15/45/07
BSC 56 Kg CR	171	341	9120/15/45/18	175 RFS	9120/15/45/10
BSC 89 Kg CR	178	348	9120/15/45/12	180 RFS	9120/15/41/10
CR 73 Kg	140	310	9120/15/45/15	140 RFS	9120/15/45/10
CR 100 Kg	155	325	9120/15/45/10	N/A	N/A
CR 104 Lb	127	297	9120/15/45/15	125 RFS	9120/15/45/10
CR 135 Lb	131.8	301.8	9120/15/45/18	130 RFS	9120/15/45/10
JIS 50 Kg	127	297	9120/15/45/15	125 RFS	9120/15/45/10
JIS 50 N	127	297	9120/15/45/18	125 RFS	9120/15/45/10
JIS 60 Kg	145	315	9120/15/45/15	140 RFS	9120/15/45/10
MR 77	200	370	9120/15/45/18	200 RFS	9120/15/45/10
MR 151	220	390	9120/15/45/15	220 RFS	9120/15/41/10
MRS 87 B	152.4	322.4	9120/15/45/15	150 RFS	9120/15/45/07
QU 70	120	290	N/A	120 RFS	9120/15/45/12
QU 80	130	300	9120/15/45/18	130 RFS	9120/15/45/10
QU 100	150	320	9120/15/45/18	150 RFS	9120/15/45/10
QU 120	170	340	9120/15/45/15	175 RFS	9120/15/45/07
S 49	125	295	9120/15/45/18	125 RFS	9120/15/41/10
S 54	125	295	9120/15/45/18	125 RFS	9120/15/41/10
S 64	150	320	9120/15/45/15	150 RFS	9120/15/45/07
UIC 54	140	310	9120/15/45/18	140 RFS	9120/15/41/10
UIC 60	150	320	9120/15/45/18	150 RFS	9120/15/41/10



Materials

- Clip Upper Component:
Forged Steel (AISI 1045) or
Ductile Cast Iron (ASTM A536)
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9120/15/34/N*

- 1 Upper Part n° 9120\15\33\N (forged)
- 1 Lower Part n° 9120\—\27
- 1 M20 Flat Washer DIN 6916
- 1 M20 Cl. 8 Hexagonal Nut
- 1 M20x50 mm 8.8 Hex. Head Bolt

Clip Model 9120/15/41/N*

- 1 Upper Part n° 9120\15\38\N (forged)
- 1 Lower Part n° 9120\—\27
- 1 M20 Flat Washer DIN 6916
- 1 M20 Cl. 8 Hexagonal Nut
- 1 M20x50 mm 8.8 Hex. Head Bolt

Clip Model 9120/15/45/N*

- 1 Upper Part n° 9120\15\42\N (cast)
- 1 Lower Part n° 9120\—\27
- 1 M20 Flat Washer DIN 6916
- 1 M20 Cl. 8 Hexagonal Nut
- 1 M20x50 mm 8.8 Hex. Head Bolt

* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 7, 10, 12, 15 & 18 mm.

NOTE: Where cast upper clip 9120/15/45/N is recommended, it is usually also possible to use a forged upper as an alternative for high frequency duty cycles. Please consult Gantrex for details.

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

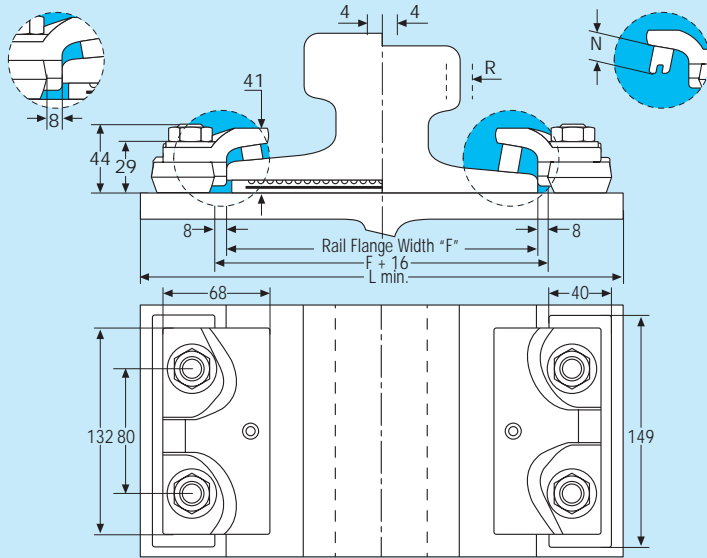
⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$Lmin = \text{Rail foot width} + 170.0 \text{ mm}$. See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Gantrex Weldable Clips

Weldlok 28



GANT021

SPECIFICATIONS

Bolt torque	Nm	150.0
Resistance to lateral force R max	kN	125.0
Total lateral adjustment	mm	8.0
Weight	kg	1.6

Materials

- Clip Upper Component:
Ductile Cast Iron (ASTM A536)
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Rail Details					
Size ⁽¹⁾	Foot F (mm)	Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
A 65	175	285	N/A	175 RBS	9216/08/41/15
A 75	200	310	N/A	200 RBS	9216/08/41/15
A 100	200	310	N/A	200 RBS	9216/08/41/15
A 120	220	330	9216/08/41/18	220 RBS	9216/08/41/10
AS 86 Kg	165	275	9216/08/41/15	155 RFS	9216/08/41/07
BSC 50 Kg BR	165	275	9216/08/41/15	155 RFS	9216/08/41/07
BSC 56 Kg CR	171	281	9216/08/41/18	170 RFS	9216/08/41/15
BSC 89 Kg CR	178	288	9216/08/41/15	180 RFS	9216/08/41/07
CR 73 Kg	140	250	9216/08/41/15	140 RFS	9216/08/41/10
CR 105 Lb	131.8	241.8	9216/08/41/18	130 RFS	9216/08/41/15
CR 135 Lb	131.8	241.8	9216/08/41/18	130 RFS	9216/08/41/10
CR 171 Lb	152.4	262.4	9216/08/41/15	150 RFS	9216/08/41/07
JIS 50 Kg	127	237	9216/08/41/15	125 RFS	9216/08/41/07
JIS 50 N	127	237	9216/08/41/18	125 RFS	9216/08/41/10
JIS 60 Kg	145	255	9216/08/41/15	140 RFS	9216/08/41/10
MR 77	200	310	N/A	200 RFS	9216/08/41/15
MR 151	220	330	9216/08/41/15	220 RFS	9216/08/41/07
MRS 51	127	237	9216/08/41/18	125 RFS	9216/08/41/10
MRS 87B	152.4	262.4	9216/08/41/18	150 RFS	9216/08/41/10
QU 80	130	240	9216/08/41/18	130 RFS	9216/08/41/15
QU 100	150	260	9216/08/41/18	150 RFS	9216/08/41/10
QU 120	170	280	9216/08/41/15	175 RFS	9216/08/41/07
S 49	125	235	9216/08/41/18	125 RFS	9216/08/41/15
S 54	125	235	9216/08/41/18	125 RFS	9216/08/41/15
S 64	150	260	9216/08/41/18	150 RFS	9216/08/41/07
UIC 54	140	250	9216/08/41/18	140 RFS	9216/08/41/15
UIC 60	150	260	9216/08/41/18	150 RFS	9216/08/41/15

Components

Clip Model 9216/08/41/N*

- 1 Upper Part n° 9216\08\37\N
- 1 Lower Part n° 9216\—\21
- 2 M16 Flat Washer DIN 6916
- 2 M16 Cl.5 Hexagonal Thin Nuts
- 2 M16x48 mm 8.8 Conical Head Bolts

* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 7, 10, 15 & 18 mm.

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

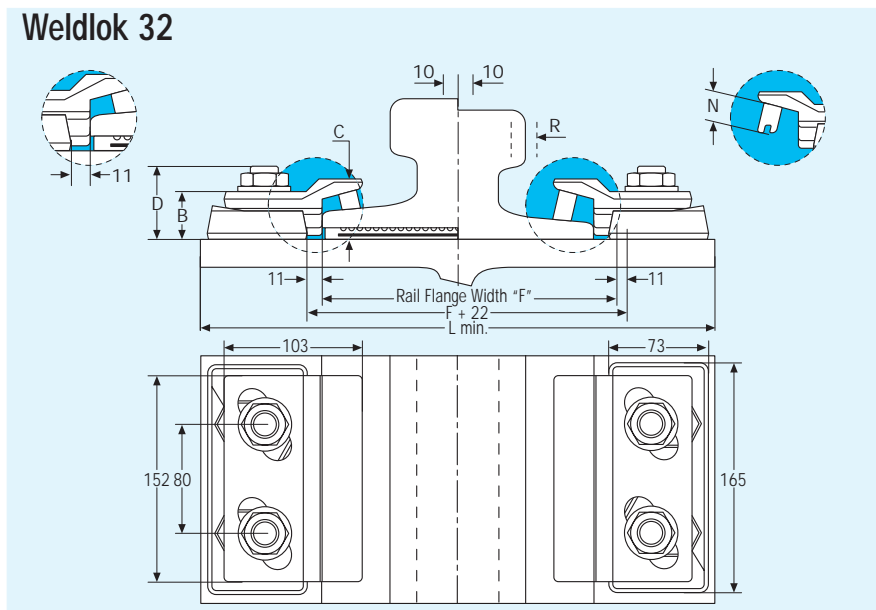
⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$$Lmin = \text{Rail foot width} + 110.0 \text{ mm.}$$

See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Weldlok 32



SPECIFICATIONS

Bolt torque	Nm	190.0
Resistance to lateral force R max	kN	142.0
Total lateral adjustment	mm	20.0

Clip Model	Weight Kg	DIMENSIONS			
		B	C	D	N
9220/20/37/N	2.9	36	40	48	12/15
9220/20/42/N	2.9	36	46	48	12/15

Materials

- Clip Upper Component:
Forged Steel (AISI 1045) or
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9220/20/37/N*

- 1 Upper Part n° 9220\20\36\N
- 1 Lower Component Type 9220\—\20
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl. 5 Hexagonal Thin Nuts
- 2 M20x35 mm 8.8 Modified Hex. H. Bolts

Clip Model 9220/20/42/N*

- 1 Upper Part n° 9220\20\41\N
- 1 Lower Component Type 9220\—\20
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl. 5 Hexagonal Thin Nuts
- 2 M20x35 mm 8.8 Modified Hex. H. Bolts

* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 12 & 15 mm.

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$L_{min} = \text{Rail foot width} + 182.0 \text{ mm}$. See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

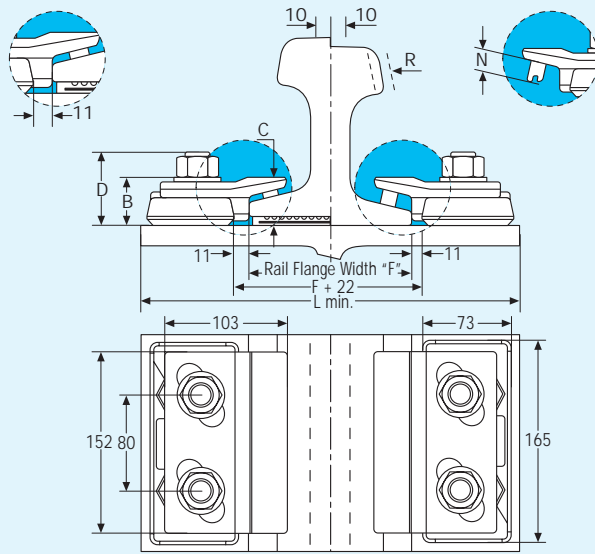
Rail Details		Foot F (mm)	Lmin ⁽²⁾ (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
Size ⁽¹⁾						
A 75		200	382	9220/20/37/15	200 RBS	9220/20/42/12
A100		200	382	9220/20/37/15	200 RBS	9220/20/42/12
A120		220	402	9220/20/37/12	N/A	N/A
AS 50 Kg		127	309	9220/20/37/15	125 RFS	9220/20/42/12
AS 60 Kg		146	328	9220/20/37/15	140 RFS	9220/20/42/12
ASCE 85 Lb		131.8	313.8	9220/20/37/15	130 RFS	9220/20/42/12
ASCE 100 Lb		146	328	9220/20/37/15	140 RFS	9220/20/42/15
BSC 35 Kg BR		160	342	9220/20/37/15	175 RFS	9220/20/42/12
BSC 56 Kg CR		171	353	9220/20/37/15	155 RFS	9220/20/42/12
CR 105 Lb		127	129	9220/20/37/15	125 RFS	9220/20/42/12
CR 135 Lb		131.8	313.8	9220/20/37/12	130 RFS	9220/20/42/12
JIS 37 Kg		122	304	9220/20/37/15	120 RFS	9220/20/42/12
JIS 50 N		127	309	9220/20/37/15	125 RFS	9220/20/42/12
MR 77		200	382	9220/20/37/15	200 RFS	9220/20/42/12
MR 151		220	402	9220/20/37/12	N/A	N/A
MRS 52		131.8	313.8	9220/20/37/15	130 RFS	9220/20/42/12
QU 70		120	302	N/A	120 RFS	9220/20/42/12
QU 80		130	312	9220/20/37/15	130 RFS	9220/20/42/12
S 41		125	307	9220/20/37/15	120 RFS	9220/20/42/15
S 49		125	307	9220/20/37/15	125 RFS	9220/20/42/12
S 54		125	307	9220/20/37/15	125 RFS	9220/20/42/12
UIC 54		140	322	9220/20/37/15	140 RFS	9220/20/42/12
UIC 60		150	332	9220/20/37/15	150 RFS	9220/20/42/12



GANT021

Gantrex Weldable Clips

Weldlok 43



Materials

- Clip Upper Component:
Forged Steel (AISI 1045)
- Clip Lower Component:
Weldable Forged Steel (AISI 1030)
- Pressure Block (Nose):
Synthetic rubber

The upper component is available hot dip galvanized upon request.

Ambient temperature range

-25° C / +100° C

Components

Clip Model 9220/20/34/N*

- 1 Upper Part n° 9220\20\33\N
- 1 Lower Component Type 9220\—\25
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl. 8 Hexagonal Nuts
- 2 M20x50 mm 8.8 Hex. Head Bolts

Clip Model 9220/20/40/N*

- 1 Upper Part n° 9220\20\36\N
- 1 Lower Component Type 9220\—\25
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl. 8 Hexagonal Nuts
- 2 M20x50 mm 8.8 Hex. Head Bolts

Clip Model 9220/20/47/N*

- 1 Upper Part n° 9220\20\41\N
- 1 Lower Component Type 9220\—\25
- 2 M20 Flat Washers DIN 6916
- 2 M20 Cl. 8 Hexagonal Nuts
- 2 M20x50 mm 8.8 Hex. Head Bolts

* N indicates the nose height, as stated in each clip model. Available nose sizes for this clip are 12 & 15 mm.

⁽¹⁾ Gantrex clips are available to suit any rail section; if the rail you are using does not appear in our selection tables, please contact Gantrex for a specific quote.

⁽²⁾ Lmin indicates the minimum girder or support width required for proper installation of the clip selected and it is calculated according to the following formula:

$Lmin = \text{Rail foot width} + 182.0 \text{ mm}$. See also welding & installation instructions for details.

Gantrex recommends that rail joints be welded wherever possible. However, if your application uses splice bars, please order special cut clips for installation at the joints.

Bolt torque	Nm	340.0
Resistance to lateral force R max	kN	191.0
Total lateral adjustment	mm	20.0

Clip Model	Weight kg	B	C	D	N
9220/20/34/N	3.4	40	35	68	12/15
9220/20/40/N	3.4	40	43	68	12/15
9220/20/47/N	3.4	40	50	68	12/15

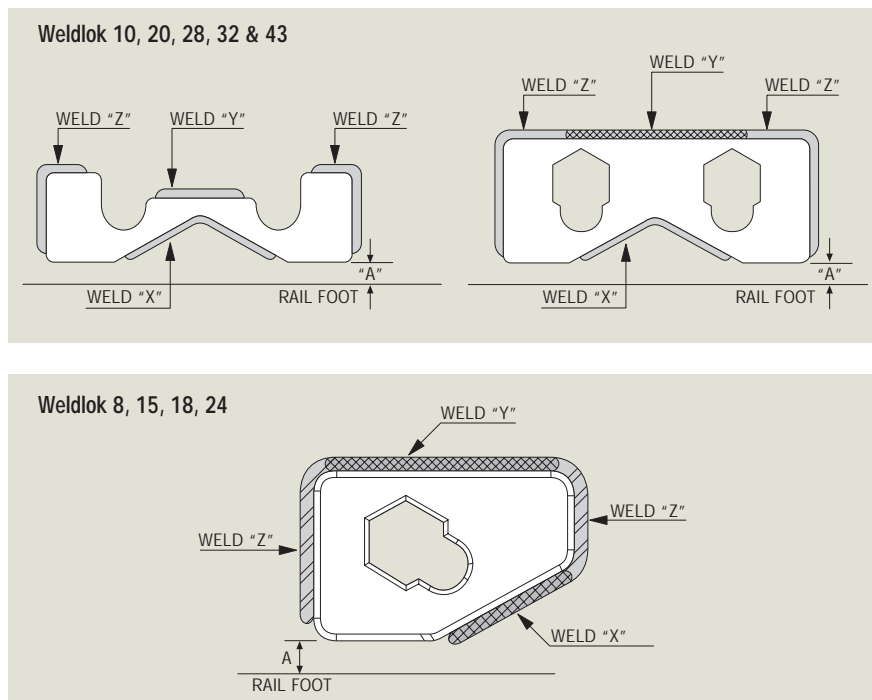
Rail Details	Foot F (mm)	Lmin ² (mm)	Clip model for use without Pad	Gantrex MK6 Pad Model	Clip model for use with Gantrex MK6 Pad
A 75	200	382	9220/20/34/12	200 RBS	9220/20/40/12
A100	200	382	9220/20/34/12	200 RBS	9220/20/40/12
A120	220	402	9220/20/40/12	220 RBS	9220/20/47/15
AS 60 Kg	146	328	9220/20/34/12	140 RFS	9220/20/47/15
AS 73 Kg	146	328	9220/20/40/12	140 RFS	9220/20/47/12
AS 86 Kg	165	347	9220/20/40/15	155 RFS	9220/20/47/15
ASCE 85 Lb	131.8	313.8	9220/20/34/15	130 RFS	9220/20/40/12
ASCE 100 Lb	146	328	9220/20/34/12	140 RFS	9220/20/40/12
BSC 56 Kg CR	171	353	9220/20/34/15	155 RFS	9220/20/40/12
BSC 89 Kg CR	178	360	9220/20/40/15	175 RFS	9220/20/47/12
BSC 101 Kg CR	165	347	9220/20/40/12	155 RFS	9220/20/47/12
CR 73	140	322	9220/20/40/15	140 RFS	9220/20/47/15
CR 104 Lb	127	129	9220/20/40/15	125 RFS	9220/20/47/15
CR 105 Lb	131.8	313.8	9220/20/34/12	130 RFS	9220/20/40/12
CR 135 Lb	131.8	313.8	9220/20/34/12	130 RFS	9220/20/47/15
CR 171 Lb	152.4	334.4	9220/20/40/12	150 RFS	9220/20/47/12
CR 175 Lb	152.4	334.4	9220/20/40/15	150 RFS	9220/20/47/15
JIS 50 Kg	127	309	9220/20/40/15	125 RFS	9220/20/47/15
JIS 50 N	127	309	9220/20/34/12	125 RFS	9220/20/40/12
JIS 60 Kg	145	327	9220/20/40/15	140 RFS	9220/20/47/15
MR 77	200	382	9220/20/34/12	200 RFS	9220/20/40/12
MR 151	220	402	9220/20/40/15	220 RFS	9220/20/47/12
MRS 51	152.4	334.4	9220/20/34/12	150 RFS	9220/20/47/15
MRS 85	152.4	334.4	9220/20/40/12	150 RFS	9220/20/47/12
QU 80	130	312	9220/20/34/12	130 RFS	9220/20/40/12
QU 100	150	332	9220/20/40/15	150 RFS	9220/20/47/15
QU 120	170	352	9220/20/40/15	175 RFS	9220/20/47/12

Installation Guidelines

Welding Guidelines

Gantrex presents the following welding guideline for clips of the Weldlok Series:

The pictures show welds suggested by Gantrex. The actual weld size (which is dictated by design thrust) and the welding procedure should be specified by the designer.



WELD ⁽¹⁾	WELD SIZE mm	SIDE THRUST CAPACITY (kN)								
		Weldlok 8	Weldlok 10	Weldlok 15	Weldlok 18	Weldlok 20	Weldlok 24	Weldlok 28	Weldlok 32	Weldlok 43
x + y	5 + 5	35	55	26	44	33	44	48 ⁽²⁾	45 ⁽²⁾	45 ⁽²⁾
x + y + z	5 + 5 + 5	N/A	76	35	65	53	65	98	120	120
x + Y + Z ⁽⁴⁾	5 + 10 + 10 ⁽⁴⁾	N/A	N/A	66	80	90	105	125 ⁽³⁾	142 ⁽³⁾	191
Dimension A ⁽⁵⁾ mm		8	6	8	10	11	10	8	12	12

(1) Small letter indicates 5 mm weld and capital letter indicates 10 mm weld; x weld is always 5 mm only.

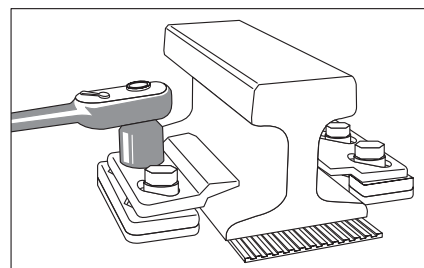
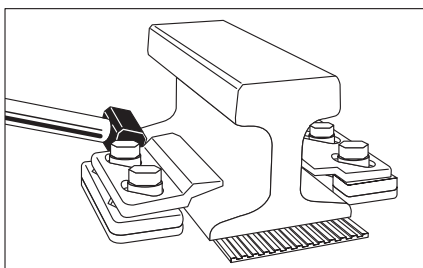
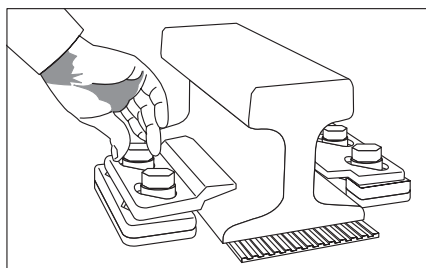
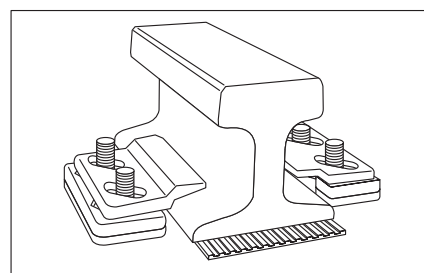
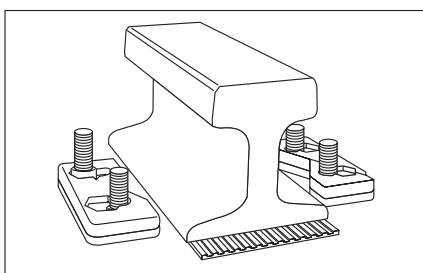
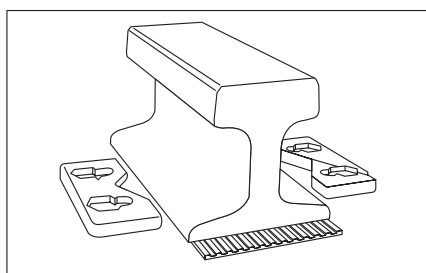
(2) Minimum length of weld "y" is 70 mm.

(3) Weld "Z" is not necessary, however, in order to achieve the stated side thrust capacity, weld "Y" must be applied along the entire back length.

(4) IMPORTANT: in case this weld option is used, dimension L_{min} shown on each clip data sheet must be increased by 10 mm

(5) Failure to respect this dimension, can cause a reduction in the side adjustability or lack of proper contact between the clip and rail foot.

Installation instructions





GANT024



The Gantrex MK6 Pad has been specially designed for the soft mounting of crane rails. Its main functions are to:

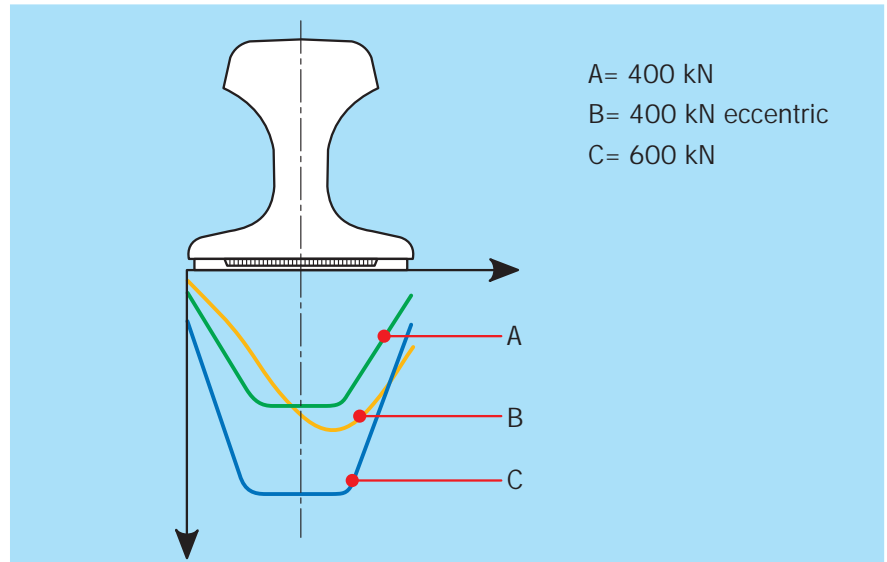
- Distribute the wheel load over a larger surface area
- Eliminate load concentrations and the resulting fatigue stresses
- Compensate for the uneven surface between the rail and its support
- Reduce impact, vibration (up to 48%) and noise (up to 10%)
- Eliminate fretting corrosion of the support surface under the rail

The MK6 Pad is made from a synthetic elastomer and is reinforced with a high strength galvanized steel strip which is fully vulcanized to the rubber and is at least 90% of the width of the pad. Edge seals on both the top and the bottom surfaces prevent the ingress of dirt and water, guaranteeing a longer trouble-free operating lifetime. The MK6 Pad is able to operate at temperatures between -26 and +98 degrees Celsius. For higher or lower temperatures, please contact Gantrex.

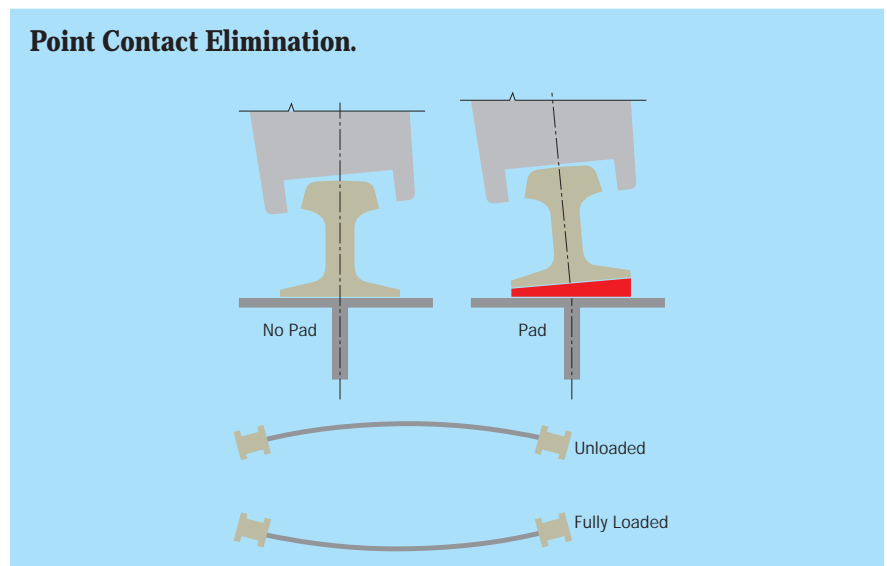
Typical pressure distribution under rail.

The picture on the right shows the typical pressure distribution in the transverse direction for the rail on a Gantrex MK6 Pad.

The shape of the curve will be the same or similar for nearly all rail sections. The eccentric loading curve shows the ability of the pad to center the load.



Point Contact Elimination.



Gantrex Crane Rail Pads MK6 & MK2

The Gantrex MK2 Pad has been specifically developed to overcome the problems associated with discontinuous rail support and is designed to be used on a steel soleplate with shim packs or grout.

The pad is made from EVA COPOLYMER and has a service temperature of -26 to +74 degrees Celsius.

Unique design features of the MK2 Pad are:

- Crowned construction centers the load on a pedestal and eliminates edge load on the concrete pedestals
- Molded end-stops prevent longitudinal creep
- Elastomer construction reduces noise, shock, vibration and local bearing stress on the concrete.

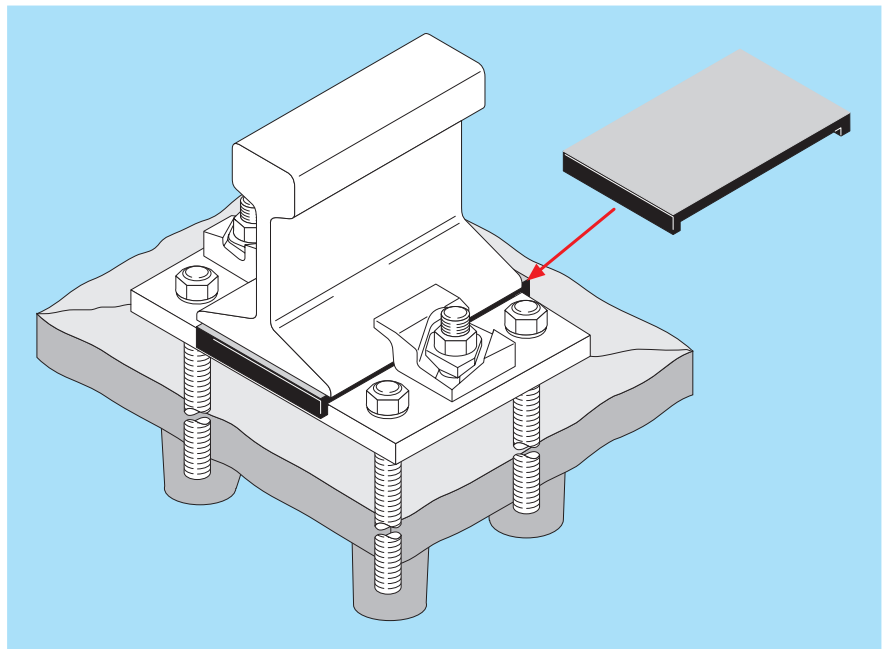
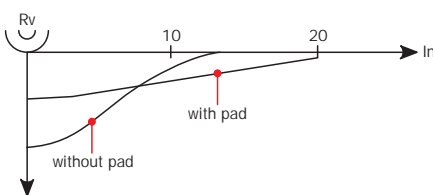
For the best results we recommend using the MK2 Pad in conjunction with Gantrex clips. The MK2 Pad has been designed to suit any rail size. If your rail size is not included in the rail dimension table shown on page 35 please contact Gantrex.

Typical stresses in girder Web

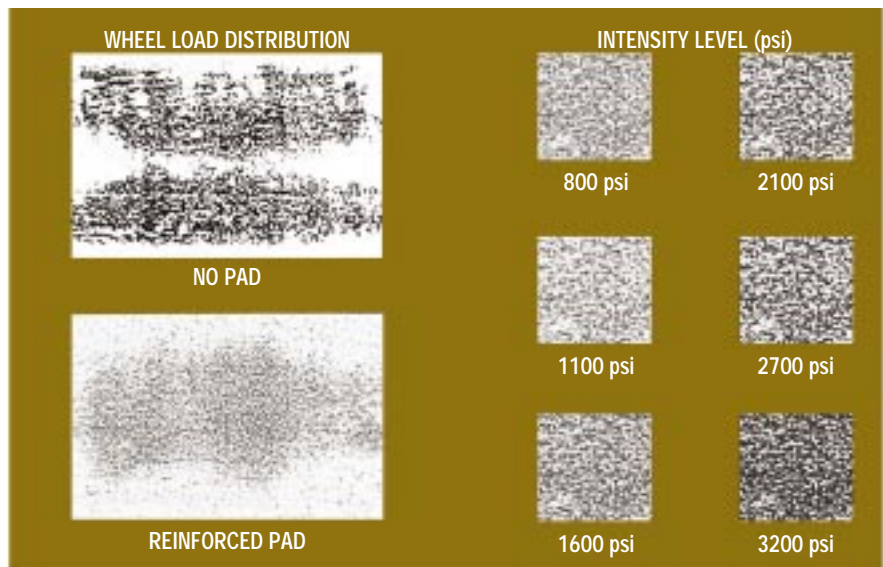
This diagram shows the relative stresses for installations with and without pad.

Peak stresses are typically reduced by 50% when a Gantrex MK6 Pad is used.

Distance from load

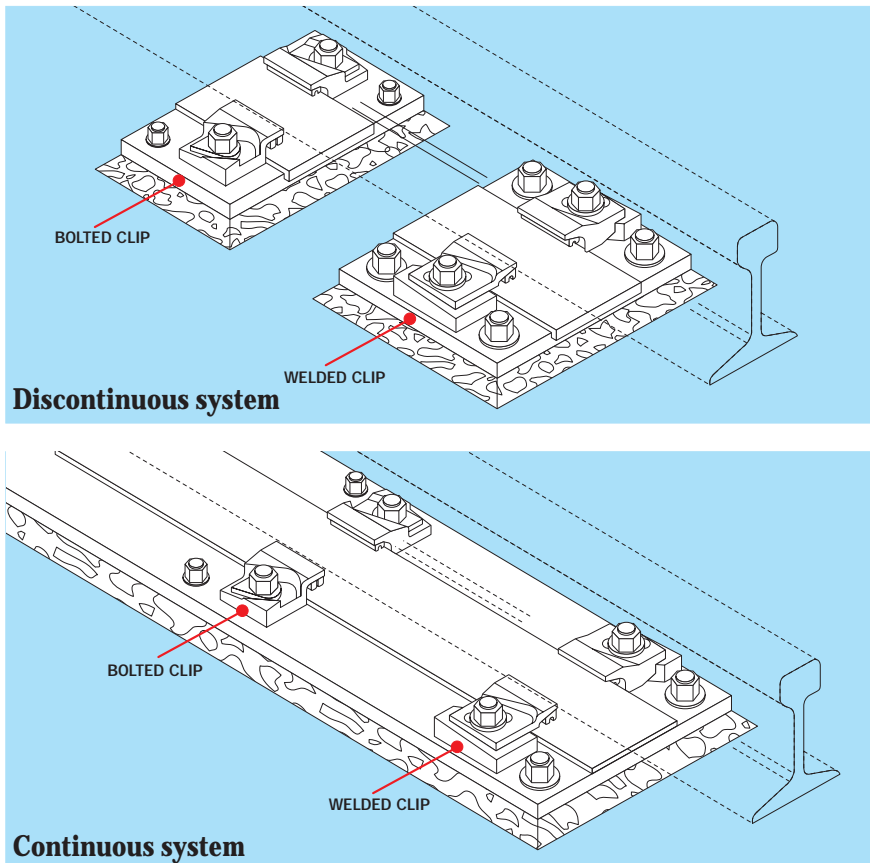


The Gantrex MK2 Crane Rail Pad.



This illustrates the difference in pressure distribution between using no pad and using Gantrex MK6 or MK2 Pads.

Steel Soleplates.



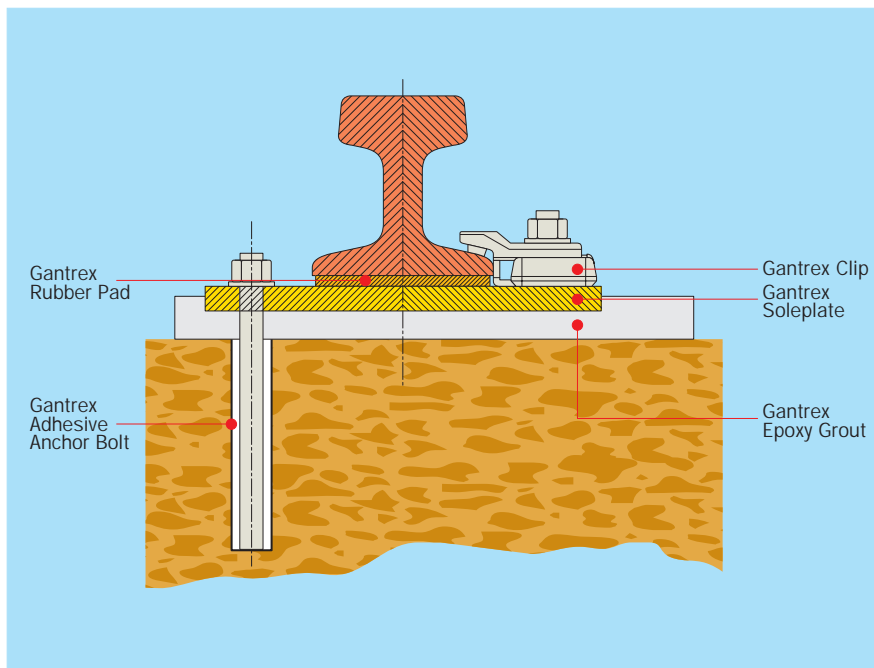
General characteristics

Gantrex soleplates are designed to suit any rail size and are also available with removable jacking bolts.

Features

- Pre-assembled with studs or welded lower components
- Pre-drilled for two or four anchor bolts
- Pre-coated to customer specifications (e.g. primer or hot-dip galvanized)
- Standard or custom designed to suit all rails

Adhesive anchor bolt



General characteristics

A Gantrex adhesive anchor bolt is a resin set anchor. It is installed by drilling a hole in the concrete deck, filling the hole with polyester resin, which acts as an adhesive. Unlike anchors using epoxy based resin, Gantrex anchors can be placed in temperatures as low as -12 degrees Celsius. The bolt itself is an all-thread steel rod, complete with a nut and a washer. Bolts can be supplied in different diameters and lengths according to any specific requirement.

How to specify an order

To specify and order a Gantrex adhesive anchor bolt assembly the correct diameter and length is needed.

Take into account that if the substrate temperature is likely to be below 7 degrees Celsius, at the time of actual installation, the quantity of catalyst needs to be doubled.

Epoxy Grout

Gantrex epoxy grout is a self-levelling, readily pourable, 100% solid epoxy grout consisting of epoxy resin, hardener and a carefully graded aggregate.

Typical applications include ports, shipyards, crushers, pulp and paper machinery, compressors and refinery equipment.

The main advantages of Gantrex epoxy grout are:

- High early strengths
- Aggregate content can be field-modified
- Low resin crystallization temperature
- Excellent flow characteristics
- Possibility to clean equipment prior to its setting
- Available in economic 85 liter units for high volume applications
- User friendly packaging

Unconfined Compressive Strength (ASTM C579-B)

Cure Time	Curing Temperature	psi (MPa)
1 day	104°F (40°C)	14,535 (100)
3 days		14,815 (102)
7 days		15,065 (104)
28 days		15,895 (109)
1 day	70°F (21°C)	11,490 (79)
3 days		13,275 (91)
7 days		13,900 (96)
28 days		14,400 (99)
1 day	50°F (10°C)	1,785 (12)
3 days		10,340 (71)
7 days		12,685 (87)
28 days		13,835 (95)
3 days	39°F (4°C)	5,750 (40)
7 days		10,875 (75)
28 days		12,915 (89)

Physical properties

- Tensile strength (ASTM C307)
7 days 2,262 psi (15 MPa)
- Flexural strength (ASTM C580)
7 days 4,265 psi (29 MPa)
- Modulus of elasticity (ASTM C580)
7 days 2,110,000 psi (14,500 MPa)
- Co-efficient of thermal expansion (ASTM C531)
23.6 x 10 mm/mm per degree Celsius
- Linear shrinkage (ASTM C531)
28 days 0.017%
- Creep (ASTM C1181-91)
Loading: 2500 psi (14 MPa) at 27 degrees Celsius
1 year less than 0.3%
- Bonds to concrete
Greater than tensile strength of concrete
- Control joints
Varies by application, for more information please contact Gantrex

List of rail sizes

Rail Type	Origin	Foot F	Height H	Head K	Weight
A 45	Europe	125.0	55.0	45.0	22.2 kg/m
A 55	Europe	150.0	65.0	55.0	32.0 kg/m
A 65	Europe	175.0	75.0	65.0	43.5 Kg/m
A 75	Europe	200.0	85.0	75.0	56.6 Kg/m
A 100	Europe	200.0	95.0	100.0	75.2 Kg/m
A 120	Europe	220.0	105.0	120.0	101.3 Kg/m
A 150	Europe	220.0	150.0	150.0	150.3 Kg/m
ARA 90A	USA	130.2	143.0	65.1	90.0 Lb
ARA 90B	USA	121.0	134.0	62.7	90.5 Lb
ARA 100A	USA	139.7	152.4	69.9	100.4 Lb
ARA 100B	USA	130.6	143.0	65.1	100.5 Lb
AREA 100	USA	136.5	152.4	68.3	101.5 Lb/yb
AREA 110	USA	139.7	159.0	70.6	110.4 Lb/yb
AREA 112	USA	139.7	168.0	69.1	112.3 Lb/yb
AREA 115	USA	139.7	168.0	69.1	114.6 Lb/yb
AREA 119	USA	139.7	173.0	67.5	118.8 Lb/yb
AREA 131	USA	152.4	181.0	76.2	131.0 Lb/yb
AREA 132	USA	152.4	181.0	76.2	132.1 Lb/yb
AREA 133	USA	152.4	179.0	76.2	133.4 Lb/yb
AREA 136	USA	152.4	186.0	74.6	136.2 Lb/yb
AREA 140	USA	152.4	186.0	76.2	140.0 Lb/yb
AS 22 Kg/m	Australia				Kg/m
AS 31 Kg/m	Australia	108.0	117.0	63.5	31.0 Kg/m
AS 41 Kg/m	Australia	127.0	137.0	63.5	41.0 Kg/m
AS 47 Kg/m	Australia	127.0	141.0	63.5	47.0 Kg/m
AS 50 Kg/m	Australia	127.0	154.0	70.0	50.0 Kg/m
AS 53 Kg/m	Australia	146.0	157.0	70.0	53.0 Kg/m
AS 60 Kg/m	Australia	146.0	170.0	70.0	60.0 Kg/m
AS 73 Kg/m	Australia	146.0	157.0	69.9	73.0 Kg/m
AS 86 Kg/m	Australia	165.0	102.0	102.0	86.0 Kg/m
AS 192 Kg/m	Australia	229.0	157.0	140.0	192.0 Kg/m
ASCE 20 Lb	USA	66.7	67.0	34.1	20.0 Lb/yd
ASCE 30 Lb	USA	79.4	79.4	42.9	30.0 Lb/yd
ASCE 40 Lb	USA	88.9	88.9	47.6	40.0 Lb/yd
ASCE 60 Lb	USA	108.0	108.0	60.3	60.0 Lb/yd
ASCE 80 Lb	USA	127.0	127.0	63.5	80.2 Lb/yd
ASCE 85 Lb	USA	131.8	131.8	65.1	85.0 Lb/yd
ASCE 100 Lb	USA	146.0	146.0	69.9	100.4 Lb/yd
BSC 13 kg BR	U.K.	92.0	48.0	36.0	13.3 Kg/m
BSC 16 kg BR	U.K.	108.0	54.0	44.5	16.0 Kg/m
BSC 20 kg BR	U.K.	127.0	55.5	50.0	19.9 Kg/m
BSC 28 kg BR	U.K.	152.0	67.0	50.0	28.6 Kg/m
BSC 35 kg BR	U.K.	160.0	76.0	58.0	35.4 Kg/m
BSC 50 kg BR	U.K.	165.0	76.0	58.5	50.2 Kg/m
BSC 56 kg CR	U.K.	171.0	101.5	76.0	56.0 Kg/m
BSC 89 kg CR	U.K.	178.0	114.0	102.0	89.0 Kg/m
BSC 101 kg CR	U.K.	165.0	155.0	100.0	101.0 Kg/m
BSC 164 kg CR	U.K.	230.0	150.0	140.0	164.0 Kg/m
CR 73 Kg	Japan	140.0	135.0	100.0	73.3 Kg/m
CR 100 Kg	Japan	155.0	150.0	120.0	100.2 Kg/m
CR 104 Lb	USA	127.0	127.0	63.5	104.0 Lb/yb
CR 105 Lb	USA	131.8	131.8	65.1	105.0 Lb/yb
CR 135 Lb	USA	131.8	146.0	78.7	135.0 Lb/yb
CR 171 Lb	USA	152.4	152.4	101.6	171.0 Lb/yb
CR 175 Lb	USA	152.4	152.4	102.2	175.0 Lb/yb
JIS 22 Kg	Japan	93.7	27.0	50.8	22.0 Kg/m
JIS 30 Kg	Japan	108.7	108.0	60.3	30.1 Kg/m
JIS 37 Kg	Japan	122.0	122.0	62.7	37.2 Kg/m
JIS 40 Kg N	Japan	122.0	140.0	64.0	40.9 Kg/m
JIS 50 Kg	Japan	127.0	144.5	67.9	50.4 Kg/m
JIS 50 Kg N	Japan	127.0	153.0	65.0	50.4 Kg/m
JIS 50 Kg T	Japan	136.0	160.0	65.0	60.8 Kg/m
JIS 60 Kg	Japan	145.0	174.0	65.0	60.8 Kg/m
MR 77	Europe	200.0	100.0	100.0	77.0 Kg/m
MR 151	Europe	220.0	150.0	150.0	151.3 Kg/m
MRS 51	Europe	127.0	127.0	63.5	104.0 Kg/m
MRS 52	Europe	131.8	131.8	65.1	105.0 Kg/m
MRS 67	Europe	131.8	146.1	87.3	135.0 Kg/m
MRS 73	Europe	146.0	157.0	70.0	73.6 Kg/m
MRS 85	Europe	152.4	152.4	109.2	171.0 Kg/m
MRS 86	Europe	165.0	102.0	102.0	86.0 Kg/m
MRS 87 A	Europe	152.4	152.4	101.6	175.0 Kg/m
MRS 87 B	Europe	152.4	152.4	102.4	175.0 Kg/m
MRS 125	Europe	180.0	180.0	120.0	252.0 Kg/m
MRS 221	Europe	220.0	160.0	220.0	281.4 Kg/m
P 43 (GB 43)	China	114.0	140.0	70.0	44.6 Kg/m
P 50 (GB 50)	China	132.0	152.0	70.0	51.5 Kg/m
QU 70 (KP 70)	Russia	120.0	120.0	70.0	52.8 Kg/m
QU 80 (KP 80)	Russia	130.0	130.0	80.0	63.7 Kg/m
QU 100 (KP 100)	Russia	150.0	150.0	100.0	89.0 Kg/m
QU 120 (KP 120)	Russia	170.0	170.0	120.0	118.1 Kg/m
S 7	Europe	50.0	65.0	25.0	6.8 Kg/m
S 10	Europe	58.0	70.0	32.0	10.0 Kg/m
S 12	Europe	65.0	80.0	34.0	Kg/m
S 14	Europe	70.0	80.0	38.0	14.0 Kg/m
S 18	Europe	82.0	93.0	43.0	18.3 Kg/m
S 20	Europe	82.0	100.0	44.0	19.8 Kg/m
S 24	Europe	90.0	115.0	53.0	24.0 Kg/m
S 30	Europe	108.0	108.0	60.3	30.0 Kg/m
S 33	Europe	105.0	134.0	58.0	33.5 Kg/m
S 34	Europe	117.5	117.5	61.9	34.0 Kg/m
S 41	Europe	125.0	138.0	67.0	41.4 Kg/m
S 49	Europe	125.0	149.0	67.0	49.4 Kg/m
S 54	Europe	125.0	154.0	70.0	54.6 Kg/m
S 64	Europe	150.0	172.0	74.0	Kg/m
UIC 54	Europe	140.0	159.0	70.0	54.4 Kg/m
UIC 54E	Europe	125.0	161.0	67.0	53.8 Kg/m
UIC 60	Europe	150.0	172.0	72.0	60.3 Kg/m

**Cavotec Group
Manufacturing Companies**

The Netherlands
Cavotec Group Holdings N.V.
Postbus 213
NL-2950 AE Alblasserdam
phone: int. 31-78-693 0794
fax: int. 31-78-693 1212

U.K.
Cavotec International Ltd
Stirling Way, Market Deeping
Lincolnshire PE6 8AS
phone: int. 44-1778.346 769
fax: int. 44-1778.341 850

For more information consult
our website on the Internet:
www.cavotec.com
www.gantrex.com

E-commerce sites:
www.cavotecshop.com
www.flexiblecables.com

Australia
Cavotec Metool
Cardiff (Newcastle)
Perth

China
Cavotec China
Shanghai

France
Cavotec RMS
Cergy Pontoise (Paris)

Germany
Cavotec Alfo
Overath (Köln)
Cavotec AixRail
Aachen

Italy
Cavotec Specimas
Nova Milanese (Milan)

Sweden
Cavotec Connectors
Dalby (Malmö)
Cavotec Sverige
Haninge Stockholm

U.S.A./Canada
Cavotec Inc.
Statesville, NC

Gantrex Canada Inc.
Ajax, Ontario

Cavotec Partners

Brevetti Stendalto
Monza, Italy

De Jong
Leerdam, The Netherlands

Micro-control
Stjørdal, Norway

Pirelli Cavi
Milan, Italy

Gantry
Nivelles, Belgium

**Cavotec Group
Sales Companies**

Argentina
Cavotec Latin America
Buenos Aires

Australia
Cavotec Metool
Cardiff (Newcastle),
Brisbane, Sydney, Perth,
Melbourne

BeNeLux
Cavotec Benelux
Alblasserdam (Rotterdam)
The Netherlands

Brasil
Marlin Gantrex
Rio de Janeiro

Chile
Gantrex
Santiago

China
Cavotec China
Shanghai

Denmark
Cavotec Danmark
Odense

Egypt
Ase, Cairo

Finland
Cavotec Finland
Espoo (Helsinki)

France
Cavotec RMS
Cergy Pontoise (Paris)

Germany
Cavotec Alfo
Eschborn (Frankfurt)

Hong Kong
Cavotec Hong Kong
Shatin

Indonesia
Cavotec Indonesia
Jakarta Utara

Italy
Cavotec Italia
Nova Milanese (Milan)

Japan
Nippon Ican
Tokyo

Korea
Cavotec Korea
Ulsan

Norway
Cavotec Norge
Drammen

Saudi Arabia
AKTE
Dammam

Singapore
Cavotec Singapore
Singapore

South Africa
Cavotec Gantrex
Witfield

Sweden
Cavotec Sverige
Stockholm

Taiwan
Ehrung Industrial
Taipei Hsein

U.A.E.
Cavotec Middle East
Dubai

U.K. & Ireland
Cavotec UK
Market Deeping

U.S.A. & Canada
Cavotec Inc.
Statesville, NC
Gantrex USA Inc.
Pittsburgh, PA