

Transport Technology / Body components / Cargo control and transport systems

Cargo control and transport systems

Cargo control elements, Shoring poles / locking bars, Lashing straps and Garment rails



Table of Contents

Chapter	Product category		Page	
Cargo control and transport systems	Cargo control elements	Cargo control tracks	Cargo control tracks with round holes	61.01.01.1
			Combination cargo control tracks	61.01.01.2
			GETO Rail recessed lashing rail	61.01.03.1
			BISON Cityline cargo control tracks	61.01.04.1
			BISON Airline cargo control tracks	61.01.05.1
			Accessories for BISON Airline cargo control tracks	61.01.05.4
		Bolt lashing strip	Universal bolt lashing strip	61.02.01.1
			For GETO Van and GETO City	61.02.02.1
		Cargo control pans / lashing bars	Cargo control pans	61.03.01.1
			Cargo control lashing bars	61.03.01.5
		Decals	Decals for maximum permitted lashing point loads	61.03.01.8
	Keyhole panels, -strip	Keyhole panels	61.04.01.1	
		Keyhole strip	61.04.02.1	
	Shoring poles / locking bars	Round shoring poles	For cargo control tracks with round holes	61.05.01.1
			For bolt lashing strip	61.05.02.1
		Rectangular locking bars	For slotted cargo control tracks	61.06.01.1
		Shoring poles / locking bars for box bodies	Vertical shoring pole	61.07.01.1
		Locking bars for bodywork systems	Dropside locking bars	61.08.01.1
		Cargo control for bodywork systems	BISON SafeSide cargo control system	61.09.01.1
	Cargo control accessories	Mats	Anti-slip mats	61.10.01.1
	Lashing straps	Lashing straps for securing items in the interior of the vehicle	BISON System 550	61.11.01.1
			BISON System 800	61.11.01.2
			BISON System 3001	61.11.01.3
		Heavy-duty lashing straps for bodywork systems	BISON System 5000	61.11.01.4

Chapter	Product category			Page
Cargo control and transport systems	Transport of textiles	Garment rails	Garment rails	61.12.01.1
			Garment rails BISON Style	61.12.01.2
			Garment rails BISON Revision	61.12.01.3
			Garment rails UNIVERSAL	61.12.01.4
			Garment rails BISON Robust	61.12.01.5

All technical conditions contained in this brochure are approximate and no guarantee is given that they will be subject to change.

Produkt Index

Numeric

Article No.	Pg.	Article No.	Pg.	Article No.	Pg.	Article No.	Pg.
218 530 000	61.03.01.5	612 342 000	61.03.01.2	613 505 003	61.05.01.1	615 366 000	61.11.01.2
218 533 000	61.03.01.5	612 350 000	61.03.01.2	613 522 000	61.05.01.1	615 453 000	61.11.01.3
611 261 242	61.04.01.2	612 352 000	61.03.01.2	613 522 001	61.05.01.1	615 455 000	61.11.01.3
611 261 282	61.04.01.2	612 354 000	61.03.01.7	613 523 000	61.05.01.1	615 515 100	61.11.01.3
611 262 242	61.04.01.3	612 360 000	61.03.01.6	613 534 000	61.05.01.1	615 525 100	61.11.01.3
611 262 282	61.04.01.3	612 362 000	61.03.01.6	613 534 001	61.05.01.1	615 535 100	61.11.01.3
611 263 242	61.04.01.1	612 366 000	61.03.01.4	613 534 002	61.05.01.1	615 566 000	61.11.01.3
611 263 282	61.04.01.1	612 372 001	61.03.01.3	613 534 003	61.05.01.1	619 270 000	61.11.02.1
611 263 312	61.04.01.1	612 375 000	61.03.01.1	613 535 000	61.05.01.1		
612 002 000	61.01.01.2	612 382 000	61.03.01.4	613 535 001	61.05.01.1		
612 010 000	61.01.02.3	612 392 000	61.03.01.8	613 560 001	61.05.01.1		
612 025 000	61.01.01.2	612 394 000	61.03.01.8	613 560 002	61.05.01.1		
612 030 000	61.01.01.2	612 396 000	61.03.01.8	613 561 001	61.05.01.1		
612 033 000	61.01.01.1	612 398 000	61.03.01.8	613 580 000	61.05.02.2		
612 034 000	61.01.01.1	612 400 000	61.01.05.4	613 584 000	61.05.02.1		
612 042 000	61.01.01.1	612 401 000	61.01.05.4	613 585 000	61.05.02.1		
612 051 000	61.01.02.1	612 402 000	61.01.05.4	613 715 000	61.09.01.2		
612 053 000	61.01.02.1	612 403 000	61.01.05.4	613 720 000	61.09.01.3		
612 055 000	61.01.02.1	613 023 000	61.06.01.2	613 750 000	61.09.01.3		
612 057 000	61.01.02.2	613 023 001	61.06.01.2	613 760 357	61.09.01.2		
612 058 000	61.01.02.2	613 043 000	61.06.01.2	613 765 001	61.09.01.2		
612 061 000	61.01.02.3	613 220 000	61.06.01.3	613 765 002	61.09.01.2		
612 066 000	61.01.02.2	613 223 000	61.06.01.1	613 765 320	61.09.01.2		
612 081 002	61.01.03.2	613 223 001	61.06.01.1	613 765 357	61.09.01.2		
612 082 002	61.01.03.2	613 243 000	61.06.01.1	613 765 357	61.09.01.2		
612 091 000	61.01.05.2	613 250 000	61.06.01.3	614 650 000	61.12.01.5		
612 093 100	61.01.05.2	613 413 000	61.07.01.1	614 655 000	61.12.01.5		
612 094 000	61.01.05.2	613 414 000	61.07.01.1	614 670 000	61.12.01.4		
612 095 000	61.01.05.1	613 417 000	61.07.01.1	614 675 000	61.12.01.4		
612 096 000	61.01.05.3	613 423 000	61.07.01.1	614 730 000	61.01.03.1		
612 097 000	61.01.05.3	613 427 000	61.07.01.1	614 730 000	61.12.01.3		
612 098 000	61.01.03.2	613 427 002	61.07.01.1	614 735 000	61.01.03.1		
612 099 000	61.01.03.2	613 430 000	61.07.01.2	614 735 000	61.12.01.3		
612 132 000	61.04.02.1	613 491 000	61.08.01.1	614 750 000	61.12.01.3		
612 202 000	61.02.01.1	613 493 000	61.08.01.2	614 755 000	61.12.01.3		
612 212 000	61.02.01.1	613 495 000	61.08.01.2	614 945 000	61.12.01.2		
612 223 000	61.02.01.1	613 499 000	61.08.01.1	615 010 000	61.10.01.1		
612 296 100	61.02.02.1	613 499 000	61.08.01.2	615 015 000	61.11.01.1		
612 297 100	61.02.02.2	613 504 000	61.05.01.1	615 245 000	61.11.01.1		
612 298 125	61.02.02.3	613 504 001	61.05.01.1	615 305 000	61.11.01.2		
612 298 130	61.02.02.3	613 504 002	61.05.01.1	615 315 100	61.11.01.2		
612 298 135	61.02.02.3	613 505 000	61.05.01.1	615 335 000	61.11.01.2		
612 298 140	61.02.02.3	613 505 001	61.05.01.1	615 355 000	61.11.01.2		

Principles of cargo control

Legal basis

Article 22 of the German road traffic regulations (StVO)

(1) The load, including its cargo control and load-handling equipment, is to be stowed and secured in such a way as to prevent it slipping, falling over, rolling back and forth or creating avoidable noise, even in the event of an emergency stop or sudden evasive manoeuvre. The applicable technical standards are to be observed at all times.



Article 23 StVO

(1) The driver of a vehicle is responsible for ensuring that his vision and hearing are not impaired by occupants, animals, the load, equipment or condition of the vehicle. The driver of a vehicle must furthermore ensure that the vehicle or towing combination and its load and occupants fully comply with the corresponding regulations, and that the load or occupants do not jeopardise the vehicle's road-worthiness.



Principles of cargo control

Overview of standards, guidelines and directives

VDI 2700		Cargo control on road vehicles
VDI 2700	Page 1	item - training and content of training
VDI 2700	Page 2	item - lashing capacities
VDI 2700	Page 3.1	item - instructions for use of lashing equipment
VDI 2700	Page 3.2	item - cargo control equipment and accessories
VDI 2700	Page 3.3	item - cargo control nets (draft version)
VDI 2700	Page 5	item - systems of quality management
VDI 2700	Page 6	item - combined loading of individual items
VDI 2700	Page 7	item - cargo control in the course of combined transport (CT)
VDI 2700	Page 8.1	item - securing of cars and lightweight commercial vehicles on vehicle transporters
VDI 2700	Page 8.2.	item - securing of heavy commercial vehicles on vehicle transporters
VDI 2700	Page 9	item - cargo control of tightly wound rolls of paper
VDI 2700	Page 10	item - cargo control when transporting prefabricated concrete parts (work in progress)
VDI 2700	Page 11	item - cargo control of concrete-reinforcing steel
VDI 2700	Page 12	item - cargo control for beverage transport purposes
VDI 2700	Page 13	item - oversized and heavyweight transport operations
VDI 2700	Page 14	item - calculation of sliding-friction coefficients
VDI 2700	Page 15	item - slip-resistant materials
VDI 2700	Page 16	item - cargo control on transport vehicles of up to 7.5 t GVWR
VDI 2700	Page 18	item - cargo control in detachable containers mounted on tipper vehicles
VDI 2700	Page 19	item - coiled strips of steel, sheet metal and structural steel
VDI 2700	Page 20	item - cargo control for the transport of furniture (in preparation)
VDI 2700a		Proof of training in cargo control
VDI 3968	Page 1	Securing of load units - requirement profile
VDI 3968	Page 2	item - organisational and technical procedures
VDI 3968	Page 3	item - strapping
VDI 3968	Page 4	item - shrink wrapping
VDI 3968	Page 5	item - stretch wrapping
VDI 3968	Page 6	item - other procedures
DIN 75410-1		Cargo control of road vehicles - Part 1: Lashing points on commercial vehicles used for the carriage of goods and having a gross vehicle weight rating of up to 3.5 t; Minimum requirement
DIN 70010		System of road vehicles - Vocabulary of power-driven vehicles, combinations of vehicles and towed vehicles
DIN 70020-1		Road vehicles; automotive engineering; dimensional terms
DIN EN 283		Swap bodies; testing
DIN EN 284		Swap bodies - Non-stackable swap bodies of class C - Dimensions and general requirements
DIN EN 12195-1		Load restraining on road vehicles - Safety - Part 1: Calculation of securing forces (EN 12 195-1: 2010); applicable in Germany as of 1 January 2013 for the transport of hazardous goods only
DIN EN 12195-2		item - Part 2: Web lashing made from man-made fibres (EN 12 195-2: 2010)
DIN EN 12195-3		item - Part 3: Lashing chains
DIN EN 12640		Lashing points on commercial vehicles for goods transportation - Minimum requirements and testing
DIN EN 12641-1		Swap bodies and commercial vehicles - Tarpaulins - Part 1: Minimum requirements
DIN EN 12641-2		item - Part 2: Minimum requirements for curtainsiders
DIN EN 12642		Securing of cargo on road vehicles - Body structure of commercial vehicles - Minimum requirements
DIN ISO 27955		Road vehicles - Securing of cargo in passenger cars, station wagons and multi-purpose vehicles - Requirements and test methods - replaces DIN 75410-2 Road vehicles - Securing cargo in delivery vehicles (vans) - Requirements and test methods - replaces DIN 75410-3
DCE-directive 9.5		

Principles of cargo control

Physical principles


Weight force G

Weight force G of a body is the gravitational force acting on its mass.

- It is calculated from the mass (M) of the body (in kg) and gravitational acceleration g ($\approx 9.81\text{m/s}$)
- The unit of measurement for weight force is the newton (N). The decanewton (daN) is used for cargo control purposes.

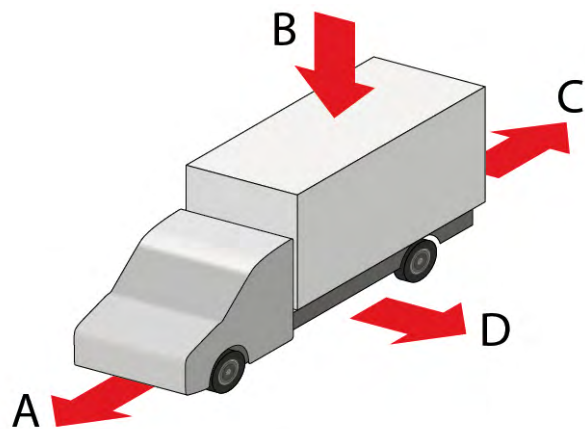
The following forces act on a vehicle's load during normal operation:

- A: Braking deceleration 0.8 g corresponds to 80% of the weight of the load
- B: Static weight force 1 g
- C: Initial drag 0.5 g corresponds to 50% of the weight of the load
- D: Centrifugal force 0.5 g corresponds to 50% of the weight of the load



Conversion table

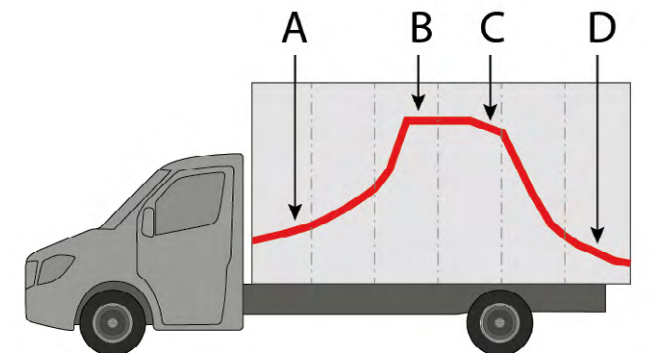
10 N = 1 daN
 100 N = 10 daN
 1000 N = 100 daN = 1 kN



Load distribution plan

- A: Limited by max. permissible load on front axle
- B: Limited by max. permissible total load
- C: Limited by max. permissible load on rear axle
- D: Limited by ability to steer safely

The load distribution plan can be used to spread the weight in an optimum manner for each specific vehicle. The maximum front and rear axle loads shown in the load distribution plan must not be exceeded. Driving can become subject to technical and dynamic force problems if the vehicle is overloaded or its cargo is unevenly distributed.

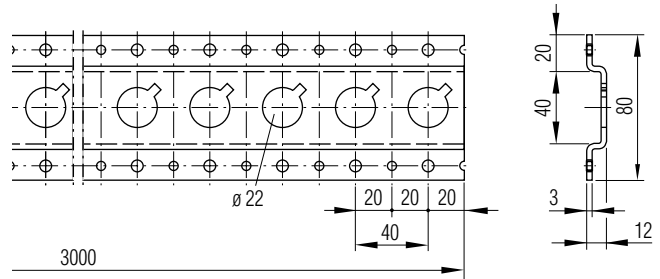


Round-hole cargo control tracks

Original BISON® round-hole cargo control tracks - top-hat profile

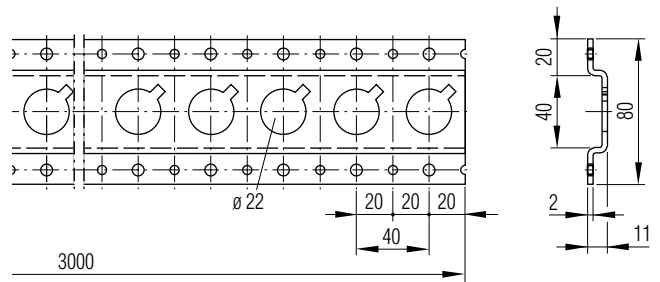
Cargo control pan for horizontal and/or vertical installation.

Overall measurements:	80 x 12 x 3000 x 3 mm (B x H x L x S)
Anchoring holes:	22 mm round holes with lug, Spacing 40 mm
Installation holes:	ø 5.1 mm und 6.5 mm alternating
Material:	Aluminium F-22 technisch eloxiert
Weight:	approx. 0.7 kg/m
Article No.:	612 042 000 - Aluminium



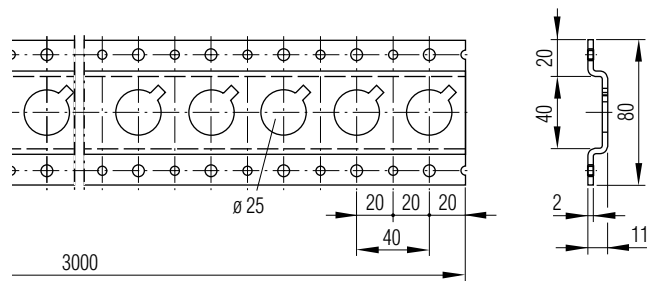
Original BISON® round-hole cargo control tracks - top-hat profile

Overall measurements:	80 x 11 x 3000 x 2 mm (B x H x L x S)
Installation:	Horizontal and/or vertical
Anchoring holes:	22 mm round holes with lug, Spacing 40 mm
Installation holes:	ø 5.1 mm und 6.5 mm alternating
Material:	Steel S 350 GD+Z 275 MA
Weight:	approx. 1.1 kg/m
Article No.:	612 033 000 - Steel, sendzimir galvanised



Original BISON® round-hole cargo control tracks - top-hat profile

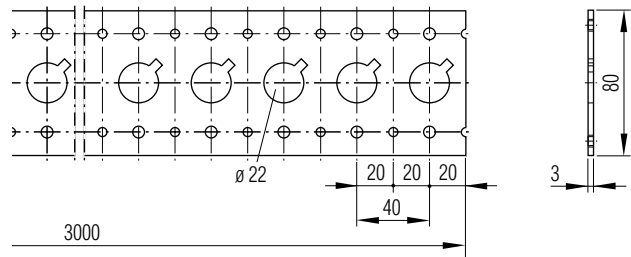
Overall measurements:	80 x 11 x 3000 x 2 mm (B x H x L x S)
Installation:	Horizontal and/or vertical
Anchoring holes:	25 mm round holes with lug, Spacing 40 mm
Installation holes:	ø 5.1 mm und 6.5 mm alternating
Material:	Steel S 350 GD+Z 275 MA
Weight:	approx. 1.1 kg/m
Article No.:	612 034 000 - Steel, sendzimir galvanised




Round-hole cargo control tracks

Original BISON® round-hole cargo control tracks - flat strip

Overall measurements:	80 x 3000 x 3 mm (B x L x S)
Installation:	Horizontal and/or vertical
Anchoring holes:	22 mm round holes with lug, Spacing 40 mm
Installation holes:	ø 5.1 mm and 6.5 mm alternating
Material:	Steel S 235 JR (similar ST37)
Weight:	approx. 1.5 kg/m
Article No.:	612 002 000 - Steel, electro galvanised





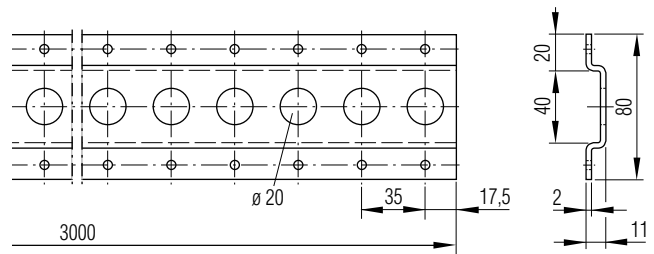
Original BISON® cargo control tracks are suitable for

- Round shoring poles
- Rectangular locking bars
- Lashing straps
- Garment rails

When carrying out installation, ensure that the nose-shaped cutouts ALWAYS point diagonally upwards, regardless of the actual position (horizontal or vertical) in which the cargo control tracks are attached.

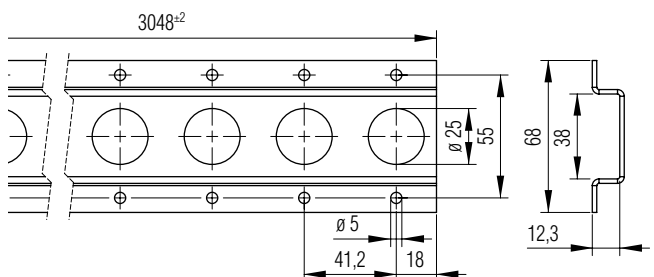
Round-hole cargo control tracks - top-hat profile

Overall measurements:	80 x 11 x 3000 x 2 mm (B x H x L x S)
Installation:	Horizontal and/or vertical
Anchoring holes:	20 mm round holes Spacing 35 mm
Installation holes:	ø 5.1 mm
Material:	Steel S 350 GD+Z 275 MA
Weight:	approx. 1.1 kg/m
Article No.:	612 025 000 - Steel, sendzimir galvanised



Roof cargo control tracks

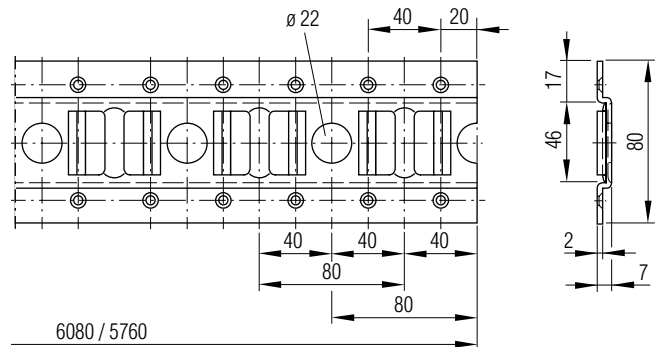
Overall measurements:	68 x 14.3 x 3048 x 2 mm (B x H x L x S)
Installation:	Horizontal and/or vertical
Anchoring holes:	25 mm round holes
Installation holes:	ø 5.0 mm
Material:	Steel S 235 JR+AR
Weight:	approx. 3.58 kg/m
Article No.:	612 030 000 Steel, electro galvanised



Combination cargo control tracks

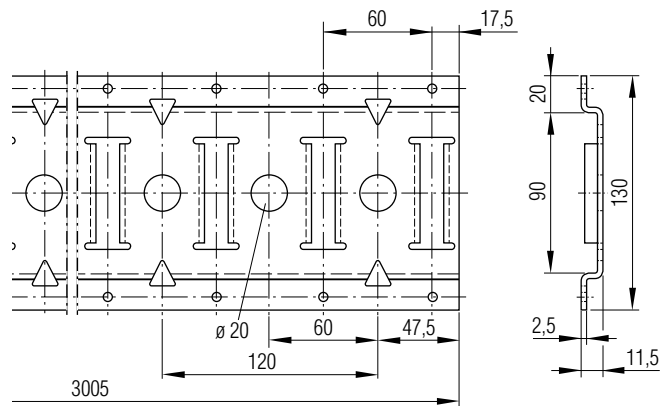
Combination cargo control tracks - top-hat profile

- Overall measurements:** 80 x 7 x 3040/5760/6080 x 2 mm (BxHxLxS)
- Installation:** Horizontal and/or vertical
- Anchoring holes:** 22 mm round holes and double window for direct lashing of straps without end fittings. Spacing 80 mm
- Installation holes:** \varnothing 5 mm
- Material:** Steel S 350 GD+Z 275 MA
- Weight:** approx. 1.65 kg/m
- Article No.:** 612 051 000 - Steel, sendzimir galvanised, 6080 mm
612 053 000 - Steel, sendzimir galvanised, 3040 mm



Combination cargo control tracks - top-hat profile

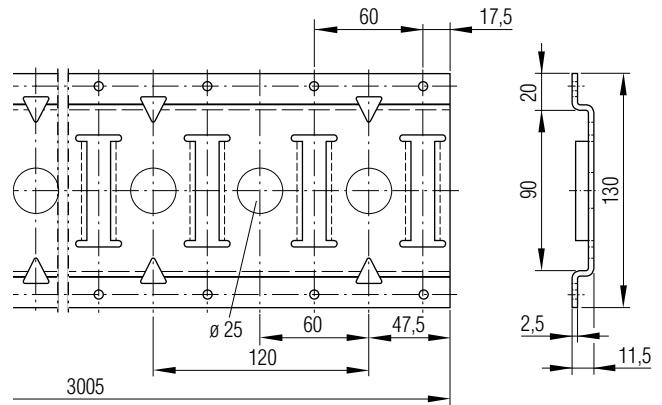
- Overall measurements:** 130 x 11.5 x 3005 x 2.5 mm (B x H x L x S)
- Installation:** Horizontal
- Anchoring holes:** Slots 12.6 x 61 mm and 20 mm round holes alternating, Spacing 60 mm
- Installation holes:** \varnothing 5.1 mm
- Additional hole:** Triangle every 120 mm notch allows condensation water to drain.
- Material:** Steel S 350 GD+Z 275 MA
- Weight:** approx. 2.33 kg/m
- Article No.:** 612 055 000 - Steel, sendzimir galvanised



Combination cargo control tracks

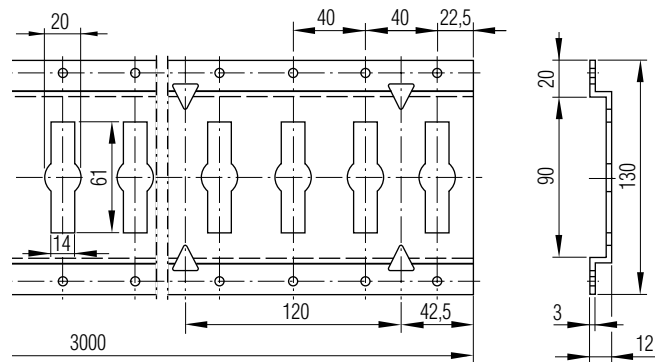
Combination cargo control tracks - top-hat profile

Overall measurements:	130 x 11.5 x 3005 x 2,5 mm (B x H x L x S)
Installation:	Horizontal
Anchoring holes:	Slots 12.6 x 61 mm and 25 mm round holes alternating, Spacing 60 mm
Installation holes:	ø 5.1 mm
Additional hole:	Triangle every 120 mm notch allows condensation water to drain.
Material:	Steel S 350 GD+Z 275 MA
Weight:	approx. 2.33 kg/m
Article No.:	612 058 000 - Steel, sendzimir galvanised



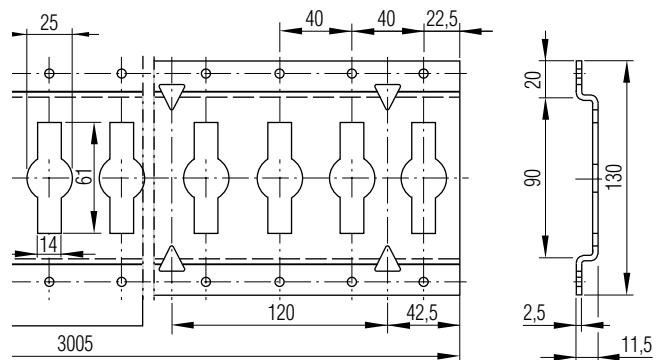
Combination cargo control tracks - top-hat profile

Overall measurements:	130 x 12 x 3000 x 3 mm (B x H x L x S)
Installation:	Horizontal
Anchoring holes:	Slots 14 x 61 mm and 20 mm round holes alternating, Spacing 40 mm
Installation holes:	ø 5.1 mm
Additional hole:	Triangle every 120 mm notch allows condensation water to drain.
Material:	Aluminium AlMgSi 0,5
Weight:	approx. 1.0 kg/m
Article No.:	612 066 000 - Aluminium, anodised



Combination cargo control tracks - top-hat profile

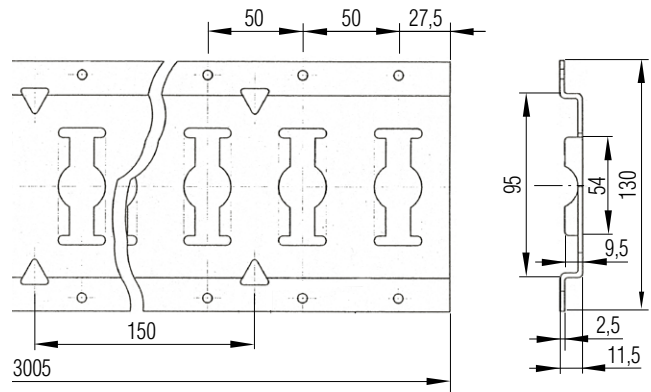
Overall measurements:	130 x 11.5 x 3005 x 2,5 mm (B x H x L x S)
Installation:	Horizontal
Anchoring holes:	Slots 14 x 61 mm and 25 mm round holes alternating, Spacing 40 mm
Installation holes:	ø 5.1 mm
Additional hole:	Triangle every 120 mm notch allows condensation water to drain.
Material:	Stahl S 350 GD+Z 275 MA
Weight:	approx. 2.33 kg/m
Article No.:	612 057 000 - Steel, sendzimir galvanised



Combination cargo control tracks

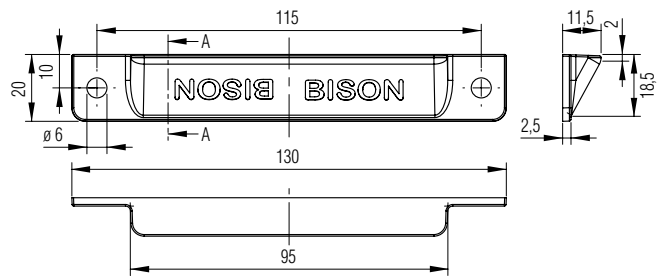
Combination cargo control tracks - top-hat profile

- Overall measurements:** 130 x 11.5 x 3005 x 2.5 mm
(B x H x L x S)
- Installation:** Horizontal
- Anchoring holes:** Slots 12.6 x 61 mm and 25 mm round holes alternating.
Spacing 50 mm
- Installation holes:** ø 5,1 mm
- Additional hole:** Triangle every 120 mm notch allows condensation water to drain.
- Material:** Steel S 350 GD+Z 275 MA
- Weight:** approx. 2.33 kg/m
- Article No.:** 612 061 000 - Steel, sendzimir galvanised



Plastic end-piece for size 130 cargo control tracks

- Color:** Light grey, RAL 7035
- Article No.:** 612 010 000



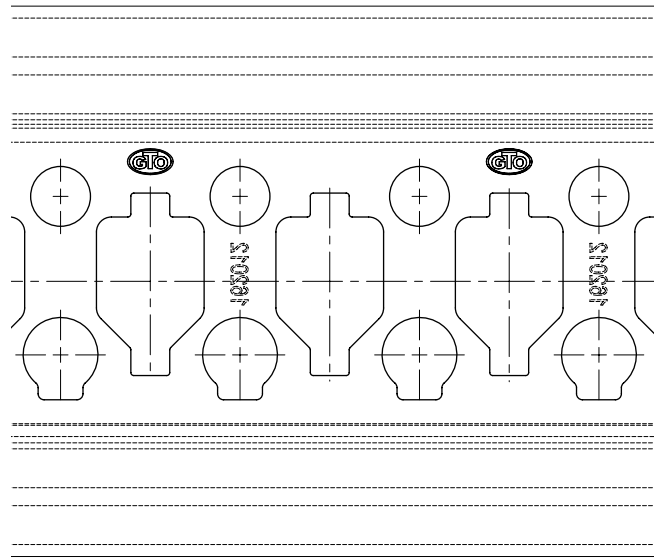
GETO® Rail recessed lashing rail

GETO® Rail recessed lashing rail

This recessed lashing rail for plywood or sandwich panels is a true all-rounder when it comes to load safety. The aluminium lashing rail lies flush with the wall of the vehicle's body. The rail has no corners or edges, so nothing protrudes, thereby guaranteeing damage-free transport. And what's more, the load can occupy the entire width of the vehicle. Multi-drop deliveries in an urban environment demand versatility. Combined transport involving different goods in various sizes requires a universal solution. The GETO Rail lashing rail combines all the advantages of conventional slotted cargo control tracks and pans (locking strips), thereby allowing the use of a complete range of standard load-securing equipment.

The hole pattern of the recessed lashing rail has the following special features:

- 20 and 25 mm round holes
- Slotted (13 x 61 mm)
- Polygonal windows
- Connection between polygonal windows



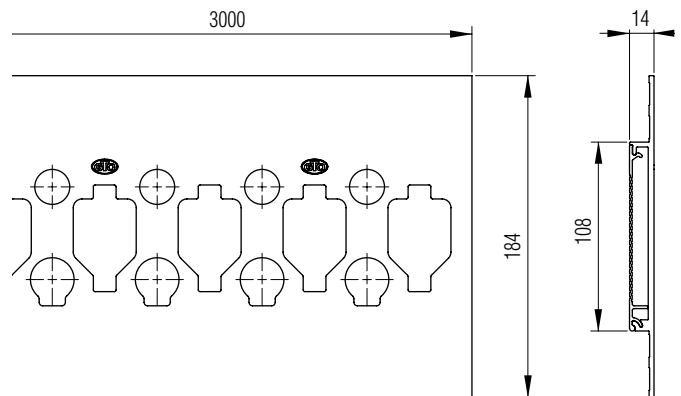
GETO® Rail recessed lashing rail

GETO® Rail recessed lashing rail

For plywood panels

- Suitable for use as a binding strip
- Rail is bonded in place
- Round holes
- Slotted
- Polygonal windows
- Connection between polygonal windows

Length:	3000 mm
Width:	184 mm
Height:	14 mm
Strength:	250 daN (Max. permissible tensile force (With a minimum lashing distance of 400mm), 250 mm in both directions, without subjecting straps to sudden strain)
Anchoring holes:	20 and 25 mm round holes
Slots:	13 x 61 mm
Material:	Aluminium powder coated, RAL 7035 light gray
Weight:	5.49 kg
Article No.:	612 081 002

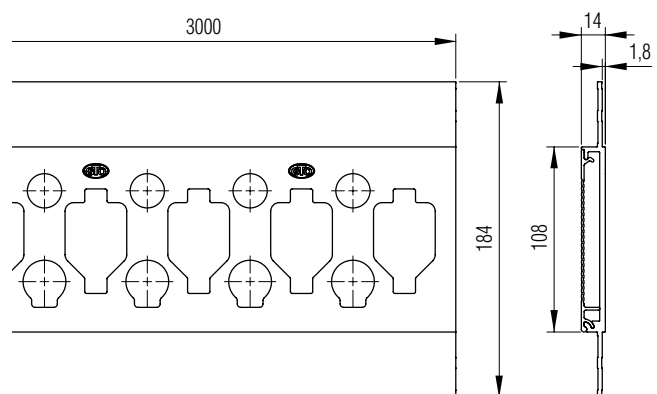


GETO® Rail recessed lashing rail

For sandwich panels, in offset configuration

- Rail is bonded in place
- Round holes
- Slotted
- Polygonal windows
- Connection between polygonal windows

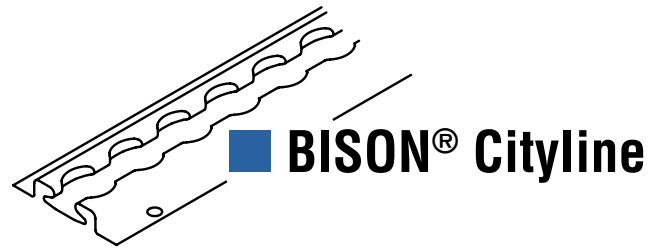
Length:	3000 mm
Width:	184 mm
Height:	14 mm
Strength:	250 daN (Max. permissible tensile force (With a minimum lashing distance of 400mm), 250 mm in both directions, without subjecting straps to sudden strain)
Anchoring holes:	20 und 25 mm round holes
Slots:	13 x 61 mm
Material:	Aluminium powder coated, RAL 7035 light gray
Weight:	5.44 kg
Article No.:	612 082 002



BISON® Cityline cargo control tracks

BISON® Cityline

Cargo control tracks in high-strength steel BISON Cityline is a newly patented cargo control track designed for floor, wall or ceiling installation in box trucks and large vans. It comes with the same 20 mm hole pattern as the well-known BISON Airline cargo control track, repeated at 25 mm intervals and connected via a slot.



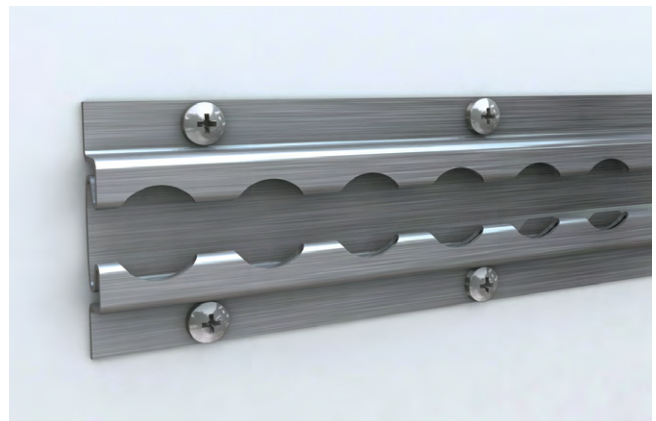
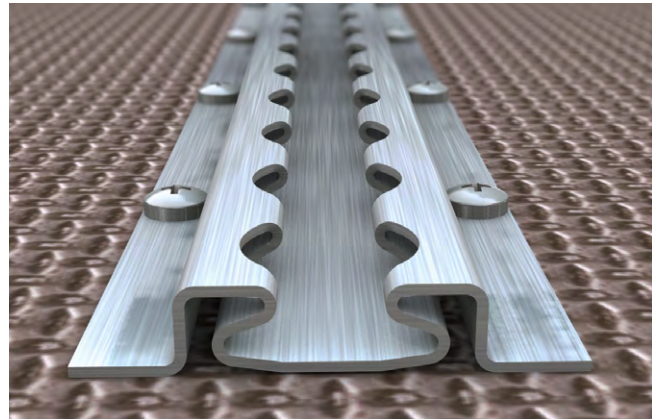
BISON® Cityline, made of special high-strength steel, offers the following advantages:

- The matching structural constituents of ferrite and martensite create a particularly attractive combination of features in terms of high strength, low yield-to-tensile ratio, good flexibility and suitability for welding, with high tensile strength ($R_m \geq 1.000 \text{ MPa}$)
- The higher modulus of elasticity (e-modulus) of steel (210 GPa/mm^2) results in less deflection for a given cross-section and load in comparison to aluminium profiles (70 GPa/mm^2)
- BISON Cityline cargo control tracks are also more resistant to wear than aluminium profiles. This is particularly useful when they are configured as floor rails for the sliding movement of items such as pallets.
- The outstanding material properties of BISON Cityline cargo control tracks make them stronger than their aluminium counterparts, although they weigh the same.
- BISON Cityline cargo control tracks are more suitable for bonding in position than aluminium rails. BISON Cityline cargo control tracks can also be welded.
- Suitable quantities of BISON Cityline cargo control tracks can likewise be supplied in different lengths (e.g. 13.6 m long)
- If load limits are ever exceeded, the damage to aluminium tracks tends to show up abruptly (sudden material failure). BISON Cityline tracks, which are made of steel, show the same signs gradually, in the form of bending and stretching, for example.

BISON® Cityline cargo control tracks


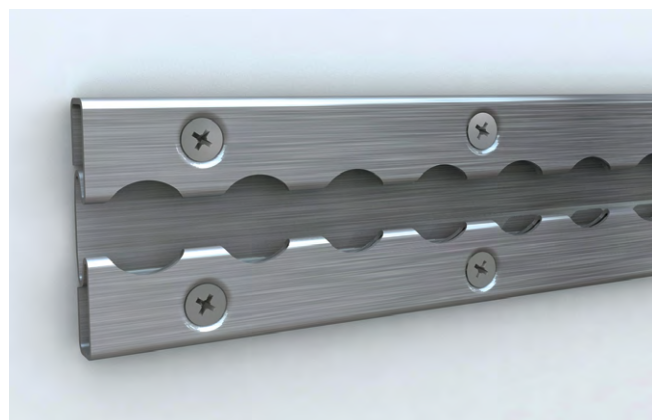
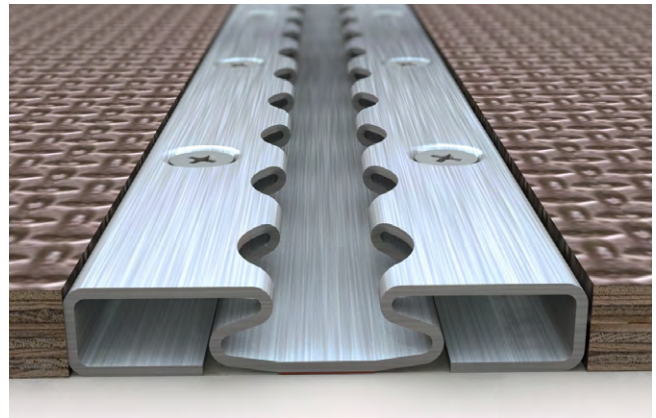
BISON® Cityline cargo control tracks - top-hat profile

Length:	2997 mm
Width:	54 mm
Height:	10 mm
Wall thickness:	1.2 mm
Material:	High-strength steel
Surface:	Coil galvanized
Weight:	2.424 kg/each
Article No.:	612 098 000



BISON® Cityline cargo control tracks - rectangular profile

Length:	2997 mm
Width:	54 mm
Height:	10 mm
Wall thickness:	1.2 mm
Material:	High-strength steel
Surface:	Coil galvanized
Weight:	3.142 kg/each
Article No.:	612 099 000



BISON® Cityline
BISON Cityline is suitable for welding, as well as screwing, riveting and bonding.

All technical data and specifications are subject to change without notice. The information in this document is for informational purposes only and does not constitute an offer or a contract. The information in this document is for informational purposes only and does not constitute an offer or a contract.

BISON® Airline cargo control tracks

Basic: The BISON® Airline cargo control tracks

- Available in semi-circular, rectangular and standard options
- High-strength aluminium alloy for safety
- Contemporary design
- 25 mm increments (measured between centres of holes) allow the track to be positioned close to the load
- The shape of the profile ensures trouble-free cleaning
- Standard length: 2998 mm
- Other lengths available on request
- Available with anodised finish
- Can be secured with screws, rivets or adhesive



Semi-circular BISON® Airline cargo control tracks

Semi-circular track profile

Dimensions: 42 x 3000 x 9.6 mm
without fixing holes

Maximum permissible tensile force: 680 daN in straight line

Material: Aluminium, finish

Weight: 1.99 kg

Article No.: 612 095 000

Particularly suitable for installation on vehicle side-walls. No sharp edges. This ensures gentle handling when loading, unloading or securing the cargo. Packing materials remain free of damage.



BISON® Airline cargo control tracks

Standard BISON® Airline cargo control tracks

Track profile with fixing flanges on both sides

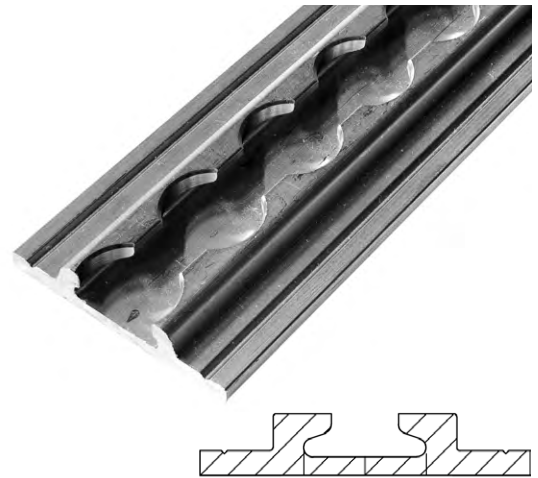
Dimensions: 54/30 x 3000 x 9.6 mm
without fixing holes

Material: Aluminium, finish

Weight: 2.3 kg

Article-No.: 612 091 000

The presence of a fixing flange on both sides makes this track particularly suitable for upright installation on a vehicle's side-walls. The flange also provides for a smooth transition between recessed profiles.



Rectangular BISON® Airline cargo control tracks

Rectangular track profile

Dimensions: 34 x 3000 x 7.6 mm
without fixing holes

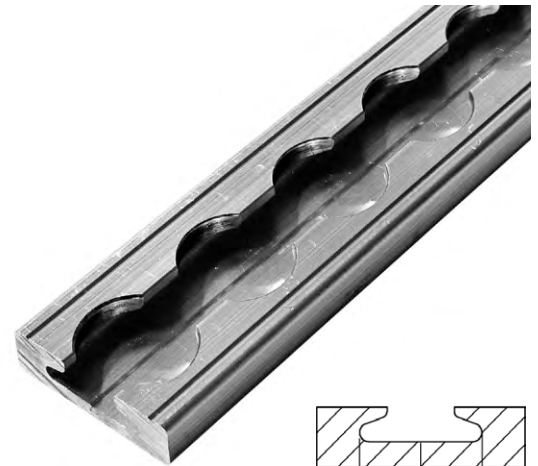
Maximum permissible tensile force: 360 daN in straight line

Material: Aluminium, finish - 612 093 100
Aluminium, anodised - 612 094 100

Weight: 1.29 kg

Article No.: 612 093 100 - Aluminium, finish
612 094 000 - Aluminium, anodised

The all-rounder of our Airline range of tracks. Ideal for use as a recessed lashing rail. Its slimline design likewise makes it ideal for fixing to stanchions and near to dropside sections.



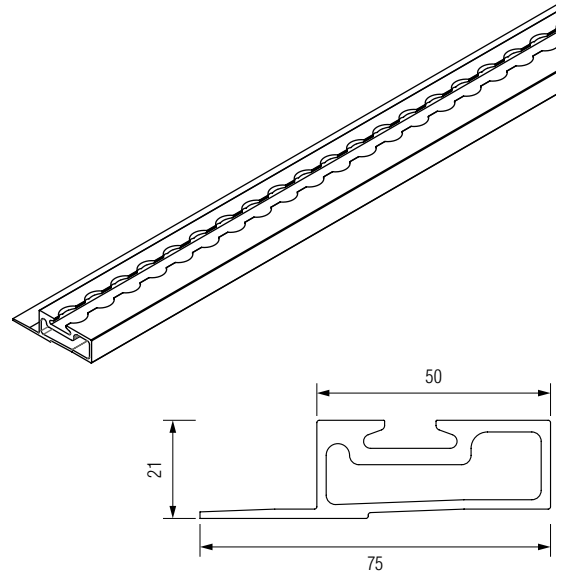
BISON® Airline cargo control tracks

BISON® Airline cargo control tracks

Lateral profile with flange on one side,
designed as lower-belt/floor surface joining profile

Dimensions: 75/50 x 3000 x 21 mm
Floor recess 18 mm
without fixing holes

**Maximum
permissible tensile
force:** 800 daN (Floor installation)
Material: Aluminium, finish
Weight: 3.54 kg
Article No.: 612 096 000

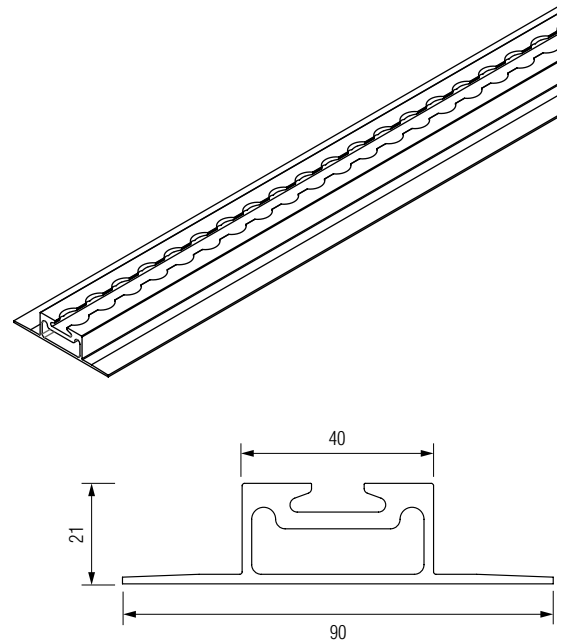


BISON® Airline cargo control tracks

Centre profile with flange on both side for customised use

Dimensions: 90 x 3000 x 21 mm
Floor recess 18 mm
without fixing holes

**Maximum
permissible tensile
force:** 800 daN (Floor installation)
Material: Aluminium, finish
Weight: 3.54 kg/each
Article No.: 612 097 000



Accessories for BISON® Airline cargo control tracks



The connectors: BISON® Airline studs

These connectors allow cargo control items such as load-securing nets to be fastened to our Airline tracks. The ring in the stud can also be used for attaching items such as the claw hooks employed to secure lashing straps and nets. And best of all,

the studs can be positioned anywhere along the length of the Airline track and locked in place at 25 mm intervals. This locking function is automatic.

Single stud

With ring, ø 5 mm, inside diameter of ring 29.5 mm

Maximum
permissible tensile

force: 400 daN
Weight: 0.05 kg/each
Article No.: 612 400 000



Double stud

Without ring

Maximum
permissible tensile

force: 800 daN
Weight: 0.11 kg/each
Article No.: 612 401 000



Double stud

With ring, ø 7 mm, inside diameter of ring 44 mm

Maximum
permissible tensile

force: 800 daN
Gewicht: 0.16 kg/each
Article No.: 612 402 000



Quattro stud

Foldable

Maximum
permissible tensile

force: 2000 daN
Gewicht: 0.38 kg/each
Article No.: 612 403 000

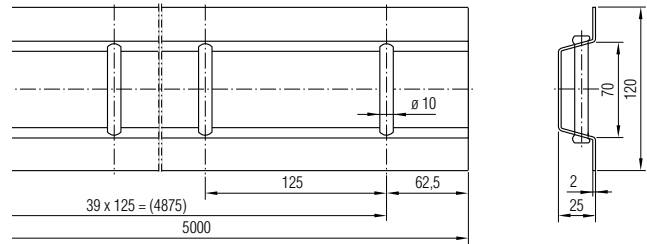


Universal bolt lashing strip

Universal bolt lashing strip, Aluminium

Open on both sides, the bar is fixed by a notch.
40 Bars on 5000 mm length.

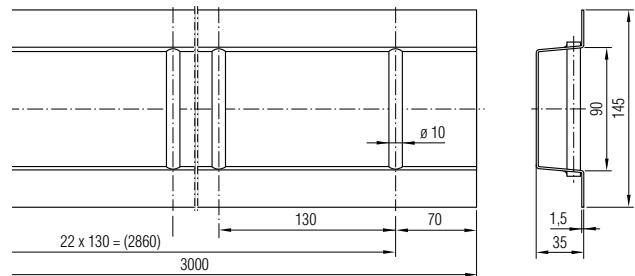
Installation: Horizontal
Material: AlMgSi 0.5 F 22, mill finish
Weight: approx. 0.96 kg/m
Article No.: 612 212 000



Universal bolt lashing strip, steel

Open on both sides, weld in bar, 23 Bars on 3000 mm length.

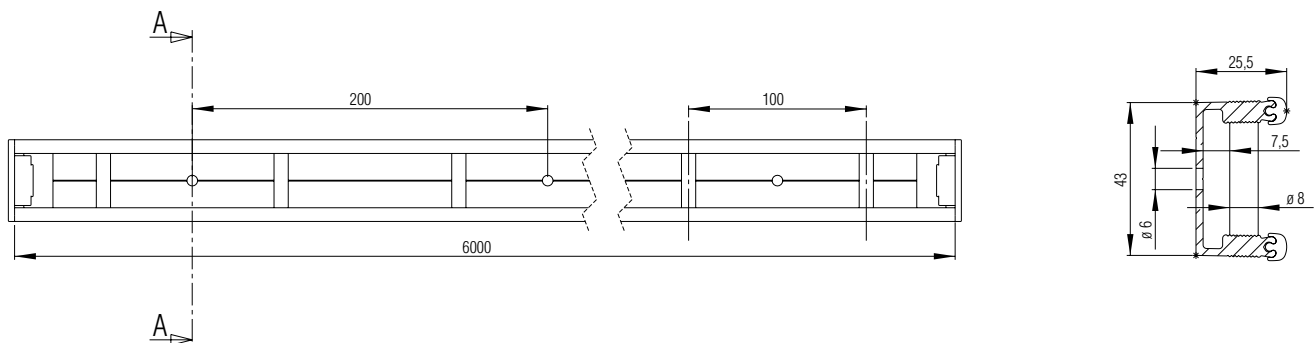
Installation: Horizontal
Material: Profile sheet steel, compressed, hot galvanised
 Bolt fully steel, hot galvanised
Weight: approx. 3.07 kg/m
Article No.: 612 202 000



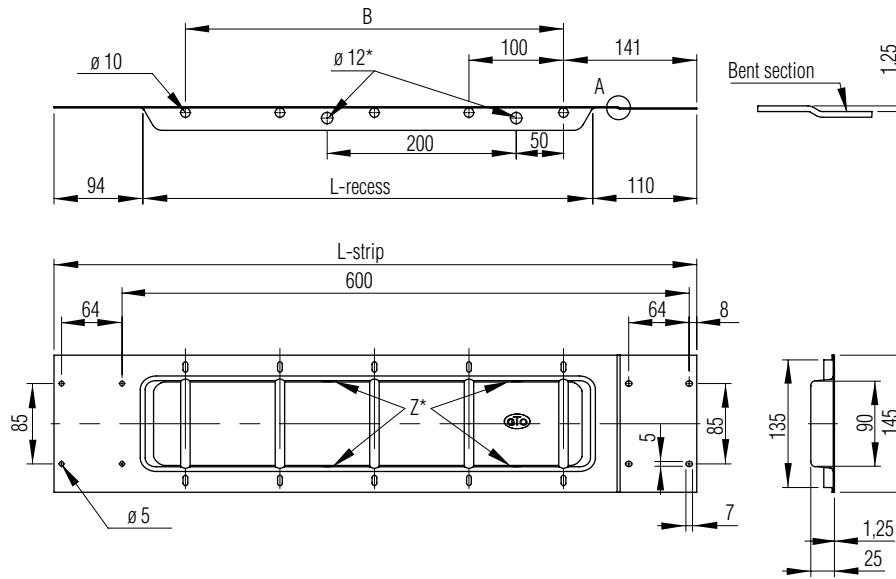
Bolt lashing strip, aluminium

For horizontal attachment to the side wall, supplied with rubber edge protectors and two push-in end-pieces made of plastic.

Material: Aluminium
Length: 6000 mm
Weight: approx. 0.83 kg/m
Article No.: 612 223 000



Bolt lashing strip for GETO Van® and GETO® City



Cargo control pans for GETO Van and GETO City body kits, recess lengths matched to GETO Van / GETO City pillar layouts

Material: Steel, galvanised

Standard cargo control pans with flange

B [mm]	Number of studs [each]	L-recess [mm]	L-strip [mm]	Weight approx. [kg/each]	Article No.
400	5	476	680	1.56	612 296 100

Note:

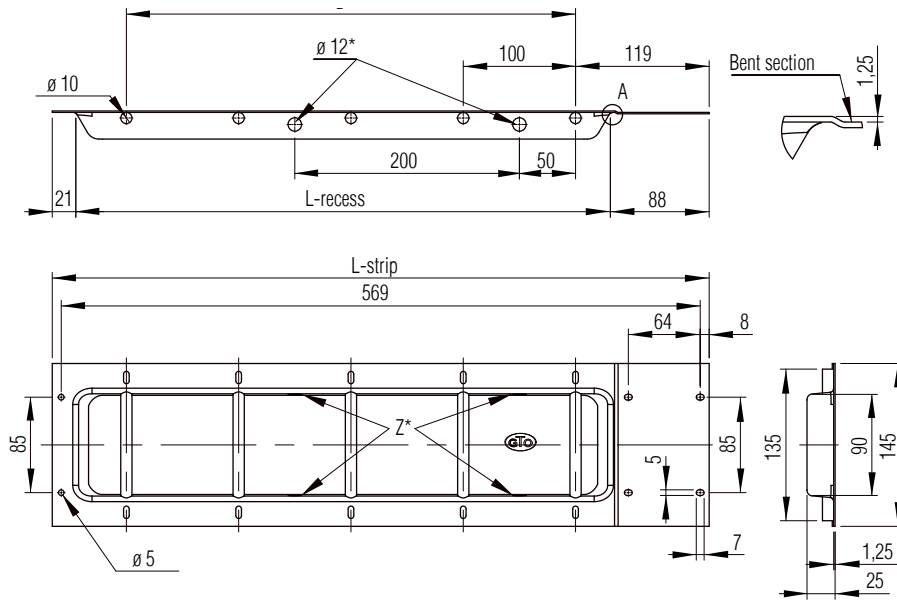
Z = 4 holes, ø 12 mm, for customs inspection of wall cavities

Suitable for:

Round shoring poles page 61.05.02.
Lashing straps page 61.11.

Zurilicetchnical is pae cffr ea bionso mabimed i n rthi s abroo churee eea ppo x rma e eand i no o g u a n m e e e i s g a v e r n a s t o t h e i r r a c o u e r e y / I D e i g n s s a r e s s u b j e c t t o c h a n g e s .

Bolt lashing strip for GETO Van® and GETO® City



Cargo control pans for GETO Van and GETO City body kits, recess lengths matched to GETO Van / GETO City pillar layouts

Material: Steel, galvanised

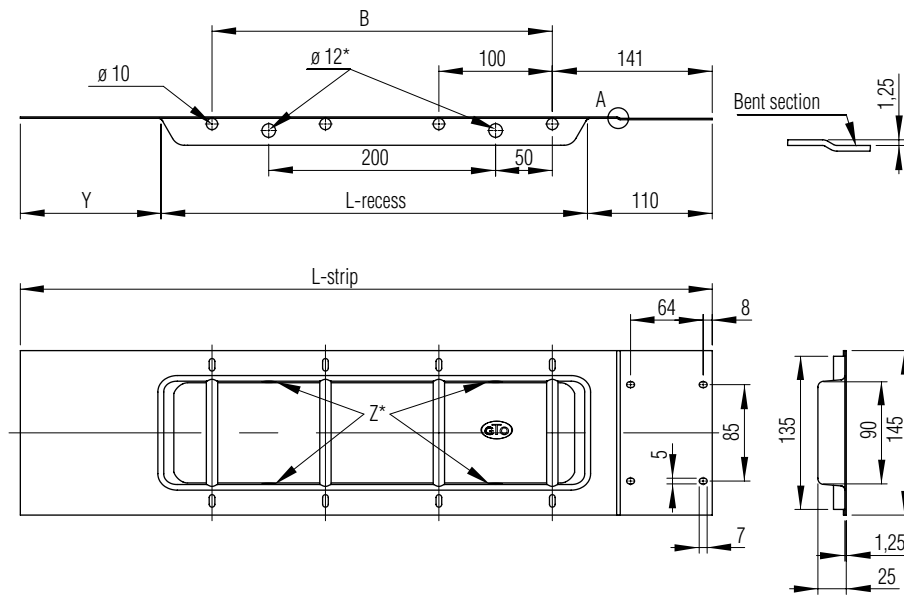
Cargo control pans, l.h./r.h. side wall compensation at front

B [mm]	Number of studs [each]	L-recess [mm]	L-strip [mm]	Weight approx. [kg/each]	Article No.
400	5	476	585	1.42	612 297 100

Note:
Z = 4 holes, \varnothing 12 mm, for customs inspection of wall cavities

Suitable for: Round shoring poles page 61.05.02.
Lashing straps page 61.11.

Bolt lashing strip for GETO Van® and GETO® City



Cargo control pans for GETO Van and GETO City body kits, recess lengths matched to GETO Van / GETO City pillar layouts

Material: Steel, galvanised

Cargo control pan compensation, offset						
B [mm]	Number of studs [each]	L-recess [mm]	L-strip [mm]	Y Compensation flange [mm]	Weight approx. [kg/each]	Article No.
100	2	176	410	124	0.85	612 298 125
200	3	276	552	166	1.14	612 298 130
300	4	376	610	124	1.34	612 298 135
400	5	476	710	124	1.60	612 298 140

Note:
 Z = 4 holes, \varnothing 12 mm, for customs inspection of wall cavities
 Cargo control pans with 2 and 3 studs have only 2 holes
 (\varnothing 12 mm) for customs inspection

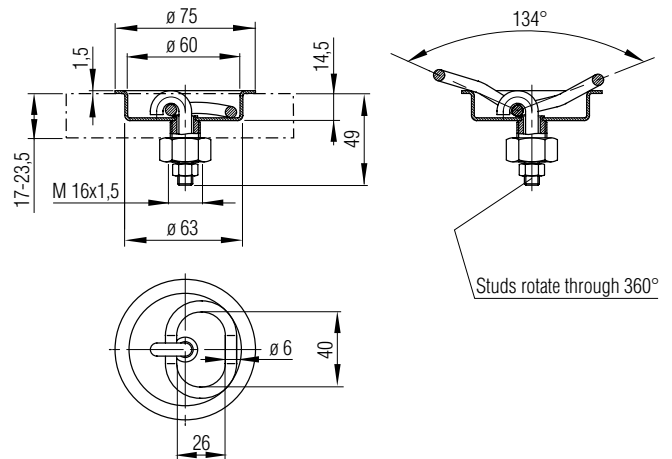
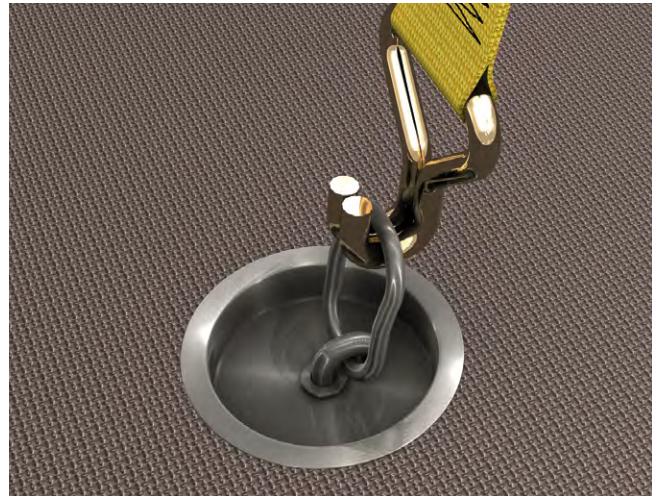
Suitable for: Round shoring poles page 61.05.02.
 Lashing straps page 61.11.

Cargo control pans

BISON® 500 cargo control pan

Compact design: Installation depth only 16 mm (including recessed edge), max. diameter of just 75 mm. Circular design for extremely easy installation. Hook attachment rotates through 360°; ideal for attachment of lashing straps.

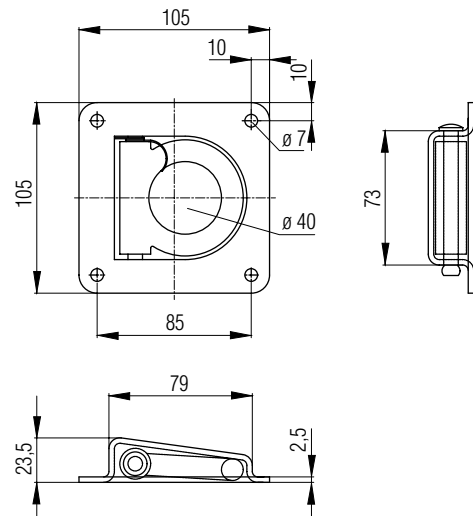
Installation type:	Recessed installation
Maximum permissible tensile force:	Tested in accordance with DIN EN 12640: 500 daN
Material:	Steel, with hardened and tempered load-bearing components Corrosion-protected finish
Weight:	approx. 0.18 kg/unit
Suitable for:	Lashing straps page 61.11.
Article No.:	612 375 000



Cargo control pans

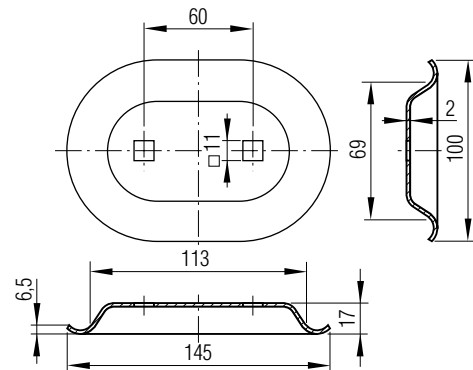
Cargo control pans with return spring

Installation:	Sunken mounting
Maximum permissible tensile force:	Tested in accordance with DIN EN 12640: 800 daN
Material:	Steel, electro galvanised
Weight:	approx. 0.455 kg/each
Suitable for:	Lashing straps page 61.11.
Article No.:	612 350 000



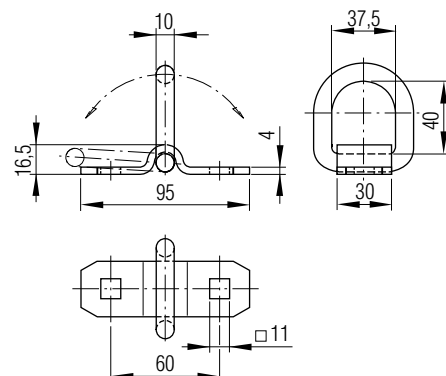
Cargo control pans, complet

Installation:	Sunken mounting
Maximum permissible tensile force:	Tested in accordance with DIN EN 12640: 1500 daN
Material:	Steel, electro galvanised
Weight:	approx. 0.435 kg/each
Spare parts:	Ring, Article No. 612 312 000 Strap, Article No. 612 302 000 Indent, Article No. 612 322 000
Suitable for:	Lashing straps page 61.11.
Article No.:	612 352 000



Cargo control ring with strap

Installation:	Surface mounting
Maximum permissible tensile force:	Tested in accordance with DIN EN 12640: 1500 daN
Material:	Steel, electro galvanised
Weight:	approx. 0.185 kg/each
Spare parts:	Ring, Article No. 612 312 000 Strap, Article No. 612 302 000
Suitable for:	Lashing straps page 61.11
Article No.:	612 342 000

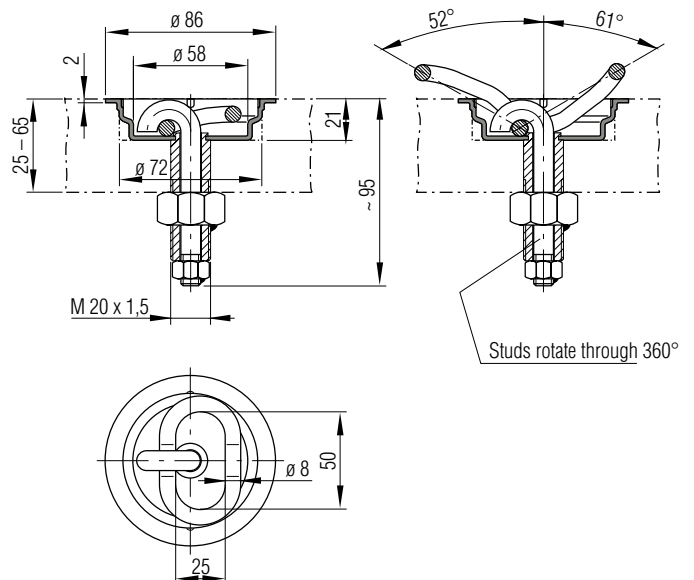


Cargo control pans

BISON® 2000+ cargo control pan

Compact design. Installation depth only 21 mm (including recessed edge), max. diameter 86 mm. Circular design for extremely easy installation. Hook attachment rotates through 360°. Ideal for use with lashing straps.

Maximum permissible tensile force:	Tested in accordance with DIN EN 12640: 2000 daN
Material:	Steel, Delta Seal and Delta Protect passivated
Weight:	approx. 0.4 kg/each
Suitable for:	Lashing straps page 61.11.
Article No.:	612 372 001



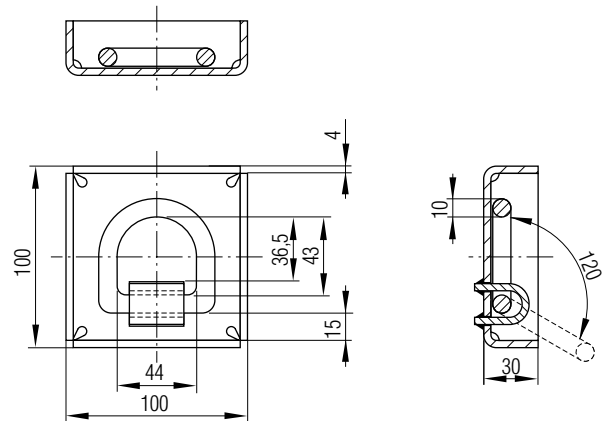
BISON® cargo control pans

Our BISON 2000+ cargo control pan, which conforms to DIN EN 12 640, can withstand loads of up to 2000 daN. The vehicle manufacturer is responsible for proper attachment to the load-bearing components of the vehicle concerned.

Cargo control pans

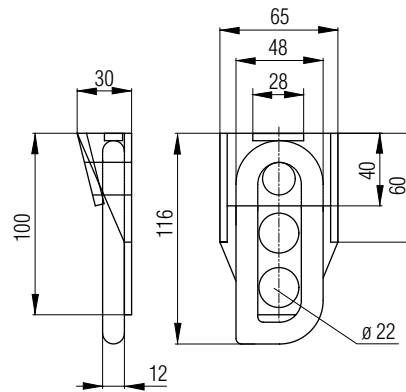
Cargo control pan 2000

Installation: Welded sunken mounting
Maximum permissible tensile force: 2000 daN
Material: Steel, raw
Weight: approx. 0.865 kg/each
Suitable for: Lashing straps page 61.11
Article No.: 612 382 000



Drob-Down cargo control ring narrow

Installation: Welded sunken mounting
Maximum permissible tensile force: 2000 daN
Material: Steel, raw
Weight: approx. 0.565 kg/each
Suitable for: Lashing straps page 61.11.
Article No.: 612 366 000



Cargo control lashing bars

Lashing bar with fixing plate

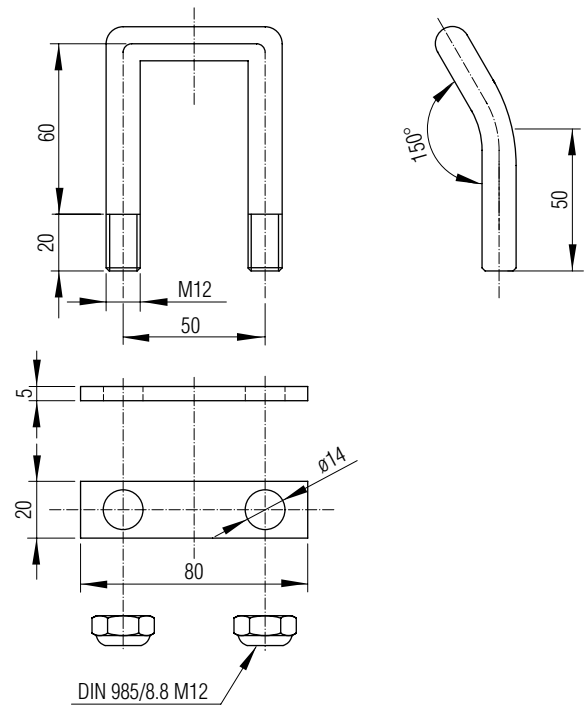
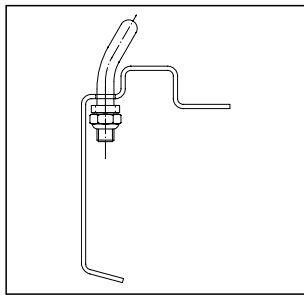
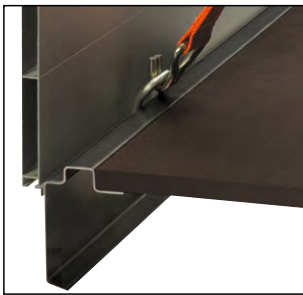
With 2 x M 12 lock nuts

Maximum permissible tensile force: Tested in accordance with DIN EN 12640: 2000 daN

Material: Steel, galvanised

Weight: 0.3 kg/each

Article No.: 218 530 000



Lashing shackle

For side rive profiles 218 528 750 / 218 525 750 and for GETO Sider Frame base assemblies.

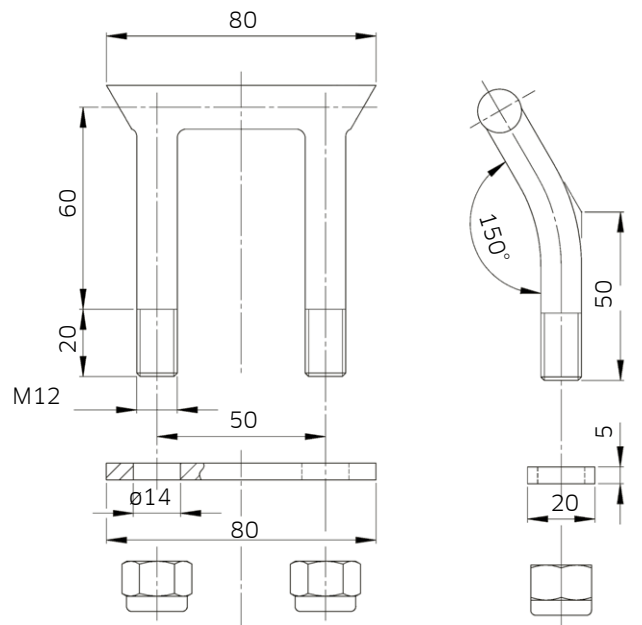
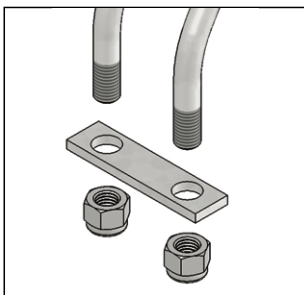
Advantages: The lateral handles allow the lashing bar to be lifted out of the side rive profile even under difficult circumstances.

Maximum permissible tensile force: Tested in accordance with DIN EN 12640: 2500 daN, including certificate for use in conjunction with GETO Sider Frame base assembly

Material: Steel, galvanised

Weight: 0.272 kg

Article No.: 218 533 000



Note:

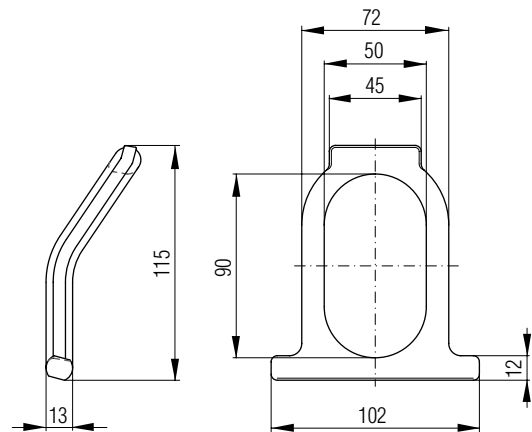
Only lashing bar configurations supplied by us as article numbers 218 530 000 and 218 533 000 may be used in conjunction with the envisaged side rive profiles with article numbers 218 528 000/218 525 000.

Cargo control lashing bars

Drob-Down cargo control ring 3000

(Mating part to 612 362 000)

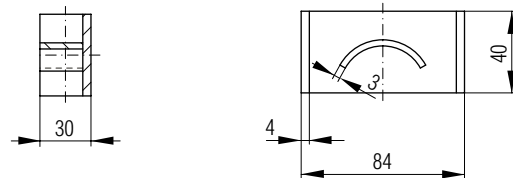
Installation: With strap-ring recess
Maximum permissible tensile force: Tested in accordance with DIN EN 12640: 3000 daN
Material: Steel, raw
Weight: approx. 0.345 kg/each
Suitable for: Lashing straps page 61.11.
Article No.: 612 360 000



Cargo control ring pocket

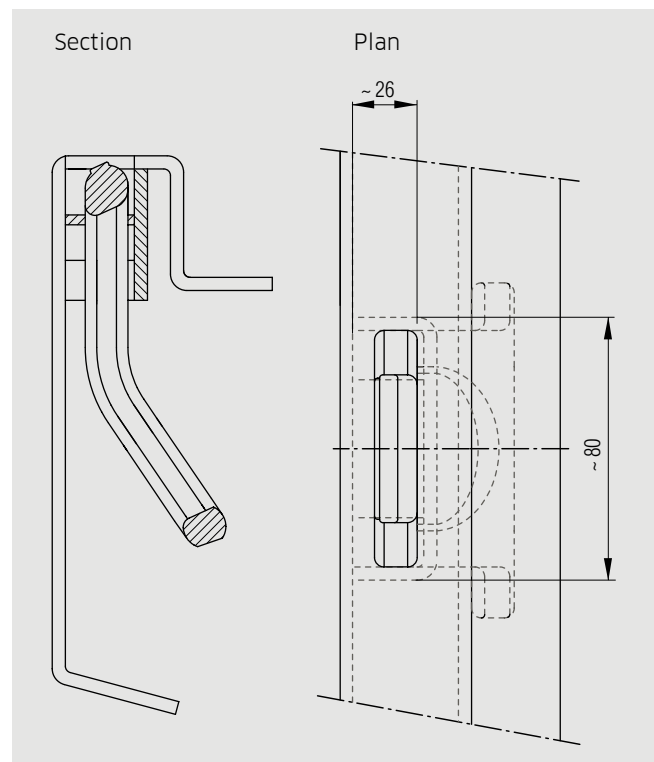
(Mating part to 612 360 000)

Installation: Welded sunken mounting
Maximum permissible tensile force: Tested in accordance with DIN EN 12640: 3000 daN
Material: Steel, raw
Weight: approx. 0.195 kg/each
Article No.: 612 362 000



Mounting instructions

Cut out a hole into the rave section (see drawing) and push the pocket (Article No. 612 362 000) together with the ring (Article No. 612 360 000) from below, into the opening (the lugs of the lashing hook must face down and the curve of the lashing eye must face down). Furthermore, the lashing eye pocket must be sufficiently welded to the rave, as well as to the hole at the top..



Alle technischen Spezifikationen sind in diesem Dokument enthalten. In diesem Dokument sind alle Änderungen vorbehalten. Die Zeichnungen sind ohne Gewähr. Die Zeichnungen sind ohne Gewähr. Die Zeichnungen sind ohne Gewähr.

Decals

Decals for maximum permitted lashing point loads

In compliance with DIN EN 12640
White text on a blue background, self-adhesive

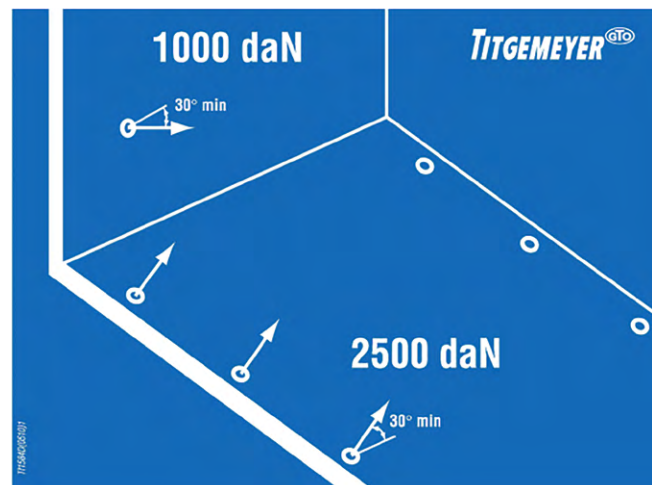
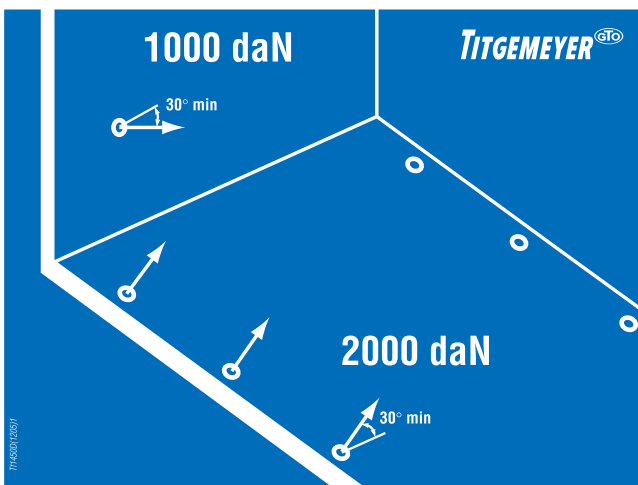
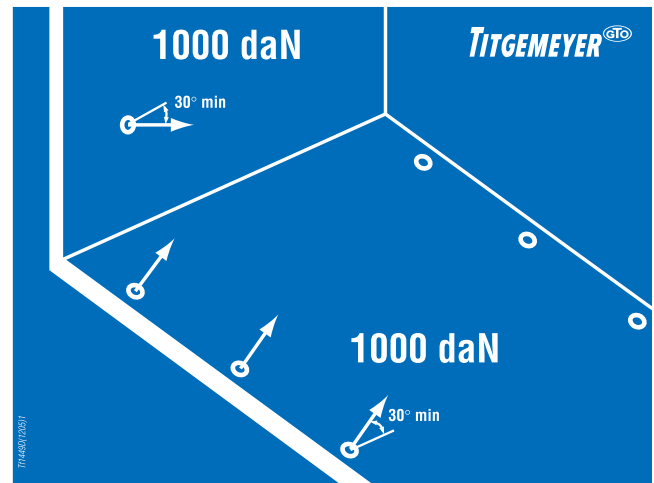
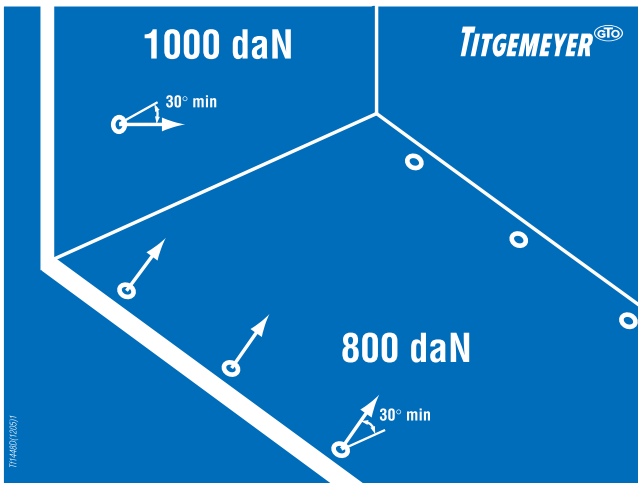
Height: 150 mm
Width: 200 mm

Article No.: 612 392 000 -
Permitted load 800 daN

Article No.: 612 394 000 -
Permitted load 1000 daN

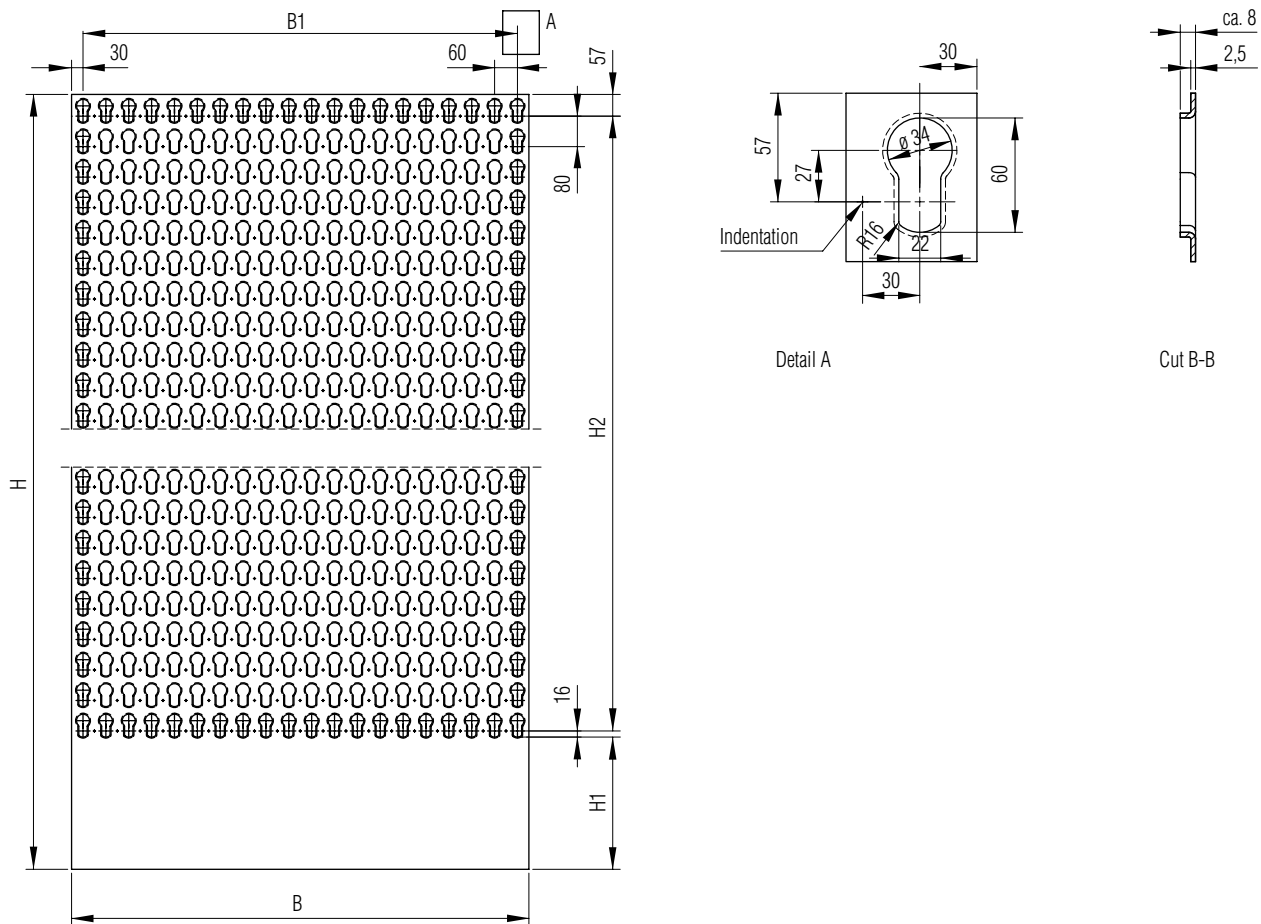
Article No.: 612 396 000 -
Permitted load 2000 daN

Article No.: 612 398 000 -
Permitted load 2500 daN



Alle technischen Spezifikationen sind in diesem Broschüre enthalten. Die Angaben sind ohne Gewähr. Änderungen vorbehalten.

Keyhole panels

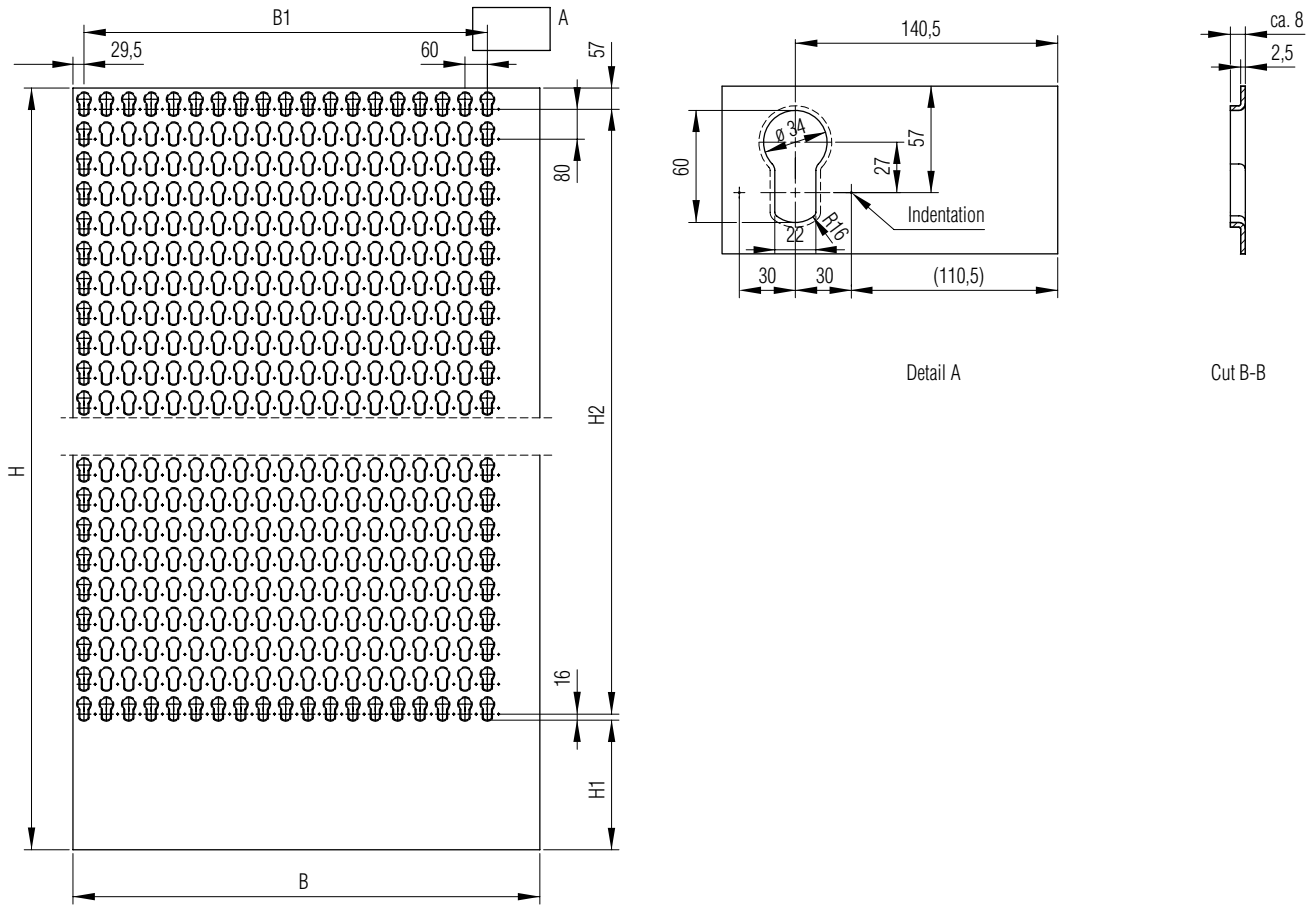


Aluminium keyhole sheet for GETO Van® body kits (symmetrical)

Material: Aluminium, anodised

B	B1	Number of the vertical rows of perforations	H	H1	H2	Number of the horizontal rows of perforations	Weight approx. [kg/each]	Article No.
[mm]	[mm]		[mm]	[mm]	[mm]			
1200	1140	20	2420	343	2000	25	17.1	611 263 242
			2820	423	2320	29	19.9	611 263 282
			3120	643	2400	31	22.2	611 263 312

Keyhole panels



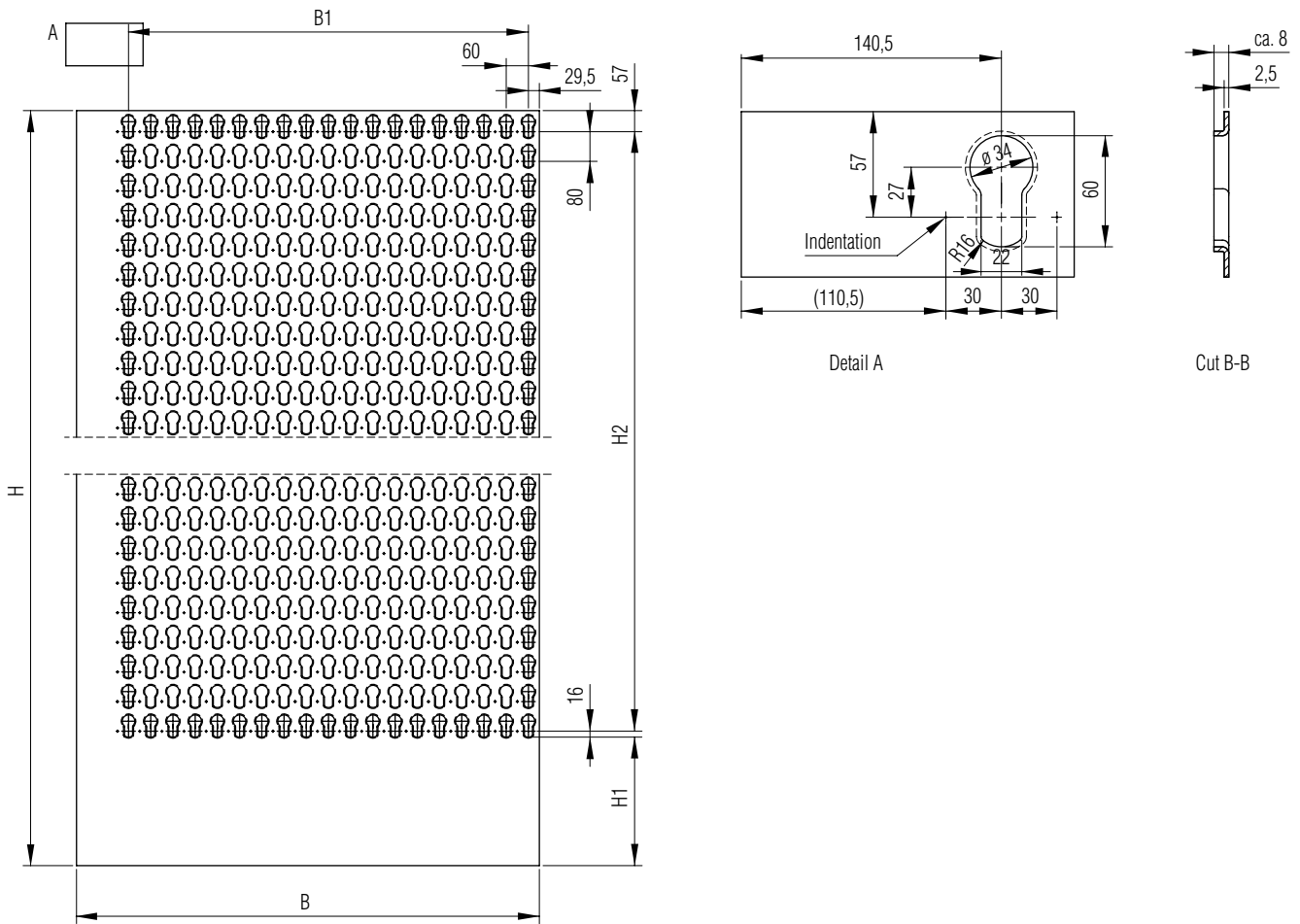
Aluminium keyhole sheet for GETO Van® body kits (with flange for attachment at front right and back left)

Material: Aluminium, anodised

B	B1	Number of the vertical rows of perforations	H	H1	H2	Number of the horizontal rows of perforations	Weight approx. [kg/each]	Article No.
[mm]	[mm]		[mm]	[mm]	[mm]			
1250	1080	19	2420	343	2000	26	18.0	611 261 242
			2820	423	2320	30	21.0	611 261 282

Zur technischen Spezifikation sind in diesem Dokument alle Angaben und Informationen, die für die Ausführung der Arbeit erforderlich sind, zu entnehmen. Die Angaben sind ohne Gewährleistung. Änderungen vorbehalten.

Keyhole panels

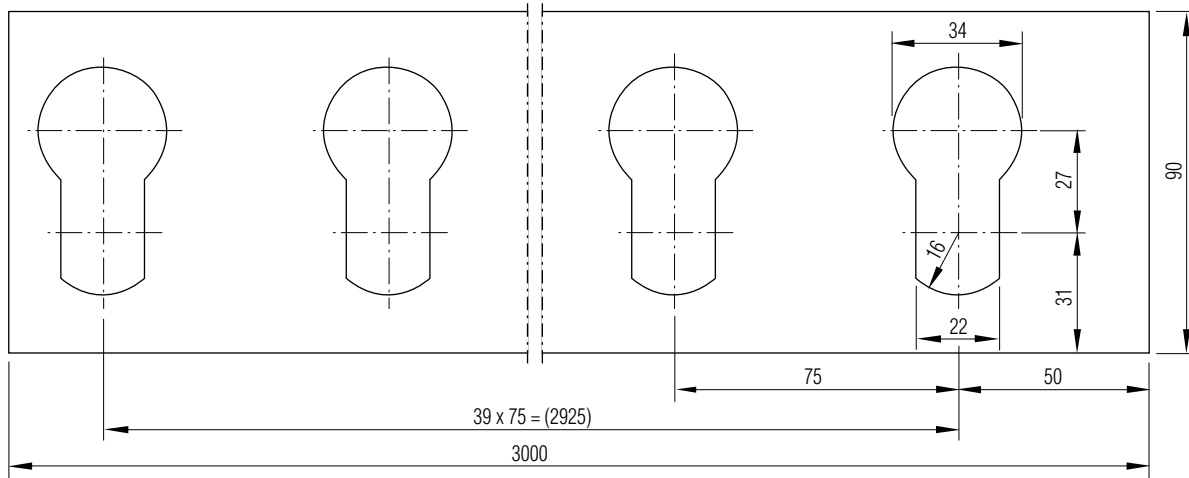


Aluminium keyhole sheet for GETO Van® body kits (with flange for attachment at front left and back right)

Material: Aluminium, anodised

B	B1	Number of the vertical rows of perforations	H	H1	H2	Number of the horizontal rows of perforations	Weight approx. [kg/each]	Article No.
[mm]	[mm]		[mm]	[mm]	[mm]			
1250	1080	19	2420	343	2000	26	18.0	611 262 242
			2820	423	2320	30	21.0	611 262 282

Keyhole strip



Keyhole strip horizontal

- For horizontal mounting
- Flat 3 mm thick.
- Punching according to the current types of clothes transport bars

Material:	Steel, thin sheet DIN 1541, continuously galvanised
Weight:	approx. 1.67 kg/m
Suitable for:	Clothes transport bars page 61.12.01.5 and 61.12.01.6
Article No.:	612 132 000

Round shoring poles

For cargo control tracks with round holes

- For cargo control tracks with round holes (ø 20, 22, 25 mm)
- One-piece, with telescopic spring at one end; end-pieces pressed at both ends

Made to measure: Supplied ready-cut to size
Surface finish: All steel components are electrolytically galvanised
 Mill-finish aluminium components

Blocking capacity (BC): All shoring poles remain free of permanent deformity up to an evenly distributed load of:
 450 daN, for shoring poles ø 45 mm
 500 daN (with certificate)

Suitable cargo control tracks:

- With round holes page 61.01.
- BISON Airline cargo control tracks page 61.01.05.
 (Shoring pole for round hole ø 20 mm)



Cylindrical end-piece

Conical end-piece

Round shoring poles for cargo control tracks with round holes ø 20, 22, 25 mm

For round hole ø	Dimensions			Material		Endpieces	Weight approx.	Article No.		
	Tube ø	Support Tube	Telescopic tube	Support Tube	Telescopic tube			Standard clearance between lashing elements 2410 - 2510	Customised dimensions	One-sided, assembled; 1 x end-piece in separate pack
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[kg/each]	[mm]	[mm]	
20	35	35 x 2.25	30 x 2	C-35	St-52	Kon.	5.1	613 504 001	613 505 001	613 504 002
	35	35 x 2.25	30 x 2	C-35	St-52	Zyl.	5.1	613 504 000	613 505 000	613 505 003
	45	45 x 5.0	34 x 4	F-31 (Alu)	F-31 (Alu)	Zyl.	5.3	613 522 000	613 523 000	613 522 001
22	35	35 x 2.25	30 x 2	C-35	St-52	Kon.	5.1	613 534 001	613 535 001	613 534 003
	35	35 x 2.25	30 x 2	C-35	St-52	Zyl.	5.1	613 534 000	613 535 000	613 534 002
25	35	35 x 2.25	30 x 2	C-35	St-52	Kon.	5.1	613 560 001	613 561 001	613 560 002

Markings

BISON shoring poles can be supplied marked with customer-specific details such as a company name or logo. This permits the fast, trouble-free sorting of these items while cargoes are being handled, without any risk of confusion.



Round shoring poles

For bolt lashing strip

- One-piece, with telescopic spring at one end
- End-pieces pressed at both ends



Made to measure: Supplied ready-made to size

Surface

characteristic: All steel components are galvanised

Blocking capacity

(BC): Free of permanent deformity up to an evenly distributed load of 500 daN (with certificate)

Suitable for: Bolt lashing strip page 61.02.01 and 61.02.02

Round shoring poles for bolt lashing strip

Dimensions			Material		Endpieces	Weight approx.	Article No.	
Tube-ø	Support tube	Telescopic tube	Support tube	Telescopic tube			Standard clearance between lashing elements	Customised dimensions
[mm]	[mm]	[mm]	[mm]	[mm]		[kg/each]	[mm]	[mm]
35	35 x 2.25	30 x 2	C-35	St-52	Stahl	7.0	2410 - 2510 613 584 000	613 585 000

Round alu-shoring pole, adjustable

For bolt lashing strip and cargo control tracks with round holes \varnothing 20, 25 mm



- One-piece, with telescopic spring at one end
- End-pieces pressed at both ends

Made to measure: Supplied ready-made to size

Surface

characteristic: All steel components are galvanised
Aluminium components are anodized

Blocking

capacity (BC): 200 daN with concentrated load at centre
(with certificate) 400 daN with load applied along length (with certificate)

Suitable for: Cargo control tracks with round holes \varnothing 20 and 25 mm
page 61.01.01.1 to 61.01.03.2
Bolt lashing strip page 61.02.01 and 61.02.02

Round alu-shoring poles for bolt lashing strip and cargo control tracks with round holes

Dimensions			Material		Endpieces	Weight approx. [kg/each]	Article No. Standard clearance between lashing elements 2385 - 2760 [mm]
Tube- \varnothing [mm]	Support tube [mm]	Telescopic tube [mm]	Support tube [mm]	Telescopic tube [mm]			
42	42 x 5	30 x 3,2	Al	Al	Stahl	4.37	613 580 000

BISON® rectangular locking bars

For cargo control tracks with slots or round holes ø 22 mm

- One-piece, with non-sprung telescoping sections, both ends
- End-pieces assembled at both ends

Made to measure: Supplied ready-made to size

Surface

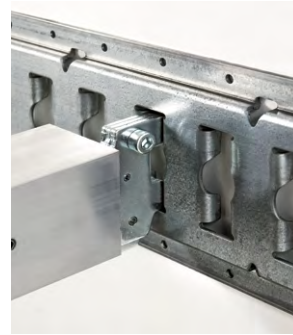
characteristic: All steel components are galvanised
Aluminium components are mill finish

Blocking capacity (BC):

700 daN with concentrated load at centre with certificate) 1250 daN with evenly distributed load applied along length (with certificate)

Suitable cargo control tracks:

- Slotted page 61.01.02..
- With 22 mm round holes at 40 mm intervals (BISON) page 61.01.01.



BISON® rectangular locking bars for cargo control tracks with slots or round holes ø 22 mm

Dimensions Support tube	Material		Weight approx.	Article No.		
	Support tube, rectangular	End-pieces		Standard clearance between lashing elements 2410 - 2460	Standard clearance between lashing elements 2460 - 2510	Customised dimensions
[mm]			[kg/each]	[mm]	[mm]	[mm]
60 x 60 x 4.0	F-31 (Al)	Stahl	7.8	613 223 000	613 223 001	613 243 000

BISON® rectangular locking bars

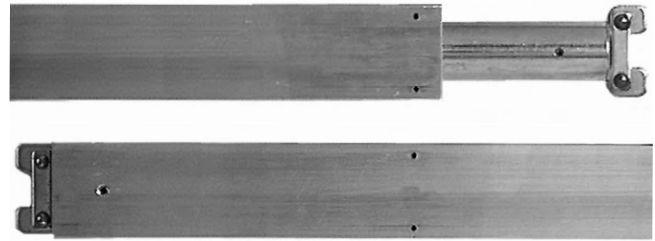
For cargo control tracks with slots or round holes \varnothing 22 mm

- One-piece, with telescopic spring at one end
- End-pieces assembled at both ends

Made to measure: Supplied ready-made to size
Surface characteristic: All steel components are galvanised
 Aluminium components are mill finish

Blocking capacity (BC): 1000 daN (evenly distributed load)
Suitable cargo control tracks:

- Slotted page 61.01.02.
- With 22 mm round holes at 40 mm intervals (BISON) page 61.01.01.



BISON® rectangular locking bars for cargo control tracks with slots or round holes \varnothing 22 mm

Dimensions		Material			Weight approx.	Article No., two-sided, assembled		
Support tube	Telescopic tube round	Support tube, rectangular	Telescopic tube round	End-pieces		Standard clearance between lashing elements 2410 - 2460	Standard clearance between lashing elements 2460 - 2510	Customised dimensions
[mm]	[mm]				[kg/each]	[mm]	[mm]	[mm]
60 x 60 x 4	38 x 4	F-31 (Al)	Steel	Steel	7.8	613 023 000	613 023 001	613 043 000

BISON® rectangular locking bars

For slotted rails

- Length:** 2403 - 2560 mm
- Characteristics:**
- Telescopic section at one end
 - Non-sprung
- Surface characteristic:**
- Main tube: aluminium
End pieces: galvanised steel
- Blocking capacity (BC):** 1000 daN (evenly distributed load, with certificate)
- Suitable cargo control tracks:** Combination cargo control tracks page 61.01.02.
GETO® Rail
BISON® SafeSide
- TÜV-certified**



Rectangular locking bars for slotted cargo control tracks

Dimensions		Material		Weight approx. [kg/each]	Article No.
Main tube [mm]	Telescopic section [mm]	Main tube	Telescopic section		
92 x 68	83.5 x 60	Al	Al with end piece Galvanised steel	6.74	613 250 000

Rectangular locking bars for slotted rails

- Length:** 2310 - 2590 mm
- Characteristics:**
- Telescopic sections at both ends (measuring 150 mm at each end)
 - Non-sprung
- Surface characteristic:** All steel components are galvanised
Aluminium components are mill finish
- Blocking capacity (BC):** 750 daN with concentrated load at centre (with certificate) 1000 daN with load applied along length (with certificate)
- Suitable cargo control tracks:** Combination cargo control tracks page 61.01.02.



Rectangular locking bars for cargo control tracks with slots

Dimensions		Material		Weight approx. [kg/each]	Article No.
Main tube [mm]	Telescopic section [mm]	Main tube	Telescopic section		
82 x 67	Double-T	Al	Steel	8.95	613 220 000

Vertical shoring pole

BISON® Atlas vertical shoring pole

- For the ceiling-to-floor segregation of loads in box bodies

- Characteristics:**
- Quick, step-free adjustment
 - Length between 2000 and 2700 mm
 - A braking device retains the adjustment setting of the telescopic tube
 - Outer tube o: 45 mm
 - Compensation spring at the foot of the pole prevents overloading. Max. 160 daN contact pressure (without damaging the roof insulation of the box body)
 - Secured close to the load by small round plates in the floor area
 - The size of the pressure plates minimises strain on the roof structure
 - Can also be fitted at an angle! Up to 15°, without any loss of contact pressure
 - Pressure plates are fitted with an anti-slip material to prevent friction wear
 - Modular design (plate size can be varied)
 - Can also be supplied with bolts for flush locking purposes
 - Ergonomic design for better health and safety

Blocking capacity (BC): 140 daN (certified)

Special sizes and configurations available on request

Material: Steel tubes St-52, electro galvanised
Stainless steel tubes 1.4301 (V2A)



Configuration as vertical shoring pole with

Configuration	Article No.	
	Steel, galvanised	Stainless steel 1.4301 (V2A)
1 x large rubber buffer at top; 1 x small rubber buffer at bottom	613 413 000 ¹	613 423 000
1 x steel bolt, 19.6 mm, at top; 1 x large rubber buffer at bottom	613 417 000	613 427 000
1 x steel bolt, 19.6 mm, at top; 1 x steel bolt, 19.6 mm, at bottom	613 414 000	613 427 002

¹ Blocking capacity (BC): 140 daN with concentrated load at centre or applied along length (with certificate)

Accessories see page 61.13.01.2

Frames for vertical shoring pole

Standard frames 600 mm x 1200 mm (W x H)

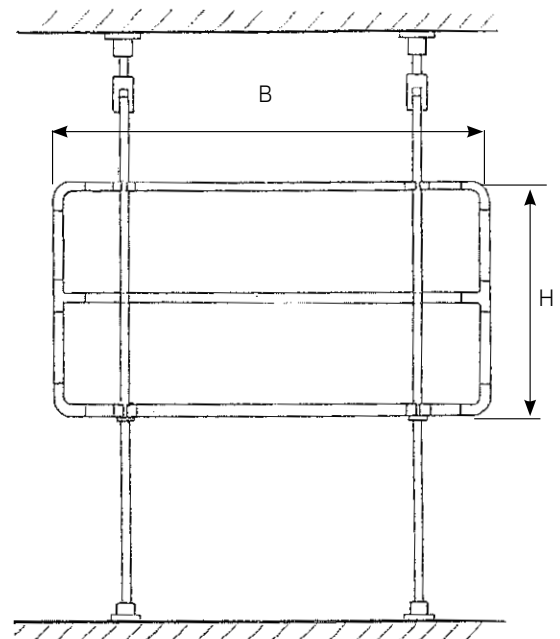
– For a vertical clamping rail

Comprising: 3 through horizontal frame stretchers
2 through vertical frame stretchers
4 tube elbows (corners)
2 tee pieces (centre piece)
2 tube clip

Material: Tubes - Aluminium anodised
Connectors - Plastic

Weight: approx. 1.65 kg/each

Article No.: 613 430 000



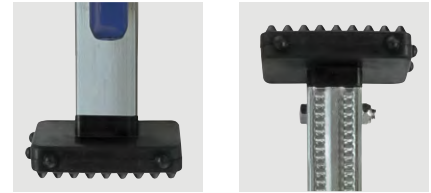
Other sizes and versions are available on request (e.g. frames/nets for 2 clamping barrier bars, see illustration).

Spreader bar SmartBar

For flexible and rigid walls

- Simple operation: Push-button for simple extension and retraction of the telescope
- Telescope can be locked in place by hand lever (with plastic coating)
- Long range due to telescope

Holding force:	bis zu 138 daN
Range:	1220 - 2740 mm
Main tube:	44 mm
End piece:	Rubber
Material:	Steel
Surface:	Galvanized
Weight:	7 kg
Article No.:	02 440 00 2740



Dropside locking bars

INTERWALL dropside locking bars

- Supplied pre-cut
- Shoring pole with fast, non-stepped adjustment for securing loads between one dropside and the other or for partitioning the load area into different zones
- Special sizes available on request
- Al-profiles in silver-coloured anodised finish available on request.

Adjustment range: 2400 - 2700 mm

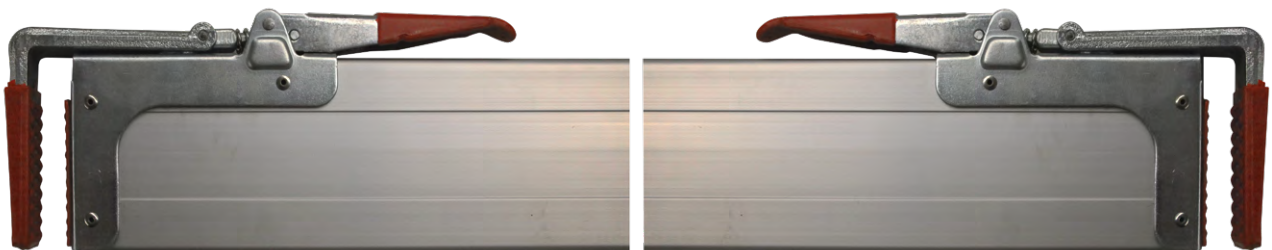
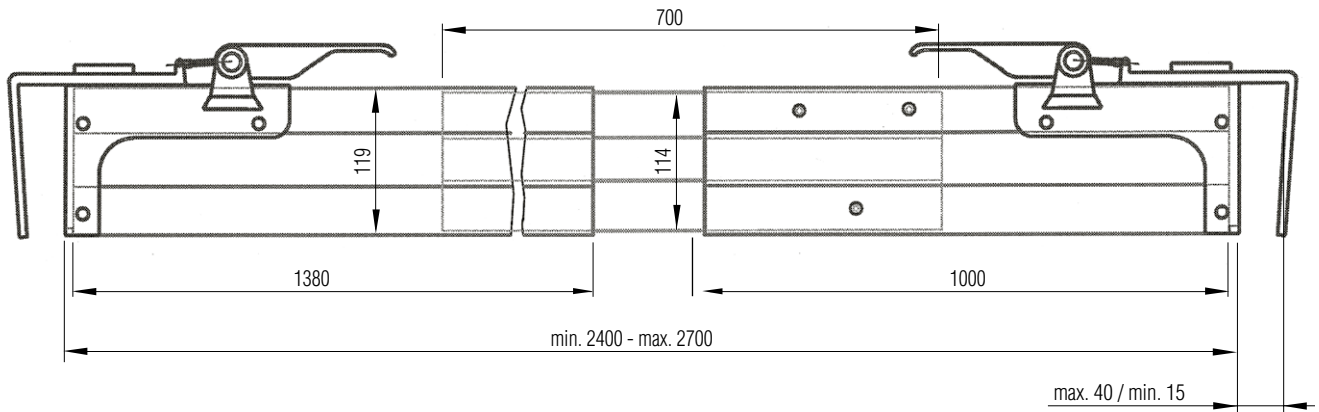
Blocking capacity (BC): 200 daN with concentrated load at centre (with certificate)
 220 daN with load applied along length (with certificate)
 400 daN with load applied along length, in conjunction with RHM¹ (with certificate)

Material: - Aluminium mill-finish profiles
 - Galvanised steel latch

Weight: 7.5 kg

Spare part: Protective rubber cap
 Article No.: 613 499 000

Article No.: 613 491 000



Dropside locking bars

Individual clamp lock components

- For the production of dropside locking bars for bodywork systems, or as spare parts for existing dropside locking bars Article No. 613 491 000.
- Setting range of the clamp for dropside thicknesses of 25 - 35 mm, adjusted by pre-tensioning the spring.



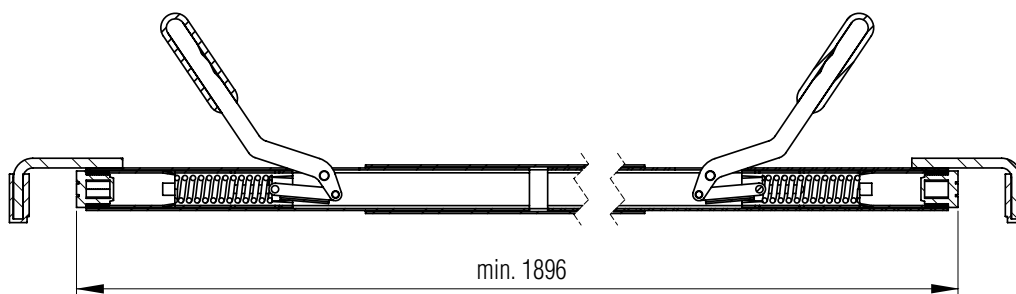
Material:	– Steel, drop-forged and galvanised – Plastic-covered clamp
Weight:	2,8 kg/unit
Spare part:	Protective rubber cap Article No.: 613 499
Article No.:	613 495 000

Dropside locking bars

- Telescopic sections at both ends
- For dropsides 20 - 40 mm thick

Length:	1896 - 2910 mm
Blocking capacity (BC):	100 daN with concentrated load at centre (with certificate) 100 daN with load applied along length (with certificate) 200 daN with load applied along length, in conjunction with RHM1 (with certificate)
Material:	Steel S 235 JR + AR
Weight:	7.16 kg/each
Article No.:	613 493 000

¹ RHM = slip-resistant material



BISON® SafeSide cargo control system

BISON® SafeSide – the fast and reliable cargo control system designed for use with curtainsiders (complies with the requirements of DIN EN 12 642 Code XL when used with lateral curtainsiders)

- BISON SafeSide provides flush-fitted cargo control both in the direction of travel and crosswise to it.
- BISON SafeSide cargo control battens can be used with a choice of round shoring poles, rectangular locking bars, lashing straps or even garment rails. Can be combined with standard cargo-control components.
- The BISON SafeSide system forms segregated loading compartments for the purposes of flush-fitting cargo control.
- The BISON SafeSide system lets you eliminate virtually all wasted loading space.
- BISON SafeSide lets you secure items (such as awkwardly shaped objects) which would normally be difficult, or even impossible, to tie down with lashing straps.
- The cargo control battens are made of steel or aluminium.
- The locking bars are made of aluminium

Safety

All our cargo control battens have successfully undergone TÜV testing. The system's strength performance is thus officially proven as part of the overall certification of TIT-GEMEYER GETO Sider curtainsider installations.

Cargo control items

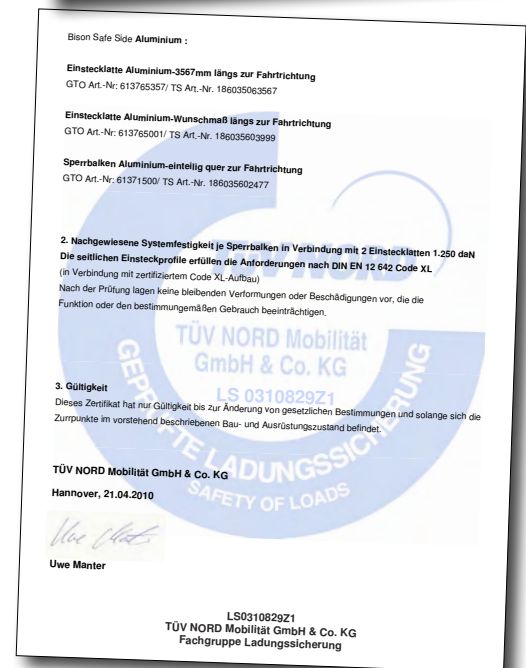
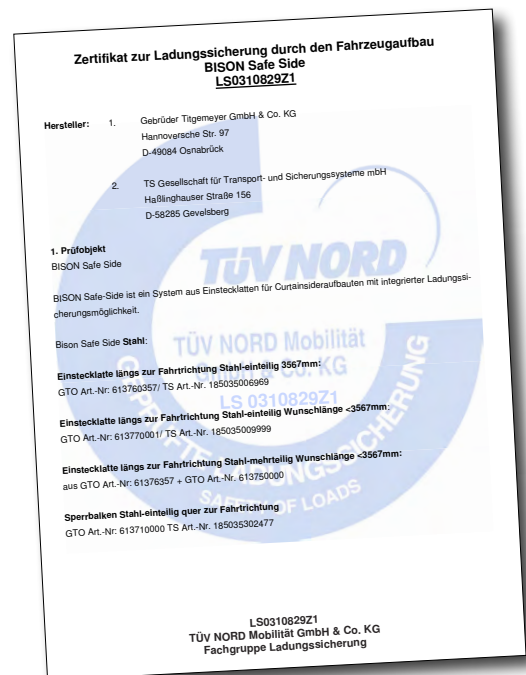
All cargo control battens and locking bars are supplied with hole-combinations consisting of

- One 14 x 61 mm slot
- With integrated 25 mm and 20 mm round hole

These dimensions are identical to those of the familiar cargo control items used with box bodies:

- Combination cargo control tracks
- Round shoring poles
- Rectangular locking bars
- Lashing straps (inner lashing) e.g. with slotted track attachment

What this means for you: You can use standard cargo control items with the BISON® SafeSide range.



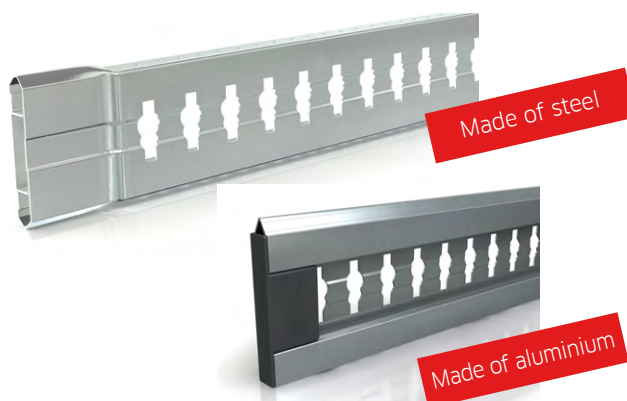
All technical specifications contained in this brochure are approximate and no guarantee is given as to their accuracy. Designs are subject to change.

BISON® SafeSide cargo control system

Cargo control battens

BISON SafeSide cargo control battens are inserted into the batten recesses on the pillars to offer an optimised anchoring-point for the required cargo-control elements. The cargo control battens can be used with a choice of round shoring poles, rectangular locking bars, lashing straps or even garment rails.

BISON® SafeSide cargo control battens in lengths of up to 3567 mm fulfil the requirements of DIN EN 12642 Code XL.



Technical specifications Cargo control battens

Component type	Length [mm]	Material	Diameter [mm]	Surface	Weight approx. [kg/each]	Article No.
Cargo control batten	3200	Aluminium	165 x 25	mill finish	6.5	613 765 320
	3567	Steel	142 x 25	electro galvanised	14.4	613 760 357
	3567	Aluminium	165 x 25	mill finish	7.4	613 765 357
	4000	Aluminium	165 x 25	mill finish	9.2	613 765 450
	Customised >3567	Aluminium	165 x 25	mill finish	-	613 765 001
	Customised >3567 <4500	Aluminium	168 x 25	mill finish	-	613 765 002

Locking bars

The above-mentioned cargo control battens are compatible for use with BISON SafeSide locking bars, inserted crosswise to the direction of travel for flush-fitting cargo control. They can be installed in front of the load (as an artificial bulkhead), or for securing the cargo at the back. And what's more: These locking bars can also be used in box bodies. They can furthermore be complemented with additional bars installed lengthwise to the direction of travel in order to form segregated loading units / sections. This allows you to secure the load tightly and eliminate wasted space, while also letting you secure items that cannot be tied down with lashing straps, such as Big Bags, bales of peat or sacks of cement, etc.



Technical specifications Locking bars

Component type	Length [mm]	Material	Diameter [mm]	Surface	Weight approx. [kg/each]	Article No.
Locking bars	2462 - 2519	Aluminium	165 x 25	mill finish	7.4	613 715 000

Strength rating in accordance with DIN EN 12640: up to 1250 daN per locking bar in conjunction with BISON SafeSide cargo control battens. Our cargo control battens and locking bars can be supplied in different lengths. We can also supply our cargo control battens and locking bars in customised sizes (subject to minimum-order quantities).



BISON® SafeSide cargo control system

Connection piece for individual lengths

- Dovetailed steel connection piece for fastening steel cargo control battens.
- Set includes a pack of rivets for the secure fastening of cargo control battens.

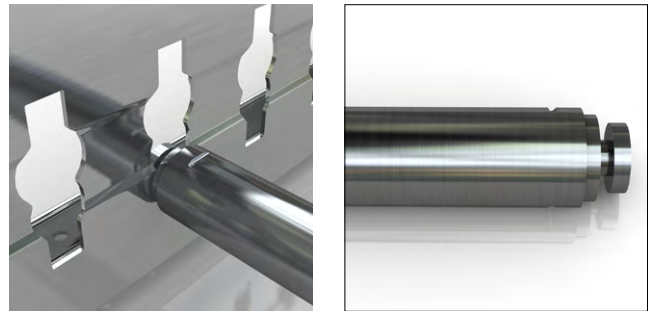
Wall thickness: 2.5 mm
Material: S235JRG2, electrolytically galvanised / blue chromated
Weight: 1.128 kg
Article No.: 613 750 000



BISON® SafeSide Bar

Our SafeSide Bar shoring pole has been specially designed for use with the BISON SafeSide range. It is fitted with a tension spring and round pin for use with either cargo control battens or locking bars. The tension spring guarantees pressure-free insertion in the cargo control battens, as it pulls on (rather than pushing against) the batten.

Strength: 500 daN (BC=400daN)
Length: 2425 - 2525 mm



Technical specifications Shoring pole

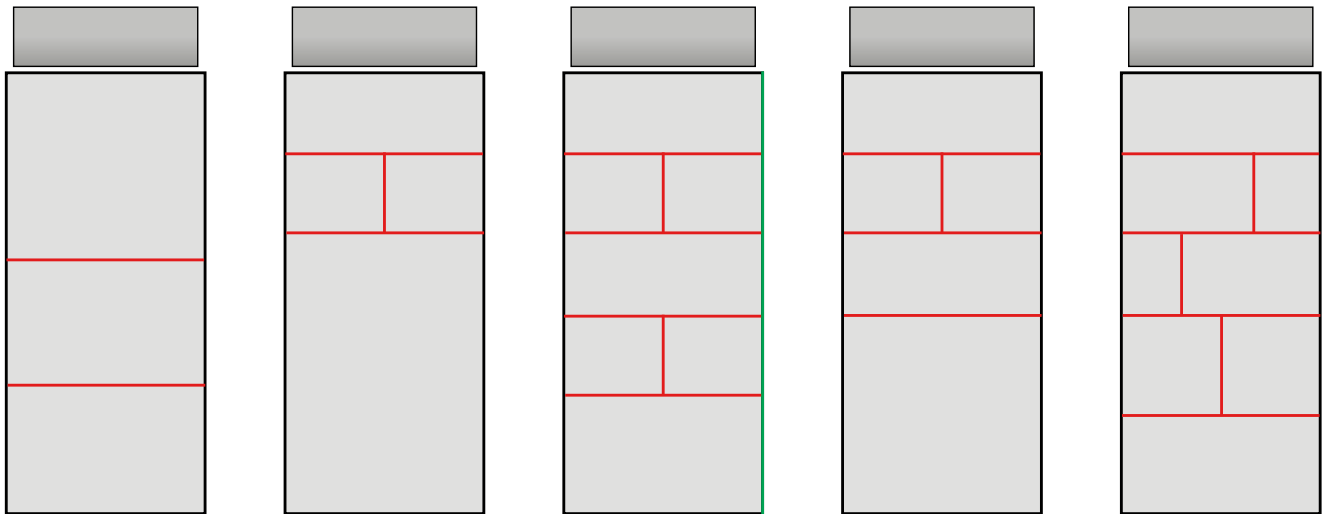
Component type	Length [mm]	Surface	Material	Weight approx. [kg/each]	Article No.
Shoring pole	2425 - 2525	electrolytically galvanised	Steel	5.3	613 720 000

BISON® SafeSide cargo control system

DIN EN 12 642 Code XL assumes the flush-fitting loading of the vehicle, although this is not always the case. The dimensions of the items loaded and the internal width of the body might be such, for example, that flush loading can no longer be guaranteed. The weight of the loading units (Europallets designed to carry 1.2 t) and the requirements of the load distribution plan (VDI 2700 sheet 4) might also make it

impossible to fit the load exactly into the space between the front bulkhead and tailgate.

BISON SafeSide lets you create segregated loading compartments and sections. These are just a few of the countless possibilities. BISON SafeSide cargo control battens, in green BISON SafeSide locking bars, in red



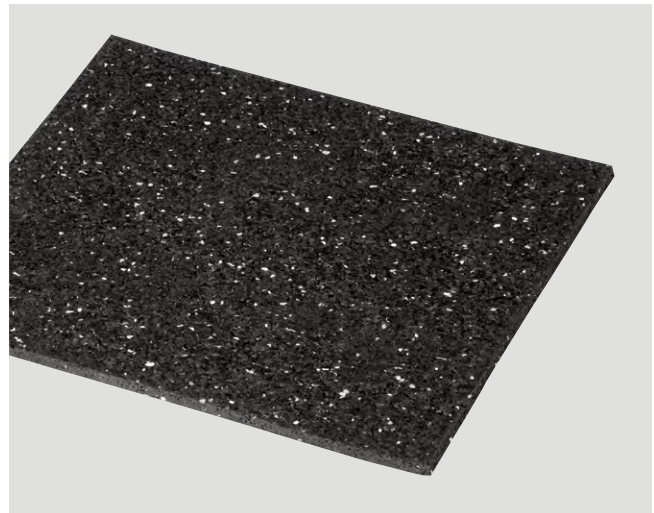
Anti-slip mats

Anti-slip mats

- Designed to provide an anti-slip base or intermediate layer
- Anti-slip mats increase the coefficient of friction between the items in the load, thereby reducing the required clamping force of the lashing elements used to secure them. They are ideal for securing rolls of paper, material supplied in coils, concrete components, tubes and pipes, barrels, print rollers or hazardous goods.
- Designed for use in accordance with VDI 2700.
- Min. tensile strength 0.6 newton/mm²; min. elongation at break 60%.
- Our anti-slip mats conform to sheet 15 of the VDI guidelines (edition of May 2009).
- Anti-slip mats are supplied in 5000 mm rolls.
- We can also supply smaller mats (e.g. 300 x 200 mm) in material thicknesses of 3 -10 mm on request.
- Other configurations (e.g. acid/alkaline/oil-resistant, or with higher sliding friction coefficients) are available on request.

Sliding friction

coefficient: 0,6 μ
Material: fine-pore polyurethane rubber
Color: black



Length [mm]	Width [mm]	Thickness [mm]	Weight approx. [kg/each]	Article No.
5000	250	8	7.5	615 010 000
	500	8	15	615 015 000

BISON® System 550

BISON® System 550 EN 12195-2

Tensile force rating LC 250 daN

Lashing strap for securing low to medium weight loads in the interior of the vehicle body:

- Supplied as two-part lashing strap with Plyfix hook

Clamping buckle with automatic catch operated by pre-tensioned spring in the clamping plate. Open side of hook faces top side of strap.

- Material:** Lashing strap in 100% polyester,
Die-cast zinc alloy clamping buckle
- Strap width:** 25 mm
- Length:** 5.0 m, other lengths on request
- Length of fixed end LFE:** 1.0 m
- Colour:** red
- Suitable lashing elements:** Article No. 615 245 000,
For pin-type cargo control pan



Fig. 1

Strap designation		Article No.
		Total length of straps 5,0 [m]
Two-part lashing straps: (Length of fixed end LFE, standard 1.0 m)	For pin-type cargo control pan (Fig. 1)	615 245 000

Special lengths available, subject to minimum order quantity of 50 units.

BISON® System 800

BISON® System 800 EN 12195-2

Tensile force rating LC 500 daN

Lashing strap for securing low to medium weight loads in the interior of the vehicle body:

- As a one-piece wrapping/bundling strap (not shown)
- As a two-piece lashing strap with a selection of available studs

Ratchet tensioner secured with automatic, spring-loaded catch permits high pre-stressing forces. Open side of hook faces top side of strap.

Material: Lashing strap in 100% polyester, Ratchet in steel galvanised

Strap Width: 25 mm

Length: 5.0 m, other lengths on request

Length of

fixed end LFE: 1.0 m

Colour: red

Suitable

- lashing elements:**
- Article No. 615 315 000
Cargo control tracks with round holes page 61.01.01.
 - Article No. 615 335 000
Combination cargo control tracks page 61.01.02. and Cargo control tracks with round holes page 61.01.01.
 - Article No. 615 355 000
Universal bolt lashing strip page 61.02.01.



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Strap designation

Strap designation	Article No.
Wrapping / bundling strap (not shown)	615 305 000
Two-part lashing straps: (Length of fixed end LFE, standard 1.0 m)	Total length of straps 5,0 [m]
Single-part	615 315 000
with BISON rail anchor (Fig. 1)	615 315 100
with round-hole anchor (round hole ø 20 mm) (Fig. 2)	615 335 000
with claw hook (for cargo control pans) (Fig. 3)	615 355 000
with Airline stud (Fig. 4)	615 366 000

Special lengths available, subject to minimum order quantity of 50 units.

BISON® System 3001

BISON® System 3001 EN 12195-2

Tensile force rating LC 500 daN

Lashing straps for securing heavy loads in the interior of the vehicle body:

- As a two-piece lashing strap with a selection of available studs

Ratchet tensioner secured with automatic, spring-loaded catch permits high pre-stressing forces. Open side of hook faces top side of strap.

- Material:** Lashing strap in 100% polyester, Ratchet in steel galvanised
- Strap width:** 50 mm
- Length:** 5,0 m, other lengths on request
- Length of fixed end LFE:** 1,0 m
- Colour:** red
- Suitable lashing elements:**
- Article No. 615 515 000 Cargo control tracks with round holes page 61.01.01.
 - Article No. 615 525 000 Combination cargo control tracks page 61.01.02. and
 - Article No. 615 535 000 Combination cargo control tracks page 61.01.02. and Cargo control tracks with round holes page 61.01.01.



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Strap designation		LC	Article No.
		[daN]	Total length of straps 5,0 [m]
Two-part lashing straps: (Length of fixed end LFE, standard 1.0 m)	with BISON rail anchor (Fig. 1)	750	615 515 100
	with slotted-rail anchor (Fig. 2)	1000	615 525 100
	with round-hole anchor (round hole ø 20 mm) (Fig. 3)	1000	615 535 100
	with Airline stud (Fig. 4)	1000	615 566 000

Special lengths available, subject to minimum order quantity of 50 units.

All technical specifications contained in this brochure are approximate and no guarantee is given as to their accuracy. Designs are subject to change.

BISON® System 5000

BISON® System 5000 EN 12195-2

Tensile force rating LC 500 daN

Lashing straps for securing heavy loads in the interior of the bodywork systems:

- As a one-piece wrapping/bundling strap (not shown)
- As a two-piece lashing strap with a selection of available studs

Long/wide-handled ratchet tensioner secured with automatic, spring-loaded catch permits high pre-stressing forces. Open side of claw hook faces top side of strap.

- Material:** Lashing strap in 100% polyester, Ratchet in steel galvanised
- Characteristics:**
- Pre-stretched and thermally attached
 - Minimal elongation (approx. 5% at rated tensile force)
 - Moisture absorption < 1% (does not freeze)
- Strap width:** 50 mm
- Length:** 8.0 m, other lengths on request
- Length of fixed end LFE:** 0.5 m
- Colour:** red
- Suitable lashing elements:** Cargo control pans page 61.03.01.



Fig. 1

Strap designation

Two-part lashing straps:
(Length of fixed end LFE, standard 1.0 m)

with slotted-rail anchor (Fig. 1)

Article No.

Total length of straps 5,0
[m]

619 270 000

Special lengths available, subject to minimum order quantity of 50 units.

Garment rails



Optimum utilisation of vehicle height

Given the low pivot point of the fixing rod, it only requires clearance of approx. 45 mm to swivel above the top edge of the support tube. The top row of garment rails can be attached just under the roof structure. This means that an extra row of rails to be added under certain circumstances.

Optimum utilisation of vehicle width

As the fixing rod is normally held in place by its own telescopic mechanism, rather than by attachment to the support tube, thereby allowing it to move totally in parallel with the same, the garment rail (with optimised hanger attachments) can be used along its entire length for unrestricted, wall-to-wall utilisation of available capacity.

Anti-twist end-pieces

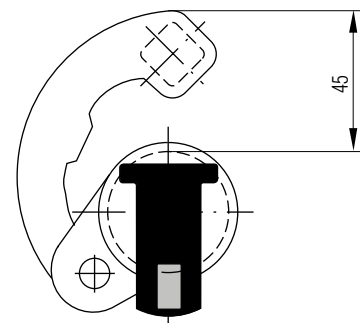
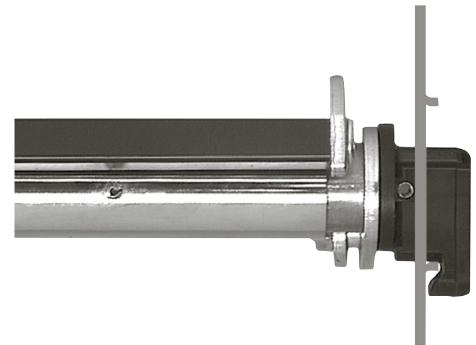
End-pieces designed not to twist, and therefore to remain in parallel at all times, considerably facilitate and speed up handling procedures.

Customs-approved

All garment rails are equipped with an opening of $\geq 10 \times 15$ mm to allow inspection of the items hanging from the rail. Approved by the German customs and excise agency (ZKA)

Chromium VI-free

All our garment rails are free of chromium VI in compliance with the corresponding VDA provisions and European Directives.



Garment rails

BISON® Style garment rails

For keyhole-type rail plates with surrounding lip

- Characteristics:**
- Teardrop shape reduces weight
4.3 kg - extra lightweight
 - Easy to handle
 - Wall-to-wall hanging possible
 - Spring-loaded telescopic end
 - Anti-twist end-pieces at both ends
 - Fixing rod telescopic at both ends
 - Customs-approved (can be inspected even when loaded with garments)
 - Chromium VI-free
 - Protected to prevent end-piece penetration

Clothes-hanger

- fixing:**
- The fixing rod prevents the clothes hangers from dropping.
 - Fixing rod held in place by two Velcro strips

Material

- characteristics:**
- Main tube made of special steel with extremely high tensile/yield strength
 - Chrome-plated
 - Teardrop shape
 - Rectangular fixing tube made of powder-coated aluminium
 - End-pieces made of special plastic with steel core

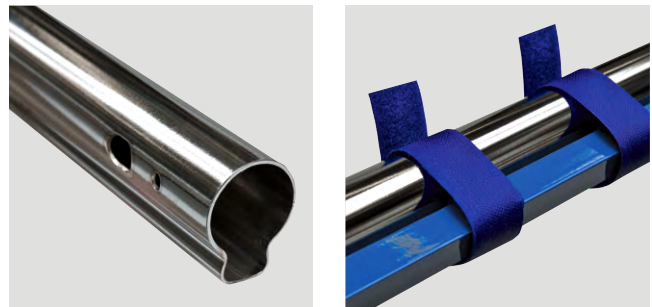
Weight: 4.3 kg

Load capacity: The garment rail remains free of permanent deformation when subjected to evenly distributed loads of up to 400 daN. Verformung

Spare parts:

- Velcro strip 614 474 000

A minimum clearance of 20 mm behind the anchoring elements (SL plate) on both sides is required for attachment of the garment rail. From a purchase quantity of 500 pieces, a version with abrasion-resistant powder-coated main pipe (in customer-specific colour) is possible.



Article description	Standard dimension
BISON Style with 2 x Velcro strips	2402 - 2508 [mm]
	614 945 000



Markings

BISON garment rails can be supplied marked with customer-specific details such as a company name or logo. This permits the fast, trouble-free sorting of these items while cargoes are being handled, without any risk of confusion.



Garment rails BISON® Revision

BISON® Revision garment rails

For lipped aluminium keyholes and oval holes

- Characteristics:**
- Wall-to-wall hanging possible
 - Spring-loaded telescopic end
 - Flush-fitting
 - Anti-twist telescopic configuration
 - Fixing rod telescopic at both ends
 - Customs-approved (can be inspected even when loaded with garments)
 - Chromium VI-free
 - Protected to prevent end-piece penetration

- Clothes-hanger fixing:**
- The fixing rod prevents the clothes hangers from dropping.
- Fixing rod held in place by two Velcro strips

- Material characteristics:**
- Main tube made of special steel with extremely high tensile/yield strength
 - Chrome-plated
 - 35 x 2.25 x 2345 mm
 - Rectangular fixing tube made of powder-coated aluminium
 - End-pieces made of special plastic with steel core

- Weight:** approx. 5.93 kg/each
- Load capacity:** The garment rail remains free of permanent deformation when subjected to evenly distributed loads of up to 400 daN.

Lashing elements: Page 61.04.01.

Spare parts: Velcro strip 614 474 000

A minimum clearance of 20 mm behind the anchoring elements on both sides is required for attachment of the garment rail.



In spring-loaded telescopic configuration with hooked plastic end-pieces, supplied in standard or customised versions.



Article description	Standard dimension 2402 - 2508 [mm]	Customised dimensions under 2423 [mm]
BISON Revision with 2 x Velcro strips	614 650 000	614 655 000

All technical specifications contained in this brochure are approximate and no guarantee is given as to their accuracy. Designs are subject to change.

Garment rails UNIVERSAL

UNIVERSAL garment rails

For combination (slotted) and BISON cargo control tracks (22 mm hole with nose, at 40 mm intervals)

- Characteristics:**
- Wall-to-wall hanging possible
 - Non-spring-loaded telescopic section
 - Flush fitting with securing catch
 - Anti-twist end-pieces
 - Fixing rod telescopic at both ends
 - The end-pieces rotate through 90° for use with horizontal BISON tracks
 - Customs-approved (can be inspected even when loaded with garments)
 - Chromium VI-free

Clothes-hanger

- fixing:**
- The fixing rod prevents the clothes hangers from dropping.
- Fixing rod held in place by two Velcro strips

Material

- characteristics:**
- Main tube made of special steel
 - Chrome-plated
 - 35 x 2.25 x 2345 mm
 - Rectangular fixing tube made of powder-coated aluminium
 - End-pieces made of steel
 - Fixing latch made of special steel

Gewicht: approx. 6.9 kg/each

Belastbarkeit: The garment rail remains free of permanent deformation when subjected to evenly distributed loads of up to 400 daN.

Lashing elements: Page 61.01.01. and 61.01.02.

Spare parts: Velcro strip 614 474 000

A minimum clearance of 12 mm behind the anchoring elements on both sides is required for attachment of the garment rail.



Non-spring-loaded telescopic design with universal end-pieces for standard or customised configuration

Article description	In two-ended vertical configuration for use with slotted and BISON tracks		In two-ended horizontal configuration for use with BISON tracks	
	Standard dimension	Customised dimensions	Standard dimension	Customised dimensions
	2411 - 2521 [mm]	under 2411 [mm]	2411 - 2521 [mm]	under 2411 [mm]
UNIVERSAL with 2 x Velcro strips	614 730 000	614 735 000	614 750 000	614 755 000

All technical specifications contained in this brochure are approximate and no guarantee is given as to their accuracy. Designs are subject to change.

Garment rails BISON® Robust

BISON® Robust garment rails

For keyhole-type plates (with or without surrounding lip)

- Characteristics:**
- Wall-to-wall hanging possible
 - Non-spring-loaded telescopic end
 - Solid end-pieces made of special cast metal
 - Protected to prevent end-piece penetration to outer shell
 - Anti-twist end-pieces
 - Fixing rod telescopic at both ends
 - Customs-approved (can be inspected even when loaded with garments)
 - Chromium VI-free

Clothes-hanger fixing:

The fixing rod prevents the clothes hangers from dropping.

- Fixing rod held in place by two Velcro strips

Material characteristics:

- Main tube made of special steel with extremely high tensile/yield strength
- Chrome-plated
- 35 x 2.25 x 2345 mm
- Rectangular fixing tube made of powder-coated aluminium
- End-pieces made of cast, steel, galvanised

Weight: approx. 6 kg/each

Packaging: Supplied ready-cut to size

Lashing elements: Page 61.04.

Load capacity: The garment rail remains free of permanent deformation when subjected to evenly distributed loads of up to 400 daN.

Spare parts:

- Velcro strip 614 474 000



Non-spring-loaded telescopic design with slotted steel end-pieces.

Article description	Configuration	
	Standard dimension 2423 - 2545 [mm]	Customised dimensions under 2423 [mm]
BISON Revision with 2 x Velcro strips	614 670 000	614 675 000



All technical specifications contained in this brochure are approximate and no guarantee is given as to their accuracy. Designs are subject to change.

All technical specifications contained in this brochure are approximate and no guarantee is given as to their accuracy. Designs are subject to change.

Titgemeyer GmbH & Co. KG

Hannoversche Straße 97
49084 Osnabrück / DE

P.O. Box 43 20
49033 Osnabrück / DE

T +49 541 5822-0
E info@titgemeyer.com
W titgemeyer.com