

Lean Manufacturing components & specifications



Scaglia INDEVA, a worldwide network at your service

Scaglia INDEVA is a worldwide leader in the production of state of the art Industrial Manipulators, Automated Guided Vehicles & Lean System Components with great know-how & expertise in the design of custom Material Handling & Lean Manufacturing Solutions. Our headquarters & production unit covering an area of 15.000 square meters & employing about 150 people, are located in Val Brembilla, Italy about 50 kilometers from Milan. We are present worldwide with a network of branches, distributors & service centres.



United Kingdom



Sweden



Germany



United States

France

Italy

P.R of China

Headquarters &
 Production Unit



INDEVA LEAN SYSTEM[®]

INDEVA Lean System[®] (INDEVA Lean System is a registered trade mark of Scaglia INDEVA S.p.A.) comprises a wide range of components including abrasion resistant plastic coated steel pipes, metal joints, roller tracks and accessories. **INDEVA Lean System[®]** enables to design & build a variety of structures to suit the **Lean manufacturing** philosophy.

Applications could include ergonomic workplaces, **trolleys & carts, flow racks & gravity conveyors**. **INDEVA Lean System[®]** structures are simple to design, quick to assemble & completely reusable. **INDEVA Lean System[®]** is the ideal tool for implementation of the **Lean Production** concepts & help to reach the goal of the continuous improvement "**Kaizen**".



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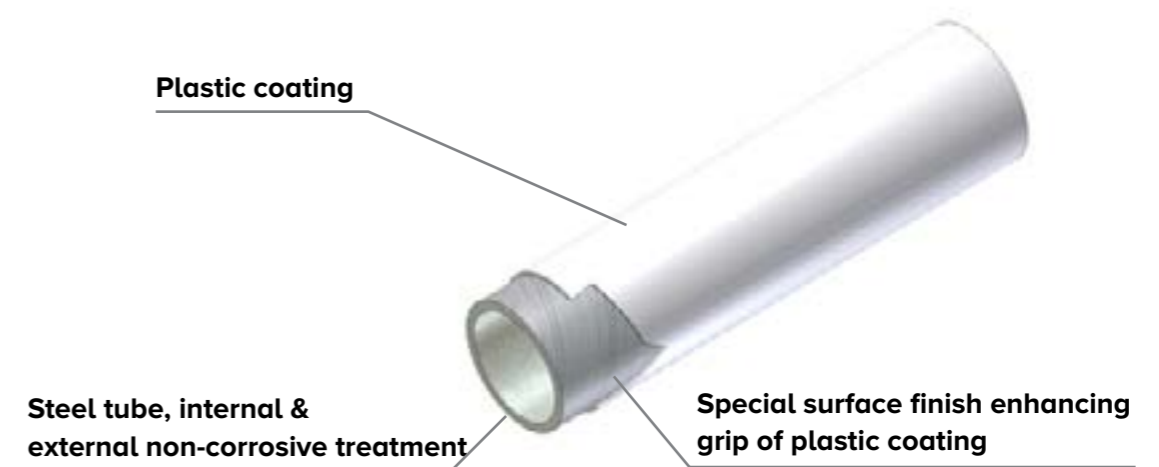
✓ Parts on request _____ pag. 51

Technical specifications

The **INDEVA Lean System®** tube is a steel tube with a plastic coated outer surface. The steel tube is treated **internally & externally** with non-corrosive treatment.

Plastic coated tubes are available from stock in a wide range of standard colors, while tubes with a custom color are available on request.

The external surface of the tube is specially treated to ensure an enhanced grip of the plastic coating on the steel tube.



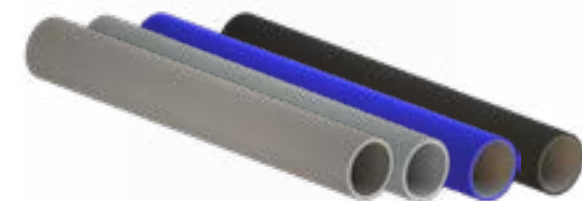
Dimensions & Specifications

✓ **Steel tube** external diameter: 27 mm
steel thickness: 1 or 2 mm

✓ **Finished tube** external diameter: 28.4 (+0-0.2)

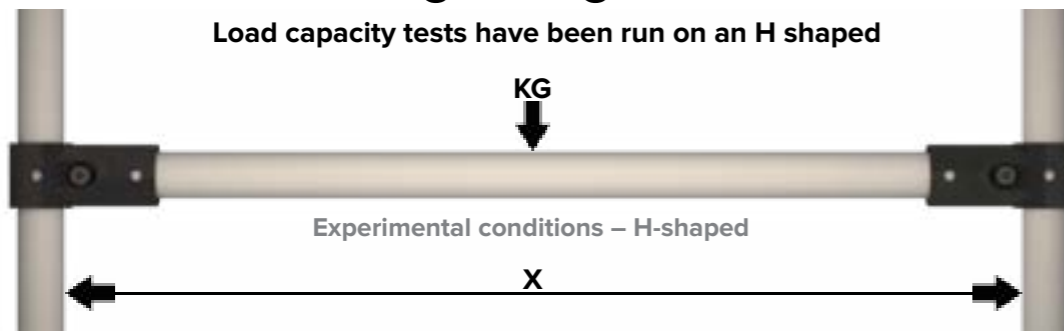
✓ **Standard length** 4000 mm

✓ **Temperature range** within 0°C & 40°C

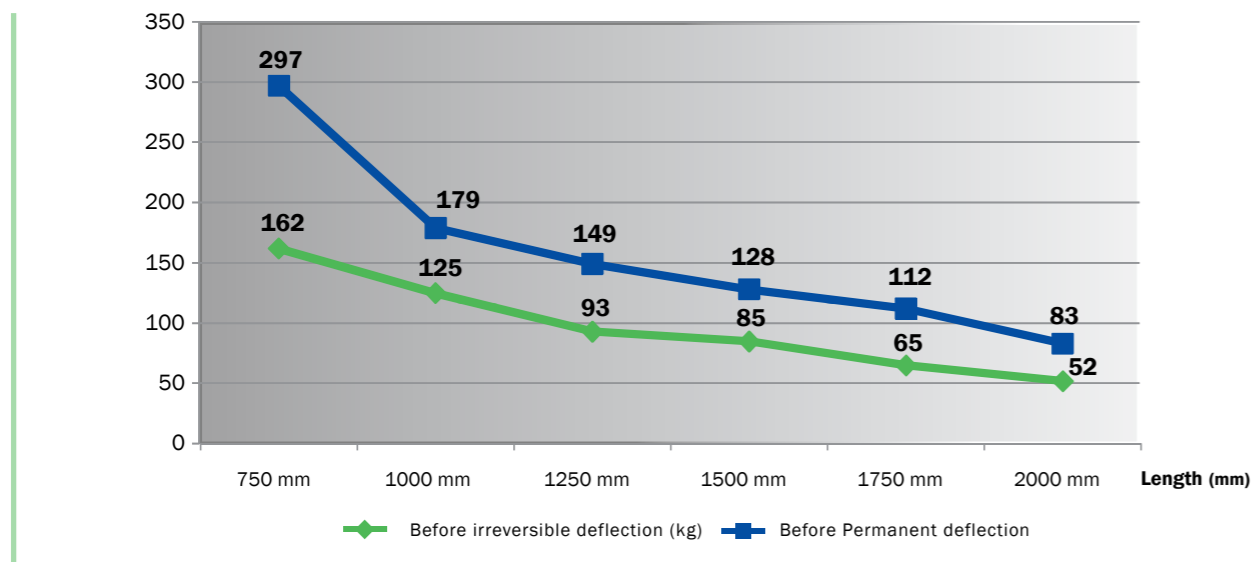


Bending strength of tube

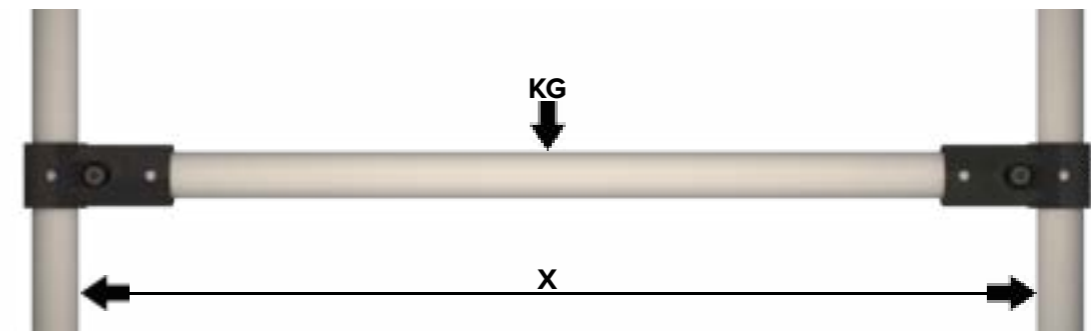
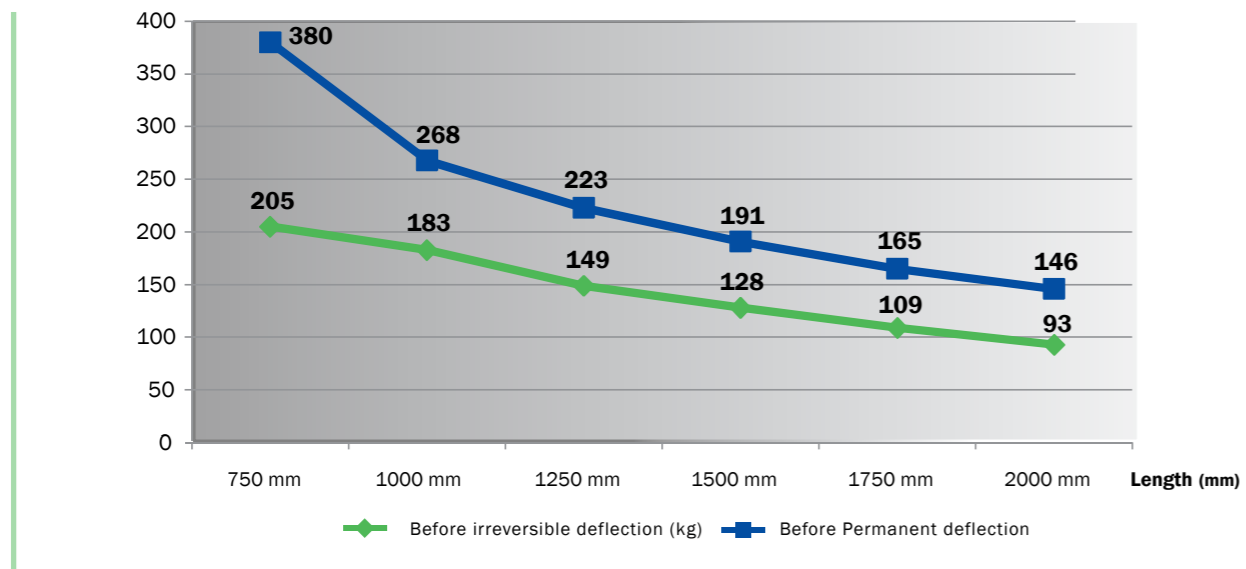
Load capacity tests have been run on an H shaped



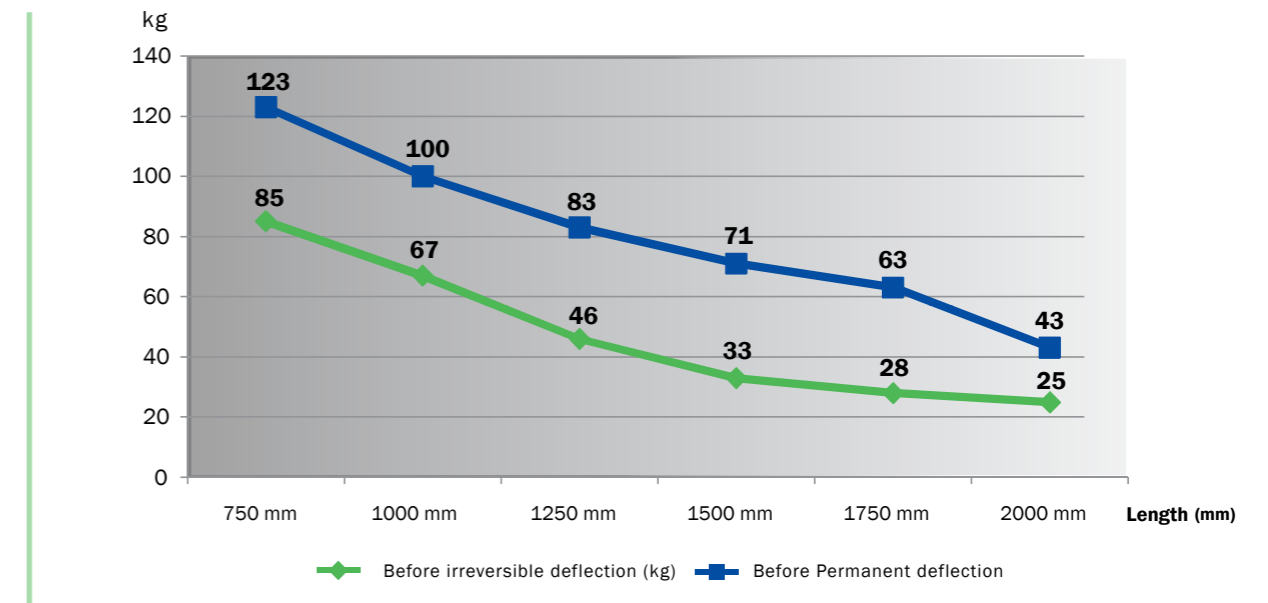
Max concentrated load capacity of a tube with 2 mm wall thickness



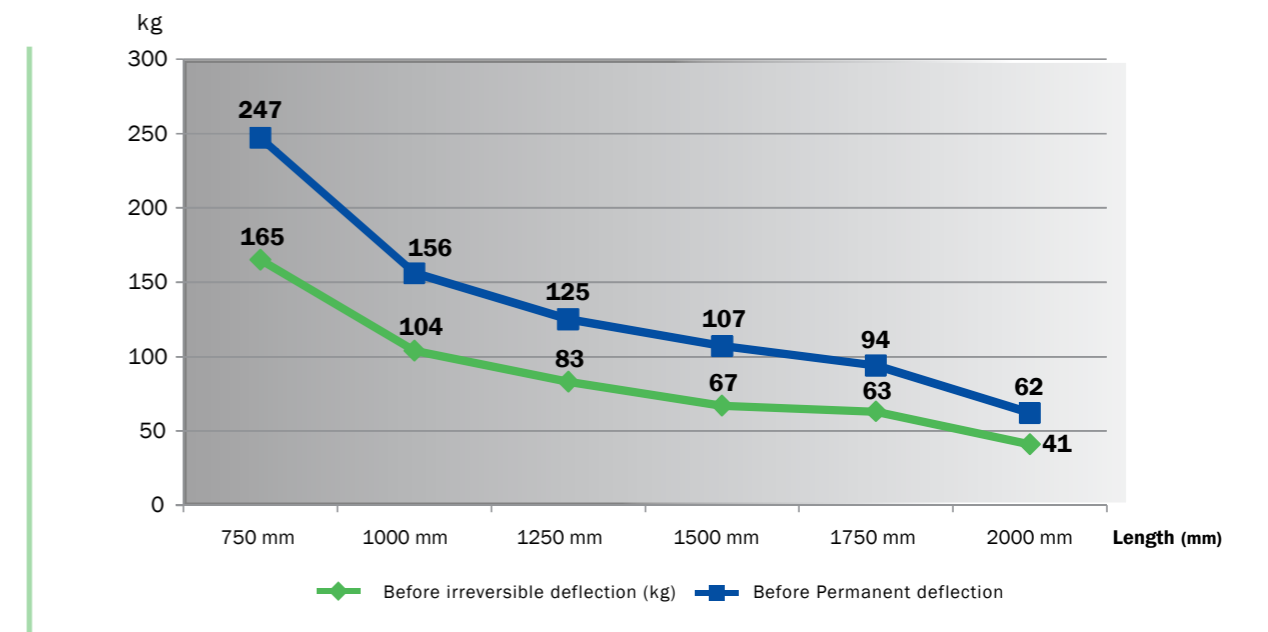
Max distributed load capacity of a tube with 2 mm wall thickness



Max concentrated load capacity of a tube with 1 mm wall thickness

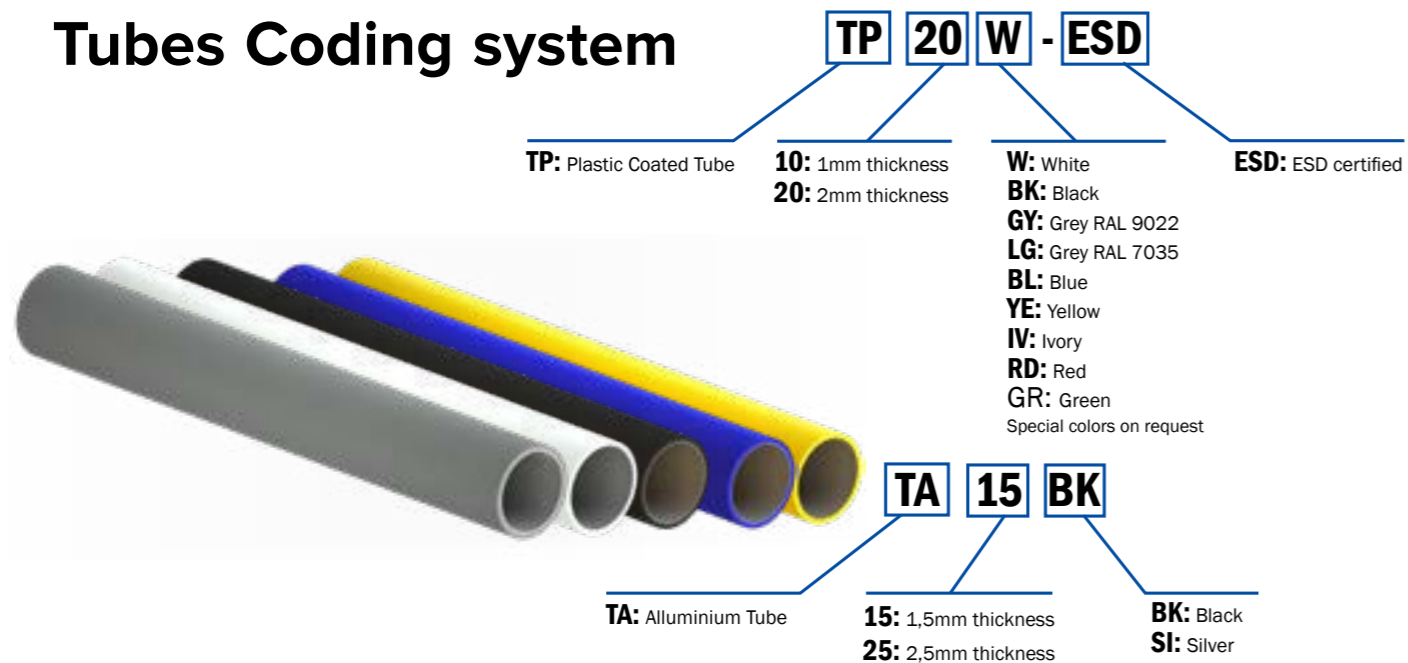


Max distributed load capacity of a tube with 1 mm wall thickness



Tubes

Tubes Coding system

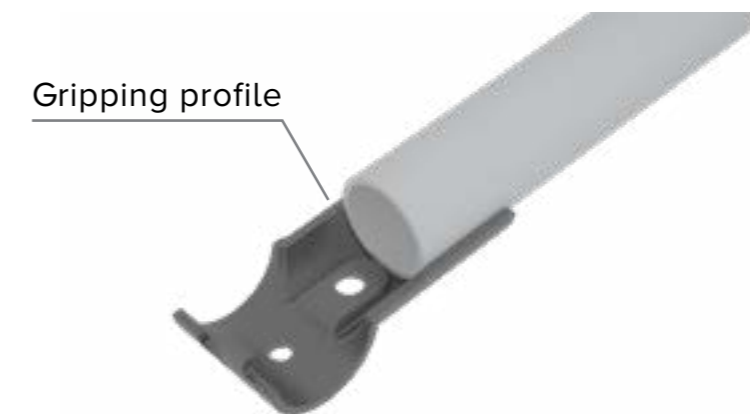


Item	Classification	Color	Coated Tube		Alluminium Tube		Lenght
			Ø 28,4 X 1	Ø 28,4 X 2	Ø 28 X 1,5	Ø 28 X 2,5	
			620 g/m	1239 g/m	340 g/m	540 g/m	
Coated Tubes	White						4 m
	Grey						
	Light Grey						
	Blue						
	Ivory						
	Yellow						
	Red						
	Green						
	Black						
	RAL color on request						
ESD Tubes	Black						
	Light Grey						
Alluminium Tubes	Black anodized						
	Silver anodized						

Metal Joints

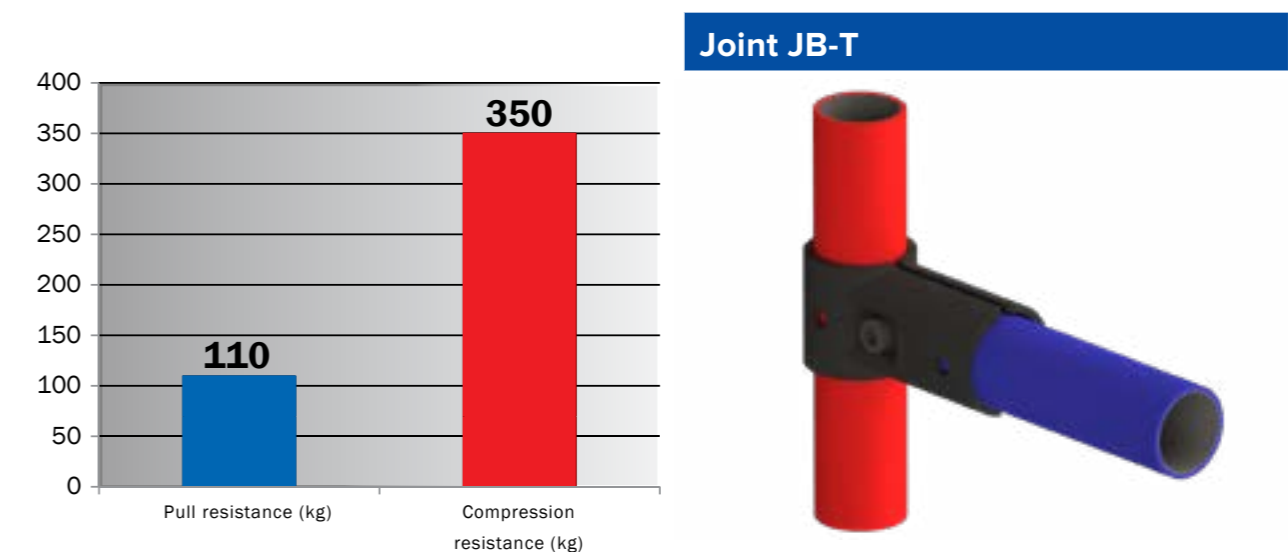
Technical specifications

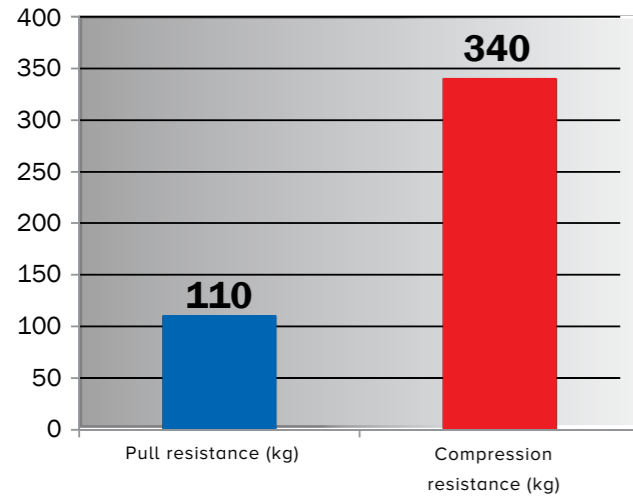
INDEVA LeanSystem® metal joints are made of steel **2.5mm** thickness. Non-corrosive coating (standard black color) is applied. To ensure maximum holding strength, the joints are shaped with a special gripping profile. A hole facilitates the possible application of holding screws.



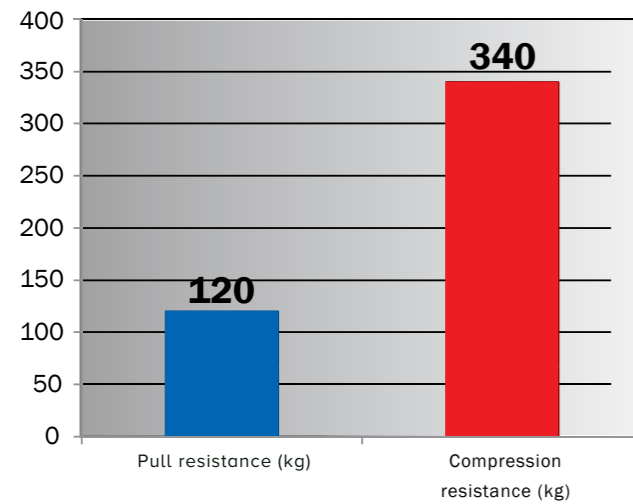
Joints holding strength

Test have been run using a special traction/compression testing machine in our factory. Joints are routinely tested to ensure constant **quality & results**.





Joint JB-180



Joint JB-90 + JB-270



Assuming a safety factor equal to 2, use of **INDEVA Lean System®** Joints is recommended with a maximum load of **150 kg** (compression). The use of joints with a load applied as traction is improper & not recommended.

Reusability of metal joints

Experimental conditions

A compression force has been applied until when the joints slide along the tube. The same couple of joints have been reused on a new tube and with new screw and bolt. Again a force has been applied until sliding.

The test has been conducted for different typology of joints.

Result



Until 10 times no significant changes of the holding strength has been registered. After 10 trials the test has been stopped. It can be said that **INDEVA Lean System®** joints can be reutilized at least 10 times without changes in the holding strength.

Standard joints


All metal joints are available in black color (JBxxx) and ESD (JWxxx) 

JB90	Inner joint 90 deg	50 pcs.
		
JB180	Flat joint 180 deg	50 pcs.
		
JB270	Outer joint 270 deg	50 pcs.
		
JBX	Cross over joint	50 pcs.
		
JB1	Dual pipe joint	50 pcs.
		


JBA1	Swivel head T joint	50 pcs.
		



JBA2	Swivel head double joint	50 pcs.
		



JBA3	Swivel tail joint	50 pcs.
		



JB30	30 deg joint	50 pcs.
		



JB45	45 deg joint	50 pcs.
		

JB60	60 deg joint	50 pcs.
		


JB90R	90 deg joint round shaped	50 pcs.
		

JBS1	T shaped sliding joint	50 pcs.
		



JBS2	Multipurpose joint slide	50 pcs.
		


JBS3	Parallel joint, 2 slide	50 pcs.
		

JBS4	Parallel joint, 1 slide	50 pcs.
		



JBT	T joint	50 pcs.
		

JBT2	33mm T shaped joint	50 pcs.
		

JBH	Multipurpose joint	50 pcs.
		

JBHA	Multipurpose joint A	50 pcs.
		

JBHB	Multipurpose joint B	50 pcs.
		

	
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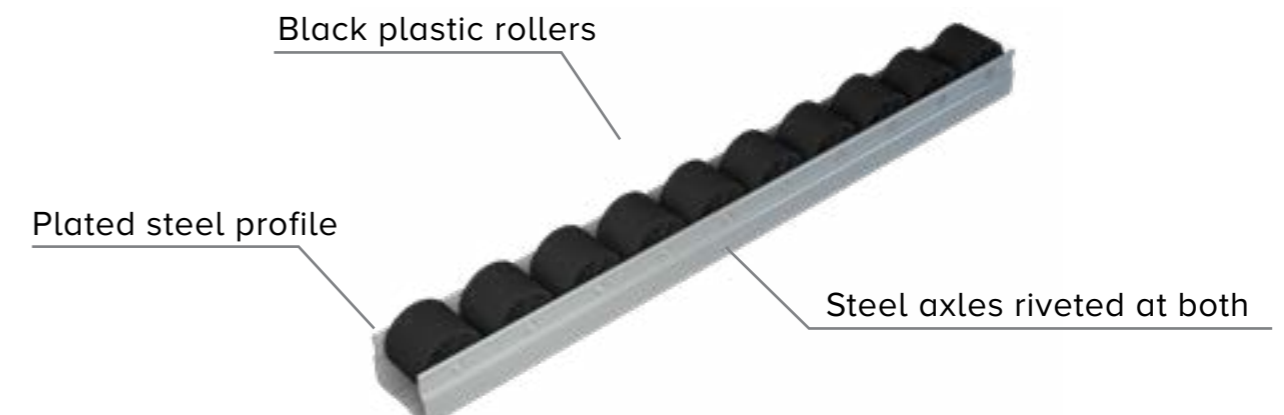
	
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Roller Tracks



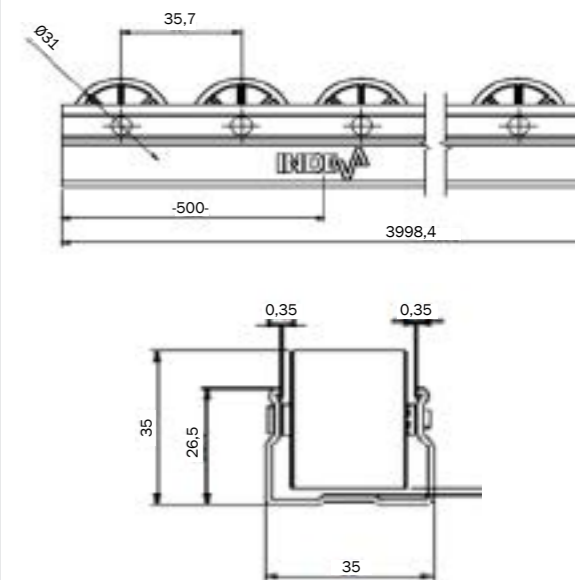
Technical specifications

The **INDEVA**® conveyor track is used for the assembly of **flow racks** & **gravity conveyors** for handling boxes & packages in a reliable and maintenance-free way. The **INDEVA**® conveyor track is made of a plated steel profile with rollers mounted by means of steel axles riveted at both ends for higher resistance.



Dimensions & Specifications

- ✓ **Plated steel profile**
 - thickness 1.25 mm
 - height 26.5 mm
 - width 35 mm
- ✓ Total height 35 mm
- ✓ Roller diameter 31 mm, high load capacity (max. 150 kg.)
- ✓ Centre of Rollers distance 35.7 mm
- ✓ Steel axle diameter 3.75 mm
- ✓ Track length 4 meters
- ✓ Use within the temperature range 0°C and 40°C



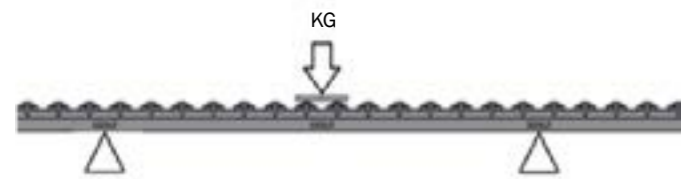
Roller Load capacity

The test has been run placing a load on the roller and increasing the load weight until permanent deformation of the roller occurred. Permanent deformation has been experienced at 150 kg.



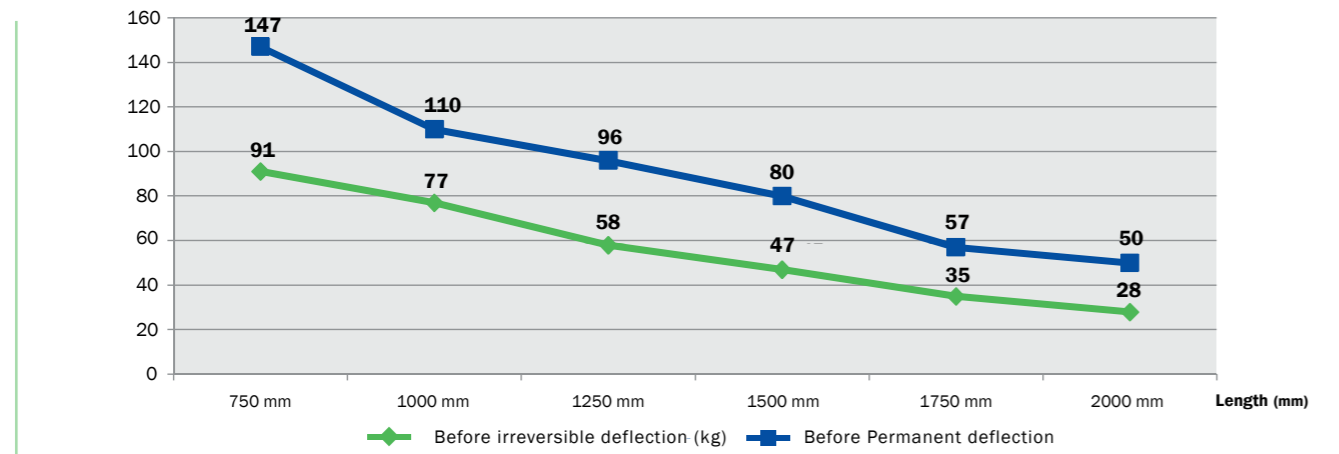
Bending strength of roller track

Experimental conditions



See results of the load value that would permanently deform the Roller Track in the Graph below.

Max load capacity on two rollers centrally applied



Sliding smoothness

Experimental conditions

Test has been run measuring the minimum angle at which a box (weight 1 kg) with rigid bottom (dimensions 40x40mm) starts sliding on a roller track. From the horizontal position the roller track has been progressively inclined up until when the box starts moving.



Result

The box starts moving at $\alpha=1.5^\circ$, high speed is reached at $\alpha=2.5^\circ$ inclined up until when the box starts moving.

Roller Tracks & Plastic Guides

R400

Roller track-Heavy duty-400cm ESD

L = 4 m.



R400-ESD

Roller track-Heavy duty-400cm ESD

L = 4 m.



R400D

Roller track-Double-400cm

L = 4 m.



RS400

Roller track-Sided rollers-400cm

L = 4 m.



U400

U-profile for board support

L = 4 m.



RGC40W Central guide white (400) L = 4 m.



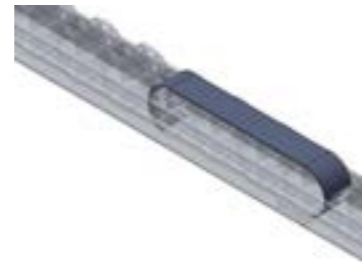
RGL1040W Lateral side guide white (400x10x40). Shoulder 10 mm L = 4 m.



RGL4040W Lateral side guide white (400x40x10). Shoulder 40mm L = 4 m.



RBK Roller track brake strip mod. R400



RD50 Multi directional roller track (roll diameter mm. 50)-100cm L = 1 m.



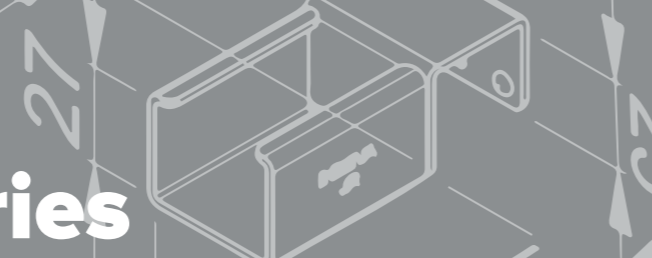
RD60 Multi directional roller track (roll diameter mm. 60)-100cm L = 1 m.



RD80 Multi directional roller track (roll diameter mm. 80)-100cm L = 1 m.



Support Accessories



JR Roller track bracket 50 pcs.



JRS Roller track bracket with straight stop 50 pcs.



JRL Roller track bracket with drop stop 50 pcs.



JRD Roller track union bracket 50 pcs.



Support Accessories

JRX Cross over roller track bracket 50 pcs.



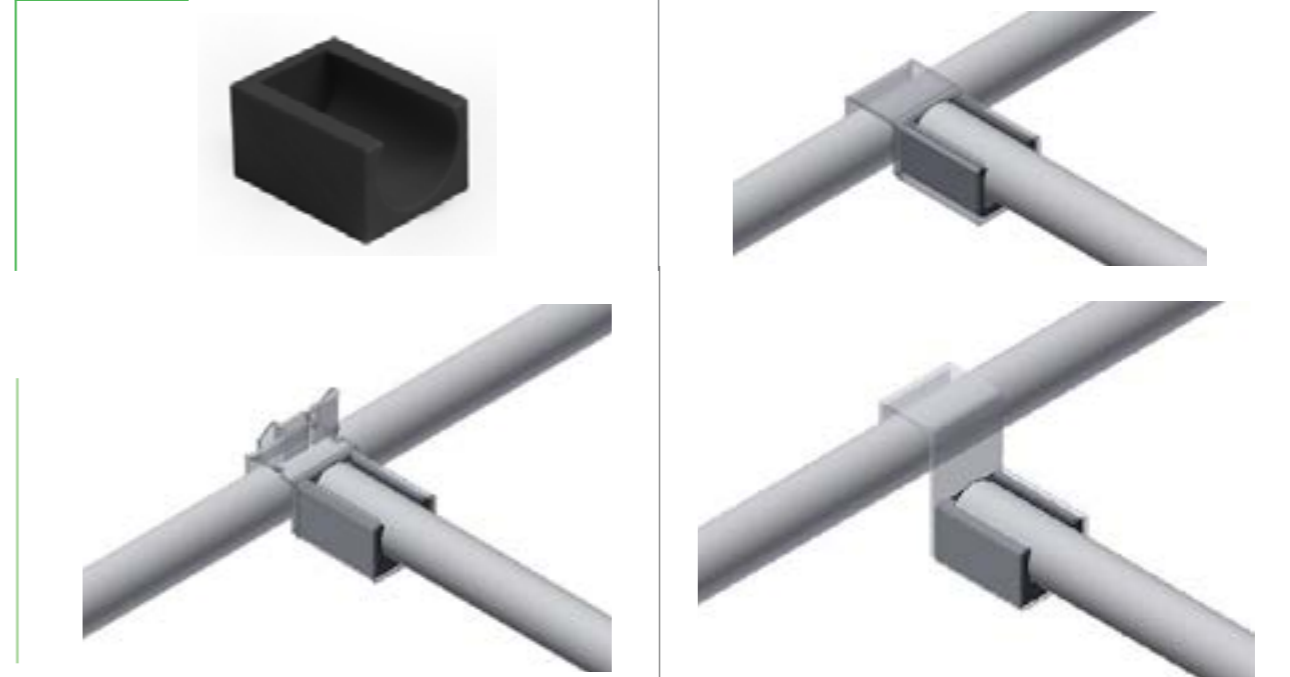
JR33 Roller track bracket 33mm 50 pcs.



JRS33 Roller track bracket with stop 33mm 50 pcs.



JRA Adapter for tube support (to be used with JR-JRS-JRL-JRD-JRX) 50 pcs.



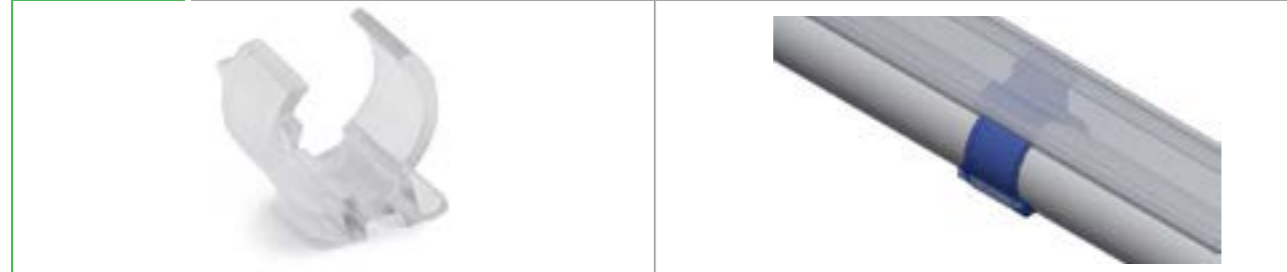
Plastic Accessories



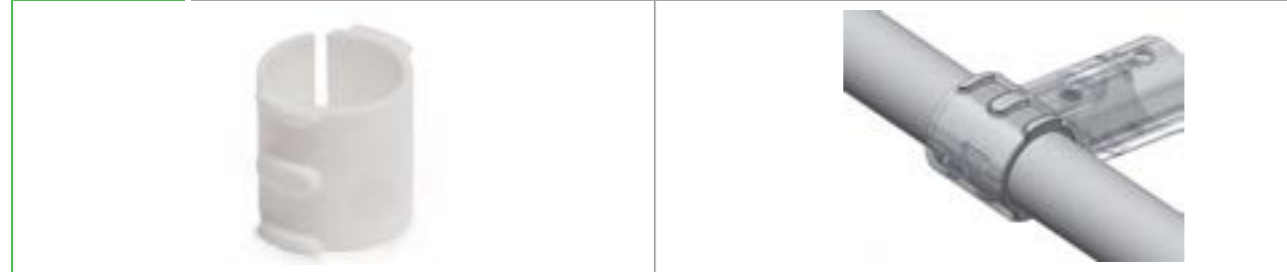
CP Inner cap



LB2H Label holder support (for LB2S model)



SLB Sleeve for JBS joints

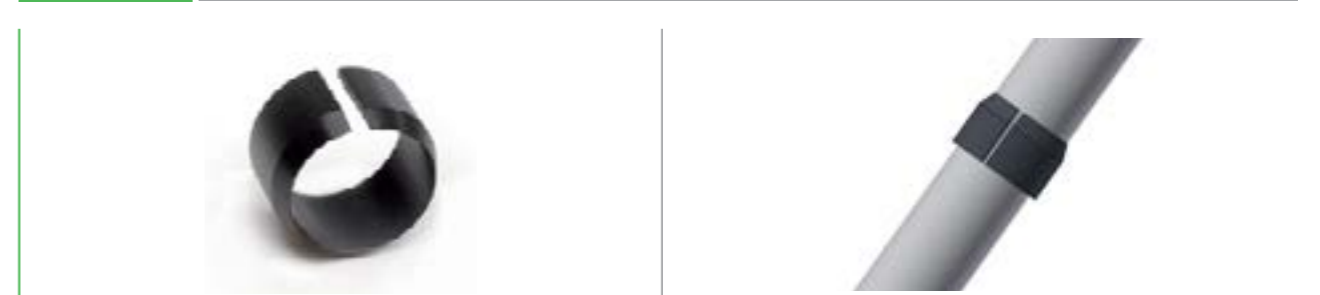


PLH Plastic ring for plates

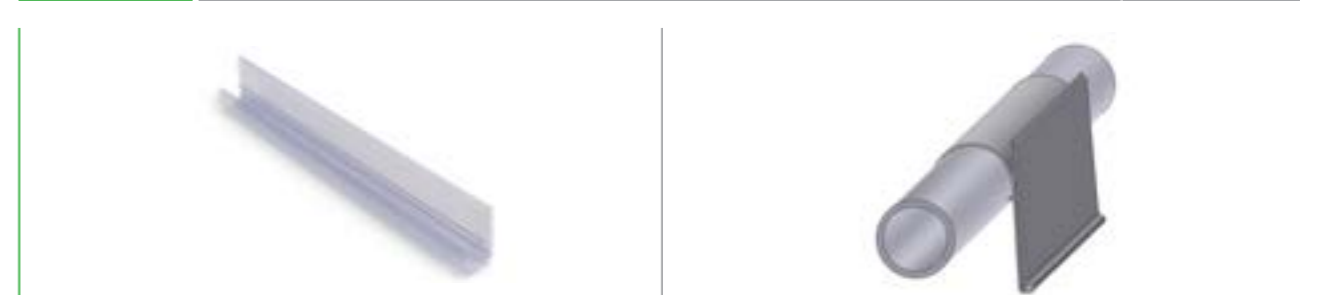


Plastic Accessories

CV Plastic taper edge



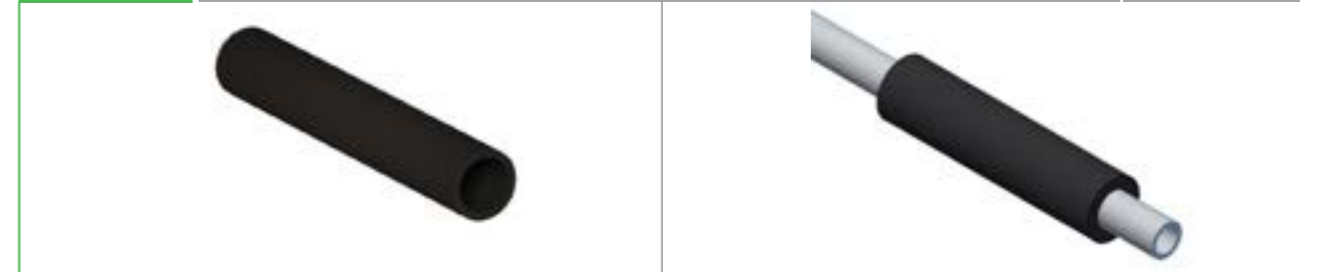
LB1 Name case L = 2 m.



LB2S40 Label stripe H mm. 40 (to be used with LB2H) L = 2 m.



P200RBK Rubber tube protection L = 2 m.

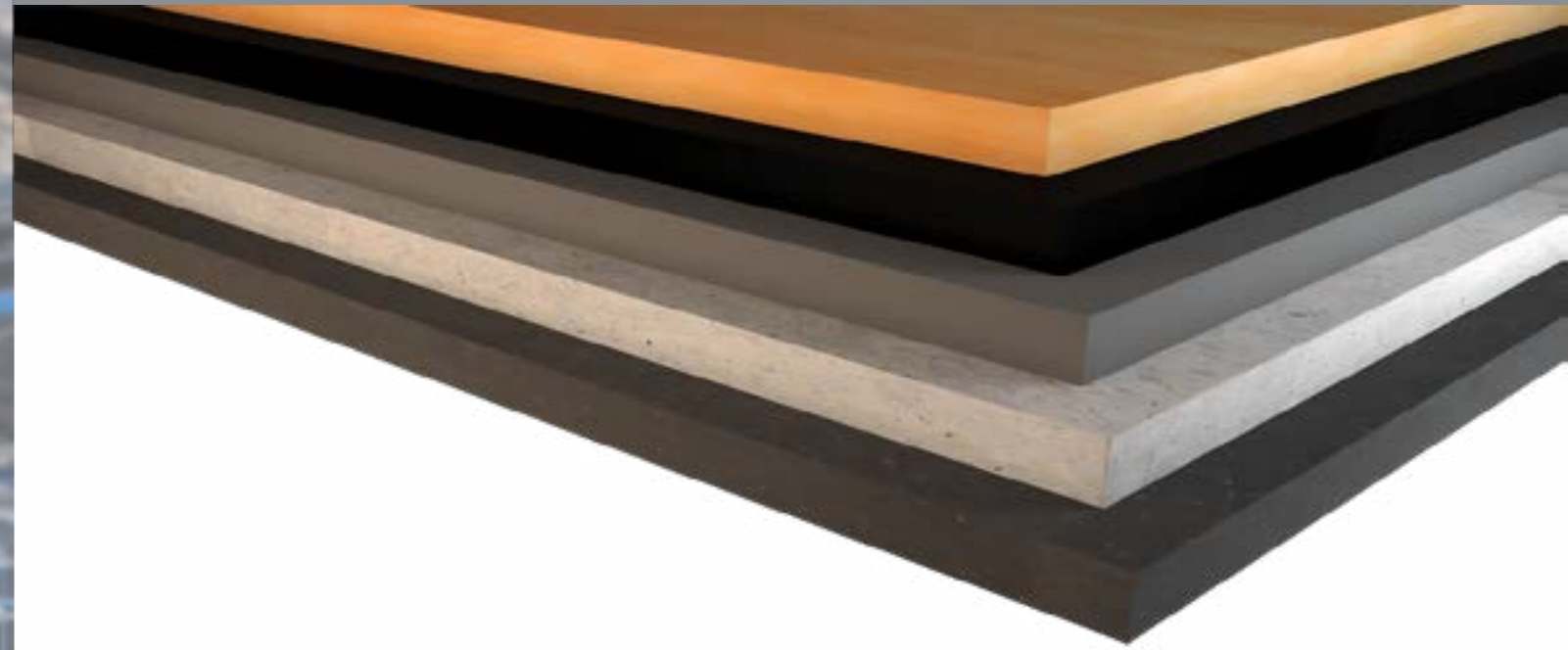




P100GY Foam tube protection L = 2 m.





Plates

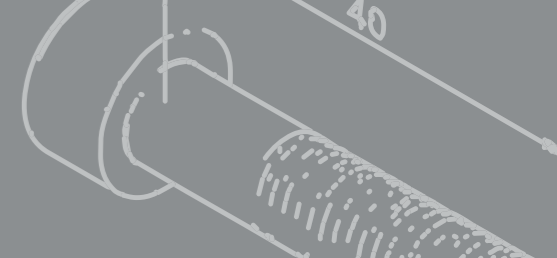


Item		Thickness	Dimensions	Color	
PVC10		10	2000 x 1000	Black	
PVC19		19		RAL color on request	
PEHD6		6	2000 x 1000	Black	
PEHD8		8		RAL color on request	
PEHD10		10			
MDFW		20	2000 x 1000	White	
MDFBK		10	2000 x 1000	Black	
RS08W		8	3050 x 1300	White	
M05GY		3	2400 x 2100	Grey	
M10GY		10			





Bolts & Nuts



SC1 (M6x28) Socket head bolt and T-shaped nut for ALL metal joints



Application:

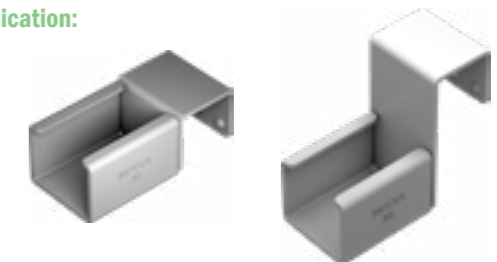


for all connectors

SC2 (M4x6) Bolt for JR-JRL-JRS-JR33-JRS33 brackets



Application:



SC3 (M8 x 40) Bolt and nut



SC4 (M6 x 28) THREADLOCK Socket head bolt and T-shaped nut for ALL metal joints



Application:



for all connectors

SC5 (M8x45) Bolt & locking nut to use with WB bracket and WP plate casters



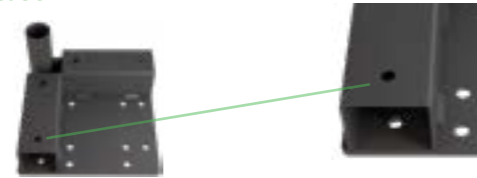
Application:



SC6 (M8x65) Bolt & locking nut to use with BQ plate



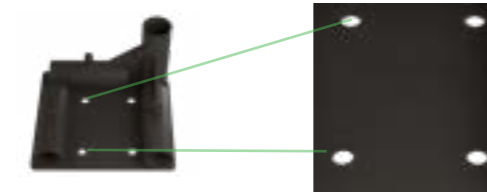
Application:



SC7 (M8 x 25) Bolt & locking nut for fixing wheel on PTR/PTL/BQ



Application:



SC8 (M6x12) Socket head bolt for pipe clamping on PTR/PTL



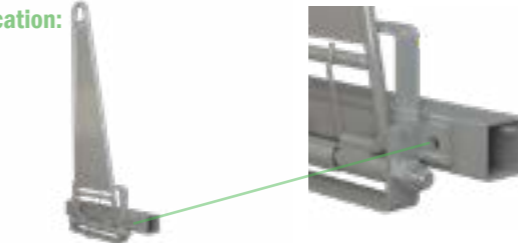
Application:



SC9 (M10x70) Bolt and nut for TMF



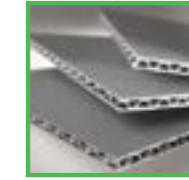
Application:



SC10 (M6x25) Bolt and nut for panels



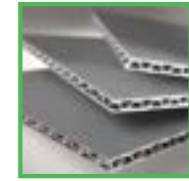
Application:



SC11 (M6x30) Bolt and nut for panels



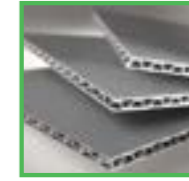
Application:

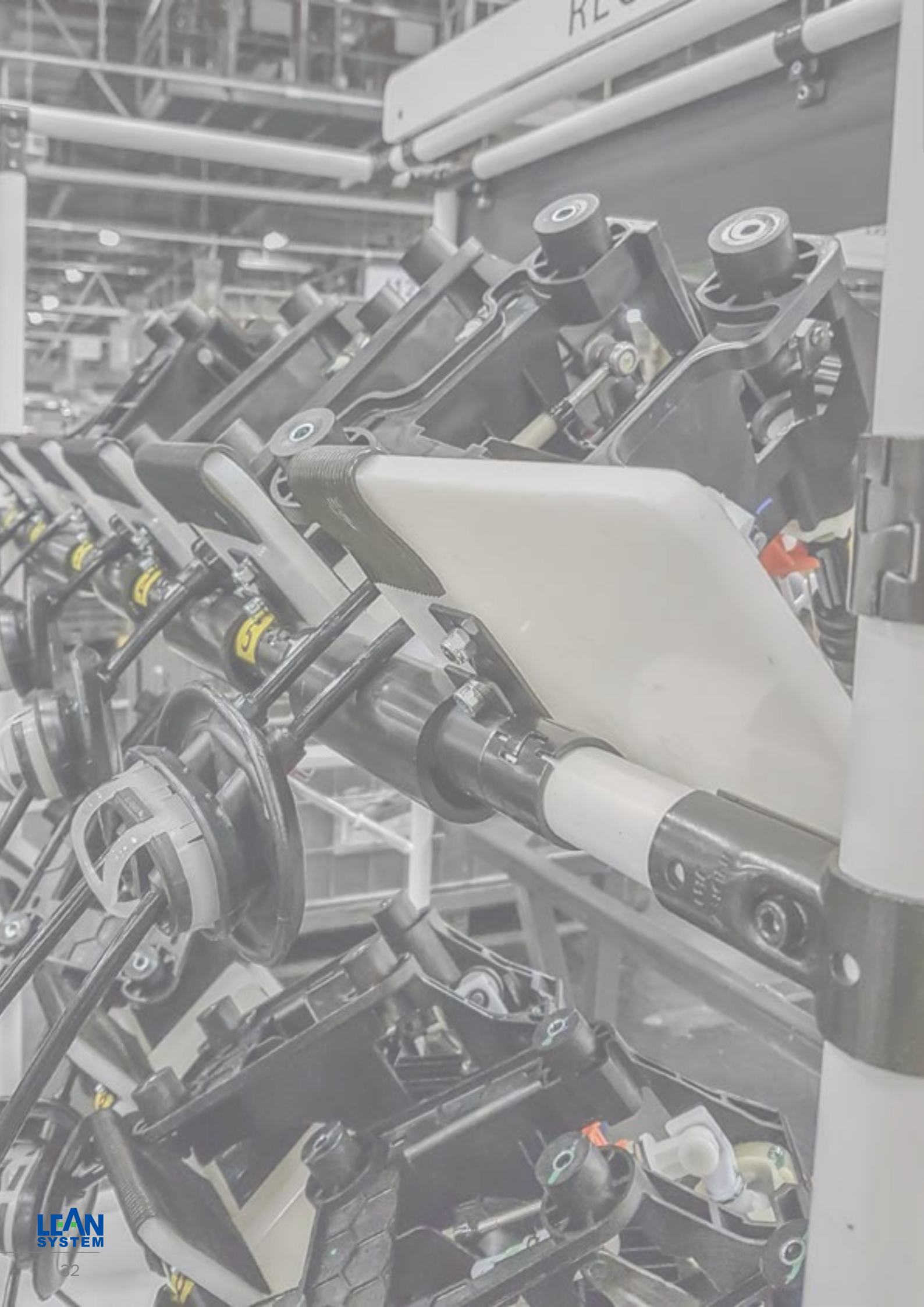


SC12 (M6x45) Bolt and nut for panels

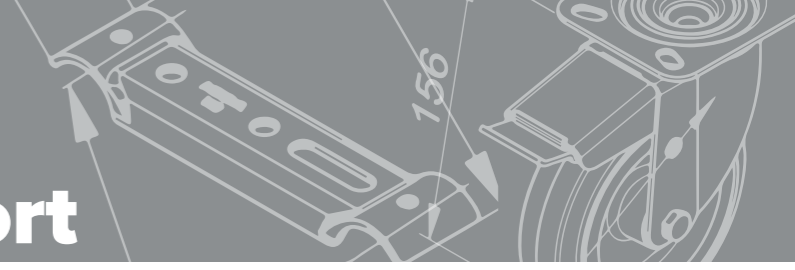


Application:

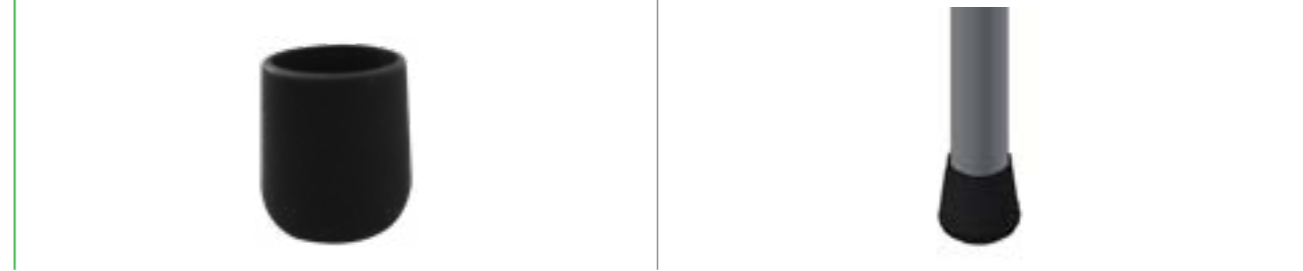




Wheels & Support



FT1 Rubber foot



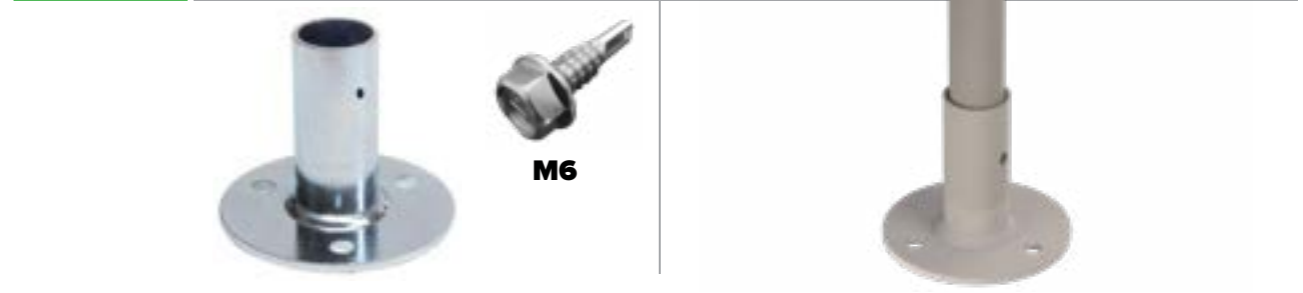
FT2 Levelling foot - threaded plastic expander - Height: 65mm



FT2H Levelling foot - threaded mechanical expander

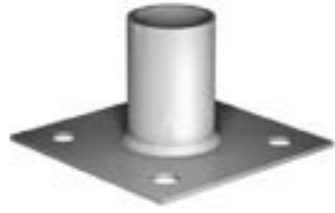


FT3 Stanchion mount foot reinforced - Height: 80mm - Thread: 5 mm



FT4

Stanchion mount foot light - 90x90x53 mm



PTS

Three pipes connection



PTL

Corner mount plate left



PTR

Corner mount plate right



WB

Castor mount bracket



WP

Castor plate 85x100 mm - Thread: 6mm



T75

Insert swivel castor - capacity max. 60 kg - diam. 75mm



T75B

Insert swivel castor with brake - max. capacity 60 kg - diam. 75mm



T100

Insert swivel castor - capacity max. 80 kg - diam. 100mm

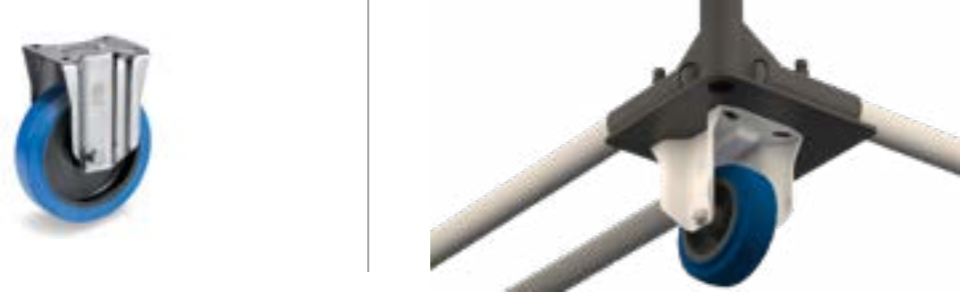


T100B

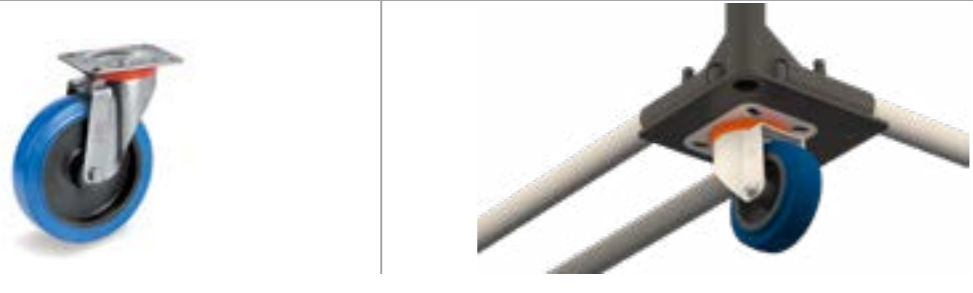
Insert swivel castor with brake - capacity max. 80 kg - diam. 100mm



P100 Castor - capacity max. 150 kg - diam. 100mm



P100S Swivel castor - capacity max. 150 kg - diam. 100mm



P100SB Swivel castor with brake - capacity max. 150 kg - diam. 100mm



P125 Castor - capacity max. 200 kg - diam. 125mm



P125S Swivel castor - capacity max. 200 kg - diam. 125mm



P125SB Swivel castor with brake - capacity max. 200 kg - diam. 125mm



P125YF Castor - capacity max. 220 kg - flat Profile - diam. 125mm



P125SYF Swivel castor - capacity max. 220 kg - flat profile - diam. 125mm



P125SBYF Swivel castor with brake - capacity max. 220 kg - flat profile - diam. 125mm



P125GR Castor - capacity max. 300 kg - round profile - diam. 125mm



Wheels & Support

P125SGR

Swivel castor - capacity max. 300 kg - round profile - diam. 125mm

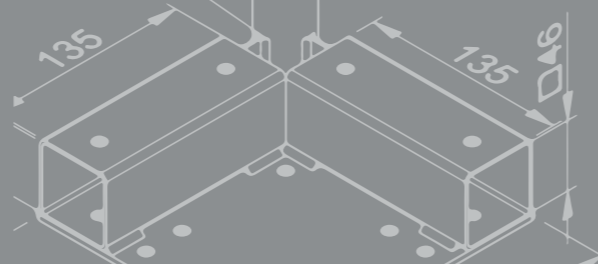


P125SBGR

Swivel castor with brake - capacity max. 300 kg - round profile - diam. 125mm



Steel Square Base



BQ400

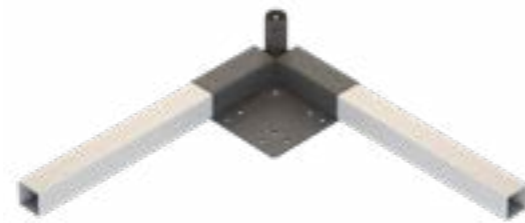
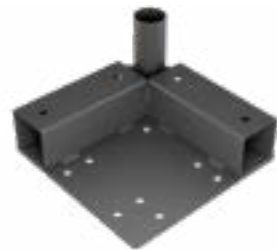
Tubular profile for Square Base

L= 4 m.



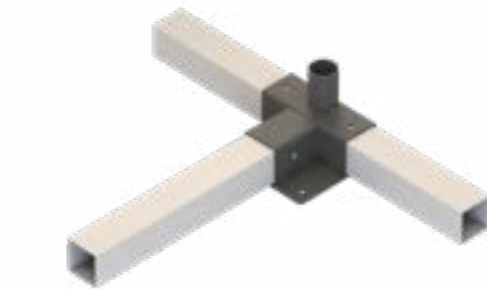
BQ

Corner plate for Square Base



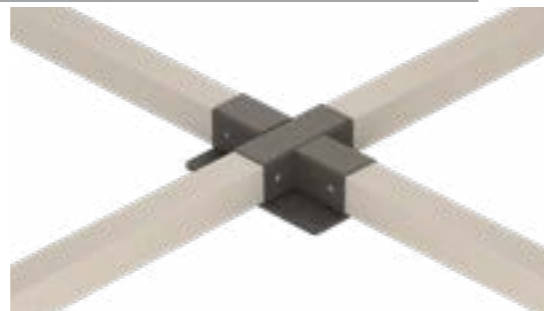
BQC

Intermediate plate Square Base



BQX

Square Base intersection plate



Steel Square Base

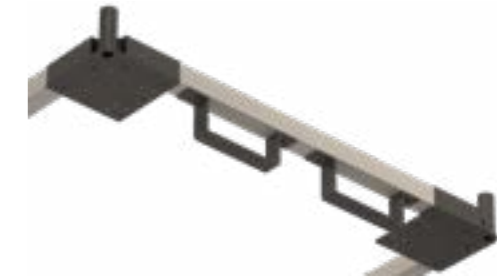
BQFT

Square Base foot



BQFK

Forklift bracket



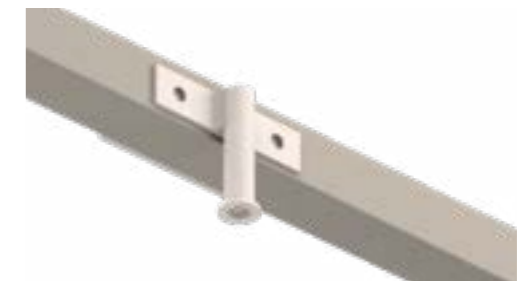
TMF

Tow bar



TMR

Tow hitch



STBR

Bottom-right angle plate for self-tracking base



STBL

Bottom-left angle plate for self-tracking base



STTR

Top-right plate for self-tracking base



STL

Top-left plate for self-tracking base



STSW

Dual Swiveling plate for self-tracking base



ADS1

Tow bar label



SPR

Spring



BQ160

Castor for Square Base - load cap. 300 kg - diam.160 mm



BQ160S

Swivel castor for Square Base - load cap 300 kg - diam. 160 mm



BQ160SB

Swivel castor for Square Base with brake - load cap. 300 kg - diam. 160 mm



BQ160YR

Castor Round profile - load cap.300 kg - diam. 160 mm



BQ160SYR

Swivel Castor Round profile - load cap. 300 kg.- diam. 160 mm



BQ160SBYR Swivel Ergo-Castor low friction round profile for Square Base with brake-load cap. 500kg-diam.160mm



BQ160YF Castor - capacity max. 300 kg - flat profile - diam. 160 mm



BQ160SYF Swivel castor - capacity max. 300 kg - flat profile - diam. 160 mm



BQ160SBYF Swivel castor with brake - capacity max. 300 kg - flat profile - diam. 160 mm



BQ160GR Castor-capacity max. 500 kg - round profile - diam. 160 mm



BQ160SGR Swivel castor - capacity max. 500 kg - round profile - diam. 160 mm



BQ160SBGR Swivel castor with brake - capacity max. 500 kg - round profile - diam. 160 mm





Monorail & Shooter



MR300

Monorail - L= 3 m



MRTR

Monorail-Trolley



MRH

Monorail-Hanger



MRE1

Monorail-End stop



MRE2 Monorail picking



HK1 Hanger-Flat



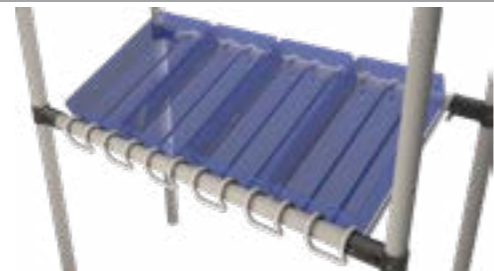
HK2 Hanger-90 deg



SL200 Presentation bridge for boxes L = 200 mm



SL300 Presentation bridge for boxes L = 300 mm



SL400 Presentation bridge for boxes L = 400 mm



SHSP Shooter-Stop



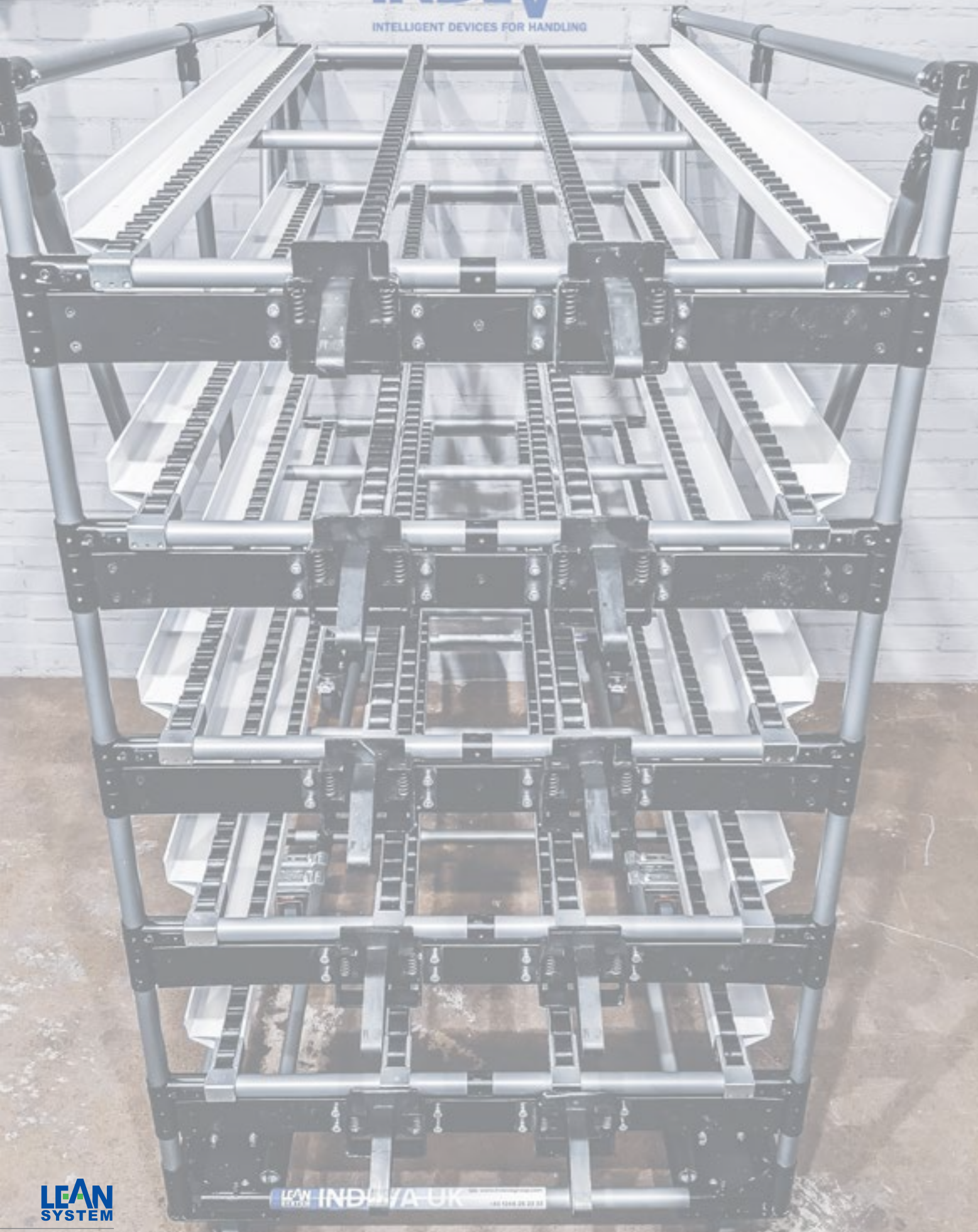
SHST Shooter-Steering



SHSI Shooter-Side



Parts on request



LD300M/E Manual/Electric lifting device



Safety guard



Directional control



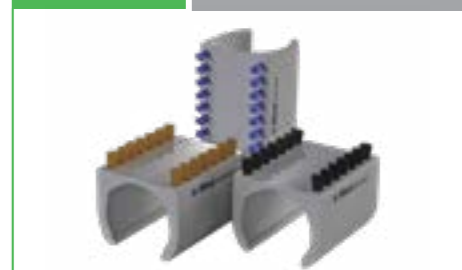
Retaining clip



Sliders



Brush

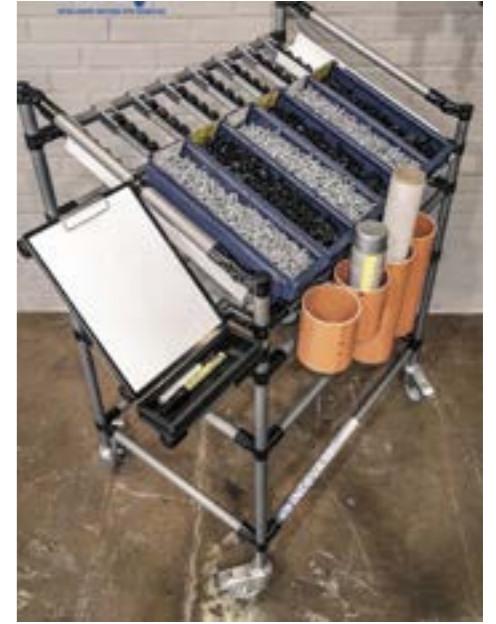


Piston gas



Floor stop









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