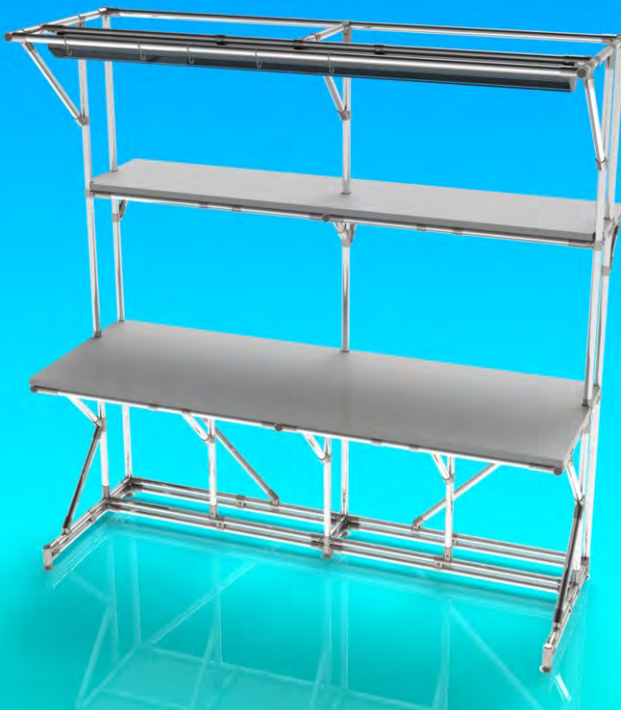


## ASSEMBLY GUIDE

# EASYTUBE

P I P E J O I N T S Y S T E M



LEAN MANUFACTURING CONTINUOUS IMPROVEMENT KAIZEN



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## WHY USE PEK3 EASYTUBE PIPE JOINT SYSTEM?

The answer lies in [Lean Manufacturing](#).

Lean Manufacture is seen as a way to greater efficiency and simultaneous cost reduction and is therefore the subject of countless books and studies. **PEK3 Easytube** is a tool to facilitate the implementation of Lean Manufacturing. Whilst Lean Manufacture encompasses many different aspects and concepts, for our purposes here we can concentrate on two key issues:

[Minimisation of waste \(MUDA\)](#)

[Constant improvement \(KAIZEN\)](#)





## MUDA AND 7 WAYS TO WASTE

MUDA is everything which does not directly add value to that which is being produced. Minimising MUDA adds to the effectiveness of the manufacturing process. Reducing MUDA is of course never completed, it is continuous. In the books written on Lean Manufacturing there are seven forms of MUDA to be considered and minimized:

1. **Overproduction**

If more goods are produced than were planned or can be utilized, this is overproduction. The reasons for this can often be found in there being too many workers allocated to a shift through poor planning, building stocks as security against machine down time or against quality problems.

2. **Unnecessary movement in production (operator or machine)**

Poor or non ergonomic lay-out of tools or materials results in unnecessary movement by the operator. Using the wrong machines to make parts often results in unnecessary machine movement and longer process times. This can lead to waiting time for the operator.

3. **Waiting time (of the operator or the machine)**

Frequently results from a lack of raw materials, down time of equipment or poor process planning: the machine operates, the worker waits for it to complete the task before he can put in the next part.

4. **Transport**

Whether with a fork-lift truck or however accomplished, transport is waste because it does nothing to add value to the product, merely changes its position within the production facility.

5. **Over engineering**

If a hole is bored more deeply than necessary or if a part is made stronger than is needed, then this is waste through over effort and over engineering. Particularly quality control is subject to this type of waste. Striking the correct balance is here especially difficult.

6. **Unnecessary stocks**

Stocks are capital. High stock volumes follow directly from overproduction and poor production planning. The key is takt time.

7. **Defective parts**

Parts which are defective cannot be processed further or delivered to the customer. They must be repaired or replaced or re-machined. This leads to increased production costs.

Waste is often hard to recognize and requires continuous attention to all processes.



## KAIZEN AND THE 8<sup>TH</sup> MUDA

Translating Kaizen simply as “continuous improvement” is an oversimplification which does not do justice to the importance of the concept for industrial practice. Kaizen systems should operate as a part of a quality perception and without additional wasteful administrative effort. Kaizen goes beyond most “quality circle” or similar approaches.



Kaizen is meant to operate in small steps without any formality, a problem is seen or an opportunity for improvement perceived, the operators involved discuss the matter, this is often expressed visually, charts or graphs or similar are put up, then the group will attack the problem. The solution is immediately put into practice.

Both principles – reducing waste and the prompt improvement of current processes obviously require a high degree of flexibility and willingness to change.

These changes will occur not only to processes but also to the working areas. Changes in procedures will force changes in the layout of the workbenches, flow racks and other production furniture also. These must be able to be changed quickly, simply and economically.

The **8th MUDA** can come into play here:

The necessary changes to improve the production on depend on IDEAS. The most valuable asset of any company is the employee.

The operators, foremen, assembly workers and other employees are here the key to success: they have the experience. They see the production daily and know it intimately; they are the ones who can see ways to improve it.

The 8th MUDA – the greatest waste of all – is not making full use of this asset, not making the most of their experience to improve the production.





## THE TOOL THAT REALLY WORKS FOR YOU

Of course, ideas alone do not bring improvements. These ideas must be translated into reality.

Most ideas will relate to the WAY things are done and describe task related improvements to workstations, the layout of online racks and similar matters. Generally, ideas come bit by bit; one small improvement leads to the next, so changes are frequent. This leads to a climate of gradual change and improvement - KAIZEN.

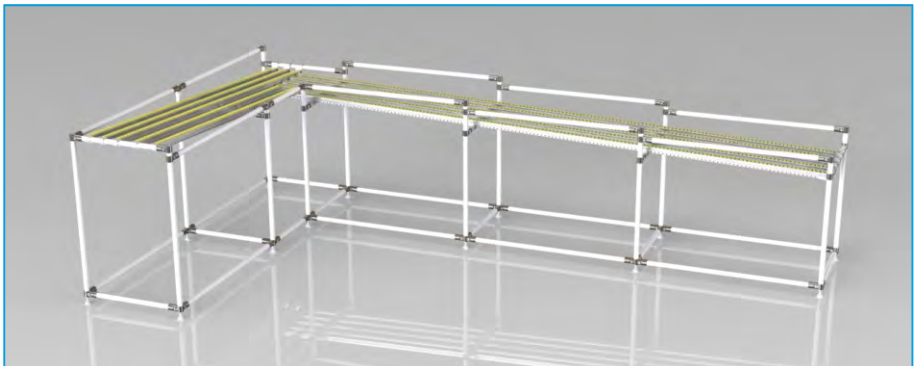
Ideas will only be translated into reality when this can be done simply, quickly and economically - especially in relation to the materials required. Because further changes will also occur, it is essential that any solution offers also flexibility for the future.

**PEK3 EASYTUBE** meets these requirements better than any other conventional system.

The system is especially suited to light industrial applications and offers enormous advantages in the design and layout of the most diversified requirements of workbenches, packing stations, flow racks, FIFO racks, supermarkets and trolleys.

Although the **PEK3 EASYTUBE** system will support quite heavy loads, there are limits in practice. The system is not designed for use in heavy racking, pallet racking or applications where a forklift will be used for loading or unloading.

**PEK3 EASYTUBE** is the first choice for applications where assembly, packaging, production or other processes are performed manually.





## THE ADVANTAGES – AT A GLANCE

Compared to any other material, the **PEK3 EASYTUBE** system has the following essential advantages:

### 1. Simplicity

No special technical skills are required to design or assemble with **PEK3 EASYTUBE**. Operators themselves are able to develop their ideas, improve their work areas – this is a basic Kaizen principle.

### 2. Economical

Compared to aluminium profile, the material costs of **PEK3 EASYTUBE** are 40 – 60% cheaper. The speed of design and assembly is high compared to other solutions.

### 3. User Friendly

Through the use of **PEK3 EASYTUBE** the operators can take full charge of their work area, can bring in their own ideas leading to improved job satisfaction and increased efficiency.

### 4. Totally flexible

No special tools are required; there is no messy painting, no welding and almost no waste as the component parts used in the applications can be reused. Assemblies can be modified and adapted to changes in the production environment, or can be taken apart and made into something else entirely. Flow racks can be made into workstations, trolleys into display boards or work benches into assembly lines – time and time again. Only a 5mm Allen key, a tape measure, a cutting tool and imagination are needed.

### 5. Space saving

Applications are designed to fit the space allocated with a minimum footprint. Work areas built from **PEK3 EASYTUBE** typically need 20% less space and can be operated with 20% less manpower than, for example, welded steel solutions.

### 6. Ergonomical

Assemblies made with **PEK3 EASYTUBE** are custom designed around the specific application and fulfill ergonomic considerations far better than standard or off-the-shelf designs.

### 7. Ecologically friendly

Reusable parts, almost no waste – what more could be said?

# EASYTUBE

## THE COMPONENTS



## THE BASICS: PIPES

**PEK3 EASYTUBE** pipes have an outer diameter of 28mm in accordance with international practice and are therefore compatible with systems from other manufacturers. The pipes are made of steel, are available in three different types:

- Plastic coated pipes, available in all RAL colours, naturally with an anticorrosion coating.
- Powder coated pipe, with a greater chemical resistance
- Stainless steel pipe

Pipes with wall thicknesses from 0.7mm to 2.0mm are available to enable you to use the system in various loading applications.

Stainless steel pipes allow use in clean room and other applications where special requirements must be met such as in the pharmaceutical, optical, medical or food industries.

Pipes are usually delivered in lengths of 4.000mm; of course we are happy to cut for you to the desired length.





## PEK3 EASYTUBE PIPES (OVERVIEW)

### PLASTIC COATED PIPE

- Available in all RAL colours and as ESD (black).
- Anti corrosion coating inside the pipe
- Outer diameter 28mm
- Available in wall thicknesses 0.7mm, 1.0mm and 2.0mm

### POWDER COATED PIPE

- Ecologically superior, 100% recyclable.
- Available in all RAL colours and as ESD (black).
- Anti corrosion coating inside the pipe
- Excellent chemical resistance
- Non-flammable
- Outer diameter 28mm
- Available in wall thicknesses 0.8mm and 1.2mm

### STAINLESS STEEL PIPE

- Excellent chemical resistance
- Ecologically superior
- Ideal for ESD and clean room applications
- Outer diameter 28mm
- Available in wall thicknesses 0.7mm, 1.0mm and 1.2mm
- Specified to EN14372



## THE BASICS: JOINTS

Joints are used to fix pipes together reliably and quickly. Your ideas have almost no limits. Plastic and metal accessories open further possibilities to your designs.

**PEK3 EASYTUBE** joints are either black, nickel plated or chrome plated. You will generally need only a 5mm Allen key and a means of cutting the pipes in order translate design to reality.

### + MATERIAL

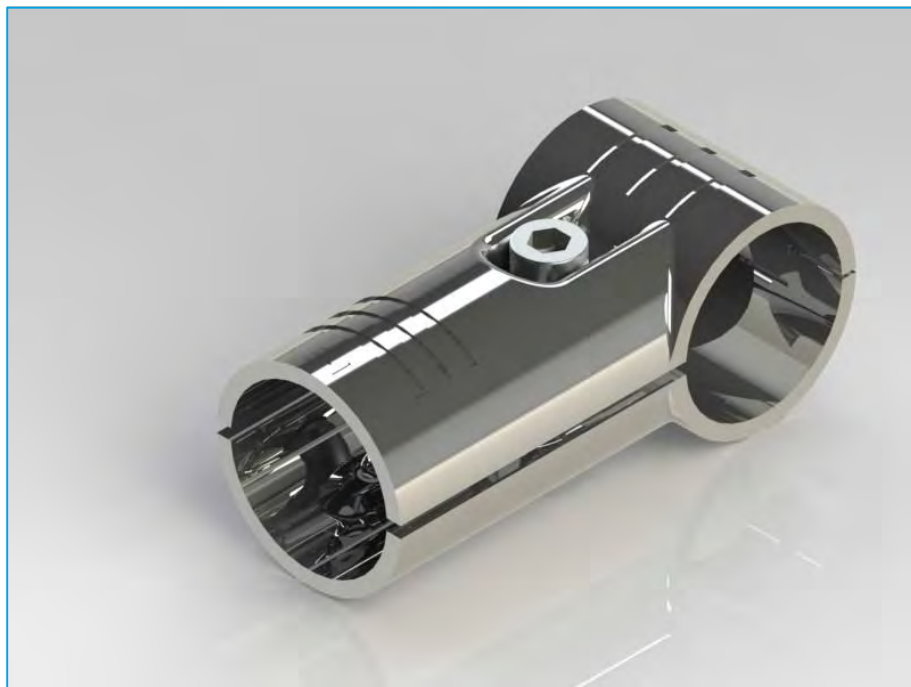
PEK3 uses only top-grade steel. Most joints are 2.5mm thick.

### + RELIABILITY

All joints are high performance and resist heavy loads.

### + GRIP

The unique profile on the inside of the joint guarantees optimal grip under all conditions.



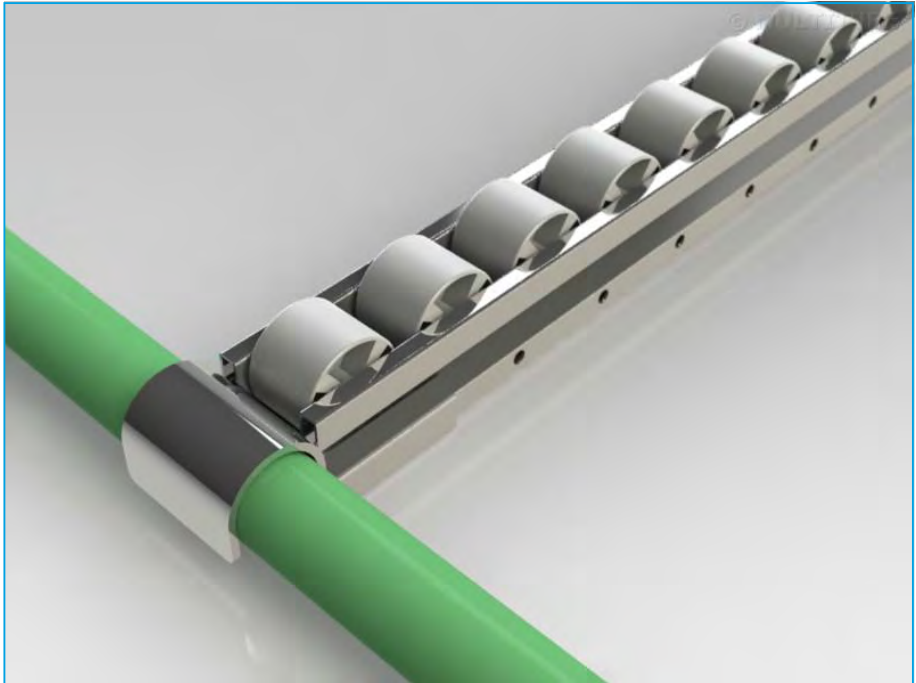


## PRODUCTION IN MOTION: ROLLER TRACKS

Roller tracks from **PEK3 EASYTUBE** are available with different sizes of rollers. The roller tracks are simply clipped on to the pipes – no fixing screws are required. Different types of mounting brackets are available.

Brakes can be installed at the end of the roller tracks to soften the impact of even heavy loads.

Roller tracks are usually supplied in lengths of 4.000mm. Of course, we are happy to cut to length, or for large quantities to manufacture to the lengths you require.





## TOUCHING THE GROUND - FEET AND CASTORS

The **PEK3 EASYTUBE** system includes a wide range of feet and castors for the most diverse requirements. With or without brakes, fixed or swivelling and in a many different sizes for light or heavy duty applications, all castors are made from the best materials to meet the highest standards in continuous use.

Adjustable feet, screw down stanchions or rubber caps for sensitive applications ensure that the **PEK3 EASYTUBE** system can be used in almost all storage or production environments.



# EASYTUBE

IN PRACTICE



## SKETCH YOUR IDEAS

### Note down the requirements of the application

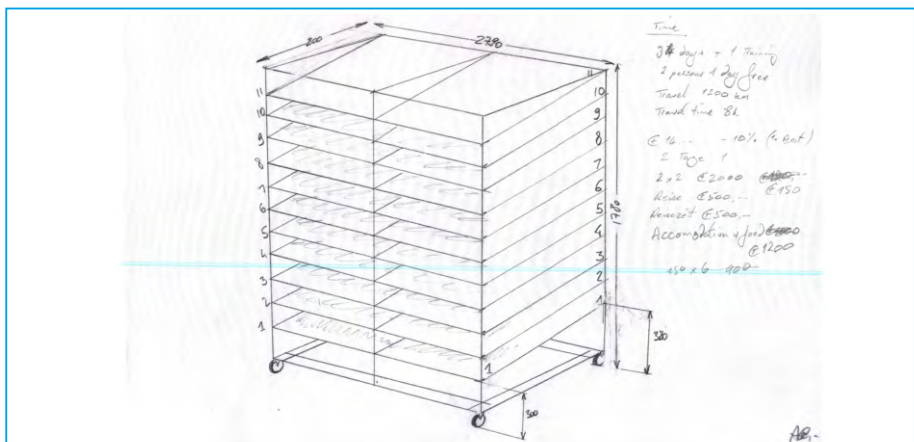
- What is the function of the assembly?
- What should be the dimensions and how much room is available?
- What is the anticipated loading?
- Are there other points to watch? (ESD, chemical resistance etc)?

### Make a sketch

- A simple hand sketch is usually sufficient to define the parts which will be needed. Check that the joints and the pipes are readily available. Generally, there are alternative ways to assemble if this is necessary because of a shortage of certain parts in your stock.
- Check your sketch and the requirements with the operators and make necessary changes.
- It can be useful to make a CAD drawing of the final assembly in order to be able to duplicate it easily at a later date. PEK3 is happy to supply a digital library of parts.

### Put all the material together

Check again that all required components are available. If changes in design need to be made because you do not have certain parts, now is the time to do it. Check also whether you need assistance with assembly.

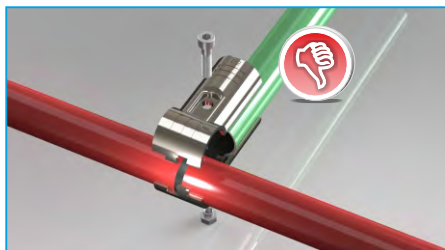






## CORRECT ASSEMBLY OF PIPES AND JOINTS

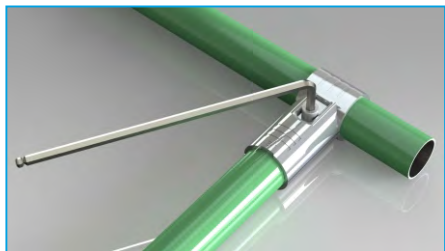
Never join pipes using only a simple joint. Always use the correct components.



Take care to ensure that pipes are pushed home.



Tighten the screws evenly, initially only to finger tightness. Tighten fully to approximately 14Nm when this is done. An Allen key is generally sufficient. If there are doubts, measure with a torque wrench.





## CORRECT ASSEMBLY OF PIPES AND JOINTS

Use the E-2 and E-3 connectors to ensure that the assembly is square and will not twist.



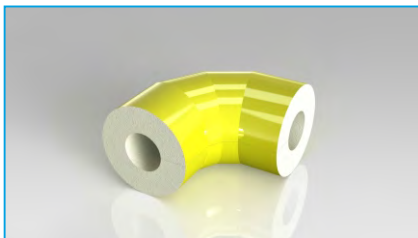
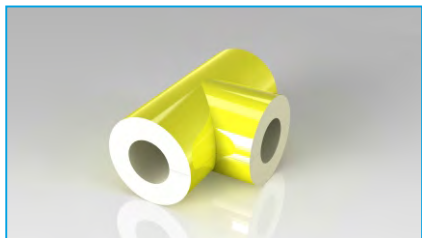
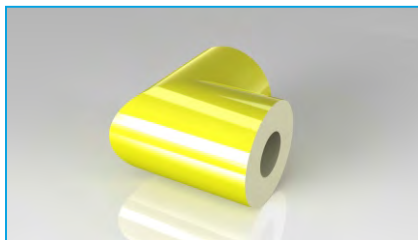
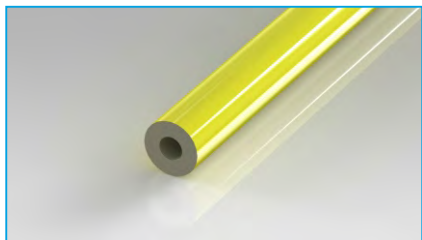
Check the angles after assembly.





## PROTECTING PIPES

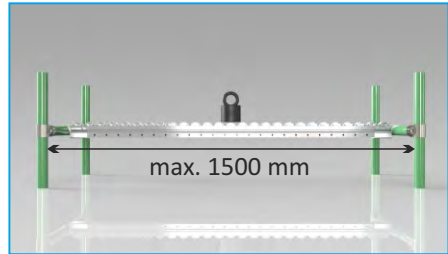
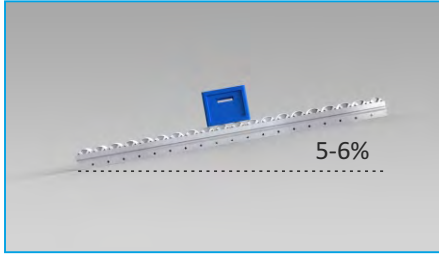
In many companies it is necessary to protect manufactured parts or products from damage caused by collision with industrial furniture such as **PEK3 EASYTUBE** carts or trolleys. This is easily done by using our pipe protection materials.



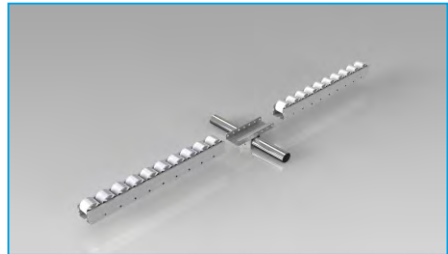
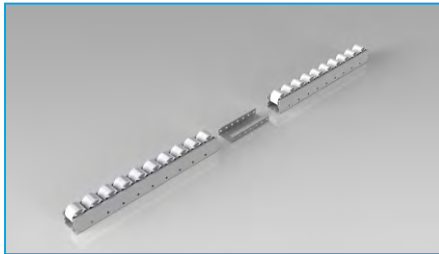


## CORRECT ASSEMBLY OF ROLLER TRACKS

Select the appropriate roller track according to the materials to be transported. The gradient will also need to be adjusted according to the load. Generally it is approximately 5 – 6%. Take note that heavier loads roll faster. Vertical struts should be placed no more than 1500mm apart.



Roller tracks can be joined using GP-C or GP-C2.



When using roller track it is imperative to ensure that the track is straight in both axes. If the track is concave the boxes will initially accelerate and then stick. If it is convex, they will also stick. If the track is crooked, the boxes will either twist or not roll in a straight line. Remember also that errors are incremental with the length of the roller track. We believe the best way to ensure that the track is absolutely straight is to use string to align it.

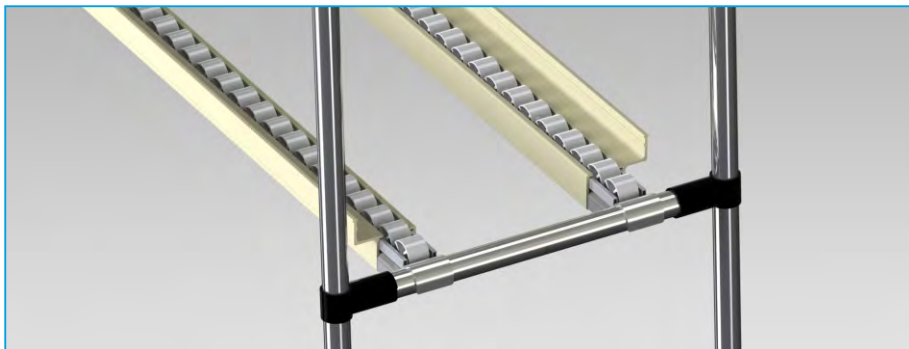
Different boxes, different materials and different roller tracks exhibit different rolling characteristics. Whilst one plastic box may roll perfectly well with a slope of 4,5% another softer plastic box may require a slope of 6%. Longer roller tracks often require steeper slopes to ensure reliability.

Although roller tracks can be made up to 16m long, in general an assembly requiring more than 8m is difficult and may not give reliable results over time as tracks can move due to boxes often being loaded roughly or incorrectly. On a long track this will rapidly lead to boxes hitting guides or twisting.

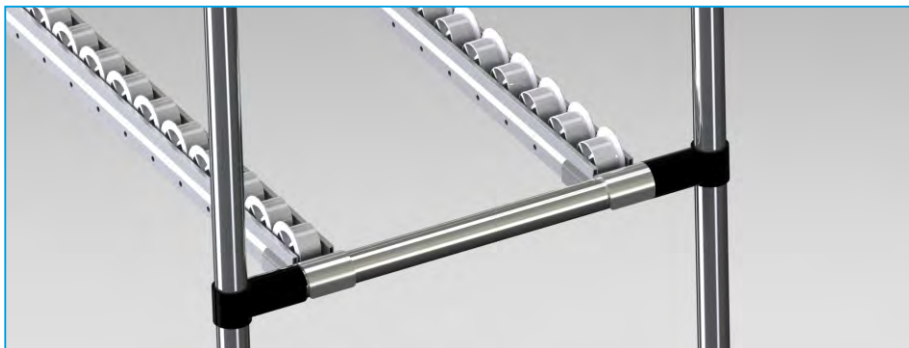


## CORRECT ASSEMBLY OF ROLLER TRACKS

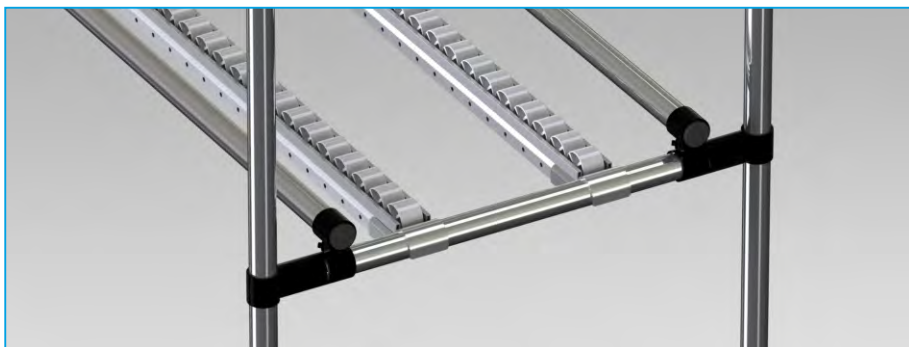
One of the most frequent questions is how to best guide boxes down roller track. There are very many ways to do this, a few are shown below:



Using RTG-3 is one of the most obvious ways. Note that the guide does not reach the end of the track.



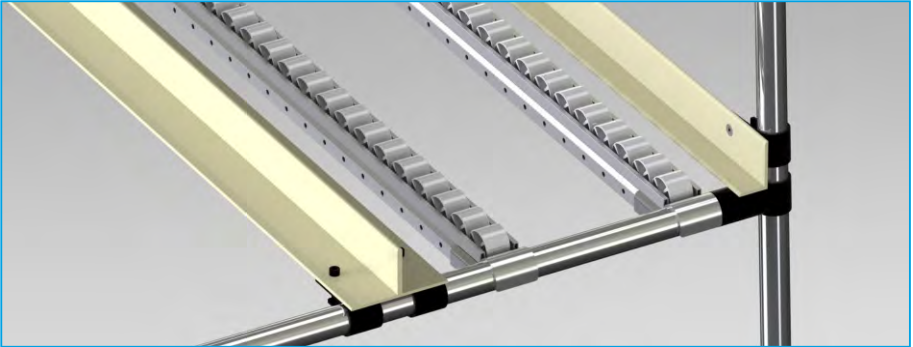
Using RT-40C with flanged roller track is a very simple solution. Take care that the boxes cannot fall between the tracks.



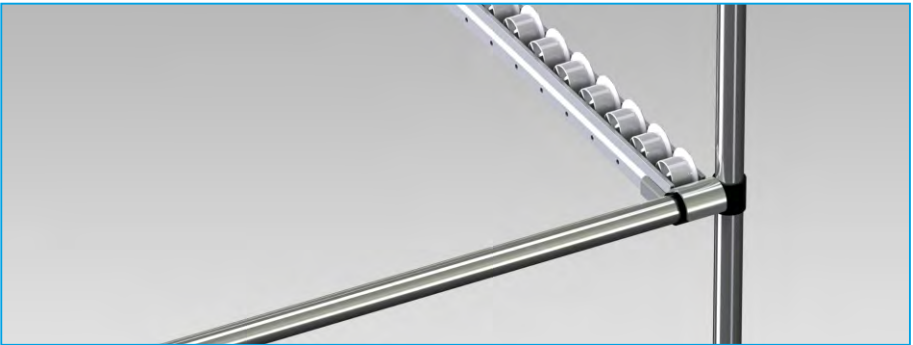
Using pipe as guide is economical and adds to the strength of the structure.



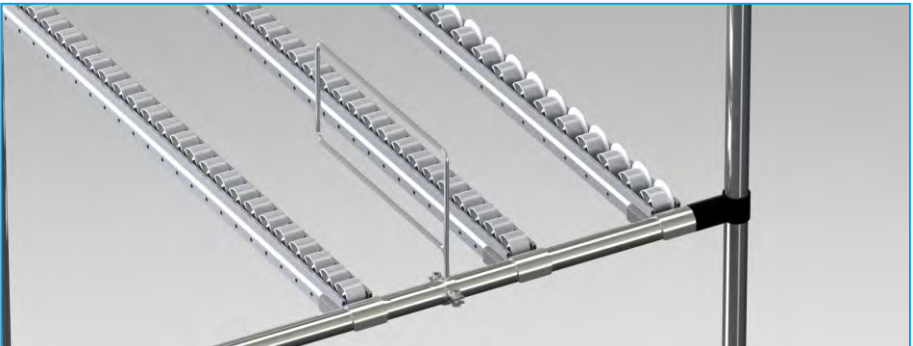
## CORRECT ASSEMBLY OF ROLLER TRACKS



Plastic profile is a very flexible solution. GAP-17 can also be used to fix the plastic profile to the pipe.



Space can be saved using GP-ARL, GP-BL and GP-DL over the joints.



It is often sufficient to use SP-B or GAP-19 simply to separate the tracks.



## FITTING FEET AND CASTORS

### Plate type castors

If there are heavy loads to be transported – over approximately 200kg – or if the floor is uneven, then it is generally better to use plate type castors. In these cases it is important also to ensure that the frame of the assembly is square. An additional pipe, fitted underneath the frame is a good way to add to this security.



Plate type castors should always have a minimum of 500mm between the castors to ensure that the assembly will not tip over.



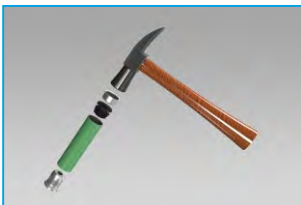
The assembly is carried out with an M8 bolt, a washer and of course the appropriate nut.



### Thread type castors

The first step in assembling thread type castors consists of driving a bushing into the pipe. There are different bushings available for pipes of different wall thickness. The pipe should first be deburred.

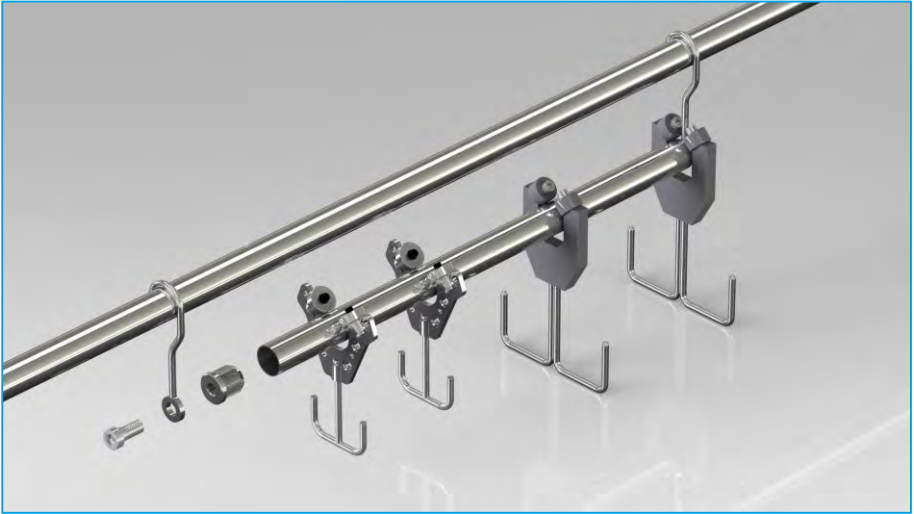
The bushing has an M10 or M12 thread into which the castor or foot is screwed. A washer is inserted between the bushing and the foot or castor.





## MAKING A MONORAIL

Monorail systems may be open or closed. **PEK3 EASYTUBE** monorail uses standard pipe as the monorail. Stainless steel pipe is best for this.



Open monorail

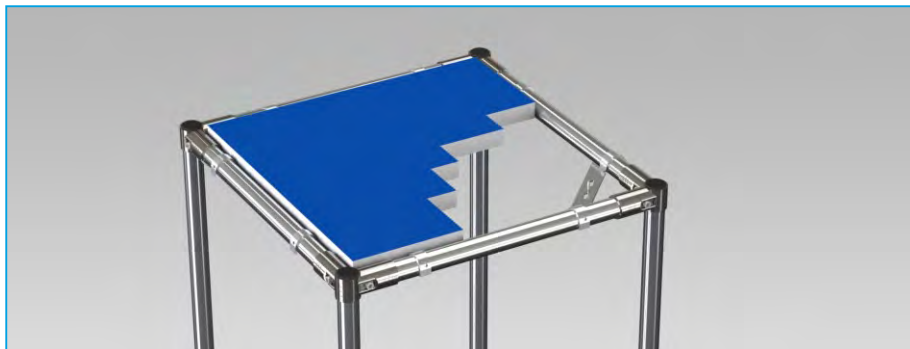


Closed monorail



## FIXING A BOARD

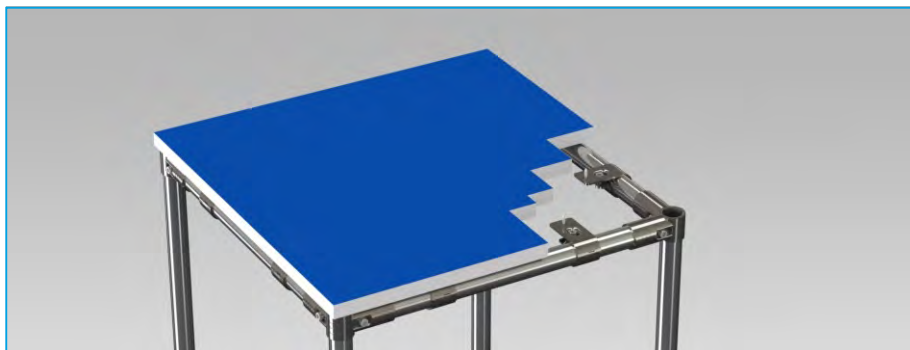
Boards and panels are needed for workstations, tables, benches and very many other applications. The board may need to be above the frame or below it, or centred between the pipes. Some ways are shown here:



CM-B



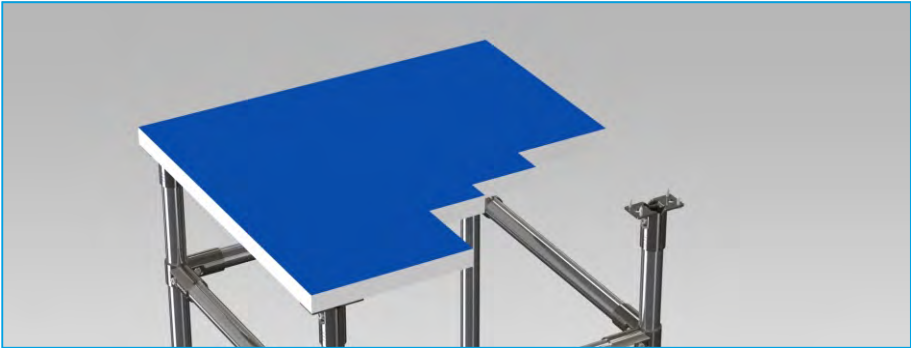
E-7A



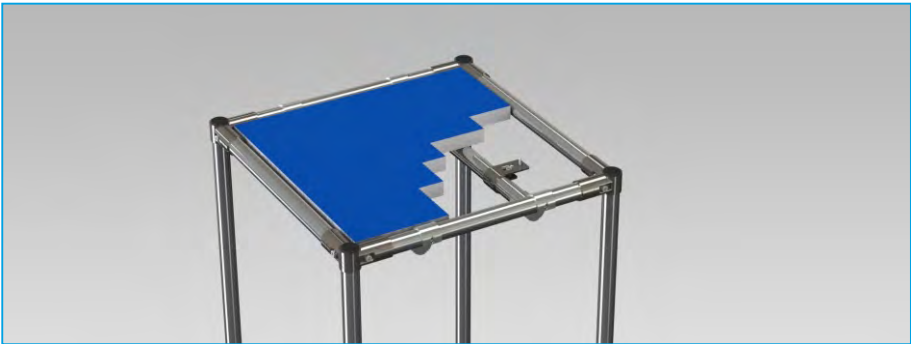
E-15A + E-15B



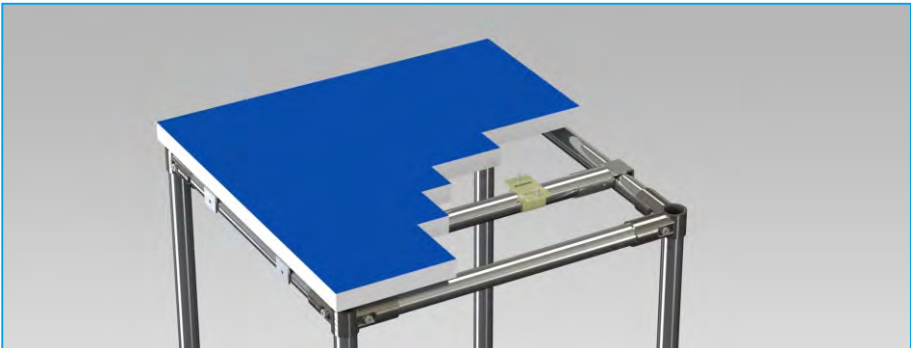
# FIXING A BOARD



2\*E-21



GS-D + E-15A + E-15B

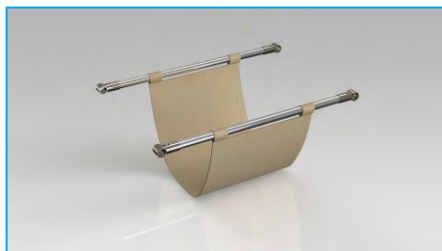
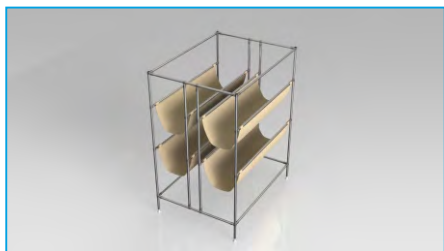


GS-A + GAP-49 to make the board easily removable



## USING TEXTILES

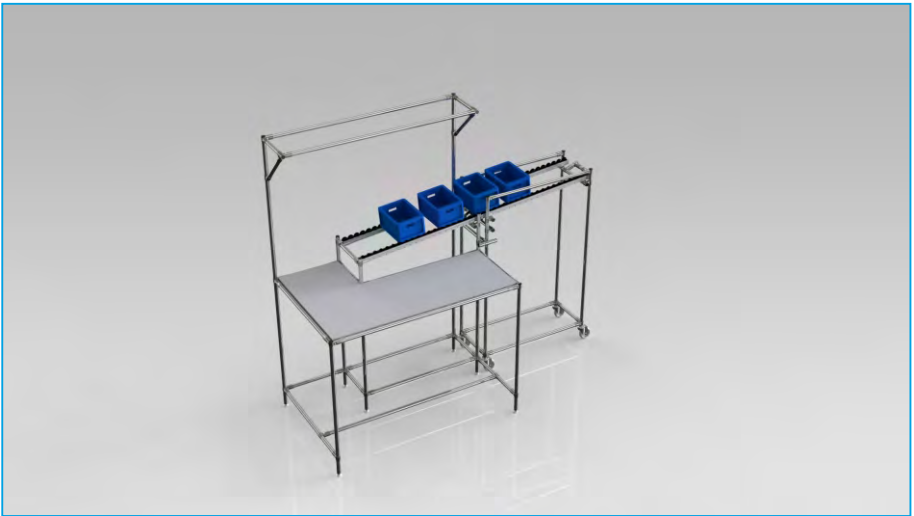
Instead of using boards for shelves, textiles may be used, this prevents parts being transported from falling or sliding off the trolley. Textiles can also be used to protect from the environment. We can provide solutions in many different materials, with windows, ESD textiles etc. Contact us for details.





## ASSEMBLING A SHOOTER

A shooter is a system where the boxes are discharged from a rack to a trolley or similar automatically. This is done using DIS-01-BK which can be assembled in various ways.





## LABELLING

Good work practice is to put labels above the item concerned so that it is not obscured. Label holders – especially A4 and A3 size – can be used for work sheets or instructions.





## ENSURE STABILITY – DIAGONAL BRACING AND DIMENSIONAL LIMITS

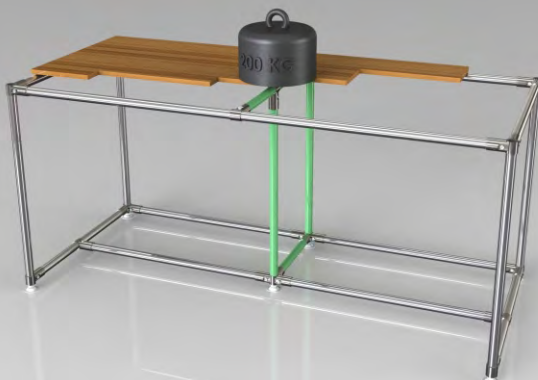
Horizontal pipes and roller track need vertical or diagonal supports – or a combination of both - at least every 1500mm in order to avoid bending. Dynamic or heavy loads necessitate more frequent vertical supports.



1. Double horizontal pipe with additional horizontal support



## ENSURE STABILITY – DIAGONAL BRACING AND DIMENSIONAL LIMITS



2. Vertical support



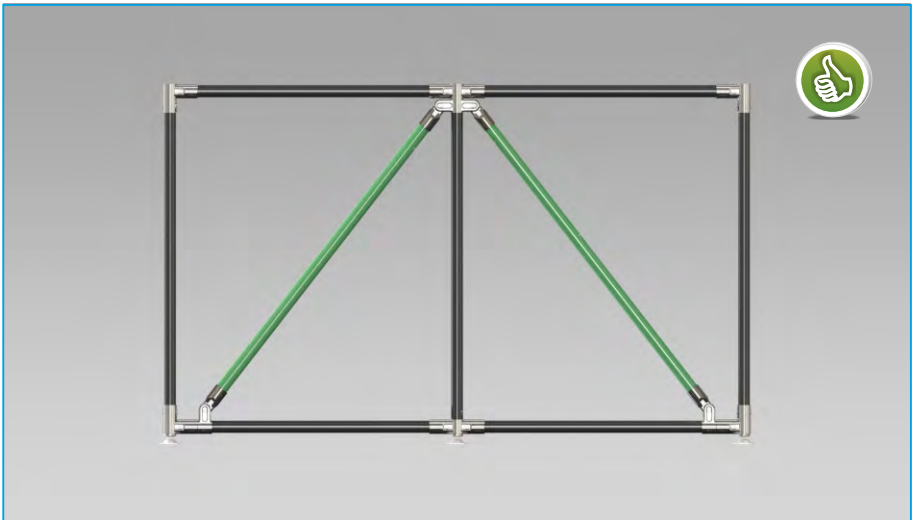
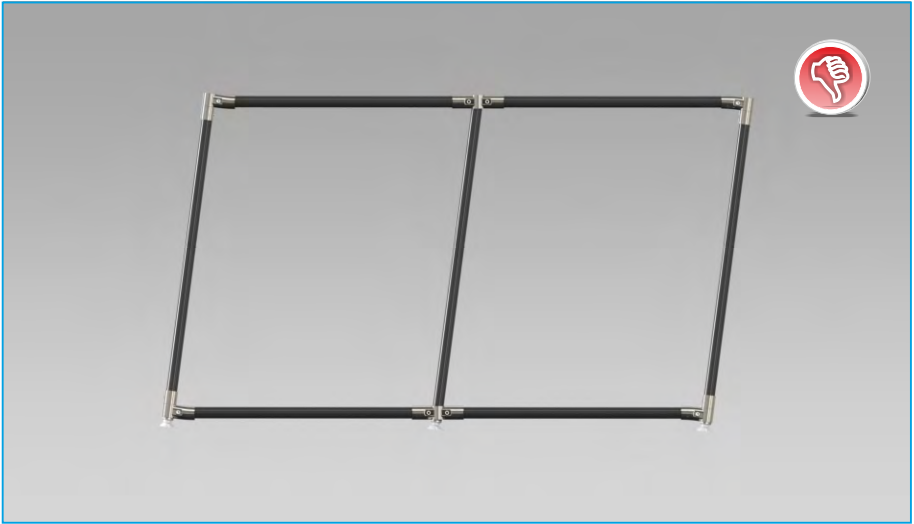
3. Horizontal, vertical and diagonal supports

The same applies for roller tracks, where a support must be provided every 1500mm. It is important to ensure also that the ends of a lane of roller track do not protrude more than 500mm beyond the assembly.



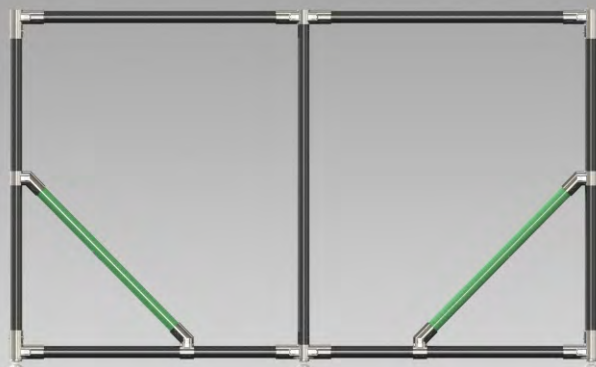
## ENSURE STABILITY – DIAGONAL BRACING AND DIMENSIONAL LIMITS

Ensuring squareness is especially important with dynamic applications. This is best done using joints such as E-13A and E-13B or E7A and E7B (or E-14) to strengthen the frame of the assembly.





## ENSURE STABILITY – DIAGONAL BRACING AND DIMENSIONAL LIMITS





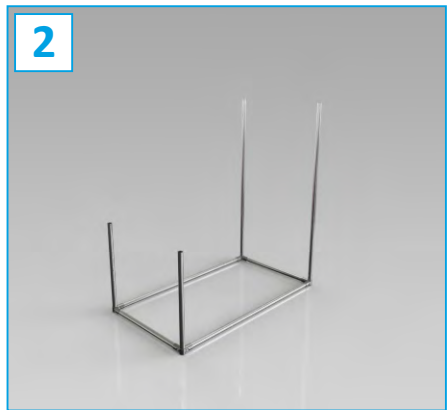
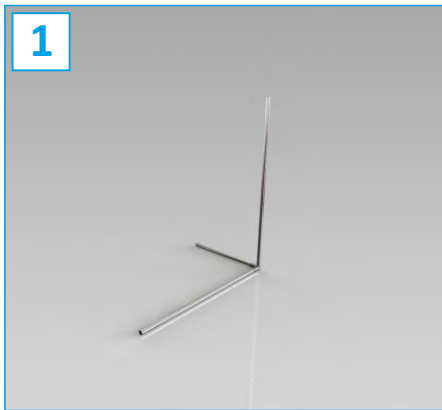
## EXAMPLE 1 – A FLOW RACK

Begin with the bottom frame and add castors or feet as appropriate.

Check the requirements and the overall dimensions with the operators.

Ideas for improvement or alterations often arise after the finished prototype is given over. It is useful to design a complex assembly in a 3D CAD System for this very reason, especially when a number of identical assemblies are to be made.

Of course you can alter your assembly many times, continuously change it or take it apart and make something entirely different from the components – the only limit is your imagination!





## EXAMPLE 1 – A FLOW RACK

5



6



7



8



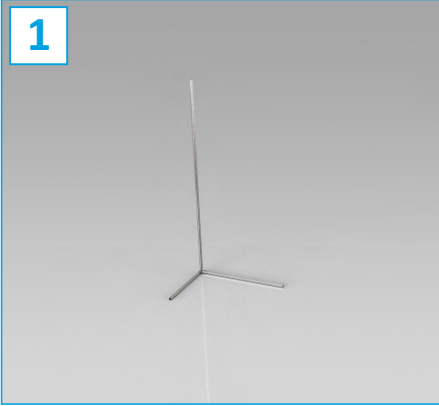
9



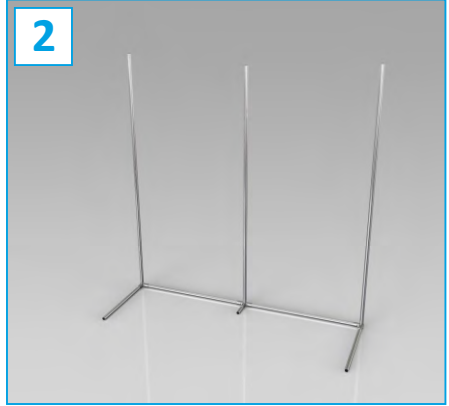


## EXAMPLE II - A WORK STATION

1



2



3



4



5



6





## EXAMPLE II - A WORK STATION

7



8



9



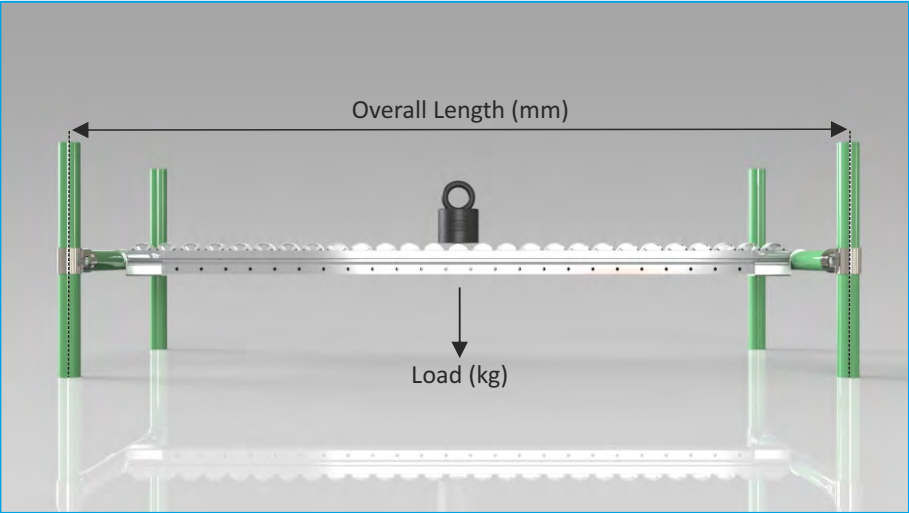


## TAKE IT TO THE LIMIT: MAXIMUM LOADS

The load will normally push the pipes deeper into the joints rather than pulling them out. This is one of the marks of good design and ensures greater stability. When planning and assembling your racks you should consider that the load limits of your construction depend on a number of factors and these must be taken into account.

Tests conducted at the Technical University Munich and the SVUM Laboratory in Prague gave the following results:

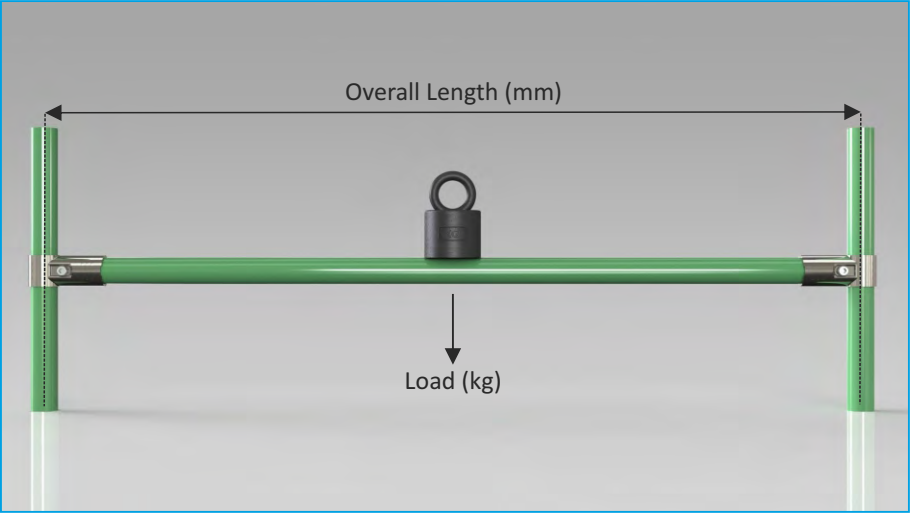
### MAXIMUM LOAD LIMITS FOR ROLLER TRACKS



Roller Track	Overall length (mm)	Permanent Deformation (mm)	Total Bending (mm)	Load (kg)
RT-40-S	1000	0	12	127
RT-40-S	1000	2	12	137
RT-40-B	1000	0	9	113
RT-40-B	1000	2	11	123



MAXIMUM LOAD ON PIPES



Pipe	Overall Length (mm)	Permanent Deformation (mm)	Total Bending (mm)	Load (kg)
SSP-2807	1000	0	11	76
SSP-2807	1000	5	17	101
SSP-2807	1000	10	24	117
SSP-2807	1000	15	30	125
SSP-2812	1000	0	16	167
SSP-2812	1000	5	24	230
SSP-2812	1000	10	34	276
SSP-2812	1000	15	42	298

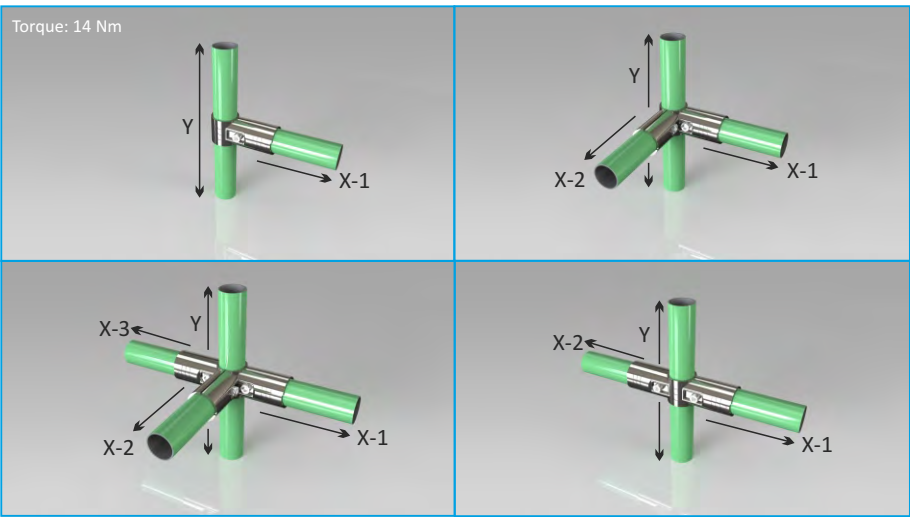


## MAXIMUM LOAD ON PIPES

Pipe	Overall Length (mm)	Permanent Deformation (mm)	Total Bending (mm)	Load (kg)
CP-2807	1000	0	13	95
CP-2807	1000	5	24	140
CP-2807	1000	10	32	158
CP-2807	1000	15	40	175
CP-2810	1000	0	14	112
CP-2810	1000	5	25	167
CP-2810	1000	10	32	184
CP-2810	1000	15	38	202
CP-2820	1000	0	12	155
CP-2820	1000	5	18	187
CP-2820	1000	10	25	206
CP-2820	1000	15	30	218
PP-2808	1000	0	14	114
PP-2808	1000	5	23	159
PP-2808	1000	10	32	187
PP-2808	1000	15	39	202
PP-2812	1000	0	16	173
PP-2812	1000	5	24	224
PP-2812	1000	10	32	257
PP-2812	1000	15	39	273



## MAXIMUM LOAD IN X AND Y AXES ON JOINT SETS (JOINT COMBINATIONS)



Joint Set	Pipe	Y(kg)	X-1(kg)	X-2(kg)	X-3(kg)
ES-1	Stainless Steel	70	60		
ES-1	Powder Coated	140	70		
ES-1	Plastic Coated	200	90		
ES-2	Stainless Steel	70	30	30	
ES-2	Powder Coated	140	40	40	
ES-2	Plastic Coated	200	60	60	
ES-3	Stainless Steel	70	30	30	30
ES-3	Powder Coated	140	40	40	40
ES-3	Plastic Coated	200	60	60	60
ES-4	Stainless Steel	70	30	30	
ES-4	Powder Coated	140	40	40	
ES-4	Plastic Coated	200	60	60	



## SAFETY FIRST!



Wear safety glasses when cutting pipes and roller track, wear gloves and protective footwear if appropriate for cutting and assembly.



Ensure that the pipes are correctly seated in the joints: pipes which are not pushed home will not hold. Assemble joints evenly, only tightening fully when all screws have been initially tightened (we recommend tightening to 12 – 14Nm).



The horizontal length of an unsupported pipe should not exceed 1500mm. Use additional diagonal or vertical supports where necessary or a second horizontal pipe to add strength.



The same holds true for roller tracks: these must be supported at least every 1500mm. The ends of roller track should not protrude more than 500mm from the basic frame.



Join pipes using the correct joints to ensure strength and stability. Do not hide the joint between two pipes in a joint.



Connect two lengths of roller track using GP-C or GP-C2. Ensure that the connection is supported correctly.



Especially when using plate type wheels it is important to ensure the stability of the bottom frame with an extra horizontal, this is often best mounted underneath.



Ensure that the assembly is not skewed by measuring the diagonals.



Company / Department \_\_\_\_\_

Street \_\_\_\_\_

Post Code / City \_\_\_\_\_

Telephone \_\_\_\_\_ E-Mail \_\_\_\_\_

Street \_\_\_\_\_

Post Code / City \_\_\_\_\_

Contact Name at this Location \_\_\_\_\_

Telephone \_\_\_\_\_ E-Mail \_\_\_\_\_

Designation of the Assembly \_\_\_\_\_

Description / Function

--

Prototype ☐ yes ☐ no

Serial Number \_\_\_\_\_

Date of Assembly \_\_\_\_\_ by \_\_\_\_\_

Outer Dimensions (length / width / height in mm) \_\_\_\_\_



## CHECKLIST

Sketch

CAD-File \_\_\_\_\_

Material- und Cuttinglist

Safety check carried out by \_\_\_\_\_ Date \_\_\_\_\_

Final clearance given by \_\_\_\_\_ Date \_\_\_\_\_



## CARE AND MAINTENANCE

**PEK3 EASYTUBE** is almost maintenance free.

### Cleaning

Subject to the environment in which the system is used, we recommend wiping the assembly down with a damp cloth to remove dust or fingerprints from pipes. Stubborn grease or oil marks can be removed with solvents – check compatibility with the plastics by testing in advance. Be careful to avoid spills of soap or solvents on the floor as this can cause accidents.

### Checking the Stability of the Assembly

If there are dynamic forces such as with roller tracks or with mobile applications such as dollies or carts, we suggest an occasional check on the stability and, where necessary, tightening the screws. If this does not lead to long-term stability then check the design; see if enough diagonal supports have been fitted. Send the design to PEK3 for us to check if you wish.

### Storage

Pipes, joints and accessories should be stored indoors in a dry location. Storage temperature should not be below dew point (4°C). We recommend against storage with or near acids or aggressive chemicals.



## ADVANTAGES OF PEK3 EASYTUBE AT A GLANCE

### 1. Conformity with International Standards

The most commonly observed standard internationally for pipe and joint systems is the pipe diameter of 28mm. Some manufacturers unfortunately do not follow this standard, believing that this can be used to bind customers. **PEK3 EASYTUBE** conforms to this standard, enabling our customers to use parts of other suppliers to expand the available range.

### 2. The wide Product Range

**PEK3 EASYTUBE** offers a very wide range of pipes, joints, roller tracks and accessories. This range is often expanded.

### 3. The Quality of the Joints

**PEK3 EASYTUBE** joints are, like other parts of the system, very strong and stable. They really can be used over and over again and so guarantee a real cost saving. Even when the recommended torque is exceeded, tests have shown that the joints do not lose their strength.

### 4. The Quality of the Pipes

Steel quality and dimensions are checked regularly to ensure good fit and high quality results. Our stainless pipes meet EU standards and are harder, stronger and more corrosion resistant than the pipes of many competitors.

### 5. The Quality of the Roller Tracks

Roller Tracks are 40mm wide, the steel frames have designed-in support for extra strength and the axles are made from solid steel. These methods guarantee that the rollers will not spring out of the frames and will resist twisting and shock loading.

### 6. The Quality of the Mounting Brackets

**PEK3 EASYTUBE** mounting brackets clip onto the joints and do not require additional fixing with grub screws, drilling or welding.

### 7. The Software Tools

PEK3 is happy to provide a 3D library in a variety of formats showing all parts of the system. This is supplied on request to customers to enable them to design their ideas on computer. On our website (<http://logistics.pek3.com>) we also provide a free of charge software tool for optimisation of cutting pipes and roller tracks. This enables customers to enter the number and dimensions of pipes required and to obtain a cutting list to reduce waste to a minimum.



## PEK3 SERVICES

Choose your method:

### PEK3 Full Service

One of our experienced technicians will visit your company and make recommendations on where the **PEK3 EASYTUBE** system could best be used. Your requirements are used to draw up the designs of the assemblies needed. We then send the material we believe will be needed – and more, so that any changes you may think of during the assembly period can be accommodated. Our team will complete the work on site. Material which is not needed is returned to us. Your advantage: your production processes are not disturbed.

### Design and Assembly Assistance

After visiting your production facility to help you in drawing up a series of designs and requirements, we send you the material you will need to make the assembly. We provide an experienced assembly team leader to direct and assist your staff. Extra material can stay with you. Your advantage: your team gains confidence and experience in the use of **PEK3 EASYTUBE** system and is able to extend the use into other areas, making your production more efficient.

### You design, we assemble

This option is especially useful where a number of identical racks need to be assembled. You send us a photograph, a hand sketch or a CAD Drawing. As soon as all technical details have been discussed and agreed, we can commence building the assemblies. We supply a prototype for your inspection. The assembly takes place either on your premises or ours. Your advantage: your staff are not tied down with the assembly of a large number of applications.

### You design and assemble

You purchase only components, you set up a stock, design and assemble all applications yourself. Of course we are available to offer support at any time. Your advantage: greatest efficiency at lowest cost. **PEK3 EASYTUBE** becomes a tool to improve Lean Production in your facility.



# EASYTUBE



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