

**faigle**



**faigle rollers and components**

for escalators and moving walks

*moving forward*



## We keep more than two billion people moving every day

From department stores to railway stations and airports: escalators and moving walks are now an indispensable means of moving people from A to B in our modern society. They often operate around the clock, sometimes under extreme conditions, meaning that safety and reliability are paramount.

# Escalators and moving walks – an essential means of transport

## Our expertise is virtually unrivalled

faigle has been manufacturing plastic parts for escalators and moving walks since 1968, and has played a decisive part in shaping the evolution of rollers and components. Innovations developed by faigle have set the technological benchmark for the entire industry. This has always been founded on outstanding quality and testing management, which ensures the highest possible levels of product quality. faigle rollers are tested in line with the latest technical standards in the company's in-house labs.

### **State-of-the-art equipment**

We use cutting-edge technology – including high-end CAD systems and the finite element method (FEM) – to develop, design and optimise our products, and calculate specifications during the design phase, as well as Moldflow simulation for the optimisation of injection moulding processes.

### **OEM quality**

Many escalator parts are constantly exposed to a variety of environmental influences such as humidity, oils, detergents and solvents, as well as rainwater, wastewater and salt water. This is why we only supply tested and quality-approved products that meet faigle's factory standards.

### **Expert consulting**

faigle is the world leader when it comes to engineering plastics solutions. Numerous well-known manufacturers from a wide range of industries take advantage of faigle's testing facilities and in-depth plastics expertise as part of their product development processes. As a faigle customer, you benefit from our experience in various industries.

With a track record stretching back more than 70 years, faigle gives you access to the wealth of experience stored in our knowledge database. As plastics experts with extensive knowledge of applications engineering, we can provide you with the best possible technical support.

## faigle's service portfolio includes:

- ✓ Identifying parts
- ✓ Finding compatible components
- ✓ Analysing damage
- ✓ Solving problems such as excessive wear or high noise levels
- ✓ Developing product improvements

# Rollers and components for escalators and moving walks

## Step and chain rollers

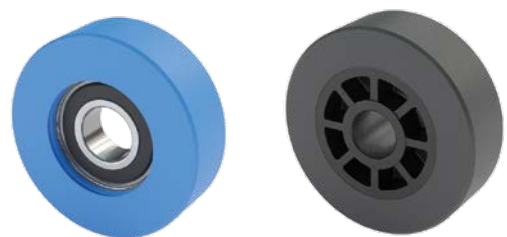
Used in escalators and moving walks, step and chain rollers are highly stressed components. Chain rollers have a key function, absorbing all loads resulting from the weight of the chain and chain hoist, as well as those in the drive wheel. The weight of the steps and the users is largely borne by the step rollers. Flawless functionality, durability and longevity are critical for all types of roller. faigle step and chain rollers are synonymous with outstanding quality, and ensure vibration-free movement and maximum safety for users, both indoors and outdoors.

### Benefits

- ✓ Excellent comfort for users and smooth operation
- ✓ Tested, approved and used for decades by all major escalator manufacturers
- ✓ Safe operation under a wide variety of climatic conditions
- ✓ No hydrolysis-related ageing or damage

### 1K step and chain rollers

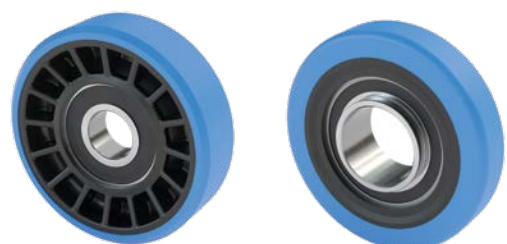
This tried-and-tested roller, which features either a ball bearing or a plain bearing, has been on the market for decades and is in use in millions of moving walks and escalators. The tyre is made of PAS-PU H – a thermoplastic, hydrolysis-resistant polyurethane – and is snapped under pre-tension.



### 2K and 2K HD step and chain rollers

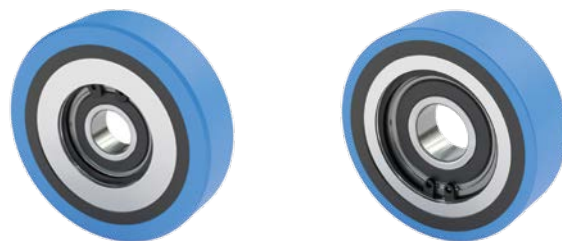
This roller has a ball or plain bearing. The hub is made of glass-fibre-reinforced polyamide and the tyre from the thermoplastic polyurethane PAS-PU H.

The 2K HD roller is designed to handle higher loads, and is fitted with a thicker tyre and a reinforced hub. It is mainly used in heavy duty escalators and shaft heads.



### 3K step and chain rollers

This roller was specifically developed for high-traffic escalators. In line with operators' specifications for these kinds of escalator, it comprises a metal hub made from steel or aluminium surrounded by glass-fibre-reinforced polyamide, a ball bearing and a tyre made of the hydrolysis-resistant thermoplastic polyurethane PAS-PU H.



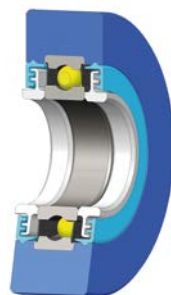
## Ball bearing protection systems

Of all the components in an escalator, the roller ball bearing is the most sensitive to environmental and system changes. If dust, dirt, detergents, solvents or moisture of any kind get into the bearing, this can result in a breakdown.

Based on the principle of a labyrinth seal, our ball bearing protection system is also filled with ball bearing grease. This reduces exposure to environmental influences and protects against premature corrosion. All faigle rollers are fitted with a groove which the ball bearing protection system can be snapped into.

### Benefits

- ✔ Protects bearings against environmental effects – ideal for trouble-free operation in outdoor applications
- ✔ Protects the bearing against premature corrosion
- ✔ Contactless sealing effect guards against additional running resistance
- ✔ Snaps into all faigle rollers: can be used wherever required – the choice is yours
- ✔ Suitable for most escalator types – easy retrofitting



Roller with double seal



Roller with double seal and cover

## Handrail rollers

Handrail rollers guide and support the handrail. faigle handrail rollers are extremely durable. These long-lasting, high-quality, wear-resistant parts help to avoid damage to the sensitive handrail. Free from glass fibre and burring, they also prevent the formation of abrasion and grinding marks.

### Benefits

- ✔ Super-smooth running thanks to special ball bearings
- ✔ Pre-assembly simplifies installation
- ✔ Burr-free and glass-fibre-free surface protects the handrail



## Step bushes

Step bushes connect the escalator stairs to the drive chain.

### Benefits

- ✓ Very smooth running
- ✓ Low wear extends service life
- ✓ Reliable operation whatever the conditions



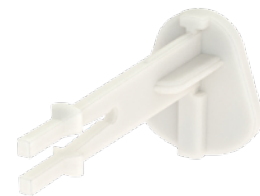
## Sliding blocks

Sliding blocks provide lateral guidance for the steps and prevent them from rubbing against the guide plates. This ensures zero-play, noise-free operation.

The product requires outstanding durability under a wide range of weather conditions. The material is also resistant to oil, grease and anti-corrosives, and delivers a combination of good damping and smooth running properties. When the stairs begin to move, it is essential that no noise is generated, and that the sliding movement does not cause abrasion or squeaking. Our sliding blocks are made from specially designed PAS-PE using fully-automated injection moulding equipment.

### Benefits

- ✓ Low wear extends service life
- ✓ Reliable operation under all conditions
- ✓ Component assembly ensures cost-effective installation
- ✓ Noise-free sliding movement



## Relief tracks, guides, sprocket dampers and roller chains

In addition to rollers, faigle also supplies other components which enhance the comfort and safety of escalators and moving walks, including relief tracks, guides, sprocket dampers and roller chains. Developed by our experts, they fully satisfy the demands of a range of specific applications, and are produced to quality levels tailored to a wide variety of requirements. But our specially designed solutions can do much more than that. Their excellent damping properties ensure noise minimisation, and the careful choice of materials results in longer durability of both the components and the counterparts. Particularly when it comes to wear resistance, optimal sliding properties or achieving a specific friction coefficient, faigle components are the number one choice.

### Benefits

- ✓ Wear-resistant
- ✓ Dimensional stability
- ✓ Noise damping
- ✓ Long service life

# Materials: outstanding quality, optimal solutions

## PAS-PU H

The tyres for our rollers are made from faigle PAS-PU H, a thermoplastic polyurethane. We offer a range of different hardness levels – from 90 Shore A to 64 Shore D – depending on your application.

### Hydrolysis resistance

Compared to conventional materials, hydrolysis-resistant PAS-PU H can more than double a roller's service life – especially in high-humidity environments. This means our rollers operate reliably in parts of the world where other materials fall short. Conventional polyurethane can become brittle and cracked if it is permeated by moisture. More than 20 years of real-world use and a range of tests have conclusively underlined the longevity of faigle rollers.

### Damping behaviour

PAS-PU H has excellent damping qualities and is highly effective in absorbing shocks and troublesome vibrations.

### Resilience

PAS-PU H effectively prevents the permanent deformation or flattening of wheels in your application thanks to its excellent resilience, which is far superior to that of cast polyurethanes, for example.



Damage caused to non-hydrolysis-resistant rollers after immersion in water for 1,000 hrs at 80° C

## faigle ball bearings

The ball bearing is one of the key components of a roller – making it a decisive factor in terms of reliability. Choosing high-quality ball bearings helps to avoid problems in the long run. Our SFBC ball bearing range has been developed to our very own standards and specifications. We produce around 15 million ball bearings a year, and we work with a small number of selected, long-standing, audited and certified partners in the premium quality segment. We also carry out ball bearing quality checks in-house. So you can be sure that every ball bearing has been rigorously tested before it leaves the factory. And this translates into superior quality and a long service life.

### Special features of our SFBC range

- ✓ Very smooth running
- ✓ Durable
- ✓ Increased grease filling

### Additional options

- ✓ Special, customised grease fillings for ball bearings
- ✓ In-house ball bearing testing laboratory
- ✓ Stainless steel ball bearings for special applications
- ✓ Ball bearings from well-known premium manufacturers such as SKF, FAG and NSK (on request)

## Quality and expertise you can count on – from a leading global manufacturer



### faigle quality

- ✓ OEM quality that pays dividends
- ✓ Hydrolysis-resistant rollers made from PAS-PU H
- ✓ High-quality ball bearings for unbeatable reliability and ultra-smooth running

### faigle expertise

- ✓ Developing custom solutions
- ✓ Applications engineering consulting

### faigle flexibility

- ✓ Local-for-local production in Europe and China
- ✓ All catalogue items in stock

### faigle product portfolio

- ✓ Rollers available for most escalator types built since 1970
- ✓ Plastic wearing parts

If you have any questions or need further information, we'll be happy to talk to you in person on +43 5574 6811 or write to us at [escalators@faigle.com](mailto:escalators@faigle.com)

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Scan the QR code below for details of our standard roller range and lots of other useful information. You can also find clear and detailed descriptions of all our products on the faigle website at [www.faigle.com](http://www.faigle.com)

