



Planning Guide for Escalators and Moving Walks

The best solutions require
step-by-step preparation







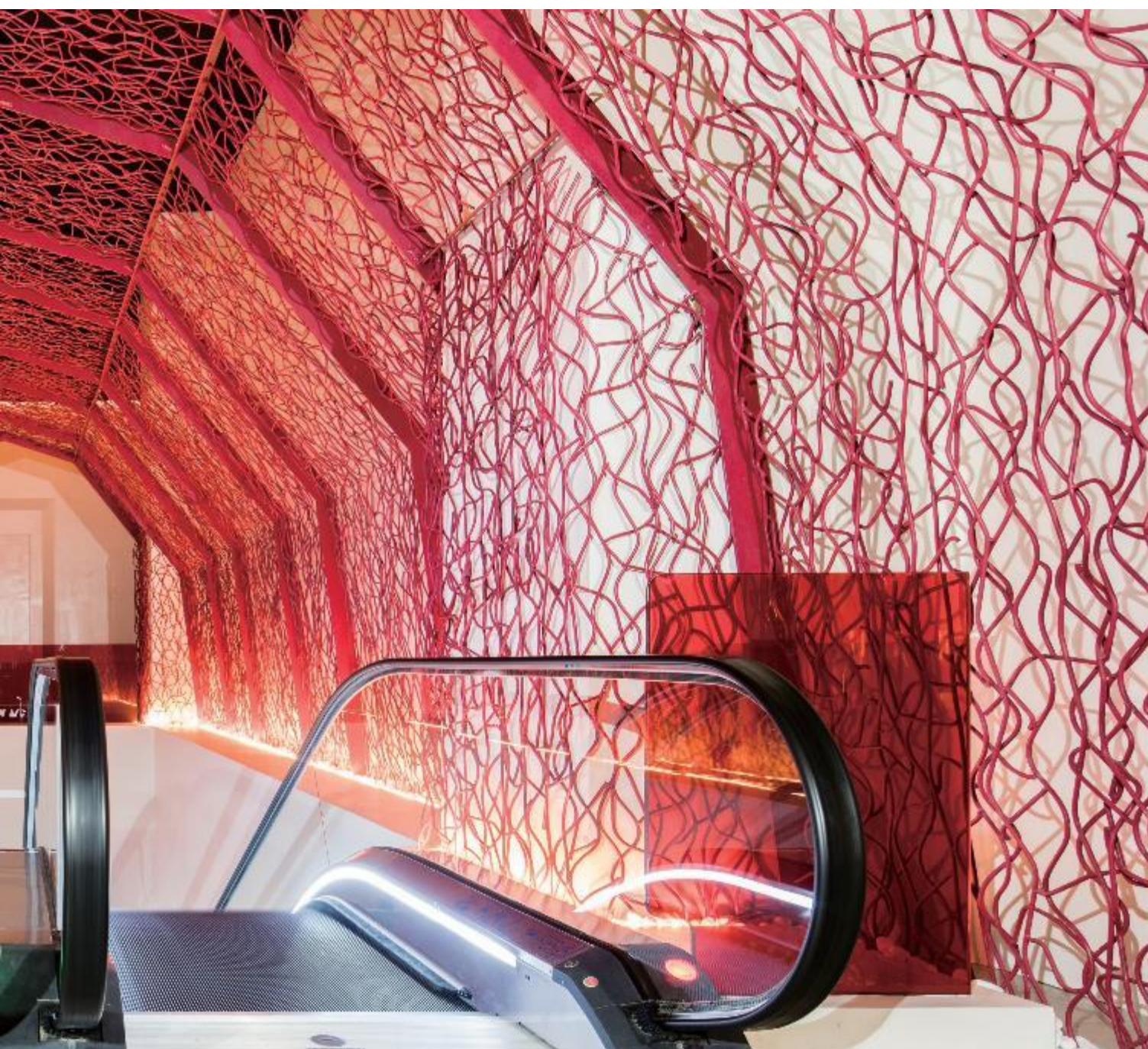
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Introduction

No invention has had more of an influence on shopping and urban mobility than the escalator. Over the past 100 years, the escalator has opened up a whole new world as a simple means of connecting different floors – a world we now move around in as a matter of course.



The escalator was the most radical element in this architectural change process, and even today it is still the most popular installation in our environment of public mobility – even if it is the one least perceived by its users.

Escalators and moving walks still play a key role in transporting large numbers of people. Planning

escalators and moving walks correctly in shopping centers, trade fair centers, stores, movie theaters, and public transportation facilities is essential for business success and the smooth flow of people. **This brochure is your universal guide to all the main process stages, from project planning to commissioning.**

Why Escalators and Moving Walks Matter



Commercial sector

Escalators and moving walks are used to increase customer density and thus help boost sales in buildings used for commercial purposes. The practice on page 7 taken from functional examples clearly illustrate how and why.





Department store

A three-story department store in the center of a European capital had three elevator units operated by a single control system. The objective here was to boost sales on the upper floors by 20 percent by increasing customer flow.

At the planners' recommendation, the owner opted to install escalators. As a result, customer flow was substantially increased and sales rose by more than 30 percent.

Grocery store

A retailer provided access to the upper floor of his store using two comfortable and attractively designed glass elevators. Moving walks had not been installed for space reasons. Even after the elevators had been in operation for some time, the budgeted sales figures on the upper floor were not achieved due to insufficient customer flow.

Once moving walks were installed, sales increased several-fold.



Underground parking garage

A centrally located department store with a food hall and a multi-story underground parking garage was unable to achieve its targeted turnover objectives in the food hall. Internal analyses showed that elevator access as a whole was insufficient. Using moving walks to provide access to all underground levels solved the problem as customers were able to get directly to their cars with their shopping carts. The sizable investment into the retrofit installation was justified by the increase in sales.

HOPSCA

Complexes of hotels, offices, parks, shopping malls, clubs, and apartments, known as HOPSCA, are sprouting up as investment in commercial real estate increases all around the world.

In addition to escalators stopping at each floor, multi-floor escalators can bring passengers directly to the destination floor. This can help distribute the vertical passenger flow more evenly and benefit the passengers to gain a higher mobility efficiency inside the giant HOPSCA facility.



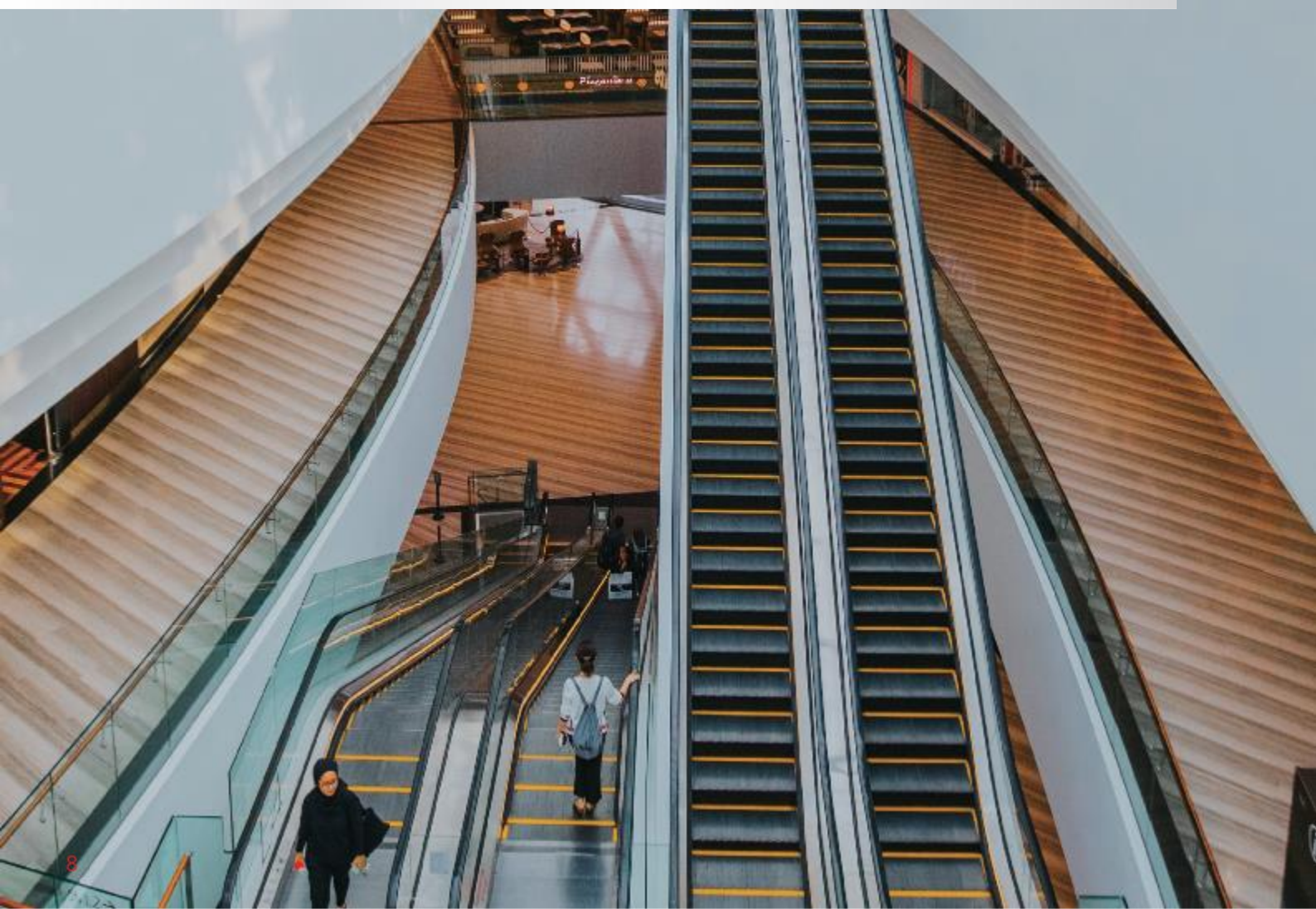
Why Escalators and Moving Walks Matter



Public sector

Transporting large numbers of people efficiently is the top priority in public transportation.

Schindler offers customized solutions for this area of application. Our escalator experts can tell you all about the special configuration options.





Escalators, moving walks, and elevators

In the commercial and public sector, escalators and moving walks as well as elevators ensure a smooth traffic flow. Our experts will suggest the right choice and combination to suit your specific requirements.

Advantages of escalators and moving walks

- Escalators and moving walks with a moving step/pallet band look inviting.
- Escalators and moving walks help channel passenger flow.
- Escalators and moving walks have a high transportation capacity.
- Escalators and moving walks are open and convey people continuously.
- Escalators and moving walks ensure that all floors are frequented evenly.

Interactive Configuration With Schindler Digital Plan & Design



Schindler Digital Plan & Design is a design portal where architects and planners can obtain valuable product and design information to help with building planning.

By providing us with some very simple details about your project, Schindler Digital Plan & Design will recommend Schindler product solutions that best fit your design.

Schindler Digital Plan & Design is our online planning and design tool. You can download your specific escalator or elevator planning data in the form of CAD drawings (dwg, dxf), BIM models (ifc), or written specifications (docx). With just a few clicks, we are able to provide you with a product specification and a detailed layout drawing.

Website: <https://digitalplan.schindler.com/>



Compose Your Building Using BIM



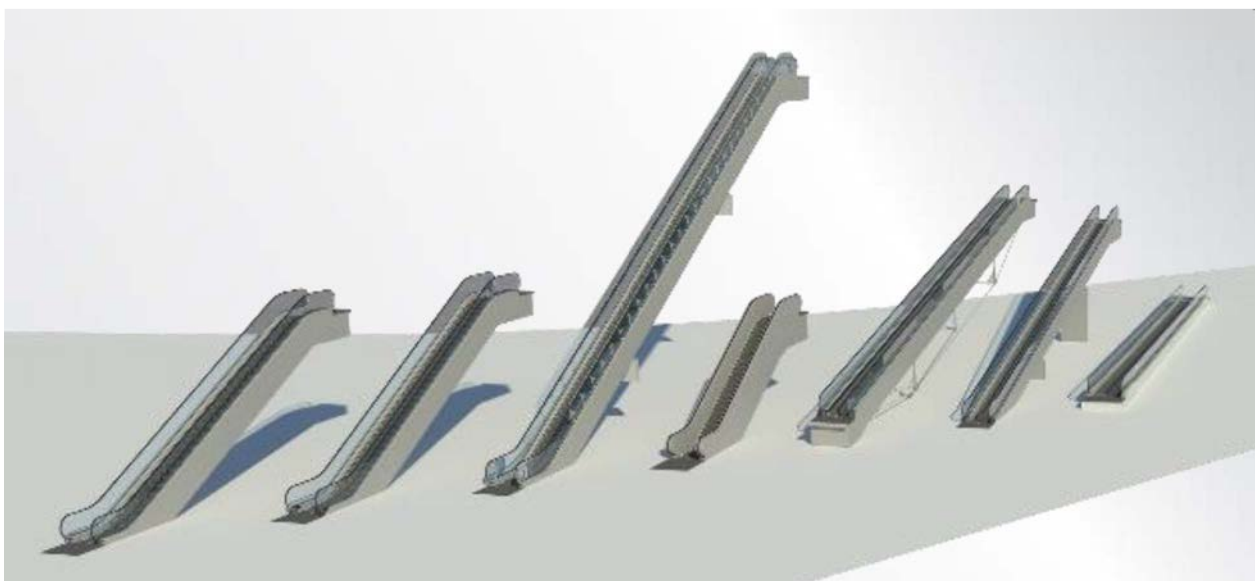
Building Information Modeling is a highly collaborative process that allows multiple stakeholders and AEC (architecture, engineering, construction) professionals to collaborate on building planning, design, and construction within a single 3D model.

Schindler offers escalator and moving walk BIM at LOD 300, providing a detailed view of the content and

reliability of models at various stages in the design and construction process.

Schindler's preferred solution for BIM models is Autodesk Revit.

3D models in this brochure were created by Schindler's BIM service.



Basic Planning

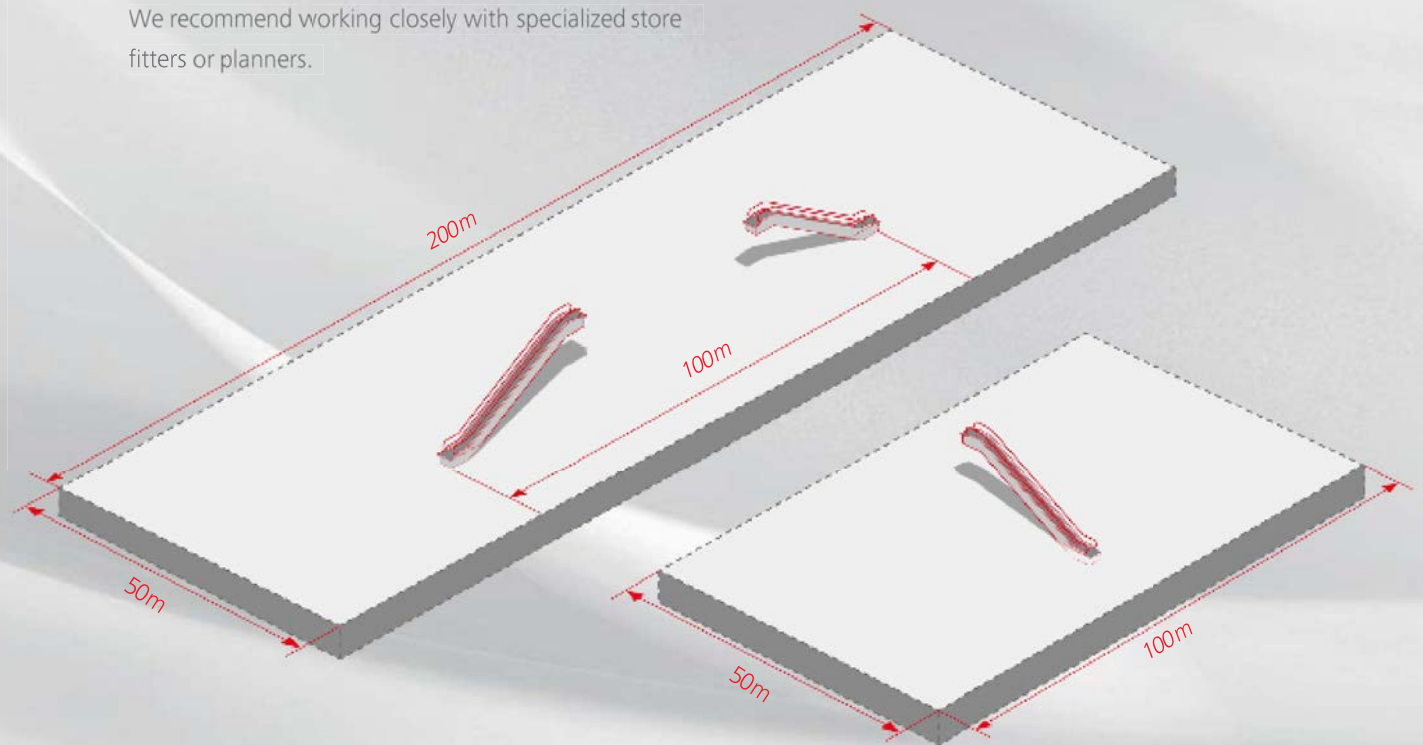
Positioning escalators and moving walks within a building

Basically, to achieve optimal customer density, the movement of customers within the building has to be facilitated.

Distances in excess of 50 m should be avoided on commercial premises and in office buildings. The figures below show basic escalator arrangements.

Customer circulation on sales premises depends on different criteria, such as the layout of the goods on sale. Fast-moving goods are usually sold in areas that are farther away from escalators.

We recommend working closely with specialized store fitters or planners.





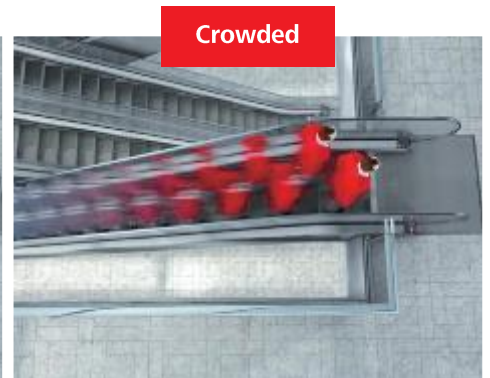
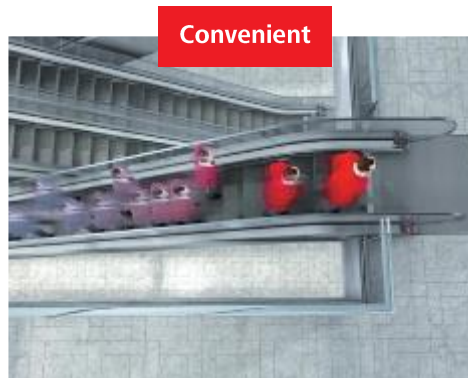
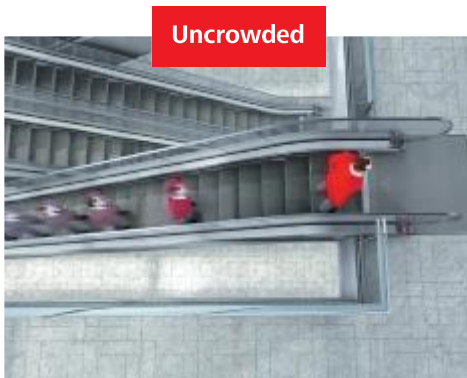
Escalators or moving walks?

Moving walks should be provided as a matter of principle whenever shopping or baggage carts are to be transported.

How many escalators or moving walks?

To determine the transportation requirements (persons per hour), you need to consider the following parameters:

- Peak traffic times (office opening and closing hours)
- Population factor based on net usable area
- Customer turnover rate per floor in department stores
- Level of traveling comfort required on the unit (uncrowded, convenient, crowded)



Basic Planning

Once the transportation requirements have been stipulated, you can determine the number of escalators or moving walks required.

The theoretical transportation capacity depends on the width and speed of the escalators. The effective transportation capacity depends on passenger density and step width. Please refer to the table below, which

is in accordance with EN 115-1. Please consider the peak hour passenger traffic in order to determine the number of required escalators. The capacity of moving walks is calculated accordingly, taking into account transportation of shopping and baggage carts. The safe integration of escalators and moving walks in buildings is based on local standards. In most countries, EN 115-1 is the applied safety standard. The valid standard in China is GB 16899, while A17.1 is applicable in the US and Canada. Additional local rules may apply. Please contact the local Schindler sales office.

Maximum capacity according to EN 115-1

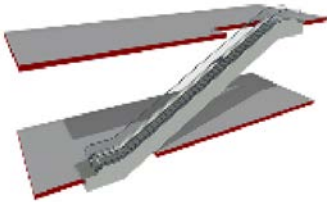
Step/pallet width [m]	Nominal speed v [m/s]		
	0.50	0.65	0.75
0.60	3,600 persons/h	4,400 persons/h	4,900 persons/h
0.80	4,800 persons/h	5,900 persons/h	6,600 persons/h
1.00	6,000 persons/h	7,300 persons/h	8,200 persons/h

Note 1: Use of shopping and baggage carts will reduce the capacity by approximately 80%.

Note 2: For moving walks with pallets in excess of 1.00 m, the capacity is not increased as the users need to hold the handrail. The additional width is principally to enable the use of shopping and baggage carts.

Basic Planning

Arrangement of escalators and moving walks



Single unit

The single unit is used to connect two levels. It is suitable for buildings with passenger traffic flowing mainly in one direction. Flexible adjustment to traffic flow (e.g., up in the morning and down in the evening) is possible.



Continuous arrangement
(one-way traffic)

This arrangement is used mainly in smaller department stores to link three sales levels. It requires more space than the interrupted arrangement.



Interrupted arrangement
(one-way traffic)

While relatively inconvenient for the user, for the owner of the department store it provides the advantage that due to the spatial separation of the upward and downward directions, customers have to walk past specially placed merchandise displays.



Parallel, interrupted arrangement
(two-way traffic)

This arrangement is used mainly in department stores and public transportation buildings with heavy traffic volumes. When there are three or more escalators or moving walks, it should be possible to reverse the direction of travel depending on the traffic flow.



Crisscross, continuous arrangement
(two-way traffic)

This type of installation is the one used most frequently as it allows customers to travel quickly to the upper floors without any waiting time.

Depending on how the escalators are positioned, the store fitter can open up the view onto the shop floor to stimulate customer interest in the goods on display.



Basic Planning

Proper inclination

Escalators

Inclinations of 30° and 35° are the common international standard for escalators in the commercial sector.

Inclinations of 30° and 27.3° are the common international standard for escalators in the public transportation sector.

30° inclination

This is the most popular escalator inclination. It balances well the passenger comfort, safety and overall length of the escalator. It has been commonly used in all kinds of facilities.

35° inclination

The 35° escalator is the most space-efficient solution. However, this inclination is perceived as too steep if rises exceed 6 m – particularly in downward travel. According

to EN 115-1, a 35° inclination is not permissible for rises above 6 m.

27.3° inclination

This inclination is the normal angle for a staircase. It is ideal when the escalator is installed adjacent to a staircase as it provides a good alignment between the escalator truss and the staircase. However it demands more space in the facility.

Moving walks



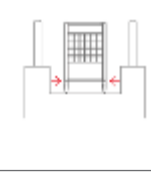

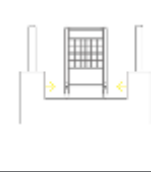

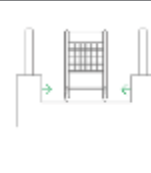


Inclinations of 10°, 11°, and 12° are the common international standard for inclined moving walks. Users find that a 10° inclination provides the most comfortable ride. A 12° inclination is used when space is limited.

Horizontal moving walks without transition curves can generally be provided for inclinations between 0° and 6°.



Basic Planning

Optimal step and pallet widths

Optimal step and pallet widths	Escalator	Inclined moving walk (10°–12°)	Horizontal moving walk (0°–6°)
600 mm	Used for very restricted space 	–	–
800 mm	Used for less frequented units or where space is restricted 	Used where space is restricted and shopping carts with a max. overall width of 400 mm are used 	–
1,000 mm	Provides the user unimpeded access to the step band, even with baggage and shopping bags 	Best compromise between space and capacity for shopping carts for a max. overall width of up to 600 mm 	Used for restricted space 
1,100 mm		Provides unimpeded access and allows shopping carts with a max. overall width of up to 700 mm 	–
1,200 mm	–	–	Best compromise between space and transportation capacity: space for one passenger beside another pushing a baggage cart 
1,400 mm	–	–	Provides unimpeded access and allows two passengers with baggage carts side by side 

Basic Planning



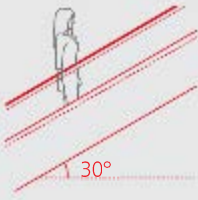


Optimal speed

Speed not only has a considerable impact on the potential transportation capacity of escalators and moving walks, it also influences the space requirements. The tables below summarize the different product configurations depending on speed.

0.5 m/s for continuous customerflow

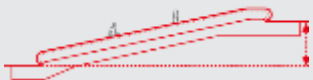

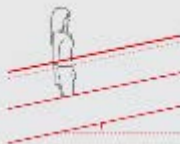

This is the optimal speed for all escalators and moving walks in the commercial sector. The combination of sufficient transportation capacity, optimal safety, and minimum space requirement makes this speed the worldwide standard for this application.

Escalators: table according to EN 115-1 (other national regulations can be met)

Rise	Speed	Maximum inclination	Horizontal step run [mm]	Radii of curvature [m]	
					
				R top	R bottom
H ≤ 6 m	≤ 0.5 m/s	35°	800	R ≥ 1	R ≥ 1
	> 0.5 ≤ 0.65 m/s	30°	1,200	R ≥ 1.5	R ≥ 1
	> 0.65 ≤ 0.75 m/s	30°	1,600	R ≥ 2.6	R ≥ 2
H > 6 m	≤ 0.5 m/s	30°	1,200	R ≥ 1	R ≥ 1
	> 0.5 ≤ 0.65 m/s	30°	1,200	R ≥ 1.5	R ≥ 1
	> 0.65 ≤ 0.75 m/s	30°	1,600	R ≥ 2.6	R ≥ 2

Moving walks: table according to EN 115-1 (other national regulations can be met)

No regulation for radii of curvature

Rise	Speed	Inclination	Horizontal pallet run [mm]
			
Not limited by standards	≤ 0.75 m/s*	0°–6°	not required
	≤ 0.5 m/s**	10°–12°	400 at the top 1,600 at top and bottom pallet width ≤ 1,100

* v ≤ 0.65 m/s is recommended

** In the case of moving walk operation with shopping or baggage carts

Basic Planning

Optimal speed

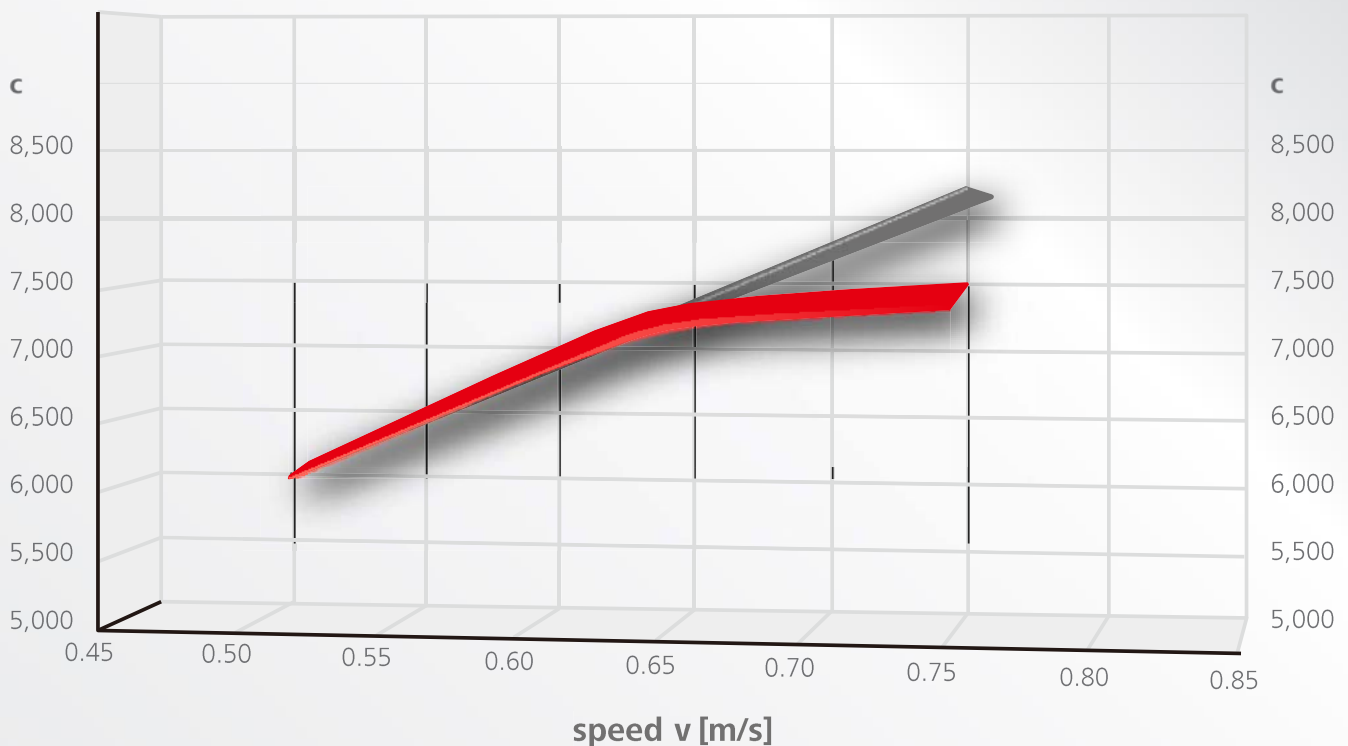
0.6 or 0.65 m/s for intermittent transportation requirements

This speed is recommended for intermittent passenger arrivals, as at railway stations or subway stations. It has also proven effective at trade fair centers. Longer horizontal runs and larger transition curves are required at these speeds to guarantee highest safety and an optimal loading factor of the escalator or moving walk.

0.75 m/s for extreme transportation capacity

Although speeds up to 0.75 m/s are possible, they are not recommended as the effective transportation capacity will not increase much further and there is an increased danger of children or elderly people tripping or falling in the landing areas.

Transportation capacity c (persons / h) as a function of speed
 c = theoretical transportation capacity (persons/h) for a nominal width of 1,000 mm



— c max. capacity acc. EN 115-1
— c effective
 v = speed in m/s

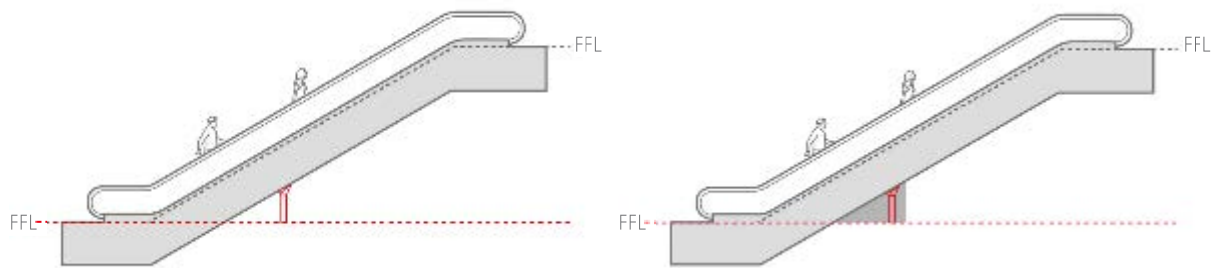
Basic Planning

Escalators and moving walks with long distances between end supports

In the case of higher rises, EN 115-1 requires an intermediate support in order to minimize truss deflection. The rules as to when to apply intermediate supports are indicated in the product-specific Schindler layout drawings.

In order to optimize building space, intermediate supports can be positioned near the bottom pit. Our experts can help you determine the solution that best fits your building.

FFL=Finished floor level

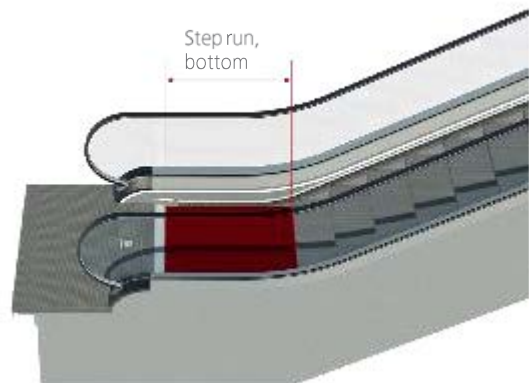


Detailed Planning



Standards

The European EN 115-1 standard defines the safe structural design and safe installation of escalators and moving walks in buildings. The planning instructions in this brochure refer to these regulations. The standard-compliant inclination and speed have already been discussed in the sections “Proper inclination” and “Optimal speed”



Transportation of wheelchairs and baby carriages

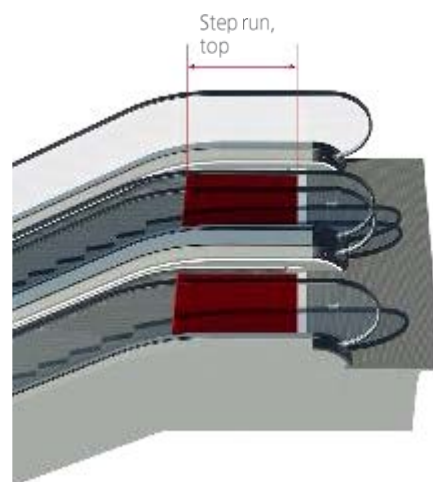
Escalators and moving walks are not suitable for transporting wheelchairs and baby carriages. It is recommended to post a sign in the access area of escalators and moving walks indicating where the nearest elevators are located.

Space requirement

Step/pallet runs and transition radii

The correct number of horizontal steps/pallets in the landing areas (i.e., the step/pallet run) as well as the correct radius between horizontal and inclined sections of escalators and inclined moving walks according to EN 115-1 depend on the rise, the inclination, and the rated speed.

The standard-compliant step/pallet run and inclination radius are indicated on page 19.



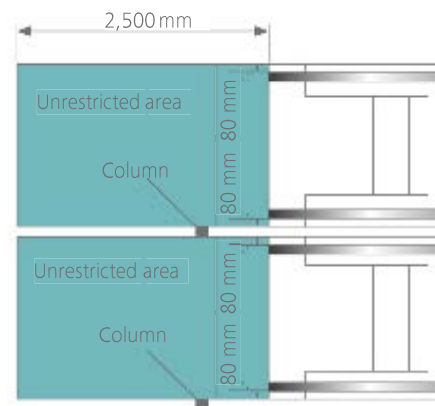
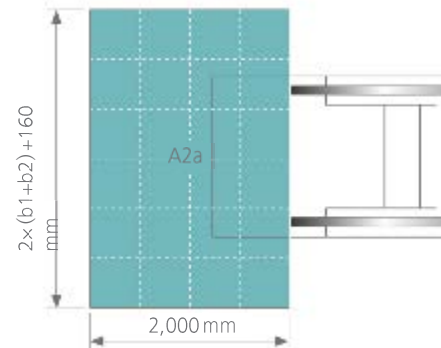
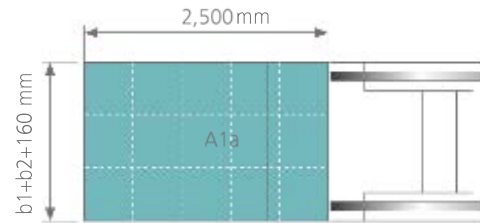
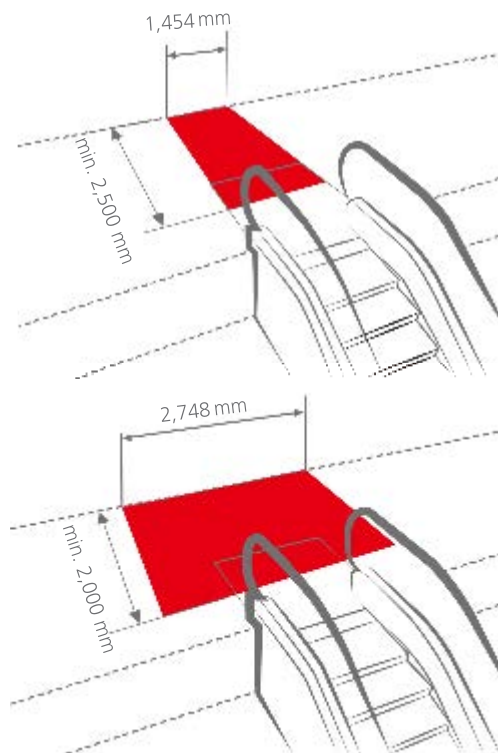
Detailed Planning

Free space

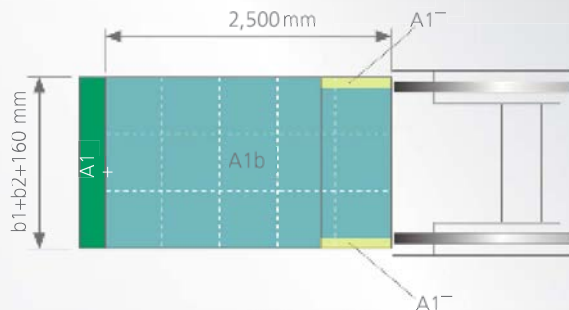
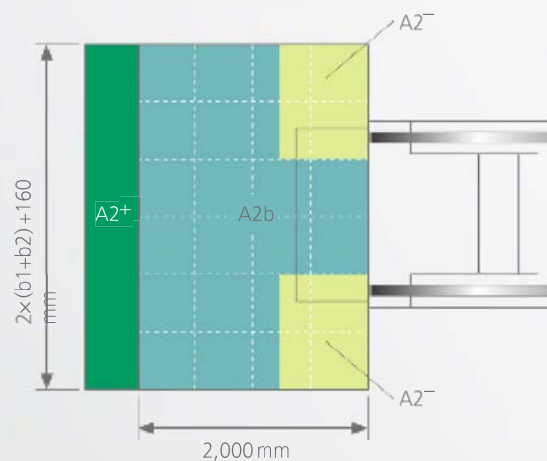
Free space

To ensure safe use of the escalators and moving walks, a sufficient amount of free space must be provided at the upper and lower landings (see figures for minimum dimensions according to EN 115-1).

Examples based on a Schindler 9300 escalator with a step width of 1,000 mm



According to EN 115-1, if fixed passenger guide bars are placed inside the unrestricted area, the size of the unrestricted area shall remain the same and in this case be extended in length (see figures below).



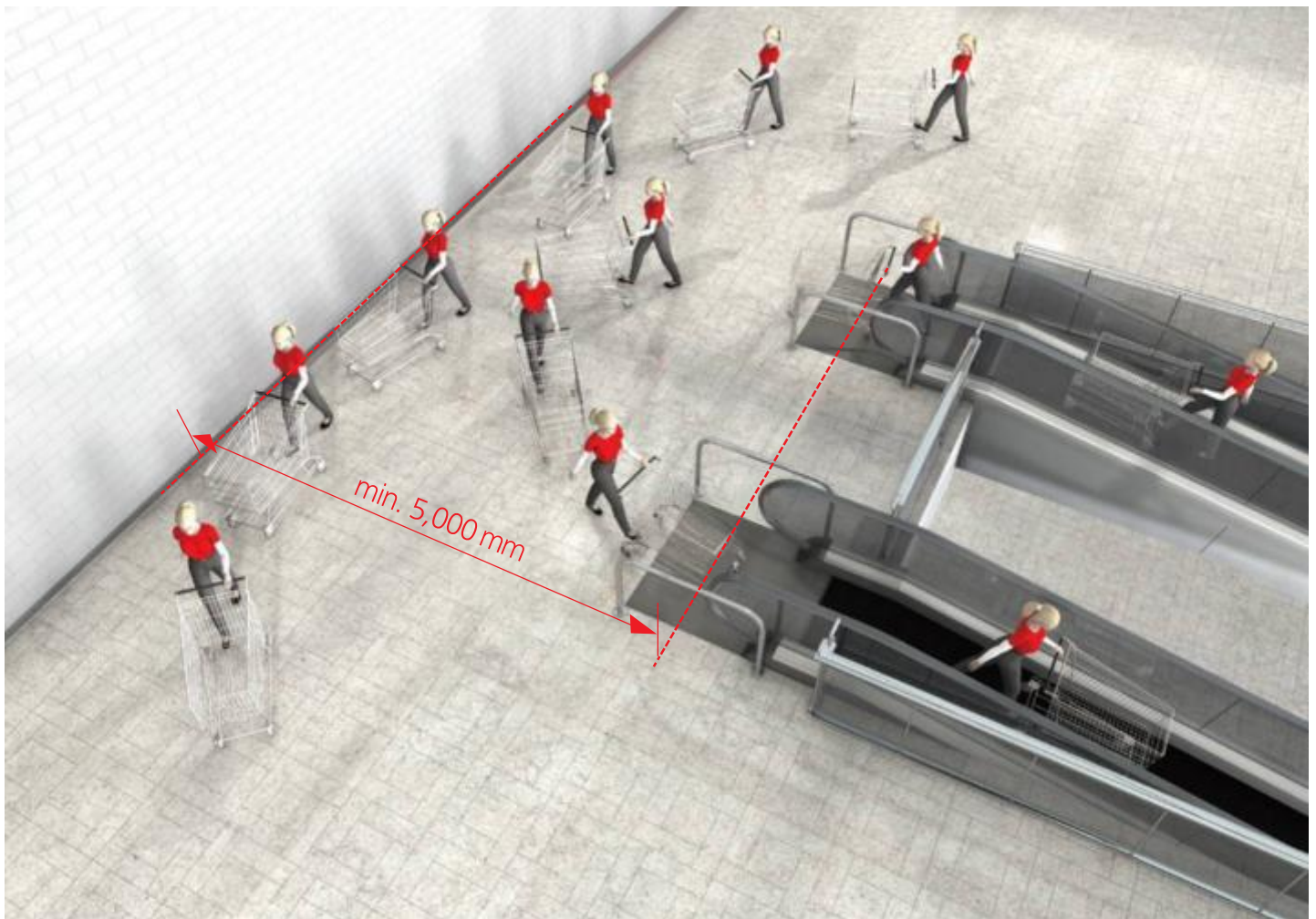
b1 acc. to EN 115-1 = distance between the handrail center lines
 b2 acc. to EN 115-1 = width of the handrail
 A1 = size of unrestricted area
 A2 = size of unrestricted area with reduced depth
 $A^+ = \sum A^-$

Please refer to page 52 to 57 for detailed information on 'Barriers to Prevent Access of Shopping and Baggage Carts'

Detailed Planning

Free space

For moving walks that are expected to have a high traffic volume and that are also designed for transporting shopping and baggage carts, the free spaces **recommended by Schindler** should have a length of at least 5 m. Passenger guide bars, as shown in the picture below, need to be installed outside the free space, otherwise special regulations according to EN 115-4 apply. Fixed stairs are prohibited in the unrestricted area. This area must be flat. A maximum inclination of 6° is permissible.



Detailed Planning

Building interfaces

Building interfaces and connections to other installations

Building interfaces

The schematic drawing shows all dimensions that need to be indicated in your building drawings. They need to match the dimensions as given in our layout drawings.

Electrical connections

The electrical connection is generally made at the upper escalator/moving walk station. The number and minimum cross-section of the connecting cables are specified in our layout drawing. The supply connection is to be provided by the customer and carried out by an authorized electrician.

Sprinklers

If required by the customer, sprinkler tubing can optionally be fitted to the escalator/moving walk. The installation of the sprinkler heads and the connection of the sprinkler tubing are to be provided by the customer and carried out by an authorized specialist.

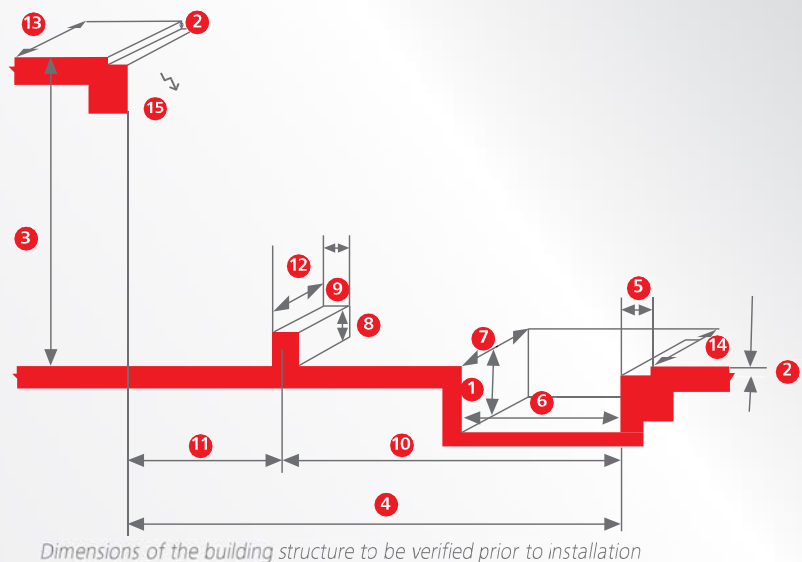
Fire control system

The applicable national regulations for commissioning fire control systems must be observed.

Oil separator

An oil separator has to be fitted when installing escalators/moving walks outdoors. If the oil separator is supplied by Schindler (optional), the customer must provide a recess in the escalator/moving walk pit and a water drain.

- 1 Pit depth
- 2 Pocket depth in relation to finished floor
- 3 Vertical rise
- 4 Support distance
- 5 Pocket width
- 6 Pit length
- 7 Pit width
- 8 Intermediate support height
- 9 Intermediate support width
- 10 Intermediate support distance to bottom support
- 11 Intermediate support distance to top support
- 12 Intermediate support length
- 13 Pocket opening width
- 14 Pocket opening width
- 15 power supply location



Detailed Planning

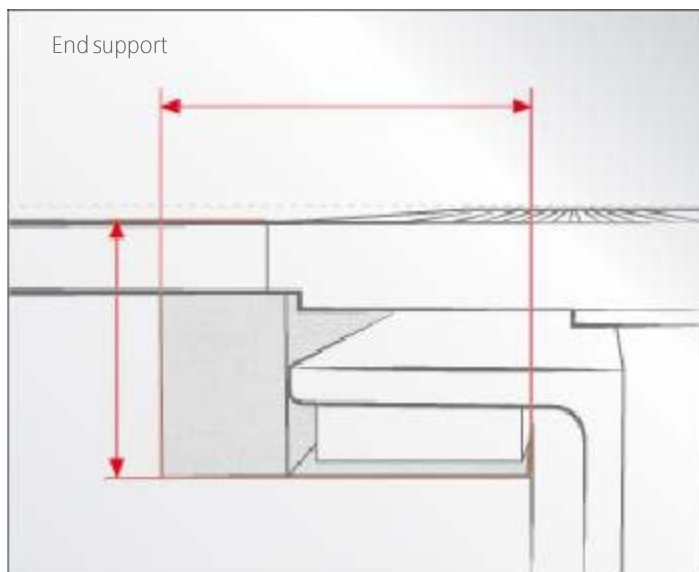
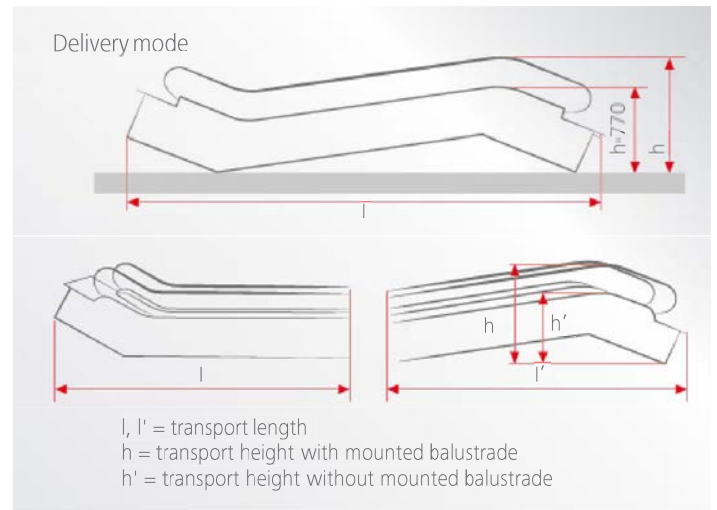
Building interfaces

Delivery modes

In the case of truck delivery, the escalator is delivered in one part with balustrades assembled.

If there is insufficient clearance, the escalator/moving walk can be supplied without mounted balustrades.

In the case of long escalators/moving walks or restricted space conditions, the escalator/moving walk can be delivered in two or more parts. However, due to the increased transportation and assembly costs, this form of delivery should be used only where unavoidable.

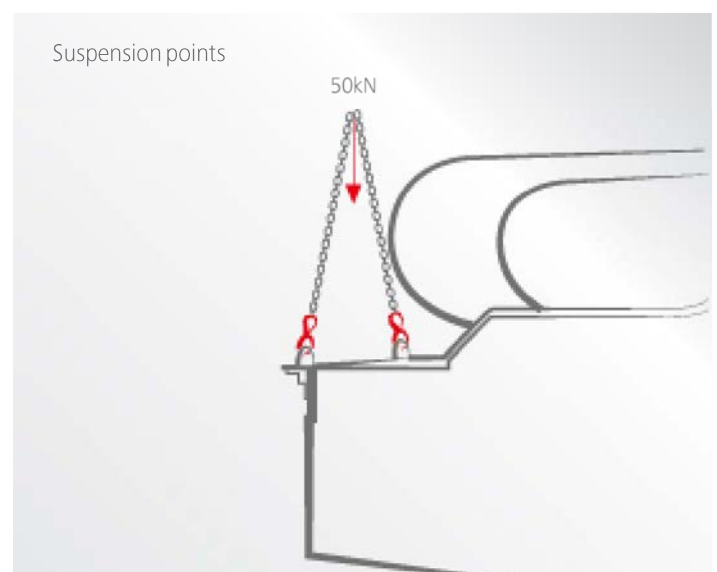


Recess clearances, floor openings, supports

Please refer to our dimension sheets and the project-specific layout drawing for all the necessary recess clearances, floor openings, and supports.

Suspension points to be provided by the customer

Suspension points for pulley blocks for the proper movement and placement of the escalator/moving walk are to be provided by the customer. The suspension points must be positioned along the symmetry axis of the escalator/moving walk above the end supports and – where applicable – the intermediate supports. The exact position is indicated in our layout drawings. The suspension points must be rated for a load of 50 kN.





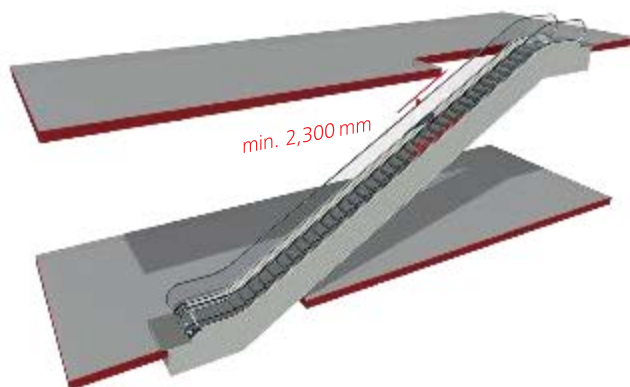
Detailed Planning

Safety, regulation-compliant



Balustrade height

Balustrades are available in heights of 900, 1,000 and 1,100 mm. The advantage of 900 mm balustrades is that even small children can easily reach the handrail. For greater fall heights we recommend balustrades with a continuous height of 1,000 mm. A balustrade height of 1,100 mm is also available if required under national regulations.



Overhead clearance

The free overhead clearance at every point along the step/pallet band must be at least 2.3 m.

Safety clearances

The horizontal clearance from the outer edge of the handrail to the walls or other obstacles must always be at least 80 mm. This clearance must be maintained up to a height of at least 2.3 m above the step/pallet band. With vertical walls, all Schindler escalators and moving walks provide the specified safety clearance of 80 mm.



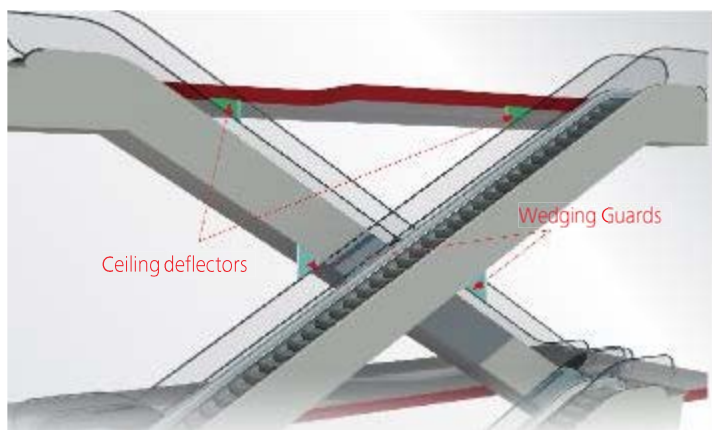
Detailed Planning

Safety, regulation-compliant

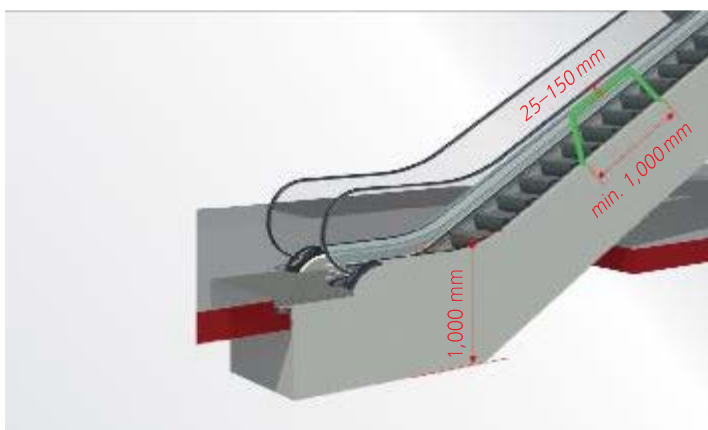
Ceiling deflectors, wedging guards

With escalators and moving walks arranged in a crisscross pattern or with floor openings, there is a risk of wedging between balustrades and adjacent escalator/moving walks or ceilings and columns. If the distance between the outer edge of the handrail and the obstacle is less than 400 mm, wedging guards or ceiling deflectors are to be provided.

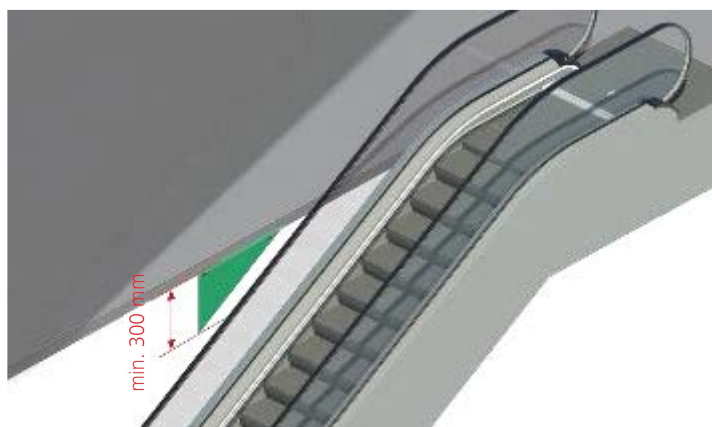
Deflectors must be rigidly mounted in order to meet all requirements. A pendulously mounted deflector can be used in addition to the mandatory rigidly mounted deflector.



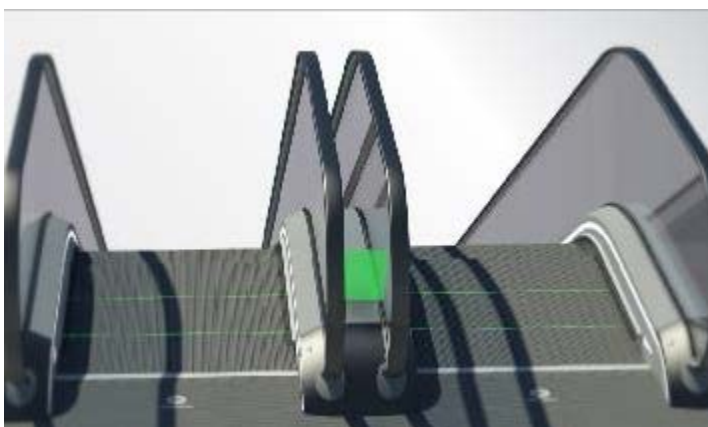
Wedging guards



Guards against climbing the balustrade



Ceiling deflectors



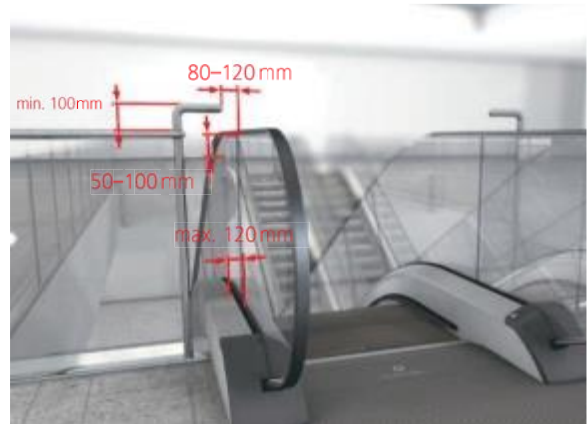
Protective barrier between balustrades

Detailed Planning

Safety, regulation-compliant

Railings provided by the customer





Railings are to be fitted by the customer at the accesses to the escalators and moving walks. The distance to the handrail of the escalator/moving walk must be at least 80 mm. It is recommended that the support for the escalator/moving walk be at least 1,000 mm away from the ceiling edge so that the balustrade does not have to be extended.



Detailed Planning

Balustrade executions

Depending on the application, different balustrade executions are recommended according to the table below.

	Vertical glass balustrade with slim handrail profile and 10 mm hardened safety glass	Vertical glass balustrade with sturdy handrail profile and 10 mm hardened safety glass	Vertical stainless steel balustrade and 10 mm stainless-steel sandwich panel	Inclined stainless-steel balustrade stainless steel panels
Balustrade type				
Escalators	x	x	x	x
Inclined moving walks	x	x	x	x
Horizontal moving walks	x	x	x	--
Standard balustrade height	900/1,000 mm	900/1,000 mm	900/1,000 mm	1,000 mm
Application	Slim handrail base profile for a visually light appearance preferred by architects and interior designers of modern buildings	Visually light appearance but with more sturdy profile and increased robustness	Vandalism-resistant design for public applications	Vandalism-resistant design with increased space for passengers due to inclined balustrade design
Suitable for	Retail and airport applications	Railway, metro, and other applications in public spaces	Railway, metro, and other applications in public spaces	Railway, metro, and other applications in public spaces



Antifall barrier

An additional antifall barrier is installed on the outside of the existing handrail to increase the barrier height and reduce the risk of a passenger falling.

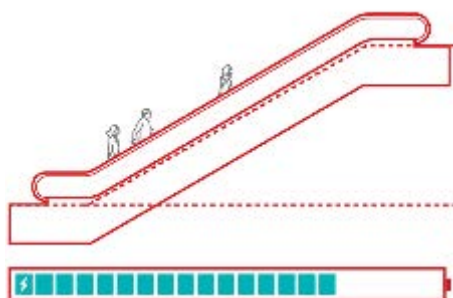
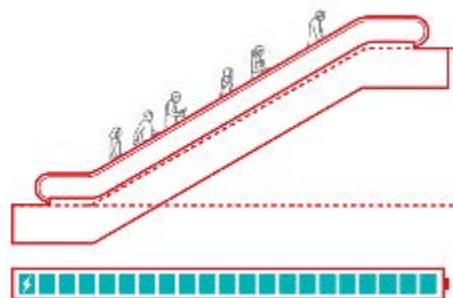
Detailed Planning

Operating modes and energy efficiency

The operating mode of the escalators/moving walks can be adapted to the application. There are essentially four operating modes:

- Continuous operation
- Stop-&-go operation
- Slow-speed operation & continuous operation
- Slow-speed operation & stop & continuous operation

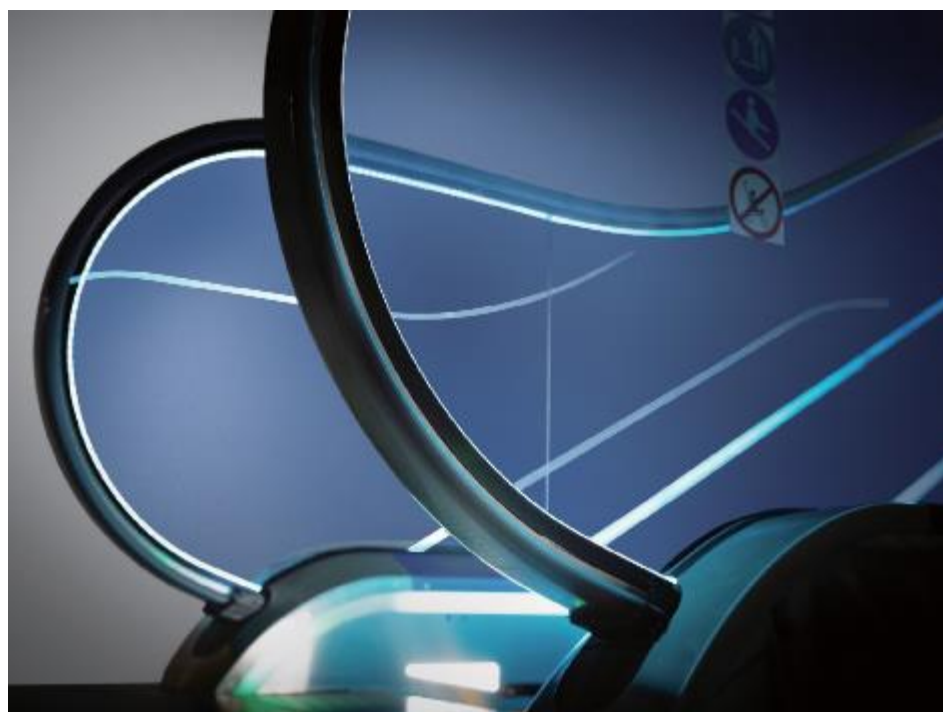
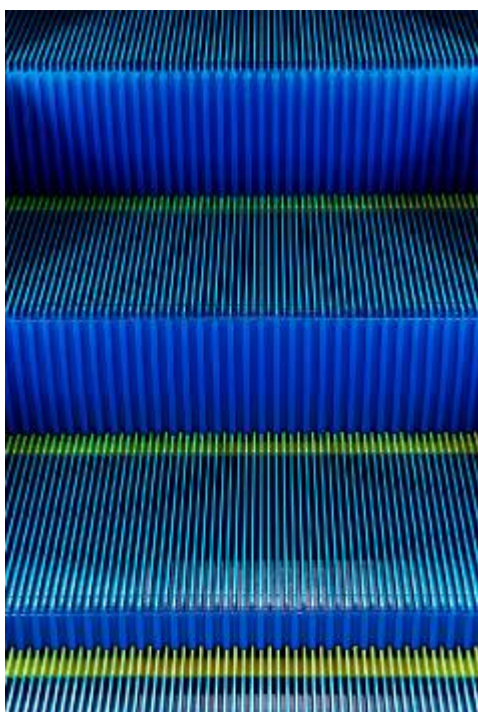
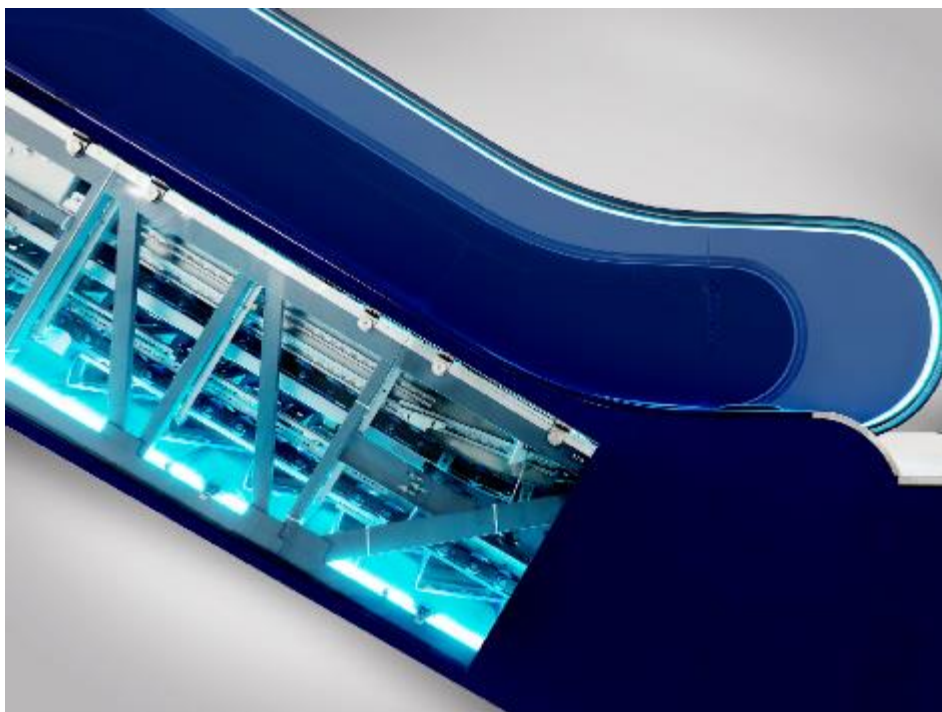
Schindler escalators and moving walks offer optimized energy-saving packages for all four operating modes according to the table below.



Operating mode	ECO	Recommend Solutions	
		ECO Premium	ECO Premium Plus
Description	Continuous operation with automatic star-delta switching of the motor for highest motor efficiency depending on the number of passengers using the escalator	ECO mode + slow-speed operation in the case of absence of passengers.	ECO + ECO Premium + complete stop of the escalator after running some time in slow-speed operation
Operation graph			
Advantage		Mechanical wear is considerably lower. The readiness for operation and the direction of travel are indicated by the slowly moving steps. Approaching passengers are invited to use the unit	Same as ECO Premium with greater energy savings
Application	Application with continuous passenger arrivals over the whole daily usage time	Recommended for all applications	Recommended for special applications where longer times without passengers are expected, such as special gates in airports or other spaces with limited usage
Energy savings compared to continuous operation	Up to 25%	Up to 50%	Up to 70%

Detailed Planning

Schindler 9300 Premium Packages offer a wide range of exterior options featuring, among others, the enchanting night blue color theme.



Distinctive and highly customizable options are available for planning escalators and moving walks. The options include additional LED lighting and colored handrails, newel end caps, and deckings.

Contemporary aesthetic details can complete architectural needs and enhance the building environment as well.

Handrail



Black



Yellow



Blue



Green



Red



Customized logo

Decking



Stainless Steel



Powder Ctd. RAL 1013



Powder Ctd. RAL 3004



Powder Ctd. RAL 7030



Powder Ctd. RAL 9002



Powder Ctd. RAL 9006

Decorative lighting



LED balustrade lighting



LED skirt lighting



LED-spot skirt lighting

Floor cover



Ribbed aluminum, natural



Stainless Steel, Staggered

Direction indicator



On outer decking



On skirting



For stainless-steel balustrade

Step



Natural step



Silver step



Black step



Silver step with yellow demarcation



Black step with yellow demarcation













Detailed Planning

Special applications

Outdoor and outdoor covered installation

Escalators and moving walks that are exposed to all weather conditions without any protection are subject to special configurations for outdoor operation. Additional protection measures are also required for outdoor units covered by a roof and side walls.

Please refer to the table below for specific application classifications and the respective recommended option packages.

Installation	Class	Condition	Ambient temperature	Humidity	Electrical IP degree	Ventilator	Heating	Oil separator with water drain
Indoor								
	I	 Moderate	4°C up to 40°C	<80%	IP21	--	--	--
Covered outdoor								
	II	 Moderate	4°C up to 40°C	<90%	IP54	--	--	--
	III	 Cold	-20°C up to 40°C	<90%	IP54	--	X	--
	IV	 Tropics	12°C up to 40°C	<90%	IP54	X	--	--
	V	 Salt/grit/sand	-20°C up to 40°C	<90%	IP54	X	X	--
Uncovered outdoor								
	VI	 Moderate	4°C up to 40°C	<90%	IP54	--	--	X
	VII	 Cold	-20°C up to 40°C	<90%	IP54	--	X	X
	VIII	 Tropics	12°C up to 40°C	<90%	IP54	X	--	X
	IX	 Salt/grit/sand	-20°C up to 40°C	<90%	IP54	X	X	X

Detailed Planning

Special applications

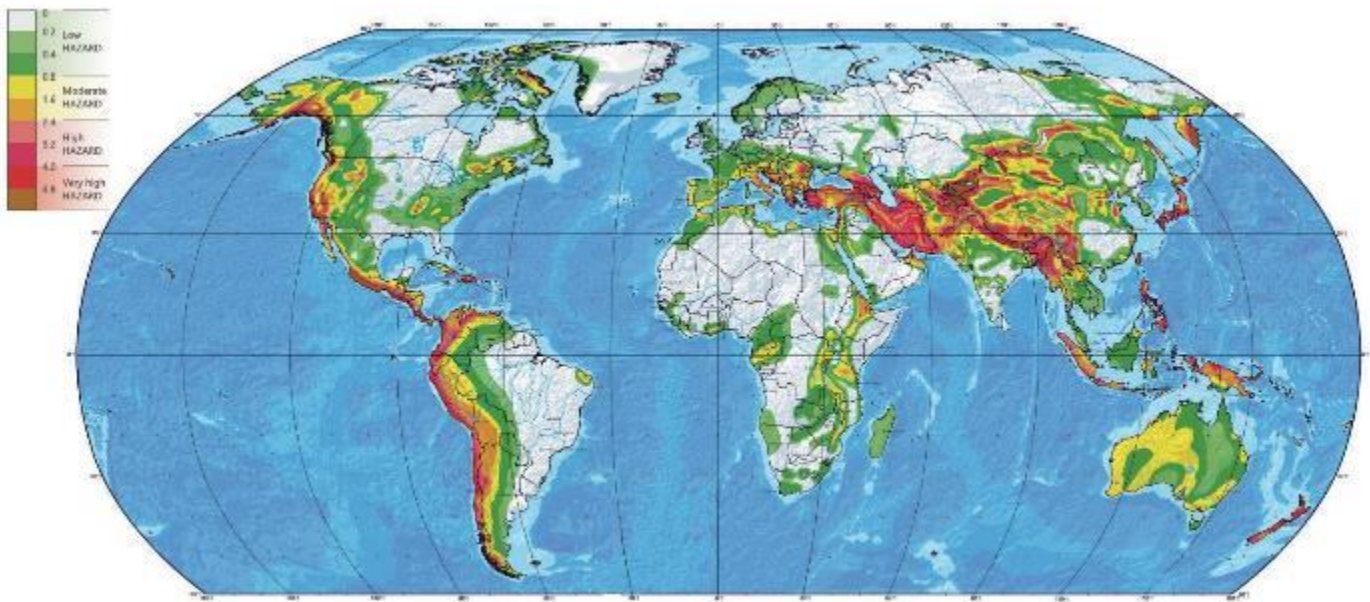
Requirements for operation in regions with risk of earthquakes

In the case of new or existing buildings built according to national seismic standards the planner of the project shall provide information on the peak ground

acceleration (the so-called “agR” value) and the ground type.

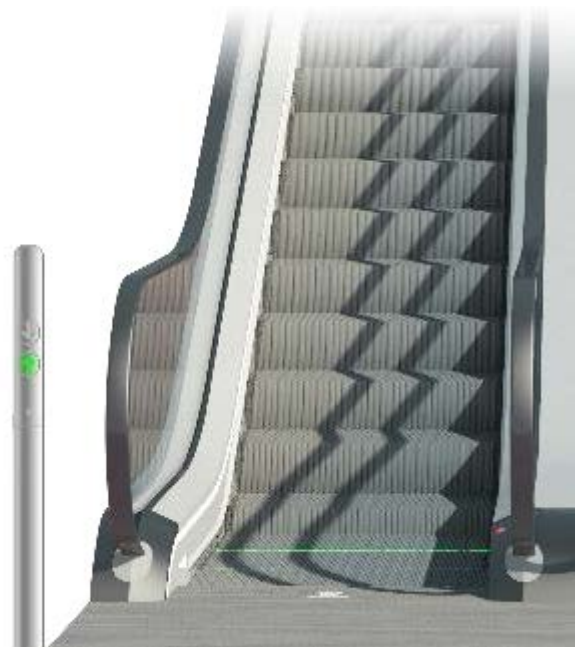
Based on these two values, the necessary measures are defined in conformity with EN 1998-1 and EN 115-1. Separate calculation methods apply for ANSI.

GLOBAL SEISMIC HAZARD MAP



Two-direction operation

On escalators that can start automatically in either direction (two-direction operation) by a user entering the unit, the operating mode shall be clearly visible to the user and marked distinctly on the escalator. They will start in the direction determined by the user entering first. When the escalator is started by a user from either direction, the indicator opposite the initiated starting side will automatically indicate “no entry.”



Detailed Planning

Special applications

Moving walk operation with shopping carts

Only suitably designed shopping carts (in accordance with EN 1929-2 and EN 1929-4) and baggage carts may be used on moving walks. Access to the moving walk entrance must be blocked for non-specified carts.

The width of each shopping or baggage cart and its contents must be at least 400 mm less than the nominal pallet width, since passengers must be able to walk past any cart on the moving walk. For moving walks with an inclination greater than 6°, the rated speed must be limited to 0.5 m/s. Shopping and baggage carts must conform to the moving walk design:

- The design must ensure safe and correct loading.
- The maximum weight must not exceed 160 kg when loaded.
- A braking or blocking system must be fitted to enable automatic locking on the inclined section of moving walks.
- The carts must be equipped with deflectors (bumpers) to reduce the risk of getting stuck.
- To ensure safe exit from the moving walk, the blocking system of the rear rollers of shopping and baggage carts must lock onto the pallet in order to push the front rollers over the combs. The front rollers and/or blocking system must release easily from the pallet.
- Deflectors and guiding devices must be provided in the surrounding area to ensure correct alignment when entering the moving walk.
- Safety signs about safe and correct use of shopping and baggage carts must be posted.



Detailed Planning

Special applications

For safety reasons, the transportation of shopping and baggage carts on escalators is not allowed. If they must be transported, moving walks must be installed.

If there is a foreseeable risk that shopping and/or baggage carts can be taken onto escalators or moving walks, adequate measures shall be taken to eliminate risks, and access shall be prevented if the following conditions apply:

- For escalators: where shopping or baggage carts are available in the surrounding area
- For escalators: where shopping or baggage carts are in an area not close to the escalator, but where instead of escalator where it is reasonably foreseeable that they are taken onto the escalator
- For moving walks: where shopping or baggage carts are not intended to be used on a moving walk







See page 52 for more details on external barriers.



The Best Product for Your Premises

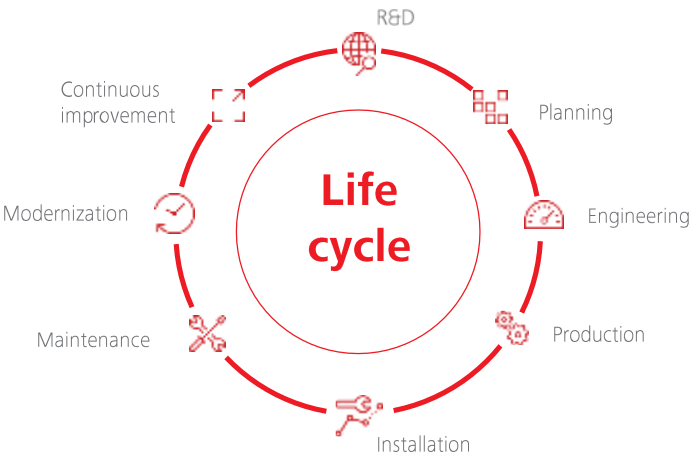
Schindler escalators and moving walks are optimally designed for use in all the relevant application segments. The modular structure of Schindler escalators and moving walks means that the components required

can be adapted to each application while retaining the same outer design. The following table provides an overview of the product types and their main application segments.

Commercial applications				Public transportation applications	
 <p>Hotels Office buildings Industrial parks</p>	 <p>Shopping malls Retail facilities Entertainment venues</p>	 <p>Museums Libraries Hospitals</p>	 <p>Stadiums Exhibition centers</p>	 <p>Airports Railways</p>	 <p>Subways</p>
Schindler escalators					
Schindler 9300					
Schindler 9300AE					
Schindler 9700					
Schindler moving walks					
Schindler 9500 horizontal moving walks					
Schindler 9500AE inclined moving walks					

Made with flexible modules, Schindler escalators and moving walks come in various exterior looks and features. They are ideally suited for different applications.

Schindler is dedicated to providing top-level customer experience with excellent products and a full life-cycle service ranging from research and development, production, and sales to engineering and after-sales service.



The Best Product for Your Premises



Schindler 9300

Enhanced safety features, energy efficiency, and its space-saving design make the Schindler 9300 escalator today's state-of-the-art solution. It is the best solution for commercial buildings, airports, and railway stations up to a rise of 13 m.

Seamless configuration packages range from highly standardized execution up to top-of-the-line premium solutions.

Schindler 9300AE

The Schindler 9300 Advanced Edition escalator is designed for the special requirements of medium rises in airport, railway, and metro applications of up to 20 m. Modular configuration variants cover virtually all requirements of medium rises and public transportation applications.



Schindler 9700

The Schindler 9700 escalator is the ideal mobility solution for large public spaces – like metro and train stations – with extreme traffic demands with a rise range of up to 50 m.

Schindler 9500AE

The Schindler 9500 Advanced Edition inclined moving walk is the work horse for the transportation of your shopping cart. Our inclined moving walks with widths of up to 1,100 mm are designed to be used with shopping carts with a width of up to 700 mm.



Schindler 9500

The Schindler 9500 horizontal moving walk is the best solution for passenger mobility in airports. With widths of up to 1,400 mm, our horizontal moving walks perfectly cover the public transportation requirements at airports, trade fair centers, or other facilities.



Schindler Ahead

Schindler Ahead is the digital portfolio for smart escalators. It analyzes cloud-based data to deliver improved uptime, insights, and convenience.

Digital connectivity allows for quick reaction in the case of operational stoppages and efficient management of the equipment, while adding higher levels of comfort for passengers.

The units are connected to the Schindler Ahead cloud and transfer operational information and statuses, warnings, and errors. Several packages are available and can be upgraded in the case of additional requirements:

Ahead connectivity

The escalators are delivered with installed hardware and connectivity service for you. The units communicate via 4G to the Schindler cloud.

Ahead ActionBoard

ActionBoard collates all the relevant statistics, activities, and performance data, and displays them in a simple, easy-to-understand manner.

Ahead RemoteMonitoring

Ahead RemoteMonitoring provides round-the-clock status with clear insights into equipment health including permanent diagnostics, remote health checks, and proactive information.

Services Provided by the Customer, Site Preparation

Once the detailed planning process is completed, we will provide you with a project planning sheet or a layout drawing based on your indications and containing all the relevant information such as escalator/ moving walk geometry, support loads, and key electrical data.

You can also draw up this plan yourself using SchindlerDraw at www.schindler.com.

Production release

Next, you give the go-ahead for the production of the escalator/moving walk by signing the valid project planning sheet or the layout drawing and returning it to us. Check once again that the main dimensions of the

escalator/moving walk correspond with the dimensions of your building structure. Our installation team will be happy to coordinate the access route as well as the moving and placement logistics with you once again.

Site preparation inspection

Before your escalator/moving walk is delivered, our installation team examines the supports and the installation dimensions on site. Acceptance of the preparations to be made by the customer, i.e., electrical connections, transportation routes, etc., is also carried out with the site management.

Transportation from factory to site

Depending on the delivery mode, the escalators/ moving walks are delivered by truck (or in a container for deliveries overseas). Given the possible excess lengths and heights, official approvals may be necessary for the transportation to the site.





From Production Release to Final Installation

Transportation to the installation site

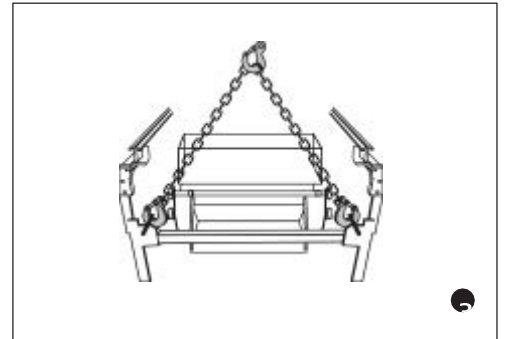
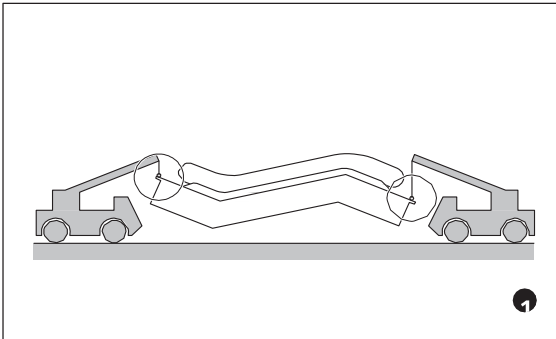
Transportation to the installation site using special forklift trucks

The clearance over the entire access route must not be less than the minimum dimension stipulated in the dimension sheet/layout drawing. (Don't forget suspended pipes or lines.)

The type of delivery has to be stipulated at the time of the release for production. After that date the escalators/moving walks can no longer be designed in several parts.

The required entrance width depends on the width of the escalator/moving walk. Given the length of the escalator/moving walk, make sure all curves and bends can be negotiated easily. We recommend that you plot out the entire transportation route on a CAD plan or paper model.

The entire transportation route must be level and free of obstacles, and be able to withstand particular floor loads. If not, the appropriate load distribution has to be provided. Our experts can advise you.



From Production Release to Final Installation

Moving the escalator or moving walk into the building

Moving the escalator/moving walk into the building up to its supports is a critical process that requires meticulous preparations (see “Services Provided by the Customer, Site Preparations”).

Once the escalator/moving walk has been unloaded by crane or forklift truck, the escalator/moving walk is placed on roller dollies and towed by forklift truck. To minimize the on-site transportation logistics, it is extremely important to keep the transportation route as short and as straight as possible. Optimal planning and preparation of on-site transportation and the moving of the escalator/moving walk into the building are essential for ensuring the best possible installation sequence and thereby minimizing building costs. Escalators/moving walks are entirely preassembled at the factory. This is why planning on-site transportation of the escalators/moving walks, which can be up to 17 m long and weigh up to 100 kN, is such a key step in the planning process. Planning is based on the technical specifications in our

dimension sheets or on the layout drawing specific to the project.

As a matter of principle, we recommend that you coordinate the date and time as well as how the escalator/moving walk will be moved into the building and the access route with our experts **PLENTY OF TIME IN ADVANCE**.

The key points involved in this process are summarized below.

A suitable area for unloading the escalator/moving walk from the truck has to be provided in front of the building. The access routes to the building and the installation site must be level and accessible with roller dollies. Essentially, there are two possibilities for moving the escalator/moving walk into the building:

- Through appropriate side openings in the building or roof using an on-site or mobile crane
- Through ground-floor openings in the building using special forklift trucks



From Production Release to Final Installation

Hoisting the escalator or moving walk onto its supports

Hoisting the escalator/moving walk directly from the truck onto the support by crane

Installation by crane is a quick and efficient method to put the unit directly onto its supports from the truck in a single piece. It is the preferred method if an access via a sufficiently large roof opening is possible. Because

a certain amount of time will probably elapse between the placing of the escalator/moving walk and its commissioning, the unit should be adequately protected against dirt and damage due to building work.



Installation in one complete section by crane



From Production Release to Final Installation

Hoisting the escalator or moving walk onto its supports

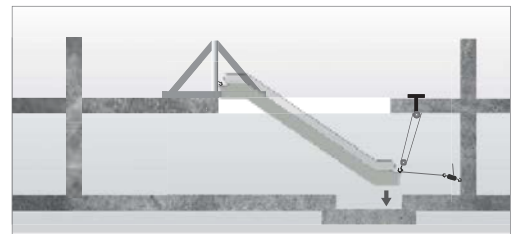
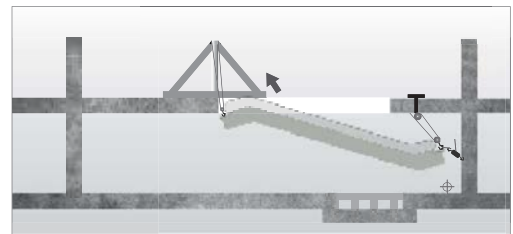
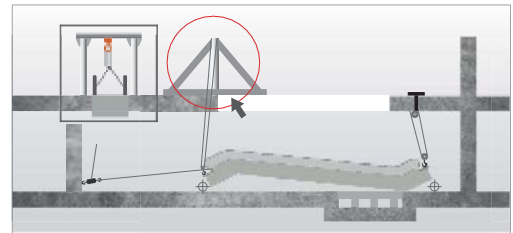
Lifting points or lifting frames

Whenever possible, lifting points above the escalator/moving walks supports should be provided. They significantly simplify and speed up the hoisting process.

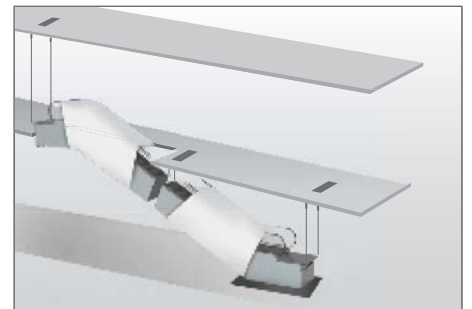
Usually, suspension points in the form of ceiling plates or ceiling openings with a diameter of 50 mm are prepared by the customer in accordance with the indications on the layout drawing to secure the hoisting gear. These points are used to hoist the escalators/moving walks and set them down onto the supports.

Each suspension point must have a load-bearing capacity of at least 50 kN.

If no suspension points are provided by the customer, installation scaffolds are used. This installation method takes longer and involves more materials.



Installation in one section using scaffolds



Installation in sections

From Production Release to Final Installation



The covering fitted by Schindler should be removed only during commissioning.

The escalator/moving walk is not to be used as a fixed stairway during the construction phase (increased risk of dirt, soiling, and damage). Any dirt that cannot be removed can affect the service life of mechanical and electrical components.

Final installation, commissioning

Upon completion of installation, the escalator/moving walk is thoroughly checked once more during a test

run. At the handover, you will be given the customer documentation and the keys for the unit.

In some countries, acceptance by an authorized verification body is necessary prior to commissioning. Commissioning can then proceed as usual.

Please note that the unit has to be kept in a safe operating state by an authorized maintenance organization. We at Schindler are at your disposal around the clock for such services.





Key Points for the Planning Process

Checklist

Approval of the layout drawing

- ☒ Pit dimensions
- ☒ Rise
- ☒ Support distance and dimensions
- ☒ Electrical feed lines
- ☒ Sprinkler connections, if necessary
- ☒ Phone connection for remote monitoring
- ☒ Water drain for outdoor installation

Services to be provided by the customer

- ☒ Masonry, scaffolding, and cutting work
- ☒ Structural supports for the escalator or moving walk supports
- ☒ Protective railings for the upper floor opening, if necessary
- ☒ Power supply to the escalator or moving walk main switch
- ☒ Phone line for remote monitoring
- ☒ Erection of scaffolding and barriers, provision of openings, removal of doors and portals (if necessary to bring the unit inside the building)
- ☒ Covering of finished floor with planking and, if necessary, support of floors for transportation and suspension of the unit in the building



- ☒ Any incurred acceptance and testing fees
- ☒ Satisfactory covering of the unit to protect against damage and dirt until commissioning
- ☒ Erection of barriers to protect against unauthorized access to the unit (e.g., site barriers, warning signs)
- ☒ Protective barriers, ceiling deflectors, wedging guards (optionally supplied by Schindler)
- ☒ Cleaning of the unit to remove dirt accumulated during construction, if necessary
- ☒ Water drain, oil separators as per building codes

And remember, if you have any questions, our experts are always available to help you.

Disclaimer

The specifications, options, and colors mentioned in this brochure are indicative only and are subject to change without notice. They are not intended to, and do not, constitute an offer on the part of the Schindler Group.

Fixed Devices in the Unrestricted Areas

Barriers to Prevent Access of Shopping and Baggage Carts

Where shopping and baggage carts are available in the area around escalator installations, suitable barriers shall be provided to prevent access on all escalators.

To prevent the use of shopping and baggage carts on escalators and moving walks, the requirements concerning the barriers are as follows:

- Barriers shall be installed at the entrance only.
An installation at the exit is not permitted in the unrestricted area.
- The free entrance width between the ends of the newels and the barriers – and between the barriers

themselves – shall be at least 500 mm and less than the width of the type of shopping or baggage cart that will be used.

- The height of the barriers shall be between 900 mm and 1,100 mm.
- The barriers shall preferably be fixed to the building structure.

The following pictures provide details on comprehensive options for meeting all requirements of EN 115-1:2017.

A) Free-standing guiding barriers or traffic columns shall be positioned at a minimum horizontal distance (radius) of 500 mm from any point of the handrail and outside the center line of the handrail.

Fig. 1a: Illustration of the unrestricted area with column at a radius of $R \geq 500$ mm from any point of the handrail acc. to **placement A**

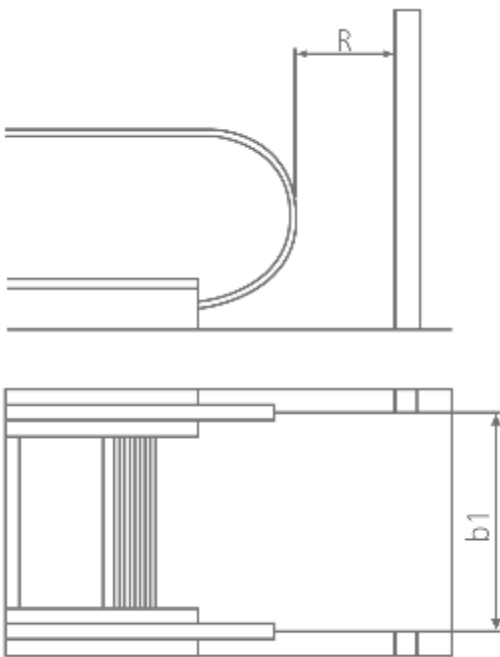
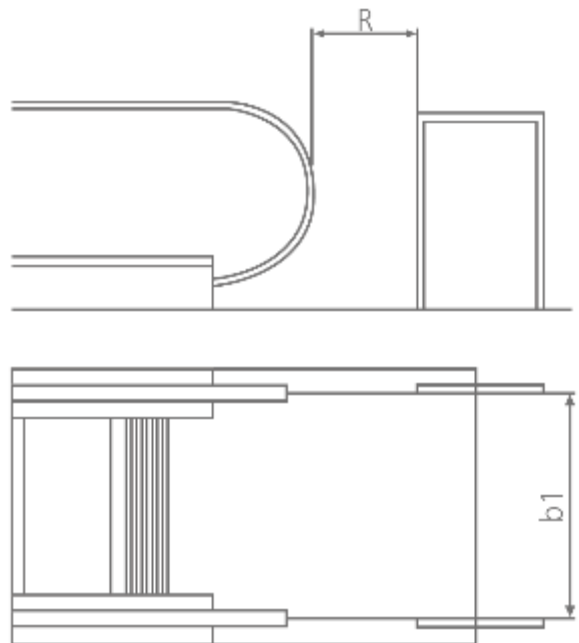


Fig. 1b: Illustration of the unrestricted area with guiding barrier at a radius of $R \geq 500$ mm from any point of the handrail acc. to **placement A**



R acc. to EN 115-1 = the minimum horizontal distance
b1 acc. to EN 115-1 = distance between the handrail center lines

Fixed Devices in the Unrestricted Areas

B) This minimum distance may be reduced to 300 mm provided that the guiding barriers or traffic columns are positioned outside the center lines of the handrails and an additional barrier is installed between the guiding barriers or traffic columns and the vertical center line of the balustrade newel (see Figures 2a/b and Figure 7).

Fig. 2a: Illustration of the unrestricted area with column and with additional barrier (hatched area) at a radius of $300 \text{ mm} \leq R \leq 500 \text{ mm}$ from any point of the handrail acc. to **placement B**

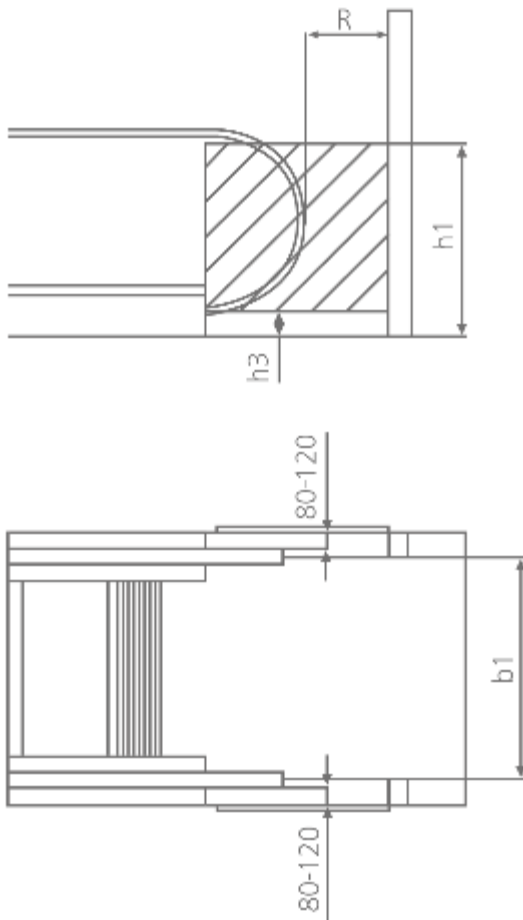
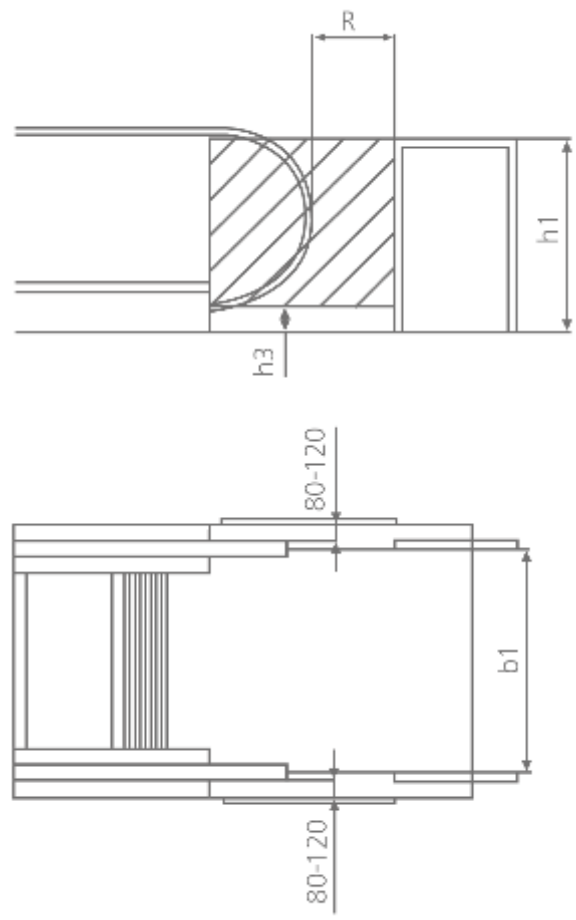


Fig. 2b: Illustration of the unrestricted area with guiding barrier and with additional barrier (hatched area) at a radius of $300 \text{ mm} \leq R \leq 500 \text{ mm}$ from any point of the handrail acc. to **placement B**



R acc. to EN 115-1 = the minimum horizontal distance

$b1$ acc. to EN 115-1 = distance between the handrail center lines

$h1$ acc. to EN 115-1 = Vertical distance between the top of the handrail and step nose or pallet surface or belt surface

$h3$ acc. to EN 115-1 = Distance between the entry of handrail into the newel and the floor

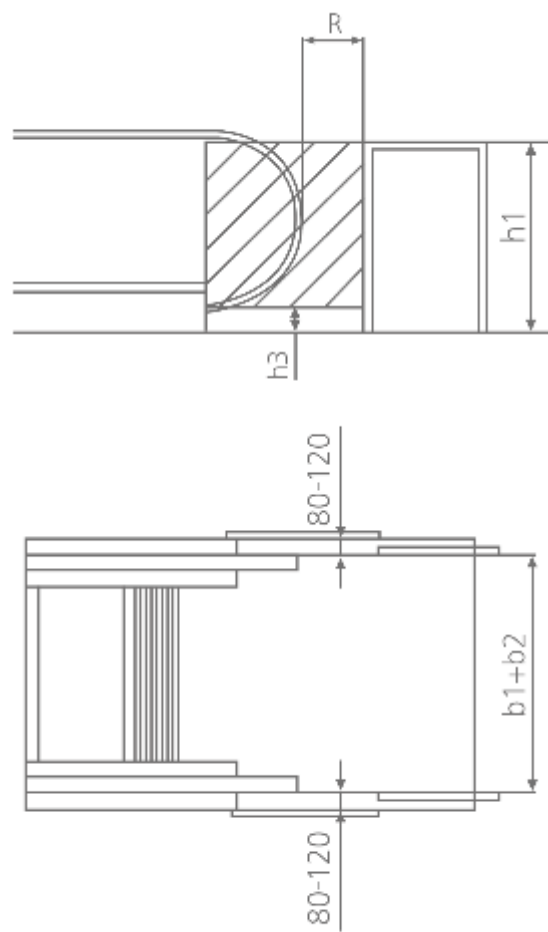
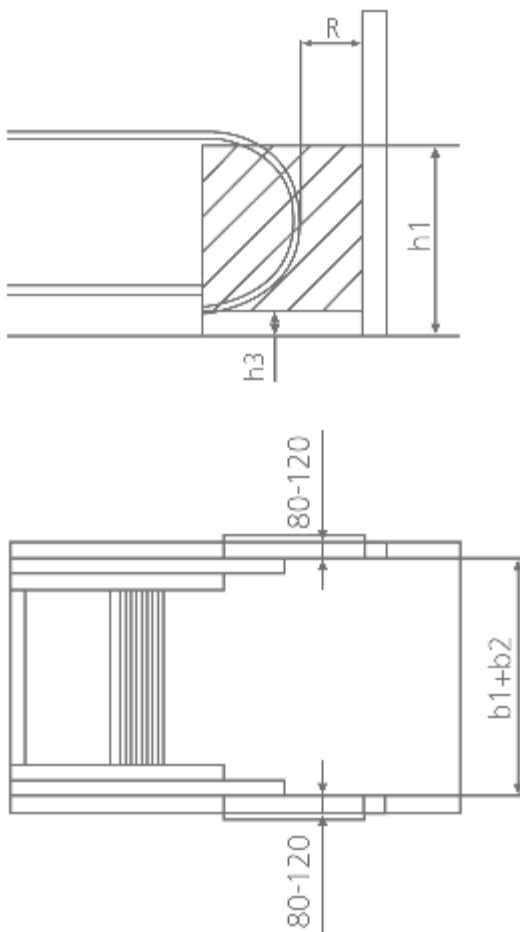
Fixed Devices in the Unrestricted Areas

C) Further reduction to 180 mm is permitted as long as the guiding barrier or traffic column is positioned outside the outer edge of the handrail and an additional barrier is installed between the guiding barrier or traffic column and the vertical center line of the balustrade newel (see Figures 3a/b and Figure 7).

The additional barrier shall have a lateral distance of 80 mm to 120 mm to the outer edge of the handrail and shall block at least the area between the lowest point of the handrail entry into the newel (h_3) and the balustrade decking profile and must have filled inlets with gaps < 25 mm with no pinching risk (see Figures 6a/b/c/d).

Fig. 3a: Illustration of the unrestricted area with column and with additional barrier (hatched area) at a radius of $180 \text{ mm} \leq R \leq 300 \text{ mm}$ from any point of the handrail acc. to **placement C**

Fig. 3b: Illustration of the unrestricted area with guiding barrier and with additional barrier (hatched area) at a radius of $180 \text{ mm} \leq R \leq 300 \text{ mm}$ from any point of the handrail acc. to **placement C**



R acc. to EN 115-1 = the minimum horizontal distance

b1 acc. to EN 115-1 = distance between the handrail center lines

b2 acc. to EN 115-1 = Width of the handrail

h1 acc. to EN 115-1 = Vertical distance between the top of the handrail and step nose or pallet surface or belt surface

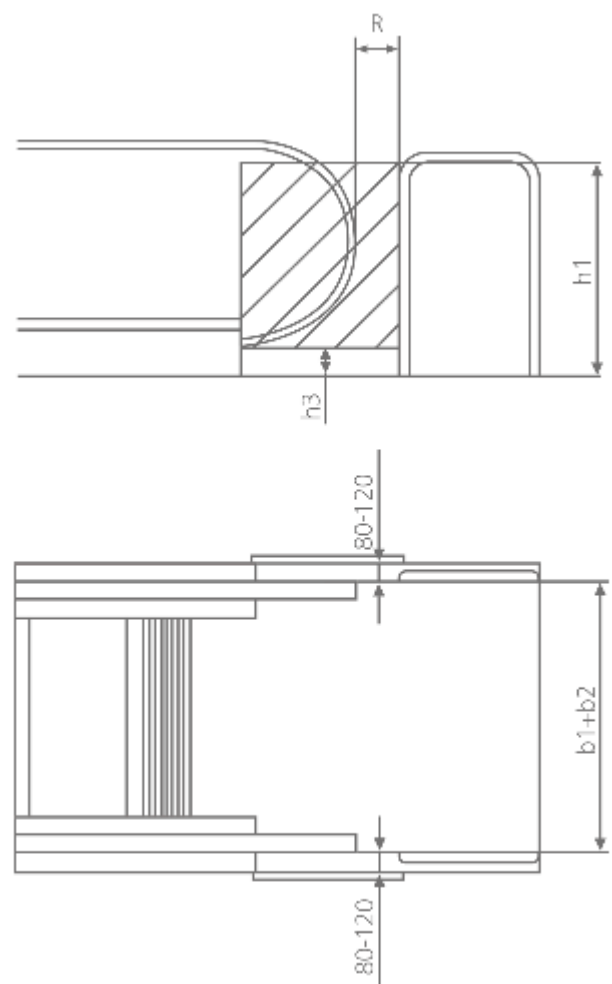
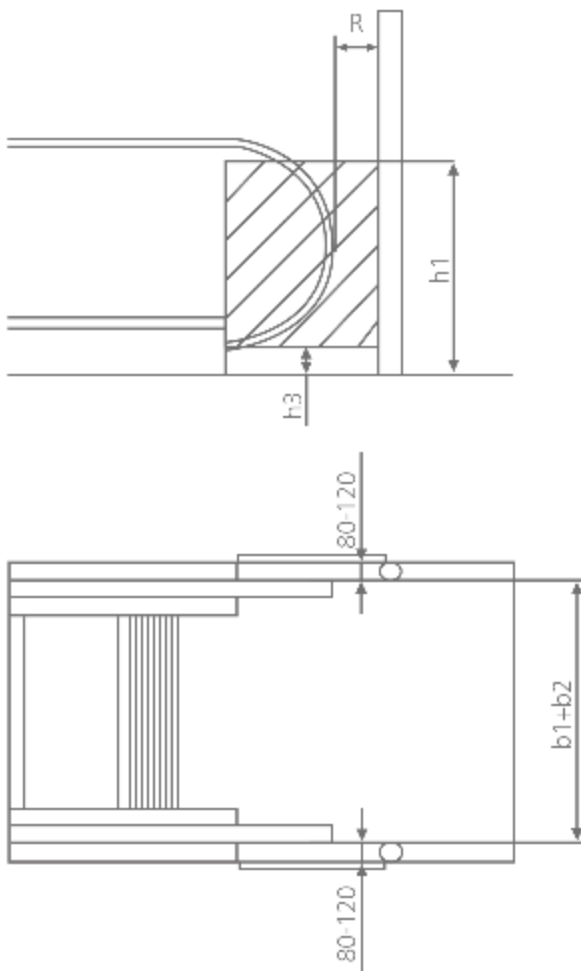
h3 acc. to EN 115-1 = Distance between the entry of handrail into the newel and the floor

Fixed Devices in the Unrestricted Areas

D) A reduction of the horizontal distance to 100 mm (identical to the minimum value of h_3) is only permitted if the guiding barrier or traffic column is of a round shape and is positioned outside the outer edge of the handrail and an additional barrier is installed between the guiding barrier or traffic column and the vertical center line of the balustrade newel (see Figures 4a/b and Figure 7).

Fig. 4a: Illustration of the unrestricted area with column and with additional barrier (hatched area) at a radius of $100 \text{ mm} \leq R \leq 180 \text{ mm}$ from any point of the handrail acc. to **placement D**

Fig. 4b: Illustration of the unrestricted area with guiding barrier and with additional barrier (hatched area) at a radius of $100 \text{ mm} \leq R \leq 180 \text{ mm}$ from any point of the handrail acc. to **placement D**



R acc. to EN 115-1 = the minimum horizontal distance

b_1 acc. to EN 115-1 = distance between the handrail center lines

b_2 acc. to EN 115-1 = Width of the handrail

h_1 acc. to EN 115-1 = Vertical distance between the top of the handrail and step nose or pallet surface or belt surface

h_3 acc. to EN 115-1 = Distance between the entry of handrail into the newel and the floor

Fixed Devices in the Unrestricted Areas

The additional barrier shall have a lateral distance of 80 mm to 120 mm to the outer edge of the and shall block at least the area between the actual lowest point of the handrail entry into the newel (h_3 ; see EN 115-1, section 5.6.4.1) and the balustrade decking profile and must have filled inlets with gaps < 25 mm with no pinching risk (see Figures 6a/b/c/d).

Fig. 6a: Detail of h_3

EN 115-1: h_3 = distance between the handrail entry into the newel and the floor – min. 100 mm, max. 250 mm

The lower edge of the additional barriers may be at floor level or at the actual lowest point of the handrail entry into the newel.

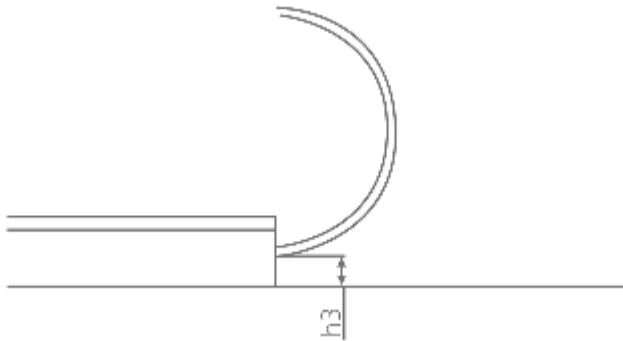


Fig. 6b: Height of lower edge of additional barrier = actual h_3

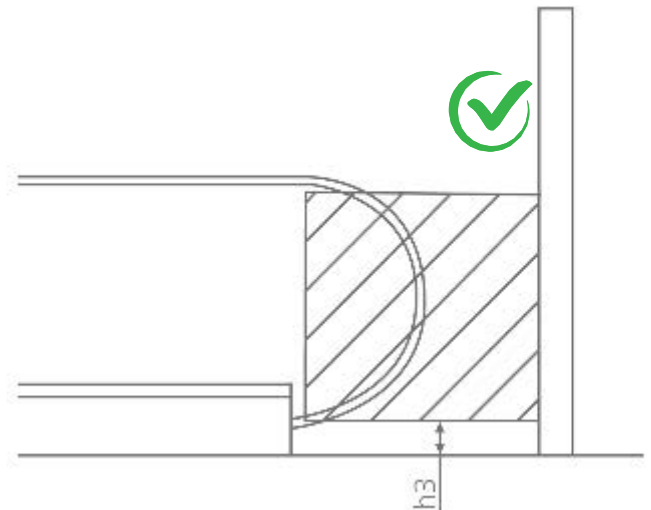


Fig. 6c: Height of lower edge of additional barrier = floor level

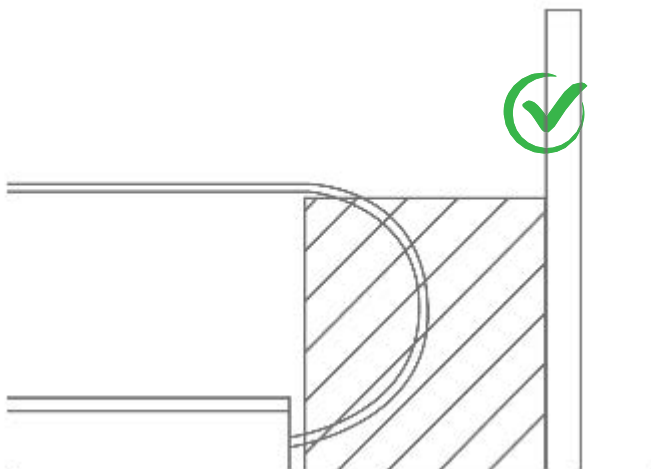
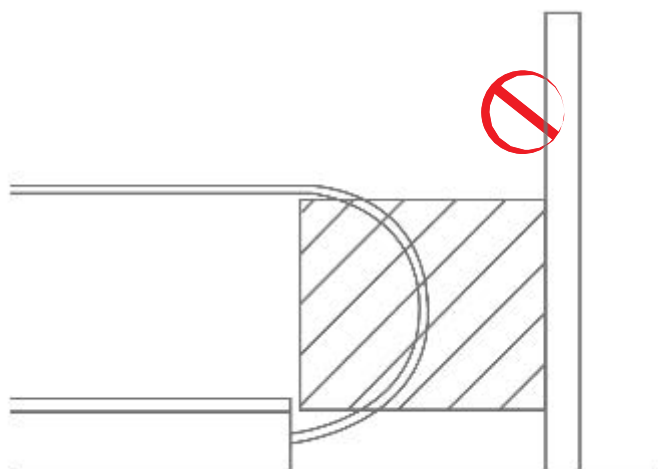
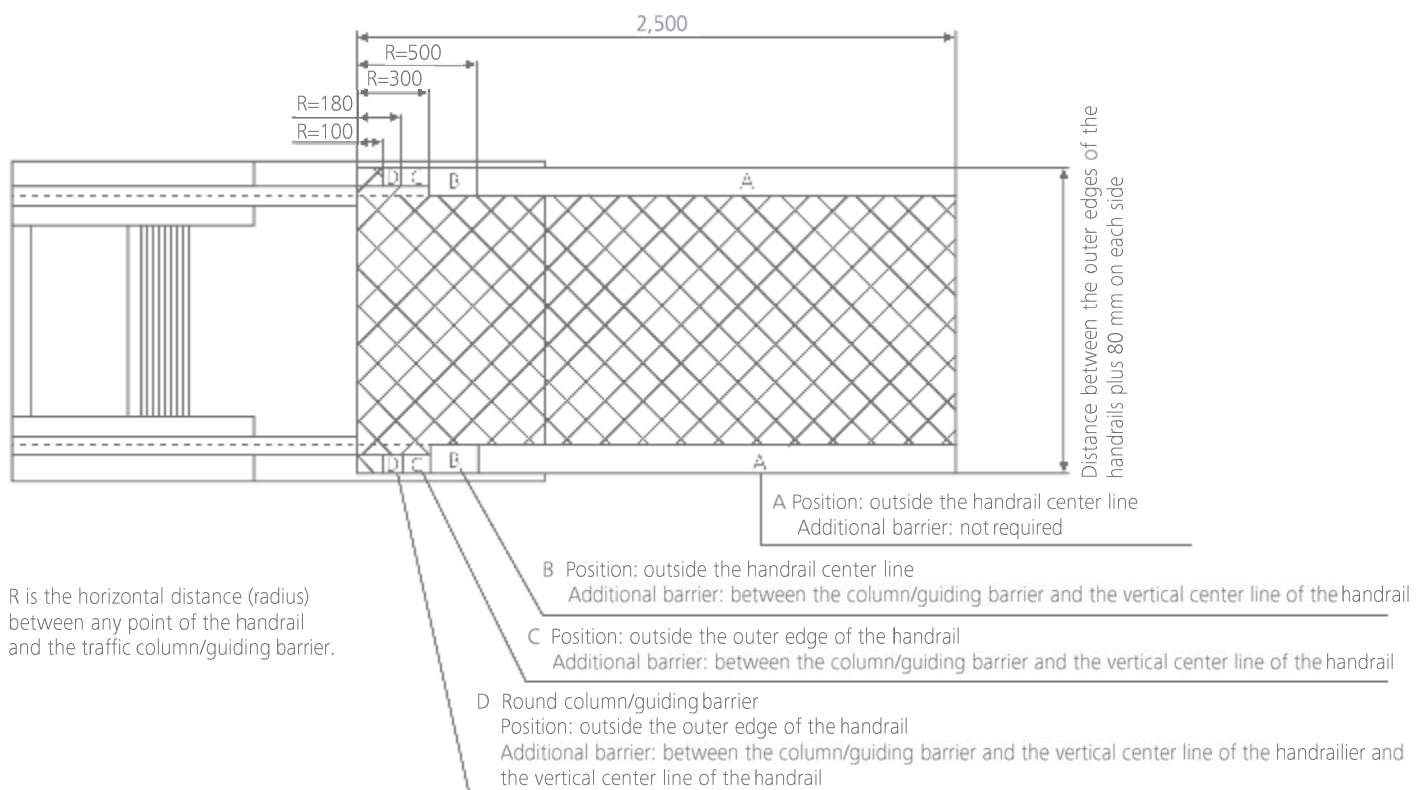


Fig. 6d: Height of lower edge of additional barrier > actual h_3



Fixed Devices in the Unrestricted Areas

Fig. 7: Possible placements of fixed devices in unrestricted areas (guiding barriers and traffic columns)



Schindler 9300

Type 11 30°-K

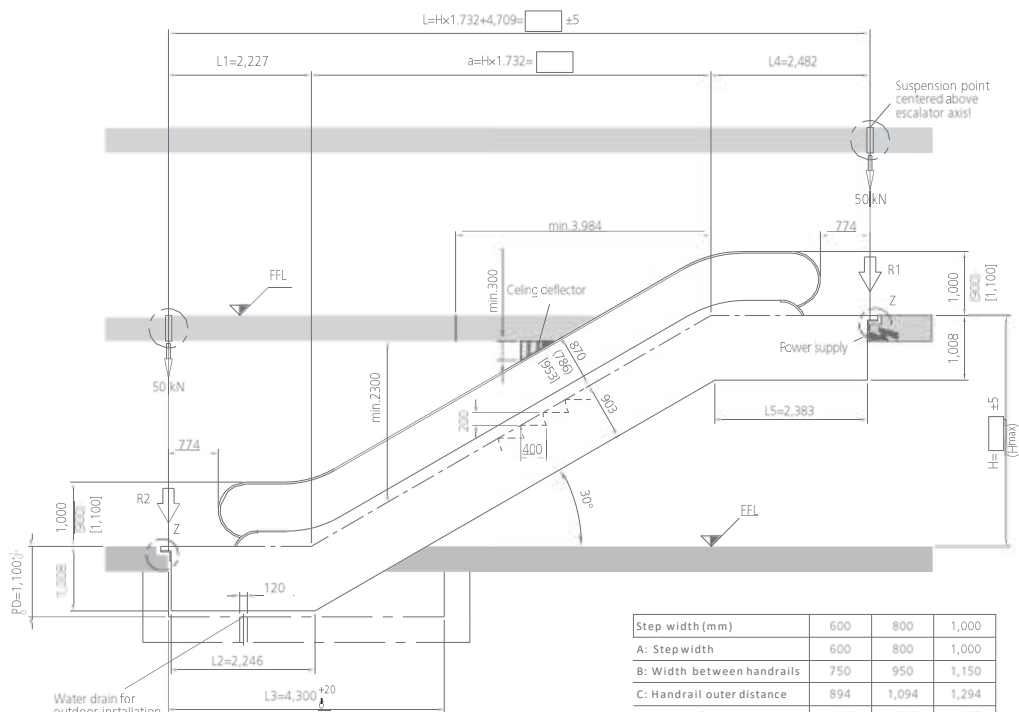
Balustrade: design E

Balustrade height: 900/1,000/1,100 mm

Top/bottom transition radius: 1.0/1.0 m

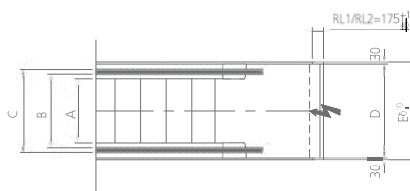
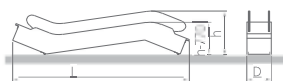
Step width: 600/800/1,000 mm

Step run: 2 horizontal steps



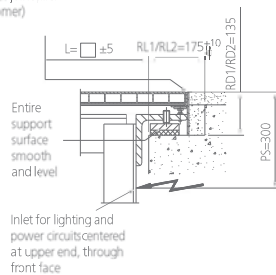
Step width (mm)	600	800	1,000
A: Step width	600	800	1,000
B: Width between handrails	750	950	1,150
C: Handrail outer distance	894	1,094	1,294
D: Width of escalator	1,065	1,265	1,465
E: Width of pit	1,125	1,325	1,525
Hmax: Maximum rise	6,000	6,000	6,000

Transportation dimensions



Detail Z

Gaps at joints to be filled with joint filler (by customer)



Step width	Rise	Weight	Support loads		Transp. dimensions	
A	H		R1	R2	Balustrade height 1000	
mm	mm	kN	kN	kN	h	l
600	3,000	56	40	48	2,910	11,210
	3,500	59	42	51	2,940	12,200
	4,000	63	45	54	2,970	13,190
	4,500	66	48	57	2,990	14,180
	5,000	70	51	60	3,010	15,180
	5,500	73	54	62	3,030	16,170
800	6,000	76	57	65	3,040	17,170
	3,000	55	45	50	2,790	10,830
	3,500	59	48	54	2,810	11,820
	4,000	62	51	57	2,840	12,810
	4,500	65	55	61	2,850	13,800
	5,000	69	58	64	2,870	14,800
1,000	5,500	72	62	68	2,880	15,790
	6,000	76	65	71	2,890	16,790
	3,000	59	51	57	2,790	10,830
	3,500	62	55	61	2,810	11,820
	4,000	66	59	65	2,840	12,810
	4,500	70	63	69	2,850	13,800
	5,000	73	67	73	2,870	14,800
	5,500	81	73	79	2,880	15,790
	6,000	85	77	83	2,890	16,790

All dimensions in mm.
Observe national regulations!
Subject to changes.

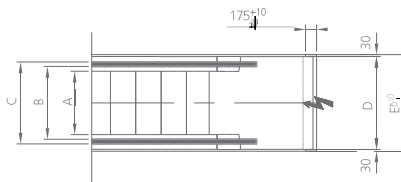
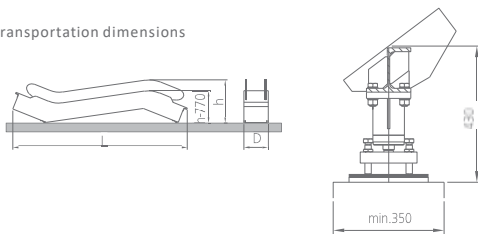
Type 11 30°-M

Top/bottom transition radius: 1.0/1.0 m

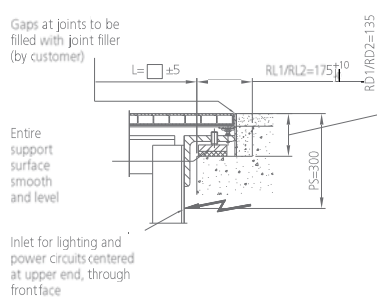
Step run: 3 horizontal steps



Transportation dimensions



Detail Z



Step width (mm)	600	800	1,000
A: Stepwidth	600	800	1,000
B: Width between handrails	750	950	1,150
C: Handrail outer distance	894	1094	1,294
D: Width of escalator	1,065	1,265	1,465
E: Width of pit	1,125	1,325	1,525
Hmax: Maximum rise	9,200	9,200	9,200

Stepwidth	Rise	Weight	Support loads			Transp. dimensions	
A	H		R1	R2	R3	Balustrade height 1000	
mm	mm	kN	kN	kN	kN	h	l
600	3,000	60	43	51	-	3,010	11,960
	4,000	67	49	57	-	3,090	13,940
	5,000	74	55	63	-	3,140	15,910
	6,000	82	62	70	-	3,180	17,900
	7,000	89	68	76	-	3,210	19,880
	8,000	94	39	37	81	2)	2)
	9,000	104	42	41	90	2)	2)
800	3,000	61	49	55	-	2,900	11,570
	4,000	68	56	62	-	2,960	13,550
	5,000	75	63	69	-	3,010	15,530
	6,000	84	71	77	-	3,040	17,510
	7,000	90	42	40	83	3,060	19,500
	8,000	100	45	44	94	2)	2)
	9,000	107	47	46	103	2)	2)
1,000	3,000	65	56	62	-	2,900	11,570
	4,000	73	64	70	-	2,960	13,550
	5,000	82	73	79	-	3,010	15,530
	6,000	91	83	88	-	3,040	17,510
	7,000	99	47	47	98	3,060	19,500
	8,000	106	51	49	110	2)	2)
	9,000	114	54	52	121	2)	2)

- 1) If $H > 6\text{m}$, an intermediate support may be required. Please consult Schindler.
- 2) Delivery in 2 parts.

Schindler 9300

Type 11 35°-K

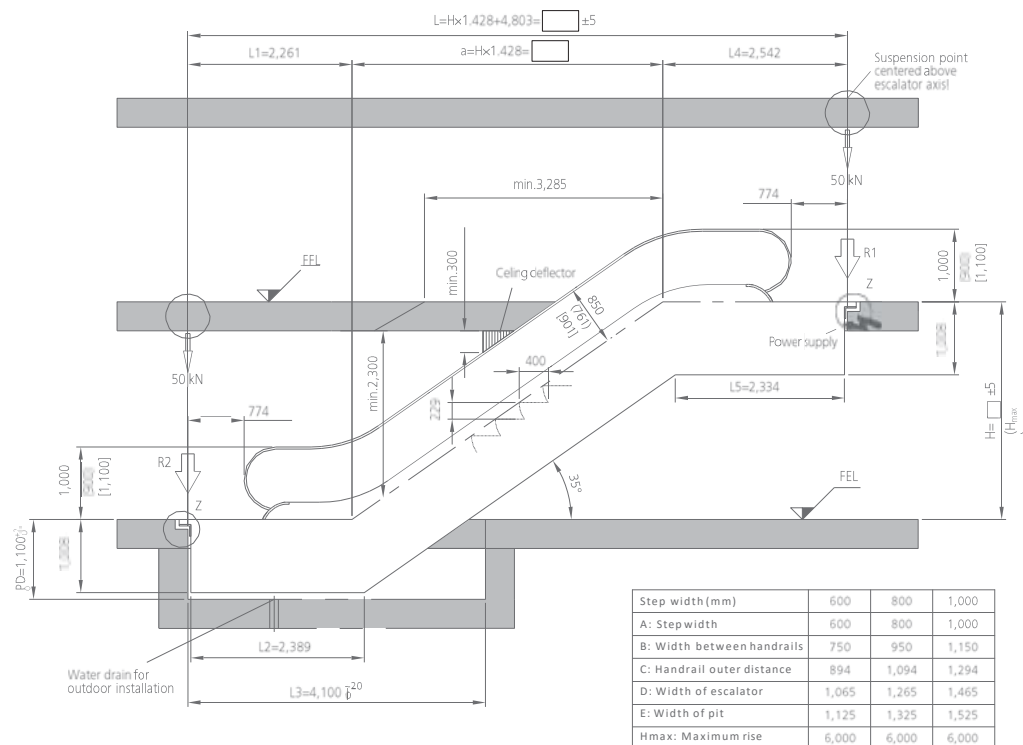
Balustrade: design E

Balustrade height: 900/1,000/1,100 mm

Top/bottom transition radius: 1.0/1.0 m

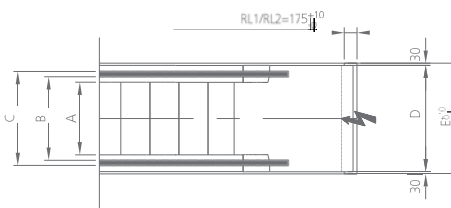
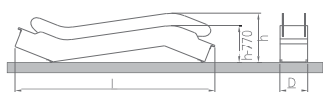
Step width: 600/800/1,000 mm

Step run: 2 horizontal steps

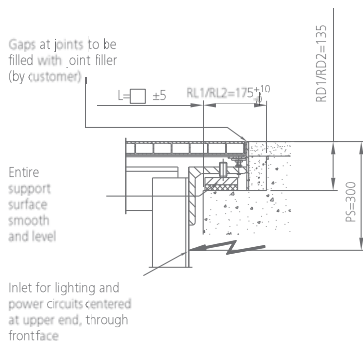


All dimensions in mm.
Observe national regulations!
Subject to changes.

Transportation dimensions



Detail Z



Stepwidth	Rise	Weight	Support loads		Transp. dimensions	
			R1	R2	Balustrade height 1000	
A	H		kN	kN	h	l
mm	mm	kN				
600	3,000	53	37	45	3,000	10,450
	3,500	56	39	47	3,040	11,310
	4,000	59	42	50	3,080	12,160
	4,500	62	44	52	3,110	13,020
	5,000	65	47	55	3,130	13,880
	5,500	67	49	57	3,150	14,740
800	6,000	70	52	60	3,170	15,600
	3,000	52	52	47	2,870	10,070
	3,500	55	44	50	2,910	10,920
	4,000	58	47	53	2,930	11,780
	4,500	61	50	56	2,950	12,640
	5,000	64	53	59	2,970	13,500
1,000	5,500	67	56	62	2,980	14,360
	6,000	70	59	65	3,000	15,230
	3,000	55	47	53	2,870	10,070
	3,500	58	51	57	2,910	10,920
	4,000	61	54	60	2,930	11,780
	4,500	65	57	63	2,950	12,640
	5,000	65	57	63	2,950	12,640
	5,500	71	64	70	2,980	14,360
	6,000	74	68	74	3,000	15,230

Schindler 9300

Type 15 30°-M

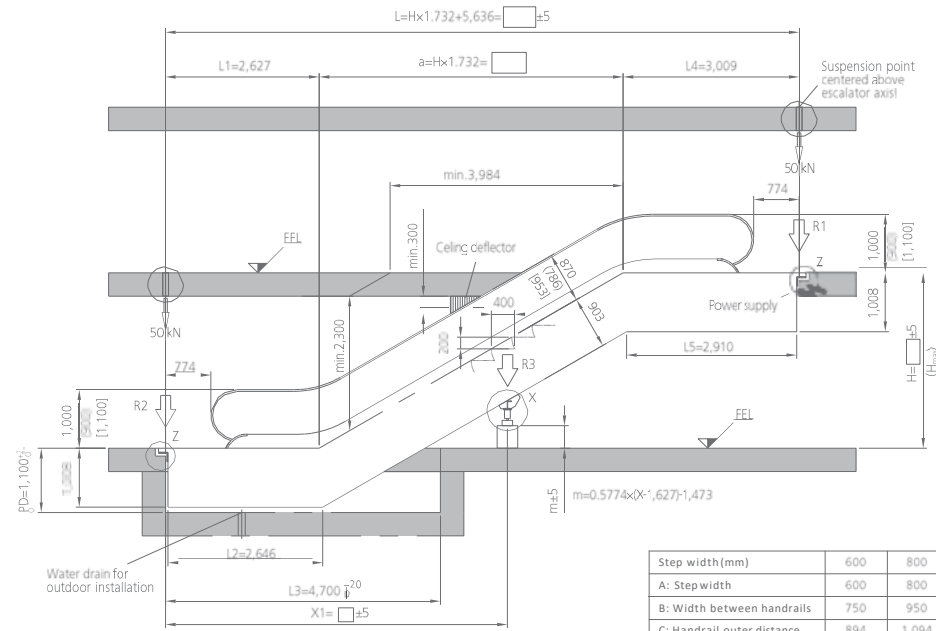
Balustrade: design E

Balustrade height: 900/1,000/1,100 mm

Top/bottom transition radius: 1.5/1.0 m

Step width: 600/800/1,000 mm

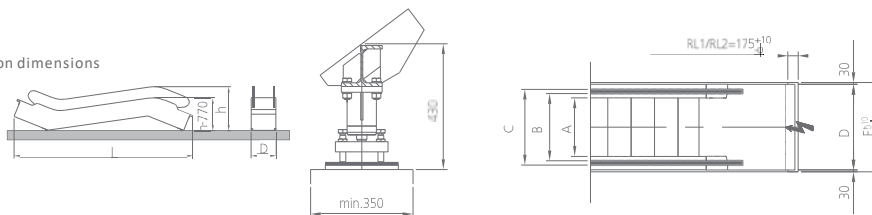
Step run: 3 horizontal steps



Detail X

Step width (mm)	600	800	1,000
A: Step width	600	800	1,000
B: Width between handrails	750	950	1,150
C: Handrail outer distance	894	1,094	1,294
D: Width of escalator	1,065	1,265	1,465
E: Width of pit	1,125	1,325	1,525
Hmax: Maximum rise	13,000	13,000	13,000

Transportation dimensions

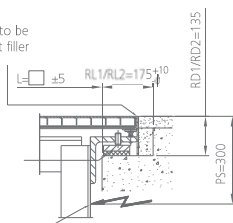


Detail Z

Gaps at joints to be filled with joint filler (by customer)

Entire support surface smooth and level

Inlet for lighting and power circuits centered at upper end, through frontface



Step width	Rise	Weight	Support loads				Transp. dimensions	
A	H		R1	R2	R3	R4	Balustrade height 1000	
mm	mm	kN	kN	kN	kN	kN	h	l
600	3,000	62	49	56	-	-	2,930	11,690
	4,000	69	56	63	-	-	3,000	13,670
	5,000	76	63	70	-	-	3,050	15,650
	6,000	85	71	78	-	-	3,080	17,630
	7,000	91	42	40	84	-	3,110	19,620
	8,000	101	45	45	94	-	3)	3)
	9,000	108	48	46	104	-	3)	3)
	10,000	115	51	48	114	-	3)	3)
	11,000	133	56	57	127	-	3)	3)
	12,000	140	59	59	137	-	3)	3)
	13,000	151	64	63	146	-	3)	3)
	3,000	66	57	63	-	-	2,930	11,690
800	4,000	73	65	71	-	-	3,000	13,670
	5,000	82	74	80	-	-	3,050	15,650
	6,000	92	83	90	-	-	3,080	17,630
	7,000	99	48	47	99	-	3,110	19,620
	8,000	107	51	50	110	-	3)	3)
	9,000	115	54	52	122	-	3)	3)
	10,000	133	61	61	136	-	3)	3)
	11,000	144	66	65	147	-	3)	3)
	12,000	146	43	40	107	105	3)	3)
	13,000	154	45	42	114	111	3)	3)
1,000	3,000	66	57	63	-	-	2,930	11,690
	4,000	73	65	71	-	-	3,000	13,670
	5,000	82	74	80	-	-	3,050	15,650
	6,000	92	83	90	-	-	3,080	17,630
	7,000	99	48	47	99	-	3,110	19,620
	8,000	107	51	50	110	-	3)	3)
	9,000	115	54	52	122	-	3)	3)
	10,000	133	61	61	136	-	3)	3)
	11,000	144	66	65	147	-	3)	3)
	12,000	146	43	40	107	105	3)	3)
	13,000	154	45	42	114	111	3)	3)

All dimensions in mm.
Observe national regulations!
Subject to changes.

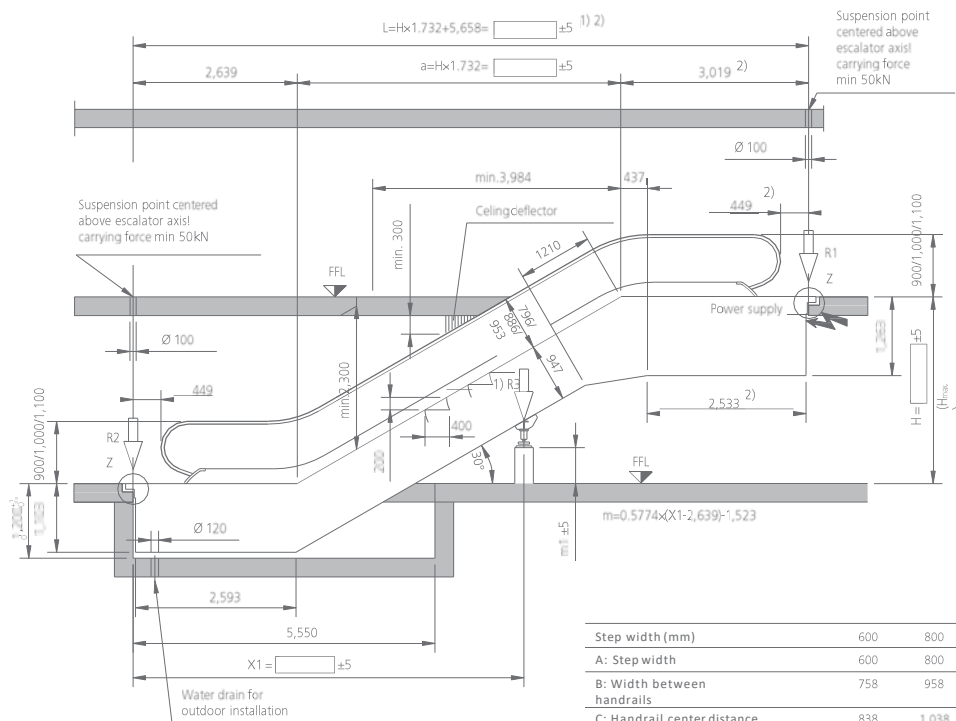
- 1) If $H > 8.5\text{m}$, a second intermediate support may be required. Please consult Schindler.
- 2) For $H > 9.2\text{m}$, a top extension of 417 mm is needed.
- 3) Delivery in 2 parts.

Schindler 9300AE

Type 20·30°-M

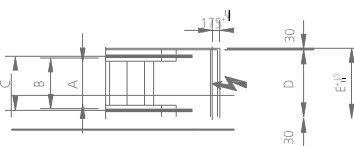
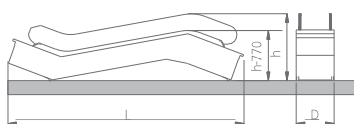
Rise: max. 13 m at a step width of 1,000 mm
Balustrade: design D
Balustrade height: 900/1,000/1,100 mm

Inclination: 30°
Step width: 600/800/1,000 mm
Step run: 3 horizontal steps



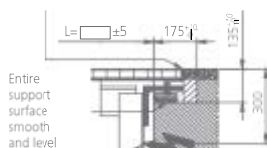
Step width (mm)	600	800	1,000
A: Step width	600	800	1,000
B: Width between handrails	758	958	1,158
C: Handrail center distance	838	1,038	1,238
D: Width of escalator	1,140	1,340	1,540
E: Width of pit	1,200	1,400	1,600
L _{max} : Limiting span length	19,000	17,300	15,900
H _{max} : Maximum rise	13,000	13,000	13,000
Ca: Distance between outer faces of handrails	918	1,118	1,318

Transportation dimensions



Detail Z

Gaps at joints to be filled with joint filler (by customer)



Entire support surface smooth and level

Inlet for lighting and power circuits centered at upper end, through front face

Step width	Rise	Weight	Support loads			Transp. dimensions	
A	H		R1	R2	R3	Balustrade height 1000	
mm	mm	kN	kN	kN	kN	h	l
800	5,000	86	76	67	-	3,260	15,700
	5,500	89	80	70	-	3,280	16,700
	6,000	90	46	37	74	3,290	17,690
	7,000	97	51	36	86	3,320	19,680
	8,000	104	56	34	98	3,340	4)
	9,000	111	62	31	101	3,360	4)
	10,000	124	70	32	123	3,370	4)
1,000	5,000	90	86	76	-	2,510	15,700
	5,500	95	90	80	-	2,540	16,700
	6,000	95	51	42	87	2,550	17,690
	7,000	103	57	40	101	3,320	19,680
	8,000	111	63	38	115	3,340	4)
	9,000	123	73	40	127	3,360	4)
	10,000	132	79	37	143	3,370	4)

All dimensions in mm.
Observe national regulations!
Subject to changes.

The stated loads are characteristic values according to EN 1990.

1) If $L > L_{max}$, an intermediate support may be required. Please consult schindler.

2) With a double drive, the truss must be extended by 417 mm.

3) With a balustrade height of 900 mm, h is reduced by 70 mm.

4) Delivery in min. 2 parts.

Schindler 970S

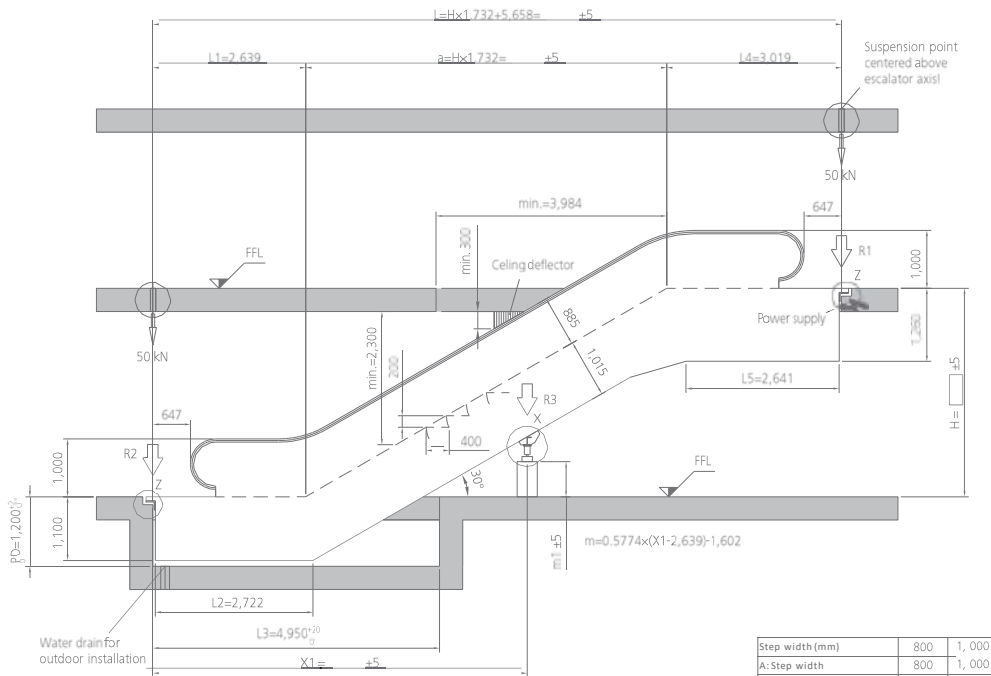
Type 20 30°-M

Balustrade: design I/design P
Balustrade height: 1,000 mm
Top/bottom transition radius: 1.5/1.0 m

Inclination: 30°
Step width: 800/1,000 mm
Step run: 3 horizontal steps

All dimensions in mm.
Observe national
regulations!
Subject to changes.

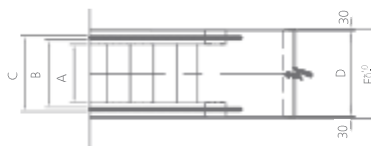
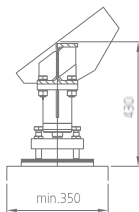
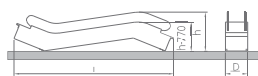
- 1) With a double drive, the truss must be extended by 417mm.
- 2) Delivery in min. 2 parts.



Detail X

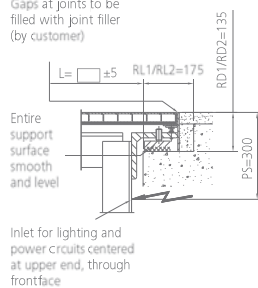
Step width(mm)	800	1,000
A: Step width	800	1,000
B: Width between handrails	1,060	1,260
C: Handrail outer distance	1,220	1,420
D: Width of escalator	1,440	1,640
E: Width of pit	1,500	1,700
Hmax: Maximum rise	17,000	15,000

Transportation dimensions



Detail Z

Gaps at joints to be filled with joint filler (by customer)



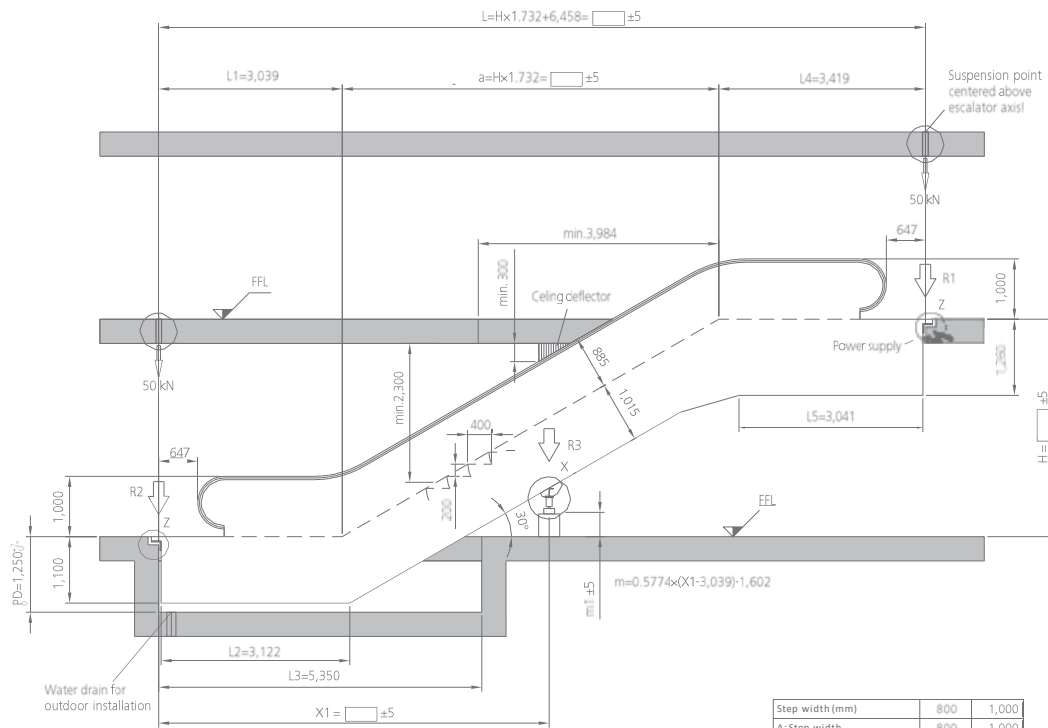
Stepwidth	Rise	Weight	Support loads			Transp. dimensions	
A	H		R1	R2	R3	Balustrade height 1000	
mm	mm	kN	kN	kN	kN	h	l
800	5,000	109	76	90	-	3,300	15,700
	6,000	121	86	99	-	3,330	17,690
	7,000	132	95	108	-	3,360	19,680
	8,000	138	53	57	111	2)	2)
	9,000	147	57	59	123	2)	2)
	10,000	157	60	61	134	2)	2)
1,000	5,000	114	86	100	-	3,300	15,700
	6,000	127	97	110	-	3,330	17,690
	7,000	133	55	59	113	3,360	19,680
	8,000	143	59	61	127	2)	2)
	9,000	153	63	64	140	2)	2)
	10,000	166	69	69	151	2)	2)

Schindler 970S

Type 20 30°-L

Balustrade: design I/design P
Balustrade height: 1,000 mm
Top/bottom transition radius: 1.5/1.0 m

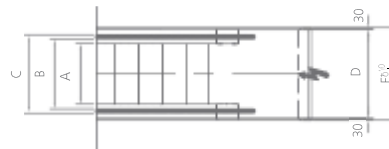
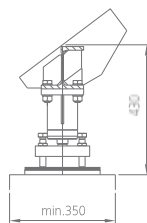
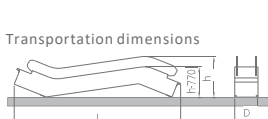
Inclination: 30°
Step width: 800/1,000 mm
Step run: 4 horizontal steps



Detail X

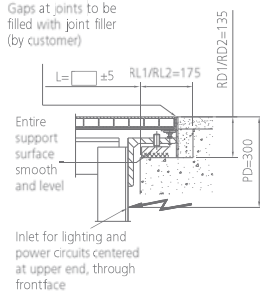
Step width (mm)	800	1,000
A: Step width	800	1,000
B: Width between handrails	1,060	1,260
C: Handrail outer distance	1,220	1,420
D: Width of escalator	1,440	1,640
E: Width of pit	1,500	1,700
Hmax: Maximum rise	17,000	15,000

Transportation dimensions



Detail Z

Gaps at joints to be filled with joint filler (by customer)



Step width	Rise	Weight	Support loads			Transp. dimensions	
A	H		R1	R2	R3	Balustrade height 1000	
mm	mm	kN	kN	kN	kN	h	l
800	5,000	117	82	95	-	3,420	16,440
	6,000	127	90	104	-	3,470	18,420
	7,000	134	51	56	106	2)	2)
	8,000	144	55	58	117	2)	2)
	9,000	153	58	60	129	2)	2)
	10,000	163	58	68	138	2)	2)
1,000	5,000	121	91	105	-	3,420	16,440
	6,000	129	53	59	107	3,470	18,420
	7,000	139	57	61	120	2)	2)
	8,000	149	61	63	133	2)	2)
	9,000	159	65	66	146	2)	2)
	10,000	169	64	75	157	2)	2)

1) With a double drive, the truss must be extended by 417mm.

2) Delivery in min. 2 parts.

Schindler 970S

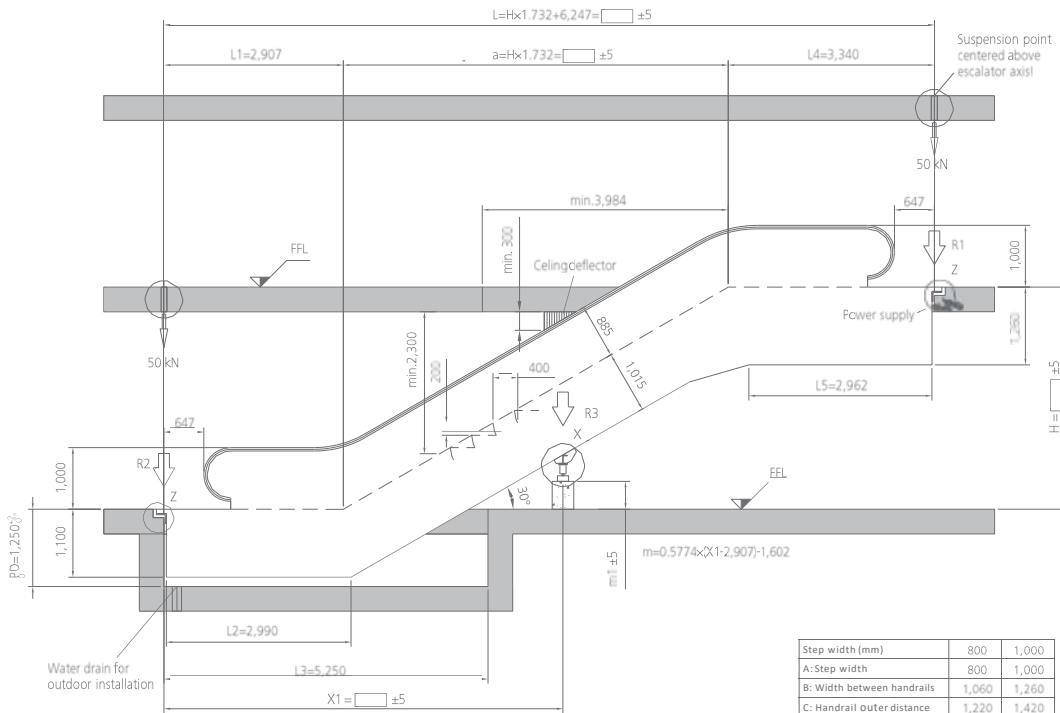
Type 30 30°-M

Balustrade: design I/design P
Balustrade height: 1,000 mm
Top/bottom transition radius: 2.7/2.0 m

Inclination: 30°
Step width: 800/1,000 mm
Step run: 3 horizontal steps

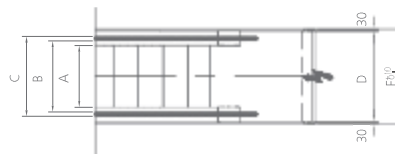
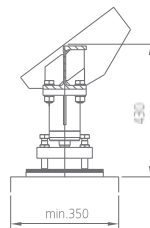
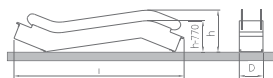
All dimensions in mm.
Observe national
regulations!
Subject to changes.

- 1) With a double drive, the truss must be extended by 417mm.
- 2) Delivery in min. 2 parts.



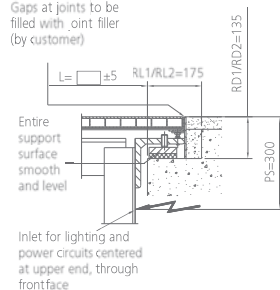
Step width (mm)	800	1,000
A: Step width	800	1,000
B: Width between handrails	1,060	1,260
C: Handrail outer distance	1,220	1,420
D: Width of escalator	1,440	1,640
E: Width of pit	1,500	1,700
Hmax: Maximum rise	24,500	20,500

Detail X



Detail Z

Gaps at joints to be filled with joint filler (by customer)



Stepwidth	Rise	Weight	Supportloads			Transp.dimensions	
A	H		R1	R2	R3	Balustrade height 1000	
mm	mm	kN	kN	kN	kN	h	l
800	5,000	112	79	92	-	3,400	16,250
	6,000	122	87	101	-	3,440	18,230
	7,000	129	50	55	102	2)	2)
	8,000	139	54	57	114	2)	2)
	9,000	148	57	59	125	2)	2)
	10,000	158	61	62	137	2)	2)
1,000	5,000	116	88	102	-	3,400	16,250
	6,000	128	99	112	-	3,440	18,230
	7,000	134	56	60	116	2)	2)
	8,000	144	60	62	129	2)	2)
	9,000	154	64	65	142	2)	2)
	10,000	168	70	70	154	2)	2)

Schindler 970S

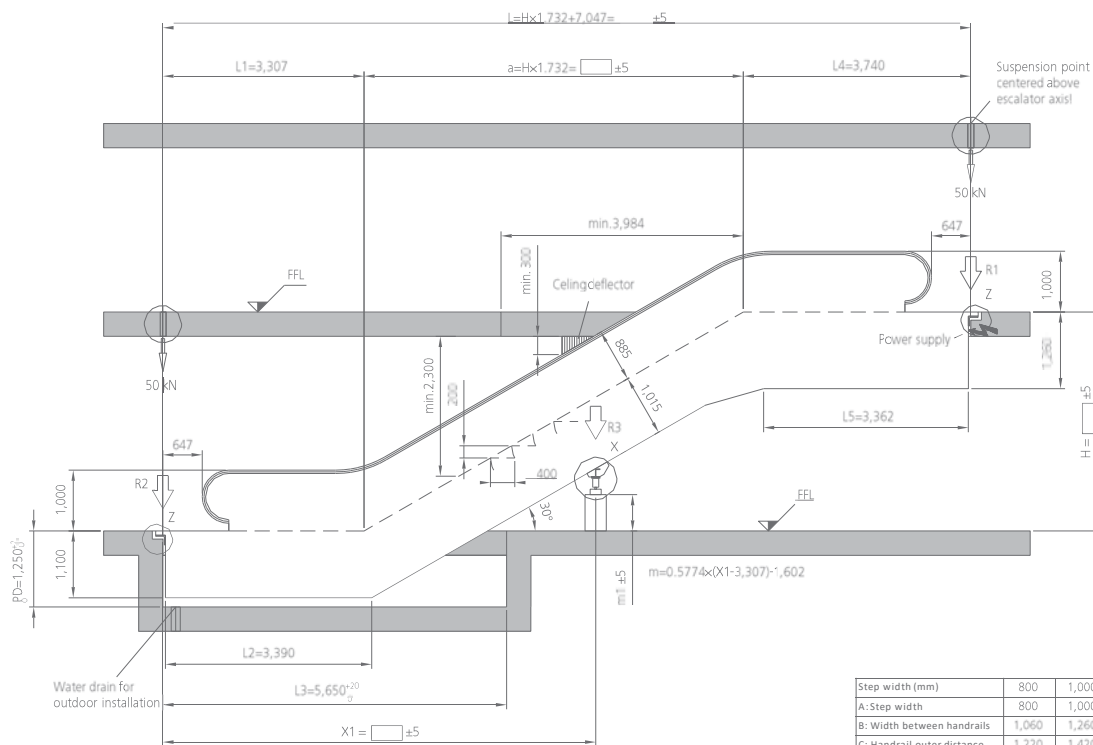
Type 30 30°-L

Balustrade: design I/design P
Balustrade height: 1,000 mm
Top/bottom transition radius: 2.7/2.0 m

Inclination: 30°
Step width: 800/1,000 mm
Step run: 4 horizontal steps

All dimensions in mm.
Observe national regulations!
Subject to changes.

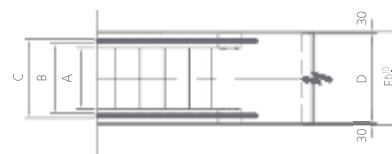
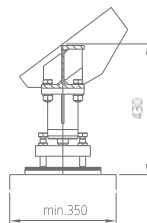
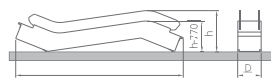
- 1) With a double drive, the truss must be extended by 417mm.
- 2) Delivery in min. 2 parts.



Step width (mm)	800	1,000
A: Step width	800	1,000
B: Width between handrails	1,060	1,260
C: Handrail outer distance	1,220	1,420
D: Width of escalator	1,440	1,640
E: Width of pit	1,500	1,700
Hmax: Maximum rise	24,500	20,500

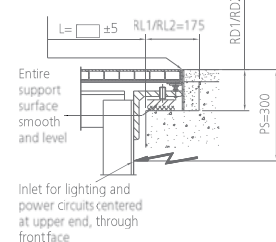
Detail X

Transportation dimensions



Detail Z

Gaps at joints to be filled with joint filler (by customer)



Stepwidth	Rise	Weight	Support loads			Transp. dimensions	
			R1	R2	R3	h	l
A	H		kN	kN	kN	Balustrade height 1000	
mm	mm						
800	5,000	117	83	97	-	3,520	16,990
	6,000	129	93	106	-	3,570	18,970
	7,000	134	52	57	108	2)	2)
	8,000	144	55	59	119	2)	2)
	9,000	154	58	61	131	2)	2)
	10,000	164	62	63	142	2)	2)
1,000	5,000	121	93	107	-	3,520	16,990
	6,000	129	54	59	109	3,570	18,970
	7,000	140	57	62	123	2)	2)
	8,000	150	61	64	136	2)	2)
	9,000	160	65	67	149	2)	2)
	10,000	173	71	72	160	2)	2)

Schindler 970S

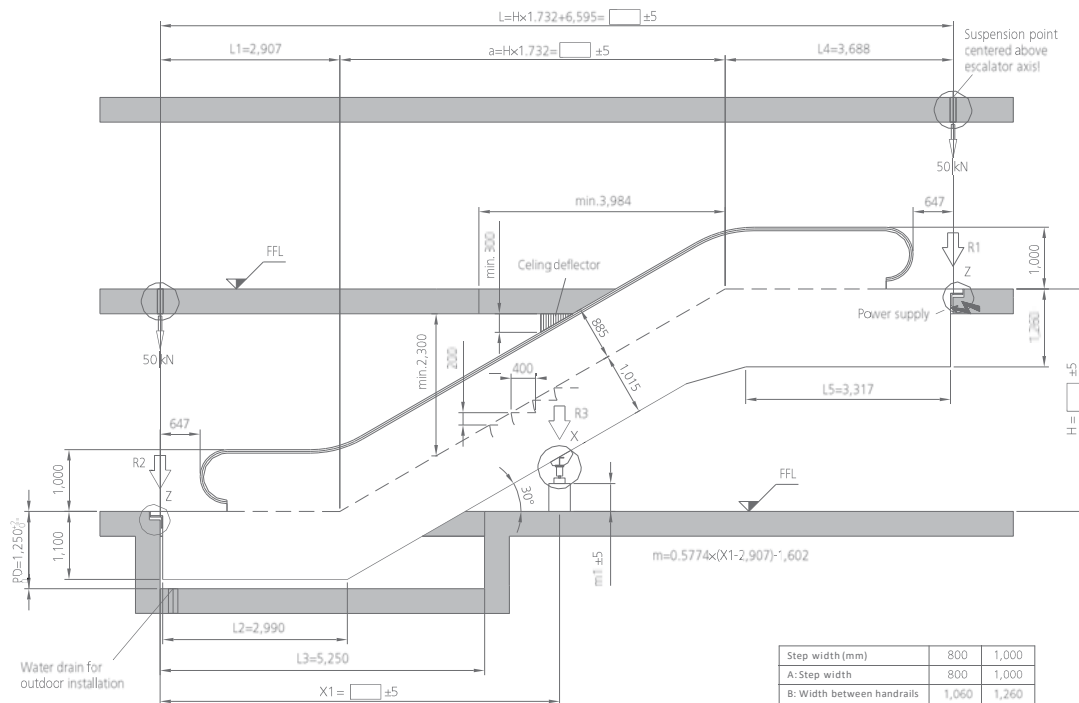
Type 60 30°-M

Balustrade: design I/design P
Balustrade height: 1,000 mm
Top/bottom transition radius: 4.0/2.0 m

Inclination: 30°
Step width: 800/1,000 mm
Step run: 3 horizontal steps

All dimensions in mm.
Observe national regulations!
Subject to changes.

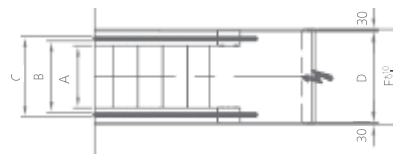
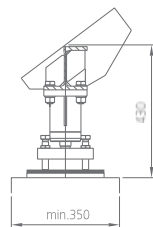
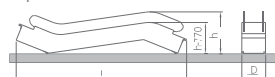
1) With a double drive, the truss must be extended by 417mm.
2) Delivery in min. 2 parts.



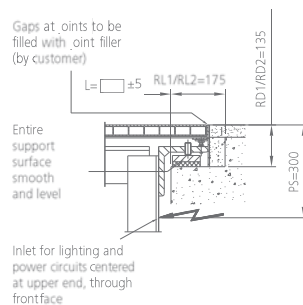
Step width (mm)	800	1,000
A: Step width	800	1,000
B: Width between handrails	1,060	1,260
C: Handrail outer distance	1,220	1,420
D: Width of escalator	1,440	1,640
E: Width of pit	1,500	1,700
Hmax: Maximum rise	24,500	20,500

Detail X

Transportation dimensions



Detail Z



Stepwidth	Rise	Weight	Support loads			Transp. dimensions	
			R1	R2	R3	Balustrade height 1000	
A	H		kN	kN	kN	h	l
mm	mm	kN	kN	kN	kN	h	l
800	5,000	110	78	93	-	3,500	16,570
	6,000	120	86	102	-	3,560	18,550
	7,000	128	50	55	102	2)	2)
	8,000	137	53	57	114	2)	2)
	9,000	147	57	60	125	2)	2)
	10,000	157	60	62	137	2)	2)
1,000	5,000	114	87	103	-	3,500	16,570
	6,000	123	52	58	104	3,560	18,550
	7,000	133	56	60	117	2)	2)
	8,000	143	60	63	130	2)	2)
	9,000	153	64	65	143	2)	2)
	10,000	166	70	70	154	2)	2)

Schindler 970S

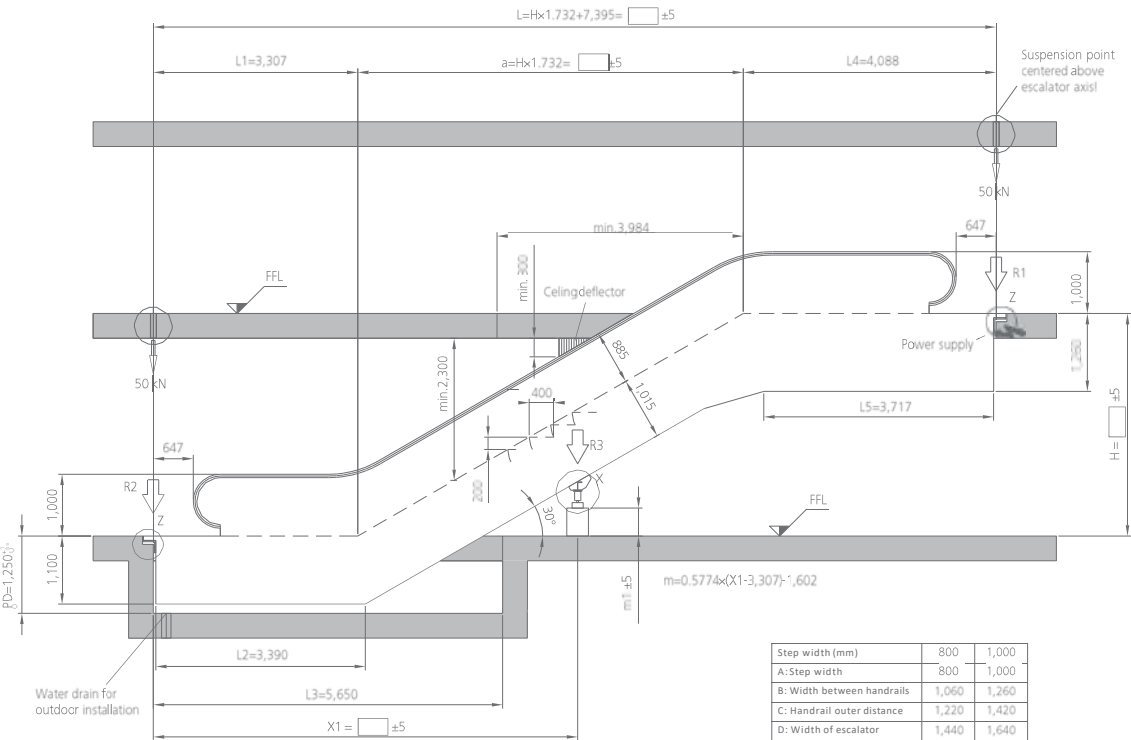
Type 60 30°-L

Balustrade: design I/design P
Balustrade height: 1,000 mm
Top/bottom transition radius: 4.0/2.0 m

Inclination: 30°
Step width: 800/1,000 mm
Step run: 4 horizontal steps

All dimensions in mm.
Observe national regulations!
Subject to changes.

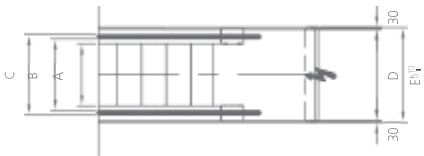
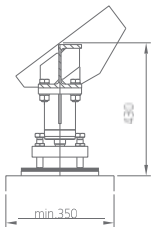
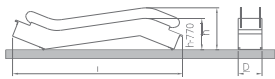
- 1) With a double drive, the truss must be extended by 417mm.
- 2) Delivery in min. 2 parts.



Step width (mm)	800	1,000
A: Step width	800	1,000
B: Width between handrails	1,060	1,260
C: Handrail outer distance	1,220	1,420
D: Width of escalator	1,440	1,640
E: Width of pit	1,500	1,700
Hmax: Maximum rise	24,500	20,500

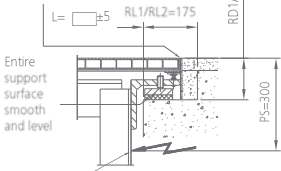
Detail X

Transportation dimensions



Detail Z

Gaps at joints to be filled with joint filler (by customer)



Inlet for lighting and power circuits centered at upper end, through frontface

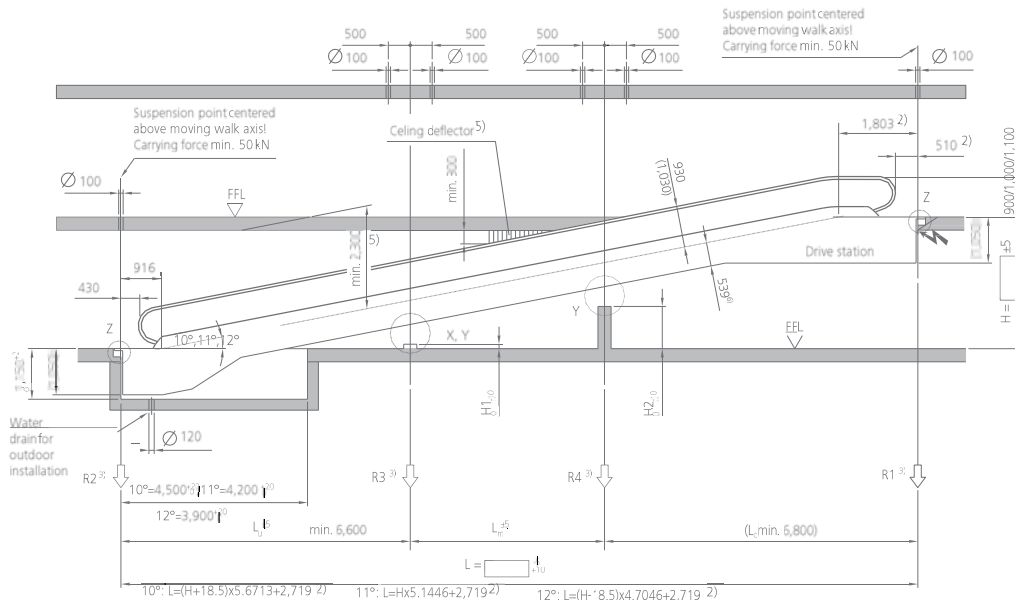
Step width	Rise	Weight	Support loads			Transp. dimensions	
			R1	R2	R3	Balustrade height 1000	
A	H	kN	kN	kN	kN	h	l
mm	mm						
800	5,000	115	82	98	-	3,620	17,320
	6,000	127	91	107	-	3,680	19,290
	7,000	133	51	57	108	2)	2)
	8,000	142	55	59	119	2)	2)
	9,000	152	58	61	131	2)	2)
	10,000	162	62	63	142	2)	2)
1,000	5,000	121	93	109	-	3,620	17,320
	6,000	128	53	59	110	3,680	19,290
	7,000	138	57	62	123	2)	2)
	8,000	148	61	64	136	2)	2)
	9,000	161	67	69	147	2)	2)
	10,000	172	71	72	160	2)	2)

Schindler 9500

Type 10 - K

Rise: max. 7.5 m at a pallet width of 1,000 mm
Balustrade: design E/F
Balustrade height: 900/1,000/1,100 mm

Inclination: 10°/11°/12°
Pallet width: 8,00/1,000/1,100 mm
Horizontal pallet run: 400 mm

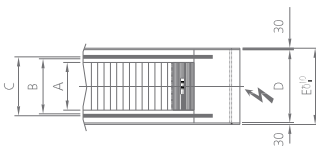


- 1) Calculated on the basis of a deflection of $L/750$. If $L > L_{max}$, an intermediate support may be required; please consult Schindler. Intermediate support (R3) at a distance of $L/2$.
- 2) With a double drive, the truss must be extended by 417 mm.
- 3) Support loads for two intermediate supports on request.
- 4) Dimensions for balustrade height 1,000.
- 5) Free spaces, overhead clearance, safety clearance; ceiling deflectors, wedging guards and protective barriers according to national regulations (optional supply by Schindler).
- 6) Dimension for truss height 716 mm

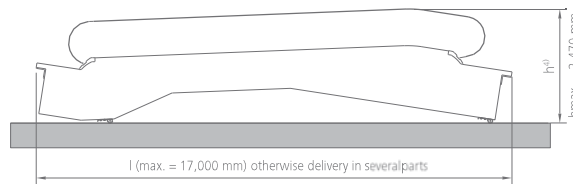
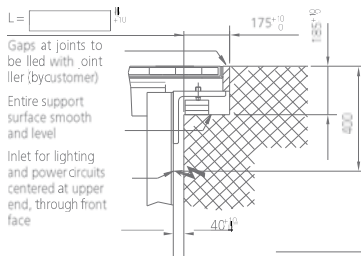
All dimensions in mm. Observe national regulations! Subject to changes. INT = intermediate support(s)

Inclination	Rise	Length	Transp. dimensions				Pallet width A = 800						Pallet width A = 1000						Pallet width A = 1100					
	H	L	in one part		Weight (kN)			Supp. loads (kN)			Weight (kN)			Supp. loads (kN)			Weight (kN)			Supp. loads (kN)				
			h ⁹⁾	I	G	Gu	Go	R1	R2	R3	G	Gu	Go	R1	R2	R3	G	Gu	Go	R1	R2	R3		
10°	3,000	19,838	2,460	20,420	86	40	46	41	37	93	92	43	49	46	43	108	96	45	51	50	46	116		
	4,000	25,509	2,470	26,180	104	49	55	48	45	119	111	52	59	55	52	139	115	54	61	60	55	149		
	5,000	31,180	2,470	31,940	130	42	52	59	56	148	132	43	49	49	44	105	135	44	50	51	46	112		
11°	3,000	18,153	2,460	18,760	81	37	44	39	35	85	87	40	47	44	40	99	90	42	48	47	43	106		
	4,000	23,297	2,470	24,000	97	45	52	45	42	109	104	49	55	51	49	127	108	51	57	56	52	136		
	5,000	28,442	2,470	29,240	113	53	60	52	49	133	132	63	69	65	60	158	126	57	69	48	43	103		
12°	3,000	16,746	2,460	17,380	77	35	42	37	34	78	82	38	44	41	38	91	85	39	46	45	41	98		
	4,000	21,450	2,470	22,190	92	43	49	43	40	100	98	46	52	48	46	117	102	48	54	53	49	126		
	5,000	26,155	2,470	27,000	106	50	56	49	46	122	116	55	61	58	54	143	126	60	66	64	60	155		

Transportation dimensions

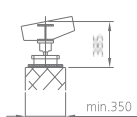


Detail Z
R1



Detail X
1 intermediate support

Detail Y
from 2 intermediate supports upward



Step width	800	1,000	1,100	1 INT	10°: H1=Lu x 0.1763 - 465
A: Pallet width	800	1,000	1,100		11°: H1=Lu x 0.1944 - 482
B: Width between handrails	958	1,158	1,258		12°: H1=Lu x 0.2126 - 434
C: Handrail center distance	1,038	1,238	1,338	2 INT	10°: H1=Lu x 0.1763 - 400
D: Moving walk width	1,340	1,540	1,640		11°: H1=Lu x 0.1944 - 417
E: Width of pit	1,400	1,600	1,700		12°: H1=Lu x 0.2126 - 499
L _{max} ³⁾ : Limiting span length	16,300 ³⁾	15,000 ³⁾	14,300 ³⁾		10°: H2 = H1 + Lm x 0.1763
H _{max} : Maximum rise	9,300	7,500	7,500		11°: H2 = H1 + Lm x 0.1944
					12°: H2 = H1 + Lm x 0.2126

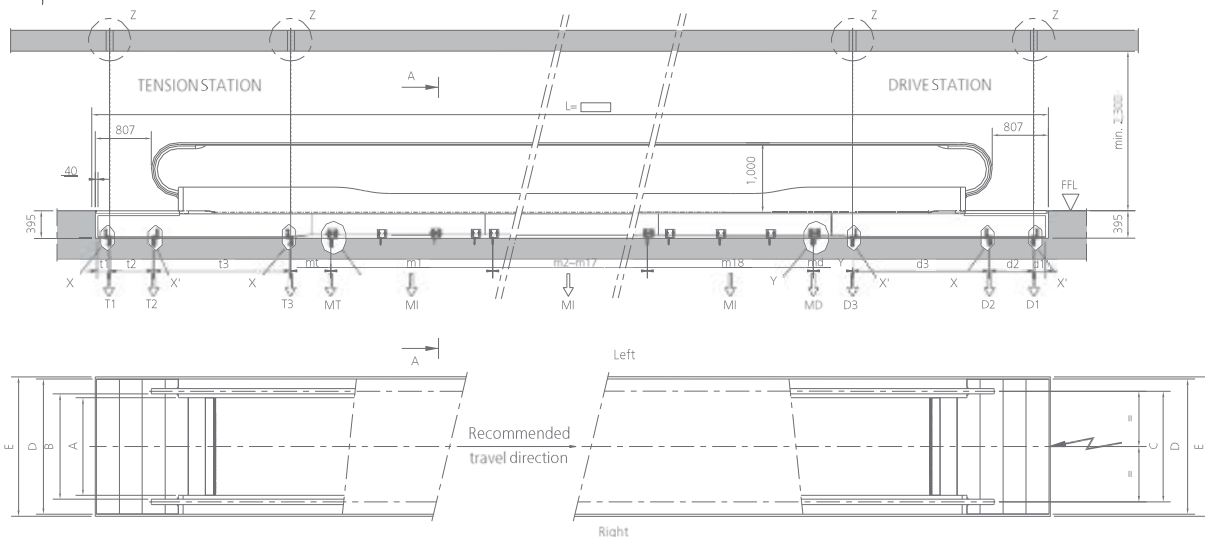
Schindler 9500

Type 20

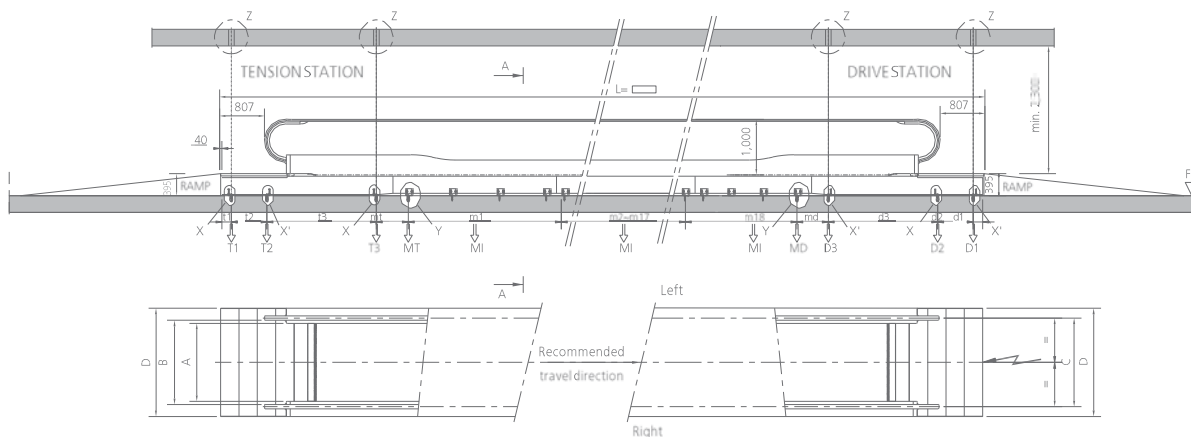
Transportation length: max. 100 m
at an inclination of 0°
Balustrade: design E

Balustrade height (from pallet): 1,000 mm
Step width: 1,000/1,200/1,400

Less-pit installation



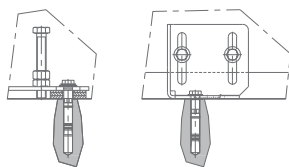
Pitless installation



Detail X

Detail Y

Detail X' Mirror view 1:2.5 1:2.5



	mm		
A: Palletwidth	1,000	1,200	1,400
B: Width between handrails	1,117	1,317	1,517
C: Handrail center distance	1,194	1,394	1,594
D: Moving walkwidth	1,550	1,750	1,950
E: Width of pit	1,610	1,810	2,010

* Holes for dowels according to the feet of the truss.
The reaction loads are equally distributed among the supports on the left and right side.
For expansion joints need clarify with factory.
All dimensions in mm.

All loads in kN/m.
Observe national regulations!
Subject to changes, please consult SCHINDLER.

Max. support loads (kN)
valid only for maximum support distance

Pallet width (mm)	1,000	1,200	1,400
T1	4	4	4
T2	12	14	15
T3	11	12	14
D1	4	5	5
D2	14	16	18
D3	12	15	16
MT	8	10	11
MI	12	14	16
MD	8	10	11

Support distance
valid for horizontal installation

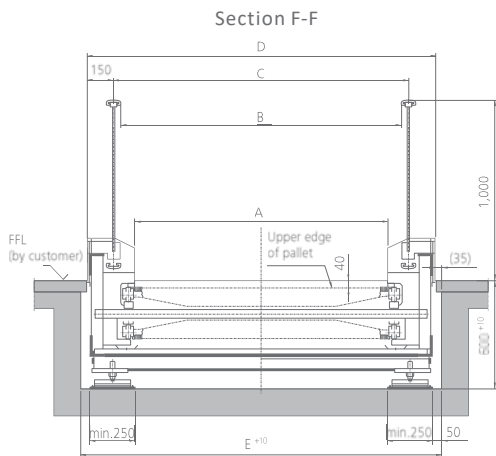
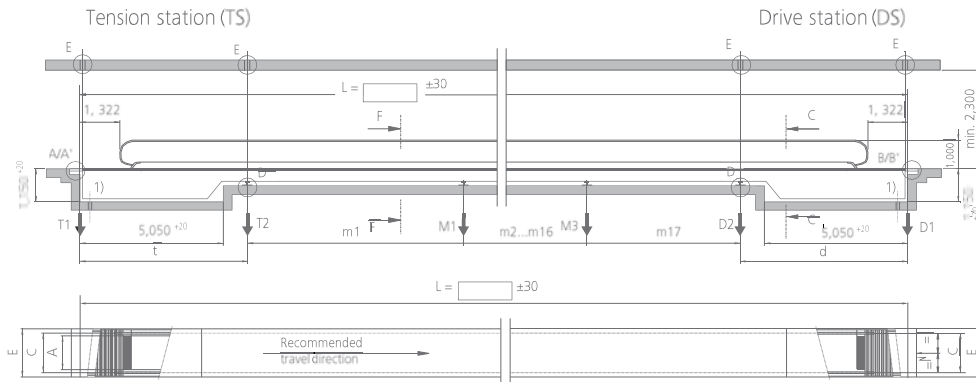
t1	170
t2	640
t3	1,968
mt	576
d1	170
d2	640
d3	1,968
md	565
m1-m18 (Max.)	5,400
m1-m18 (Min.)	1,350

Schindler 9500

Type 30

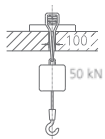
Transportation length: max. 100 m
at an inclination of 0°
Balustrade: design E
Balustrade height: 1,000 mm

Truss in drive and tension stations
Inclination: 0°-6°
Pallet width: 1,000/1,200/1,400 mm

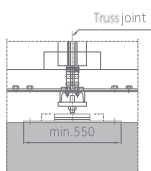


Detail E

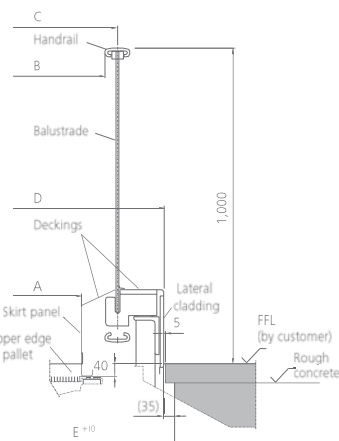
Suspension points centered
above moving walk axis!
Carrying force min. 50 kN



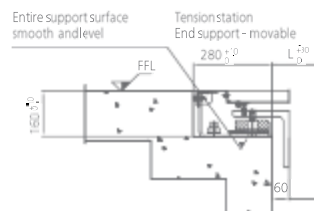
Detail D



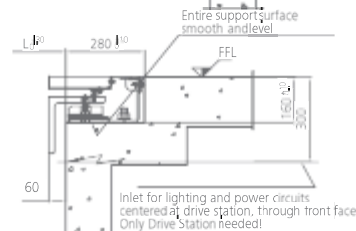
Section C-C



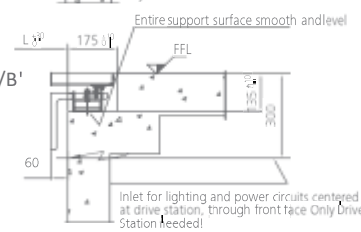
Detail A



Detail B



Detail A' / B'



A: Palletwidth	1,000	1,200	1,400
B: Width between handrails	1,157	1,357	1,556
C: Handrail center distance	1,237	1,437	1,636
D: Moving walkwidth	1,536	1,736	1,935
E: Width of pit	1,600	1,800	2,000

Max. support loads (KN) 2)
valid only for maximal support distance

Pallet width (mm)	1,000	1,200	1,400
T1	36	39	42
T2	123	133	142
D1	46	49	52
D2	123	133	142
M1...M17	101	109	116

Support distance
valid for horizontal installation

Width A (mm)	1,000	1,200	1,400
t	min 5,860	5,860	5,860
	max 11,500	11,000	10,500
d	min 5,860	5,860	5,860
	max 11,500	11,000	10,500
M1...M17	min 4,500 for all	4,500 for all	4,500 for all
	max 11,500	11,000	10,500

1) For outdoor installations a water drain shall be provided over the entire length of the concrete pit by customer.

2) The support loads T1 and D1 are equally distributed over the width of the moving walk, whereas the support loads T2, D2, M1, M3 etc. are equally distributed among the supports on the left and right side.

For outdoor installations, feasibility must be checked by the supplying factory on the basis of climatic conditions.

For parallel installation the drive stations must be mounted always on the same end.

All dimensions in mm.

All loads in KN.

Observe national regulations!

Subject to changes.

Please consult Schindler.



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We Elevate

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