## Wheelchair ramps



Wheelchair ramps

Rollstuhlrampen \& Hebelifte

Step ramps - variants 1 - 5


## Platforms for step ramps



## Door sill ramps

single section


## Balcony- and terrace door ramps

2 - and 3 -section


## Section ramps

with and without railings

## Platforms for panel ramps

with and without railings

## Telescopic- and ascending ramps

for variable use


## Special ramp solutions

## Information

ramp calculation, order forms

## Step ramps - without railings

## oad up to <br> 250 kg



## Step ramp - variant 4

Without support, wedge-shaped Without wheel guide curbs

Ramp length up to 300 cm


## Step ramp - variant 5

With support, wedge-shaped
without wheel guide curbs
Ramp length up to 300 cm


Step ramp - "alternative" variant with step section
Without support, for several steps
Ramp length up to 300 cm


Platforms for step ramps

## Balcony- and terrace door ramps - single section



Single-section models without wheel guide curbs


Bridging of door sills in which the middle piece lies on the ramp.


- Suitable for smooth door sills
- Unsuitable for terrace doors
- Width and height as per specification
- Max. load up to 120 kg

Single-section models with wheel guide curbs


| Art. No. | Ramp I. | Side I. | Weight |
| :--- | :--- | :--- | :---: |
| eTSR70-Ao | 70 cm | 30 cm | app. $5,5 \mathrm{~kg}$ |
| eTSR100-Ao | 100 cm | 45 cm | app. $7,5 \mathrm{~kg}$ |
| eTSR130-Ao | 130 cm | 60 cm | app. $9,0 \mathrm{~kg}$ |
| eTSR160-Ao | 160 cm | 75 cm | app. $12,0 \mathrm{~kg}$ |
| eTSR190-Ao | 190 cm | 90 cm | app. $14,0 \mathrm{~kg}$ |



Unequal side lengths


This variant of the sill ramp remains suspended over the door panel and therefore, offers optimum protection against damage. The lateral upstand provides stability and overrun protection simultaneously.

- Ideal for door panels, if the ramp is to stay in position
- Width and height as per specification
- Unequal side lengths possible
- max. load up to 250 kg

Further dimensions on request
simulaneously

(i)Dimensions and further information can be taken from the respective query and order forms at the end of the chapter

Lehmann


## 2-section models with and without wheel guide curbs

Different ramp combinations are possible, depending on the inclination and step height.
Extensive consultations required in advance for customized solutions.
We will create a customised offer on the basis of your specifications and dimensions.


This ramp can be removed easily, e.g., to shut the door.

The ramp element located in the drawing room is removed or added according to requirement. The section lying outside can stay.

- Ideal for all sill types
- Width and height as per specification
- Max. load up to 250 kg respective query and order forms at the end of the chapter


The 3-section ramp system is ideal for locations not exposed to force, or where the handling of an entire ramp is not possible, or the inner and outer ramps must remain in position.

Only the small and light middle piece is added or removed as per requirement. The door can be closed directly over the ramp.

This ramp model can be used only under certain preconditions. Please send us the concrete dimensions and specifications along with your query. We will then develop your customised solution.


- For "single persons" without assistance
- Door closes/opens over the ramp
- Only one bridging ramp/- sheet (over the sill) is removed or added
- Suitable for all sill types
- Width and height as per specification
- Max. load up to 250 kg

(i)Dimensions and further information can be taken from the respective query and order forms at the end of the chapter


## Panel ramps

Large ramp length in connection with heavy wheelchairs, e.g., with electrical drive, require a change in the production process. Aluminium panels offer flexible length and high load-bearing capacity.


- Ramps with load up to 400 kg
- With railings on one side
- With railings on both sides

For public areas according to DIN 18040 (medical practices etc. and public buildings)

## Platforms for panel ramps

The ideal supplement for our panel ramps. Space-saving solutions over corners that can also replace existing platforms. The supporting legs can equalize uneven surfaces.


- With or without railings
- Height can be adjusted $+/-5 \mathrm{~cm}$

For public areas according to DIN 18040 (medical practices etc. and public buildings)

iDimensions and further information can be taken from the respective query and order forms at the end of the chapter


Our telescopic ramps can be adjusted longitudinally and held in any position by virtue of self-retention.

The inner edges in the support area are sloped for vehicles with little floor freedom. On

Art. No. Ramp length* Ramp width Track width Weight Load

## 2-section model:

| TR130 | $80-137 \mathrm{~cm}$ | 25 cm | 19 cm | $9 \mathrm{~kg} /$ pair | 250 kg /pair |
| :--- | :---: | :--- | :--- | :--- | :--- |
| TR195 | $110-198 \mathrm{~cm}$ | 25 cm | 19 cm | $13 \mathrm{~kg} /$ pair | $250 \mathrm{~kg} /$ /pair |
| TR310 | $170-317 \mathrm{~cm}$ | 25 cm | 19 cm | 22 kg /pair | $200 \mathrm{~kg} /$ pair |

3-section model:
TR290 $\quad 113-287 \mathrm{~cm} \quad 26 \mathrm{~cm} \quad 18 \mathrm{~cm} \quad 23 \mathrm{~kg} /$ pair $\quad 200 \mathrm{~kg} /$ pair
*Total length incl. support • Support length: $10 \mathrm{~cm} \bullet$ Lateral height: 4.5 - 6 cm

- Longitudinally adjustable
- Anti-skid coating
- Bottom side with rubbercoating
- Max. load up to 250 kg (see table below)
- With lateral supporting strap
- Excellent grab hold through self-retention

Auxiliary resource No: 22.50.01.0055 respective query and order forms at the end of the chapter

Telescopic ramps - for heavy weights


## Telescopic ramp with perforated panels

Longitudinally adjustable telescopic ramps. Self-retention in any ramp position. The inner edges in the support area are sloped for vehicles with meagre floor freedom and the bottom-side rubber coating prevents skidding of the ramp.

An anti-skid perforated panel makes this ramp type optimal for use in wet conditions.


| Art. No. | Ramp length* | Ramp width | Track width | Weight | Load |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 2-section models: |  |  |  |  |  |
| LTR204 | $120-204 \mathrm{~cm}$ | 24 cm | 19 cm | $13 \mathrm{~kg} /$ pair | $320 \mathrm{~kg} /$ pair |
| 3-section models: |  |  |  |  |  |
| LTR290 | $120-290 \mathrm{~cm}$ | 24 cm | 17 cm | $19 \mathrm{~kg} /$ pair | $260 \mathrm{~kg} /$ pair |

* Total length incl. support • Support length: $6 \mathrm{~cm} \bullet$ Lateral height: 6 cm
- Longitudinally adjustable
- Anti-skid perforated section
- Rubber coating on bottom side
- Max. load up to 320 kg (See table below)
- With lateral supporting strap
- Excellent grip due to self-retention

Resource No:
22.50.01.0054 respective query and order forms at the end of the chapter

## Ascending ramps - light and handy



## Ascending ramp

The aluminium panels ensure easy handling and can support heavy loads by virtue of their special shape.

Thanks to the weight, they can also be placed in other positions or removed quickly.


- Load up to 250 kg
- With overrun protection
- Anti-skid

| Art. No. | Ramp length* | Support length | Ramp width | Weight | Load |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Ascending ramps: |  |  |  |  |  |
| AFR100 | 100 cm | 10 cm | 20 cm | $4,5 \mathrm{~kg} / \mathrm{pair}$ | $250 \mathrm{~kg} /$ pair |
| AFR150 | 150 cm | 10 cm | 20 cm | $6,5 \mathrm{~kg} / \mathrm{pair}$ | $250 \mathrm{~kg} /$ pair |
| AFR200 | 200 cm | 10 cm | 20 cm | $8,5 \mathrm{~kg} / \mathrm{pair}$ | $250 \mathrm{~kg} /$ pair |

* Total length including support

Dimensions and further information can be taken from the respective query and order forms at the end of the chapter


## Sill ramp with folding mechanism

In this case example, getting a stable ramp solution for the existing electric wheelchair was very important for the senior citizen couple, which despite high load bearing capacity, is also flexible by design.

Inadequate physical force and narrow space ratios led to the development of this special ramp: The optimum solution therefore, was a folding mechanism supported by a Bowden cable and a traction loop.


- Folding mechanism
- Bowden cable for optimum force distribution during folding operation
- Particularly long and "soft" outer ascent
- Ramp can remain in the lying position

This sill ramp has been produced individually. If you too have a special overrun situation, we would be glad to offer you solution recommendations.

## Ramp calculation

## HOW STEEP CAN A RAMP BE?

Determining the inclination is a very special factor. Because the inclination of a ramp and the required ramp length are based on different factors:

- Does the person operate the wheelchair on his own or is it pushed by a companion?
- How strong are the persons?
- What is the load the ramp must support?
- How high is the step or sill?
- How much space is available?

The requirements of a ramp are described in detail in DIN 18040. The most important factor in this regard is the inclination of a ramp, which should normally not exceed 6\%.

## Problem:

This naturally presupposes a corresponding ramp length. A ramp length which however, is frequently not available in the required form.

## Approach:

Assuming that the wheelchair is pushed by a companion, or an electric drive is available, the length of the ramp can also be shorter.

In this connection, the following inclination values have proved to be meaningful in practice:


When exceeding an incline of $20 \%$, safe movement can no longer be guaranteed. There is a risk that the wheelchair may tip over, or that the footrests touch the ground. Ramps in public areas must always be implemented in accordance with DIN norms.

Therefore, please check your requirements thoroughly in advance. Only a properly chosen incline guarantees proper daily functioning of the ramp later.

```
\bulletSelf-operated: . . . . . . . . . . . . . . . . . . . . . . . . . }6\mathrm{ %
. A strong self-operator: . . . . ................... }7\mathrm{ % - 10 %
- A person pushes a rollator: . . . . . . . .............max. 12 %
- A strong person pushes the wheelchair: . . . . . . .max. 12%
- A strong person pushes the wheel chair: . . . . . 13 % - 19 %
\bullet Electrical drive: . . . . . . . . . . . . . . . . . . . . . . . .ca. 20 %
```



## Ramp calculation

## HOW BIG SHOULD A RAMP BE?



The step height to overcome is the most important measure for finding the optimal solution. Please, at first, keep yourself to the heights of the steps during the calculation. After that, you can choose the necessary inclination.

## Length calculation

$$
\text { Length }=\frac{\text { Height } \times 100}{\text { Inclination }}
$$

## Example:

The staircase has 2 steps of 18 cm each $=36 \mathrm{~cm}$ total height. The inclination should be $12 \%$.

$$
\frac{36 \mathrm{~cm} \times 100}{12 \%}=300 \mathrm{~cm}
$$ examples below.



## Inclination calculation

$$
\text { Inclination }=\frac{\text { Height } \times 100}{\text { Length }} \quad \text { Height }=\frac{\text { Inclination } \times \text { Length }}{100}
$$

## Example:

The step is 8 cm high. The ramp should be 70 cm long.

$$
\frac{8 \mathrm{~cm} \times 100}{70 \mathrm{~cm}}=11,4 \%
$$

## Height calculation

## Example:

The Ramp is 150 cm long. The inclination should be $12 \%$.

$$
\frac{12 \% \times 150 \mathrm{~cm}}{100}=18 \mathrm{~cm}
$$

# Query $\square$ Order <br> Step ramps without railings <br> Please fill in and send by Fax to 0421/24105-15 or to info@rollstuhlrampen.de 

Name


#### Abstract

Street, House No.


$\qquad$
Telephone / Fax
Commission

Variant 1:
Only with support (without props)


Variant 3:
With support and props

$\qquad$ $\mathrm{cm} \quad \mathrm{A}$ : $\qquad$ cm

L: $\qquad$ cm

## S:

$\qquad$ cm

B: $\qquad$ cm

Carry handleYesWhere it is to be mounted)
No (if "Yes", mark the position (f "Kes", mark the position

Note: For production reasons, railings cannot be installed in this ramp type.
Is your step situation missing? Please draw your own sketch:

Variant 2:
Without support, with props

"Alternative" with step section:
With support and props


Max. load up to 250 kg!
$\square$ E-wheelchairSelf-operator without E- drive
$\square$ Is pushed Pushing person:
$\square$ Light $\square$ Heavy
Weight rollator + person: $\qquad$ kg

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Postcode, City, Country

Telephone / Fax

Contact

E-mail

Commission

Variant 4:
without support

"Alternative" with step section:
without support / for several steps


H: $\qquad$ cm

X: $\qquad$ cm

L: $\qquad$ cm

Y: $\qquad$ cm

B: $\qquad$ cm

Z: $\qquad$ cm

A: $\qquad$ cm
(10cm length)
Carry handleYesNo (if "Yes", mark the position Where it is to be mounted)

"Alternative" with step section:
with support / for several steps


Max. load up to 250 kg !
$\square$ E-wheelchair
$\square$ Self-operator without e-drive
$\square$ Is pushed
Pushing person:
LightHeavy
Weight of wheelchair + Person: kg

Note: For production reasons, railings cannot be installed in this ramp type.
Is your step situation missing? Please draw your own sketch:

# Query $\square$ Order <br> Platforms for step ramps 

Fill in and send by Fax to 0421/24105-15 or to info@rollstuhlrampen.de

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Telephone / Fax


## Load up to 250 kg !

L: $\qquad$ cm
H: $\qquad$ cm
B: $\qquad$ cm
A: $\qquad$ cm
X: $\qquad$ cm
Y: $\qquad$ cmwithout support
Z: $\qquad$ cmwith support
$\qquad$
Straight passage $100 \times 100 \mathrm{~cm}$
$\square$ Passage over corner $120 \times 120 \mathrm{~cm}$
$\square$ Support 10 cm
All platforms can be adjusted in height by $+/-2 \mathrm{~cm}$.

Please also observe the examples on the reverse side!

Is your step situation missing? Please draw your own sketch here:

## Recommended/optional

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120 cm


# Query $\square$ Order <br> Door sill ramps, single-section <br> Fill in and send by fax to 0421/24105-15 or to info@rollstuhlrampen.de 

Name

Street, House No.
Contact

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E-mail

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$\square$ Without
wheel guide curbs


With
wheel guide curbs


H1: $\qquad$ cm

H2: $\qquad$ cm

L1: $\qquad$ cm

L2: $\qquad$ cm

L3: $\qquad$ cm

B: $\qquad$ cm

## Carry handle

YesNoIf "Yes", please mark the position at which it is to be mounted)

## $\square$ E-wheelchair

Self-operator without e-driveIs pushedPushing person:LightHeavy

Weight wheelchair + person: $\qquad$ kg

Fill in and send by fax to 0421/24105-15 or to info@rollstuhlrampen.de

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H1: $\qquad$ cm

B1: $\qquad$ cm

L1: $\qquad$ cm

H2: $\qquad$ cm

B2: $\qquad$ cm

H3: $\qquad$ cm

H4: $\qquad$ cm

L2: $\qquad$ cm

L3: $\qquad$ cm

L4: $\qquad$ cm

Is your step situation missing? Please draw your own sketch here:

Fill in and send by fax to 0421/24105-15 or to info@rollstuhlrampen.de

Name

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$\qquad$
Commission


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## - Ramps should always remain laid.

- Door opens and shuts over ramp.
- Only one bridging ramp to be removed to shut door!

View: Door closed


View: Door open

$\mathrm{H} 1=$ Height below the shut door: $\qquad$

H2 = Full height of door frame: $\qquad$

H3 = Outside height $\qquad$
Carry handleYesNo

If "Yes", please mark the position at which it is to be mounted)Door opens insideDoor opens outside
$\square$ Sliding door

Is your step situation missing? Please draw your own sketch here
H 1 = Height below the shut door:
H 2 = Full height of door frame:
Carry handle $\square$ Yes $\square$ No
If "Yes", please mark the position at which it is to be mounted) $\quad \square$ Door opens outside
$\square$ Door opens inside
Is your step situation missing? Please draw your own sketch here:

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Name

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| Art. No. | Ramp length ${ }^{1}$ | Ramp width | Track width | Weight | Load | Query | Order |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

2-section models:

| TR130 | $80-137 \mathrm{~cm}$ | 25 cm | 19 cm | $9 \mathrm{~kg} /$ pair | $250 \mathrm{~kg} /$ pair | $\square$ | $\square$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TR195 | $110-198 \mathrm{~cm}$ | 25 cm | 19 cm | $13 \mathrm{~kg} /$ pair | $250 \mathrm{~kg} /$ pair | $\square$ | $\square$ |
| TR310 | $170-317 \mathrm{~cm}$ | 25 cm | 19 cm | $22 \mathrm{~kg} /$ pair | $200 \mathrm{~kg} /$ pair | $\square$ | $\square$ |
| 3-section models: |  |  |  |  |  |  |  |
| TR290 | $113-287 \mathrm{~cm}$ | 26 cm | 18 cm | $23 \mathrm{~kg} /$ pair | $200 \mathrm{~kg} /$ pair | $\square$ | $\square$ |

1 Total length incl. support •Support length: 10 cm • Lateral height: $4.5-6 \mathrm{~cm}$

| Art. No. | Ramp length |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ramp width | Track width | Weight | Load | Query | Order |  |
| 2-section models: |  |  |  |  |  |  |  |
| LTR204 | $120-204 \mathrm{~cm}$ | 24 cm | 19 cm | $13 \mathrm{~kg} /$ pair | $320 \mathrm{~kg} /$ pair | $\square$ | $\square$ |
| 3-section models: |  |  |  |  |  |  |  |
| LTR290 | $120-290 \mathrm{~cm}$ | 24 cm | 17 cm | $19 \mathrm{~kg} /$ pair | $260 \mathrm{~kg} /$ pair | $\square$ | $\square$ |

1 Total length incl. support • Support length: $6 \mathrm{~cm} \bullet$ Lateral height: 6 cm

| Art. No. | Ramp length ${ }^{1}$ | Support length | Ramp width | Weight | Load | Query | Order |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Ascent ramps:

| AFR100 | 100 cm | 10 cm | 20 cm | $4,5 \mathrm{~kg} /$ pair | $250 \mathrm{~kg} /$ pair | $\square$ | $\square$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| AFR150 | 150 cm | 10 cm | 20 cm | $6,5 \mathrm{~kg} /$ pair | $250 \mathrm{~kg} /$ pair | $\square$ | $\square$ |
| AFR200 | 200 cm | 10 cm | 20 cm | $8,5 \mathrm{~kg} /$ pair | $250 \mathrm{~kg} /$ pair | $\square$ | $\square$ |

1 Total length including support

Is your ramp missing? Please draw your own sketch here:

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Please, dimension the stairs!
From 4m length, in two pieces for the transportation

|  | Track / Width: | Railings: | L: | cm |
| :---: | :---: | :---: | :---: | :---: |
| $\square$ | $80 / 88 \mathrm{~cm}$ | $\square$ without Railing | H: | cm |
| $\square$ | $100 / 108 \mathrm{~cm}$ | $\square$ both sides | 1: | cm |
|  | $120 / 128 \mathrm{~cm}$ | on one side, in moving | 2: | cm |
|  | / $\qquad$ cm | direction top left | 3: | cm |
|  |  | on one side, in moving direction top right | 4: | cm |
|  |  |  | 5: | cm |
| Is your step situation missing? Please draw your own sketch here: |  |  |  |  |

Fill in and send by fax to 0421/24105-15 or to info@rollstuhlrampen.de

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|  | Length |  | Width |
| :---: | :---: | :---: | :---: |
| $\square$ | 88 cm | $\square$ | 100 cm |
| $\square$ | 128 cm | $\square$ | 120 cm |
| $\square$ | 168 cm | $\square$ | 150 cm |
| $\square$ | 208 cm | $\square$ | $\ldots \mathrm{cm}$ |
| H: |  |  | 10 cm support for existing step |
| X: |  |  |  |
| Y: |  |  | without support |

## Load up to 400 kg

$\square$ Additional steps on platform:

The number of steps is based on the total height, see examples $X$ on the reverse side.
$\square$ Without railings, but with overrun protection
$\square$ Railings: left and rightRailings over corner


Please also see the examples and instructions on the reverse side!

Examples
Platforms for section ramps

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## Example:

Platform with railings and steps

The number of steps is based on the total height!


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