

# Tender specification KLAUS Multiparking TrendVario 6100+

## Preliminary technical remarks

1. Basis for the design are:
    - 1.1 the garage regulations (GaVo) according to the building regulations in the latest version,
    - 1.2 the EC Machinery Directive 2006/42/EC, Appendix 1, and the DIN EN 14010
    - 1.3 a voluntary conformity testing by TÜV SÜD
    - 1.4 the architect's workshop drawings
  2. The bidder confirms upon submission of the bid that the garage dimensions and the driveway widths comply with the GaVo, the relevant implementation guidelines to be specified by him and the system offered by him.
  3. Required surface loads according to DIN 1991-1-1, per parking space: 2.0 t
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## Specification

### General:

Multiparking system providing independent parking spaces for cars, one on top of the other and side by side.

The system can be driven through and combined with the TrendVario 6100, 6100+, 6200+, 6300 and 6300+ systems (for details of these systems, please refer to the corresponding product data sheets).

Dimensions are in accordance with the underlying dimensions of parking pit, height and width.

The parking bays are accessed horizontally (installation deviation  $\pm 1\%$ ). Along the complete width of the system an approach lane (driving lane in accordance with local regulations) must be available.

Parking spaces are arranged on two different levels, one level on top of the other.

The platforms of the lower floor (LF) are moved vertically, the platforms on the ground floor (GF) horizontally. At approach level there is always one parking space less available. This vacant space is used for shifting the ground floor (GF) parking spaces sideways, thus enabling the lower platform (LF) parking space located below to be lifted to approach/ground level. Consequently, a unit of three parking spaces (1 on the ground floor, 2 on the lower floor) is the smallest unit available for this parking system. Positioning of the vehicle in each parking space by means of a positioning aid attached to one side (to be set in accordance with the operating instructions).

For safety reasons, the platforms are always moved behind locked gates.

All necessary safety devices are installed. They essentially consist of a chain monitoring system, locking levers for the upper platforms and locked gates. The gates can only be opened when the selected parking space has reached its parking position.

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## Sliding doors:

### Size:

- Sliding door, dimensions: approx. 2500 mm x 2000 mm (width x height).

### Frame:

- Frame construction with a vertical central bar made of extruded aluminum profiles (anodized, layer thickness approx. 20 µm)
- A recessed handle is integrated into a vertical aluminum profile to open the doors.
- A rubber lip is attached to the closing edge for a clean finish to the building.

### Standard door panel

#### Perforated aluminum sheet

- Thickness 2 mm, RV 5-8 E6/EV1, anodized, layer thickness approx. 20 µm
- Ventilation cross-section of the infill approx. 40%

### Door infill Alternative

#### Smooth aluminum sheet

- Thickness 2 mm, E6/EV1, anodized, layer thickness approx. 20 µm

#### Steel corrugated sheet

- Thickness 1 mm, galvanized, layer thickness approx. 20 µm
- Additionally powder-coated, layer thickness approx. 25 µm on the outside and approx. 12 µm on the inside
- Color options for the outside (building view): RAL 1015 (light ivory), RAL 3003 (ruby), RAL 5014 (pigeon blue), RAL 6005 (moss green), RAL 7016 (anthracite gray), RAL 7035 (light gray), RAL 7040 (window gray), RAL 8014 (sephia), RAL 9006 (white aluminum), RAL 9016 (traffic white)
- Inside of the doors in a light shade of gray

#### Timber infill

- Nordic spruce in A-grading
- Vertical tongue and groove boards
- colorless pre-impregnated

#### Laminated safety glass

- VSG made of ESG 8/4mm

#### wire mesh

- Mesh size 12 x 12 mm
- Wire diameter 2 mm, galvanized, layer thickness approx. 20 µm
- Ventilation cross-section of the infill approx. 70%

#### Running rails

- The running gear consists of 2 double-pair roller units per door, height-adjustable
- The running rails of the doors are attached with ceiling sleeves to brackets or directly to the concrete lintel or to a building-specific door suspension system
- The bottom guide consists of 2 plastic rollers on a base plate, which is dowelled to the floor
- Guide rails, ceiling sleeves and guide roller base plate are galvanized

# **Tender specification KLAUS Multiparking TrendVario 6100+**

## **Gate operation**

Electric drive by means of an electric motor, which is attached to the rail system at the turning point of the sliding gates. The drive pinion engages with a chain attached to the gate. For safety reasons, the platforms are always moved behind locked gates. Querying the positions "Door open" and "Door closed" positions are queried by electrical signal transmitters.

## **Separation (if required):**

- On request

Please note: Door panels (side, track cover, etc.) and door suspensions are not included in the standard version, but can be supplied as optional extras at an extra charge.

## **Control system**

- Central control point (control panel with emergency stop) for selecting the desired parking space
- The electrical wiring is carried out from the control cabinet by the supplier

## **Corrosion protection:**

Corrosion protection in accordance with DIN EN ISO 12944-2, corrosivity class C3 moderate

- Platform profiles hot-dip galvanized in accordance with DIN EN ISO 1461, coating thickness min. 45 µm
- Side members hot-dip galvanized in accordance with DIN EN ISO 1461, coating thickness min. 55 µm
- Cross members hot-dip galvanized in accordance with DIN EN ISO 1461, coating thickness min. 55 µm
- Access plates hot-dip galvanized in accordance with DIN EN ISO 1461, coating thickness min. 55 µm
- Platform profile fastening screws stainless steel V4A
- Hydraulic pipes, fittings, bolts, screws, nuts, washers galvanized
- Other steel parts such as steel structure, bearing plates, drive brackets Hot-dip galvanized according to DIN EN ISO 1461 Coating thickness min. 55 µm.

## **Switch cabinet and main switch:**

Access to the switch cabinet (approx. 60 x 60 x 25 cm) must be possible without danger. The lockable main switch must be positioned so that the entire entry area of the system can be seen.

Please consult KLAUS Multiparking if there is a wall opening from the control cabinet to the system.

## **Tender specification KLAUS Multiparking TrendVario 6100+**

### **On-site services:**

1. **Electrical supply to the main switch / Foundation earth connector:**  
Suitable electrical supply to the main switch and the control wire line must be provided by the customer during installation. The functionality can be monitored on site by our fitters together with the electrician. If this cannot be done during installation for some reason for which the customer is responsible, the customer must commission an electrician at their own expense and risk.  
In accordance with DIN EN 60204, grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m).
2. **Safety fences:**  
Any constraints that may be necessary according to DIN EN ISO 13857 in order to provide protection for pathways directly in front, next to or behind the unit. This is also valid during construction.
3. **Numbering of parking spaces:**  
Consecutive numbering of parking spaces.
4. **Building services:**  
Any required lighting, ventilation, fire extinguishing and fire alarm systems as well as clarification and compliance with the relevant regulatory requirements.
5. **Strip foundations:**  
If strip foundations are installed due to structural conditions, a walk-on platform must be erected on site at the height of the upper edge of the strip foundations in order to be able to carry out the installation work.
6. **Drainage:**  
It is recommended that a water collection channel is provided in the center area of the pit and that this is with a floor inlet or a scoop pit (50 x 50 x 20 cm). A lateral slope is possible within the channel, but not in the rest of the pit area (longitudinal slope is given by the construction dimensions). In the interests of environmental protection, it is recommended that the pit floor be painted. Oil and petrol separators must be taken into account when connecting to the sewage system in accordance with legal regulations
7. **Door suspensions:**  
The lintel height H2 (see product data sheet TrendVario 6100+) is necessary. With differing heights, additional fixings are required for extra charge
8. **Door shields:**  
Door shields that may be necessary. If desired, they can be ordered from KLAUS Multiparking for an additional charge.
9. **Wall cuttings:**  
Any necessary wall cuttings according to product data sheet TrendVario 6100+.
9. **Concrete quality:**  
Floor and walls are to be made of concrete (quality minimum C20/25).

## **Tender specification KLAUS Multiparking TrendVario 6100+**

Multiparking system for \_\_\_ cars  
TrendVario 6100+/GT190

Multiparking system for \_\_\_ cars  
LF: \_\_\_ parking places  
GF: \_\_\_ parking places + 1 empty space

Pit depth: 190 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:  
GF: 150 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:  
Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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Extra costs for remote control

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Extra costs for additional hand-held transmitter (1 per parking place)

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Extra costs for door panel made of plain aluminium sheet

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Extra costs for door panel made of beaded steel plate

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Extra costs for door panel made of wood

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Extra costs for door panel made of laminated safety glass

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Extra costs for door panel made of wire grating 12 x 12 mm

## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT195

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 195 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 155 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT200

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 200 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 160 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT205

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 205 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 165 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT210

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 210 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 170 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT215

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 215 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 175 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT220

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 220 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 180 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT225

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 225 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 185 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT230

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 230 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 190 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT235

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 235 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 195 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT240

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 240 cm  
Clearance up to lower edge of the ceiling: 220 cm

Vehicle height:

GF: 200 cm  
UF: 200 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 225: car height GF 205 cm  
Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT245

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 245 cm  
Clearance up to lower edge of the ceiling: 225 cm

Vehicle height:

GF: 205 cm  
UF: 205 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 230: car height GF 210 cm  
Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 265: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT250

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 250 cm  
Clearance up to lower edge of the ceiling: 230 cm

Vehicle height:

GF: 210 cm  
UF: 210 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 235: car height GF 215 cm  
Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 365: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## **Tender specification KLAUS Multiparking TrendVario 6100+**

Option:

Multiparking system for \_\_ cars  
TrendVario 6100+/GT255

Multiparking system for \_\_ cars  
LF: \_\_ parking places  
GF: \_\_ parking places + 1 empty space

Pit depth: 255 cm  
Clearance up to lower edge of the ceiling: 235 cm

Vehicle height:

GF: 215 cm  
UF: 215 cm

If the clearance to the lower edge of the ceiling is deviant:

Height 240: car height GF 220 cm  
Height 245: car height GF 225 cm  
Height 250: car height GF 230 cm  
Height 255: car height GF 235 cm  
Height 260: car height GF 240 cm  
Height 365: car height GF 245 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation  
incl. electrical wiring from hydraulic unit  
incl. expert acceptance

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## Tender specification KLAUS Multiparking TrendVario 6100+

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\*Optional position\*

Extra costs for larger platform width \_\_\_\_\_ cm

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\*Optional position\*

Extra costs for increase of platform load to 2.6 t per parking space

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\*Optional position\*

Extra costs for increase of platform load to 3.0 t per parking space

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\*Optional position\*

Extra costs for parking place extensions for car length up to 5.10 m

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\*Optional position\*

Extra costs for parking place extensions for car length up to 5.20 m

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\*Optional position\*

Extra costs for parking place extensions for car length up to 5.30 m

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\*Optional position\*

Platform coating in AluLongLife

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\*Optional position\*

Platform coating in EasyWalk

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\*Optional position\*

Extra costs for additional noise protection measures to protect against structure-borne sound according to DIN 4109-1

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\*Optional position\*

Extra costs for additional increased noise protection measures to protect against structure-borne sound according to VDI 4100

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\*Optional position\*

Extra costs for fixing in waterproof concrete with glue dowel

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Extra costs for conclusion of a system service contract SSVP "PLUS" with cleaning and care, incl. maintenance 2 per year, all spare and wear parts, and cleaning and care of the platform surface.

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