

# Surface protection for WÖHR Autoparksysteme



## 1 General Remarks

### 1.1 Classification of parking systems

WÖHR Car Parking Systems are machines as defined by the machine directive 2006/42/EC, Appendix 1 and the EN 14010.

The surface protection – hereafter described in detail – is based on functional and technical assessments of the individual parts in order to take into account necessary, commonly encountered corrosive individual loading in accordance with DIN EN ISO 12944-1. The corrosion protection is therefore defined in various ways.

**The classification of parking systems takes place based on DIN EN ISO 12944-2:**

**Corrosivity category C3 moderate (inside: production rooms with high degree of damp and some air pollution or outside: urban and industrial atmosphere, moderate pollution by sulphur dioxide. Coastal areas with low salt content).**

**Note: C3 applies to structural elements located above drive-in levels.**

**Corrosivity category C4 high (interior: chemical plants, swimming pools, coastal shipyards and boatyards. Exterior: industrial areas and coastal areas with moderate salinity).**

**Note: C4 applies to structural elements located in parking system pits.**

**Corrosivity category C2 low (interior: unheated buildings where condensation may occur, e.g. depots, sports halls).**

**Note: C2 applies to all moving parts such as gear wheels, gear racks, cylinders chains and pinion located either above or below entrance levels.**

#### Design specifications:

In our capacity as manufacturer of parking systems, we cannot be aware of the site conditions – neither of the installation site in question, nor of its surroundings. We are therefore not in position to assess whether any other corrosivity categories may be applicable to the installation location in terms of corrosion protection.

In the event that the environmental requirements relating to the installation site are **higher** than those specified in this data sheet, then the architect/investor/ordering party either need to take a shorter protection duration term of the relative surface protection issues into account. The measures proposed in the section „**Damage minimisation**“ can also be implemented by the customer for ventilation or pit drainage.

Wherever necessary, the architect/investor and/or ordering party are required to reach a decision and to notify us in the event that corrosivity categories C3 and/or C4 are to be considered as inapplicable. If we are not notified to this effect then we shall, in principle, proceed with delivery per the contents of this data sheet.

### 1.2 Length of protection/repair

The length of protection in compliance with DIN EN ISO 12944-1 is medium (M) 7 – 15 years. The length of protection does not constitute a “warranty period”. The length of protection is a technical term designed to help the client stipulate a repair programme. The warranty period is generally shorter than the length of protection. A repair may well be required earlier than foreseen by the length of protection due to fading, pollution, wear, abrasion or other reasons (cf. DIN EN ISO 12944-5, Itm. 5.5). This also does not constitute a defect covered by the warranty.

### 1.3 Coatings systems

Coatings with powder-based paints have been tested as medium on the basis of DIN EN ISO 12944-6 C2. The requirements were fulfilled and verified in batteries of tests.

- Coatings with zinc in compliance as per DIN EN 10326 and DIN EN ISO 1461
- Coatings with zinc-aluminum-magnesium as per DIN EN 10326

### 1.4 Rust level

In compliance with DIN EN ISO 4628-3, we guarantee a rust Level of Ri 3 until expiry of agreed warranty period on coated surfaces of the side beams and middle panels under the condition that parking system is properly cared for and maintained.

Partial coating damage (up to 1% of the total system surface) is possible depending on the mechanical, climatic and chemical loads. The function and safety of the parking systems is not compromised as a result, meaning that coating damage does not constitute a reason for a claim or a warranty defect, as long as the degree of rusting of Ri 3 is not exceeded in the parking system within the warranty period.

### 1.5 Cleaning and Maintenance

Please refer to the data sheet “Cleaning and Maintenance of WÖHR Car Parking Systems”. As part of our service activities our local Partner offers cleaning and maintenance measures against surcharge for car parking systems of WÖHR.

### 1.6 Damage minimisation (to be performed by the customer)

Premature corrosion on the coating is prevented by:

1. Removal of pit water and contamination in the pit sump as well as in the drainage channel by deploying submersible pumps or connecting to the wastewater system
2. Sufficient ventilation (avoidance of high relative humidity, above 80%)
3. The regular and appropriate reconditioning of any visible surface alterations
4. Performing regular and appropriate cleaning of both the top surface of the platform and of the pit floor (please consult the cleaning and maintenance section herein)
5. Limited moisture entry (e.g. removal of snow from the wheel arches and the vehicle surface)

### 1.7 Wear and tear

Through utilization, abrasion and usage a natural wear occurs on the platform upper side, this does not constitute a warranty defect.

### 1.8 Warranty periods

Warranty periods are guaranteed according to the offer conditions.

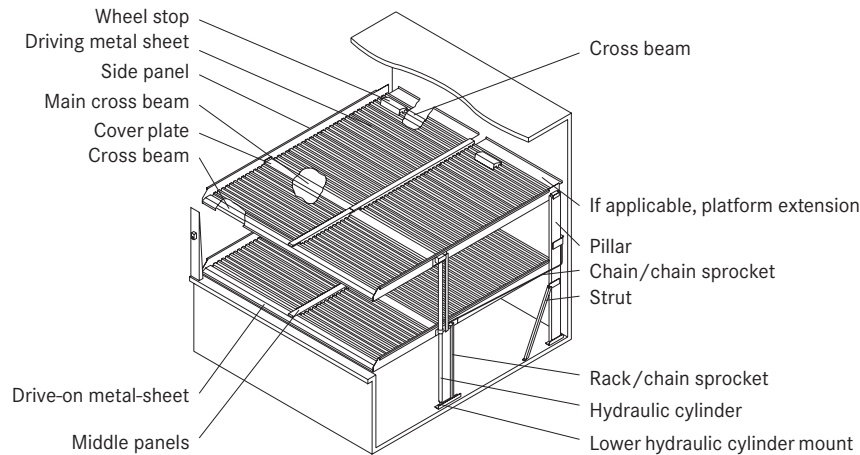
### 1.9 Notes

The manufacturer reserves the right to construction or model modifications and/or alterations. Furthermore, the right to any subsequent part modification and/or variations and amendments in procedures and standards due to technical and engineering progresses in the art or due to environmental regulation changes, are also hereby reserved.

## 2 Surface protection Parklift

For systems: Parklift 200, 310, 313, 340, 405, 450, 413, 461, 462, 464, 465, 635

### 2.1 System-relevant surface protection



	200	310	313	340	405 450	413	461 462	464 465	635	
Driving metal sheets			*							
Drive on sheets, cover plates and, if applicable platform extension										
Side panels/Middle panels										
Cross beams										
Screws, washer and nuts for the installation of the driving metal sheets										
Pillar										
Strut for pillar										
Hydraulic cylinder										
Torsion bar/synchro shaft										
Chain sprocket/pinion										
Chain/rack										
Dowelling for unit mount										
Screws, nuts, washers										
Hydraulic tube, hydraulic screw connections, bolts										
Lower hydraulic cylinder mount										
Mounts pillar/side panel										
Mounts torsion bar/side panel										
Mounts hydraulic cylinder/side panel										
Tube for safety fences										
Post for safety fences										
Solenoid valves	Alu	Alu	Alu	Alu		Alu	Alu	Alu	Alu	
Hydraulic unit										

\* Depending on the version of the system, parts of the driving metal sheets are hot-dipped galvanised

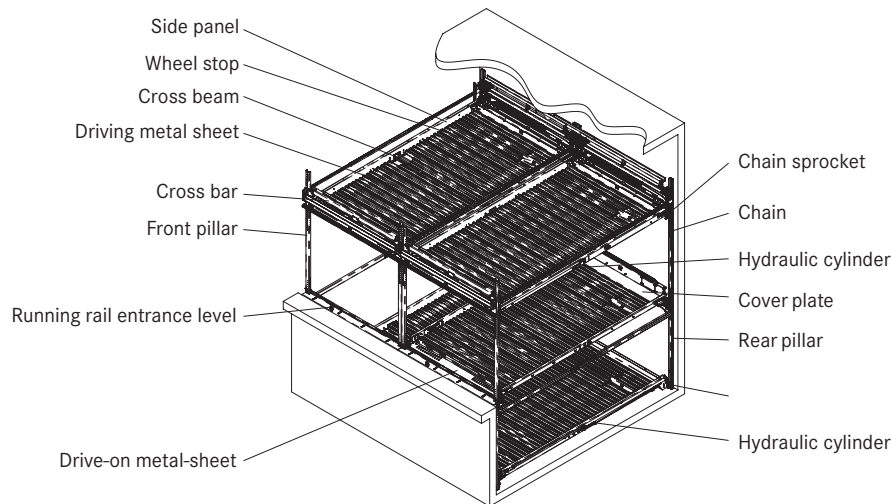
### 2.2 Symbol legend

	with a zinc-aluminum-magnesium alloy coating of approx. 16 µm on both sides (compliant to the DIN EN 10346)		zinc lamellar coating
	hot-dipped galvanised as per DIN EN ISO 1461, approx. 45 µm zinc layer (localised layer thickness as minimum value)		galvanised as per DIN 50961, zinc layer approx. 5–8 µm
	hot-dipped galvanised as per DIN EN ISO 1461, approx. 55 µm zinc layer (localised layer thickness as minimum value)		without coating
	for single units partially hot-dipped galvanised as per DIN EN 10326 with 275 g/sqm, approx. 20 µm zinc layer, partially hot-dipped galvanised as per DIN EN ISO 1461 with approx. 55 µm zinc layer; for double units: hot-dipped galvanised as per DIN EN ISO 1461 with approx. 55 µm zinc layer		painted with one-coat paint or powder-coated, thickness of layer approx. 80 µm, colour signal yellow (RAL 1003)
	hot-dipped galvanised as per EN 10327, approx. 20 µm zinc layer (continuously galvanised)		preparation grade P1 according to DIN EN ISO 8501, epoxy resin-based powder-coated, layer thickness approx. 60–80 µm
			sheet mounting for the side and central panels of self-channelling screws, zinc multi-disc coating, approx. 12–15 µm layer thickness; washers and nuts electrolytically galvanised as per DIN 50961, approx. 5–8 µm zinc layer

### 3 Surface protection Combilift

For systems: Combilift 551, 552, 552\_MR, 542, 542\_MR, 543, 543\_MR

#### 3.1 System-relevant surface protection



	551	552	552_MR	542	542_MR	543	543_MR	
Driving metal sheets	■	■	■	■	■	■	■	
Drive on metal-sheet, cover plates	■	■	■	■	■	■	■	
Side panels	■	■	■	■	■	■	■	
Cross beams	■	■	■	■	■	■	■	
Screws, washer and nuts for the installation of the driving metal sheets	○	○	○	○	○	○	○	
Pillar	■	■	■	■	■	■	■	
Hydraulic cylinder	◐	◐	◐	◐	◐	◐	◐	
Plates	■	■	■	■	■	■	■	
Cross bar	■	■	■	■	■	■	■	
Chain sprocket/pinion	△	△	△	△	△	△	△	
Chain/wire rope	▲	▲	▲	▲	▲	▲	▲	
Dowelling for system mount	■	■	■	■	■	■	■	
Screws, nuts, washers	△	△	△	△	△	△	△	
Hydraulic tube, hydraulic screw connections, bolts	△	△	△	△	△	△	△	
Wheel stop	■	■	■	■	■	■	■	
Running rail entrance level	■	■	■	■	■	■	■	
Mounts hydraulic cylinder	■	■	■	■	■	■	■	
Solenoid valves	△	△	△	△	△	△	△	
Hydraulic unit	●	●	●	●	●	●	●	

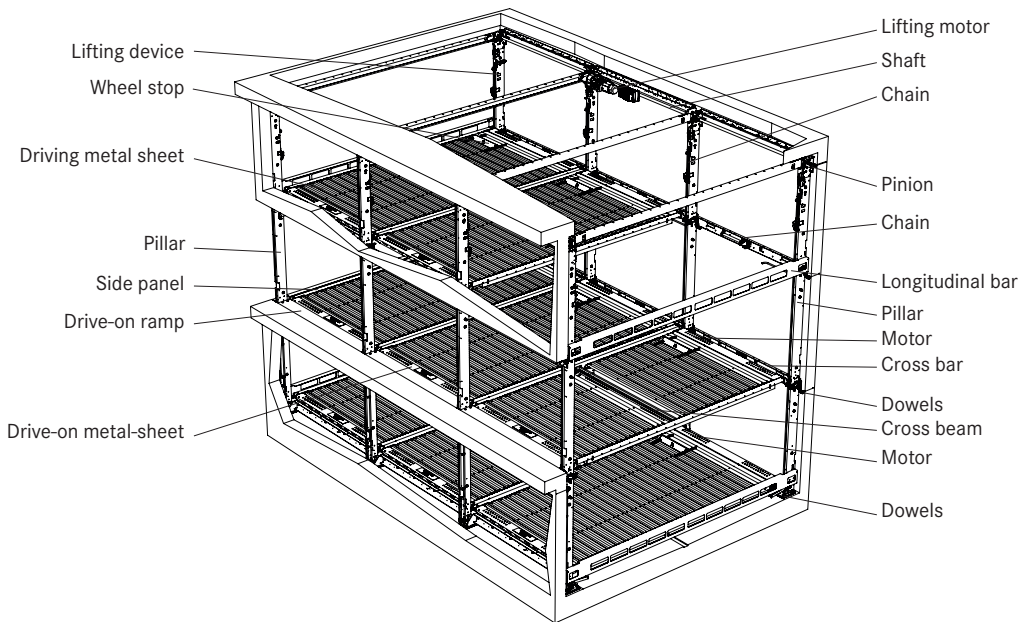
#### 3.2 Symbol legend

- |  |  |
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| <ul style="list-style-type: none"> <li>■ with a zinc-aluminum-magnesium alloy coating of approx. 16 µm on both sides (compliant to the DIN EN 10346)</li> <li>■ hot-dipped galvanised as per DIN EN ISO 1461, approx. 45 µm zinc layer (localised layer thickness as minimum value)</li> <li>■ hot-dipped galvanised as per DIN EN ISO 1461, approx. 55 µm zinc layer (localised layer thickness as minimum value)</li> <li>■ zinc lamellar coating</li> </ul> | <ul style="list-style-type: none"> <li>△ galvanised as per DIN 50961, zinc layer approx. 5–8 µm</li> <li>▲ without coating</li> <li>◐ painted with one-coat paint or powder-coated, thickness of layer approx. 80 µm, colour signal yellow (RAL 1003)</li> <li>● preparation grade P1 according to DIN EN ISO 8501, epoxy resin-based powder-coated, layer thickness approx. 60–80 µm</li> <li>○ sheet mounting for the side panels of self-channelling screws, zinc multi-disc coating, approx. 12–15 µm layer thickness; washers and nuts electrolytically galvanised as per DIN 50961, approx. 5–8 µm zinc layer</li> </ul> |
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## 4 Surface protection Combiparker

For system: Combiparker 560

### 4.1 System-relevant surface protection



	560	
Driving metal sheets		
Drive on metal-sheet, cover plates		
Side panels		
Cross beams		
Screws, washer and nuts for the installation of the driving metal sheets		
Pillars		
Lifting device		
Cross bar		
Longitudinal bar		
Drive-on ramp		
Wheel stop		
Lifting motor		
Motor (lateral shifting)		
Shaft		
Pinion		
Chains		
Dowelling for system mount		

### 4.2 Symbol legend

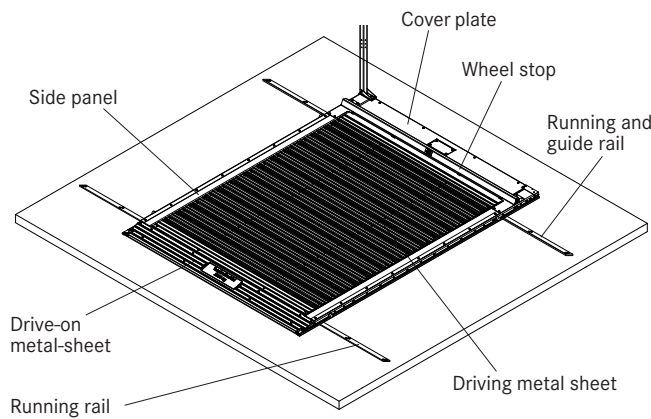
- with a zinc-aluminum-magnesium alloy coating of approx. 16 µm on both sides (compliant to the DIN EN 10346)
- hot-dipped galvanised as per DIN EN ISO 1461, approx. 45 µm zinc layer (localised layer thickness as minimum value)
- hot-dipped galvanised as per DIN EN ISO 1461, approx. 55 µm zinc layer (localised layer thickness as minimum value)
- zinc lamellar coating
- galvanised as per DIN 50961, zinc layer approx. 5–8 µm
- without coating
- painted, coating for normal environmental exposure C1, colour anthracite grey (RAL 7016)
- painted, coating for medium environmental exposure C3, colour pebble grey (RAL 7032)
- sheet mounting for the side panels of self-channelling screws, zinc multi-disc coating, approx. 12–15 µm layer thickness; washers and nuts electrolytically galvanised as per DIN 50961, approx. 5–8 µm zinc layer

## 5 Surface protection Parking Platform/Turntable

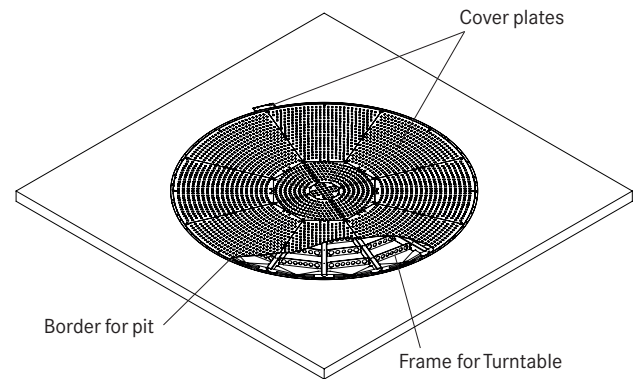
For systems: Parking Platform 601, 503; Turntable 505

### 5.1 System-relevant surface protection

Example: Parking Platform 601



Turntable 505



	601	503	505	
Driving metal sheets				
Cover plates				
Drive on metal-sheet				
Wheel stop				
Side panels				
Frame				
Cross beams				
Screws, washer and nuts for the installation of the driving metal sheets				
Running and guide rail				
Levelling rail				
Chain sprocket/pinion				
Chain/gear rack				
Dowelling for system mount				
Frame for Turntable				
Border for pit				
Cover plates				

### 5.2 Symbol legend

- |  |  |
|--|--|
| with a zinc-aluminum-magnesium alloy coating of approx. 16 µm on both sides (compliant to the DIN EN 10346)  | galvanised as per DIN 50961, zinc layer approx. 5–8 µm   |
| hot-dipped galvanised as per DIN EN ISO 1461, approx. 45 µm zinc layer (localised layer thickness as minimum value)  | without coating  |
| hot-dipped galvanised as per DIN EN ISO 1461, approx. 55 µm zinc layer (localised layer thickness as minimum value)  | sheet mounting for the side panels of self-channelling screws, zinc multi-disc coating, approx. 12–15 µm layer thickness; washers and nuts electrolytically galvanised as per DIN 50961, approx. 5–8 µm zinc layer |
| partially hot-dipped galvanised as per DIN EN 10326 with 275 g/sqm, approx. 20 µm zinc layer, partially hot-dipped galvanised as per DIN EN ISO 1461 with approx. 55 µm zinc layer |  |
| hot-dipped galvanised as per DIN EN 10326 with 275 g/sqm   |  |
| zinc lamellar coating  |  |
| hot-dipped galvanised as per EN 10327, approx. 20 µm zinc layer (continuously galvanised)  |  |