

SW Easy Eco Parking

The benefit of the special construction is realized by the Investor!



Parking garage solution tailored to real needs!

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SWEEP
easy eco parking

- ✓ DRIVER- AND VEHICLE-FRIENDLY
- ✓ DYNAMIC TRAFFIC FLOW
- ✓ SPACIOUS, TRANSPARENT INTERIOR
- ✓ AESTHETIC FACADE
- ✓ FAST AND RELIABLE IMPLEMENTATION
- ✓ LOW COSTS
- ✓ SUSTAINABILITY





For greener and livable cities

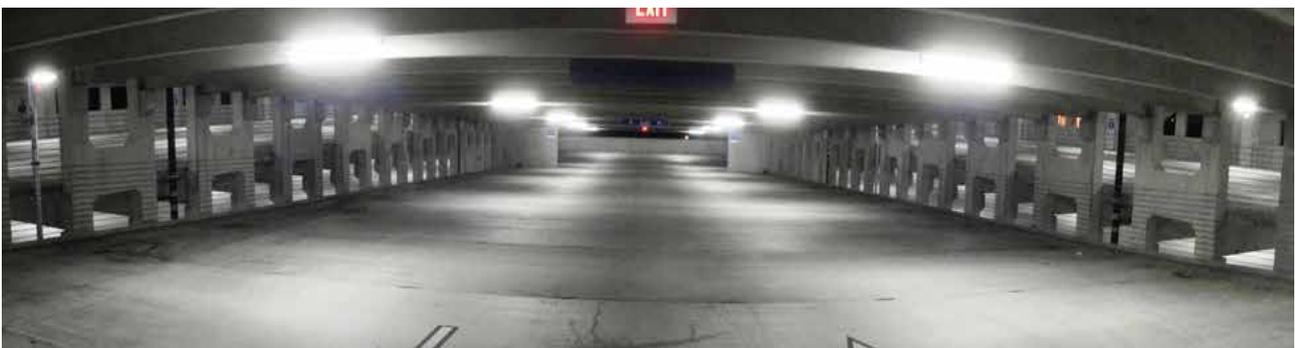
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Driver- and vehicle-friendly but still dynamic

- » easy maneuvering, clear turns
- » parking is not disturbed by columns
- » bumping to the ramp-wall or columns occurs in conventional car parks: with SWEEP all this can be avoided
- » dynamic traffic flow: driving up to a higher floor does not frighten drivers

Spacious: transparent areas for safety

- » no blind spots from the safety's point of view
- » the area is clearly visible
- » natural daylight conditions, no dark areas



Spacious, transparent areas





Aesthetic façade

- » façade fits into the surrounding urban environment
- » large variety of shapes
- » brick, stone and colored concrete surfaces

Fast and reliable implementation

- » thanks to prefabrication, the structure reaches a turnkey level within 4-5 months after the start of construction works
- » low number of subcontractors, easy going installation
- » low amount of on site concreting work

Low costs

- » turnkey price from ~6.6k € per parking place, with electric, mechanical and traffic engineering design corresponding to the specifications of Local standards. Without land price.

Sustainability

- » can be realized with favorable energy demands
- » the potentials in prefabrication can be exploited
- » minimal maintenance and operational costs
- » can be equipped with solar panels



Aesthetic
façades

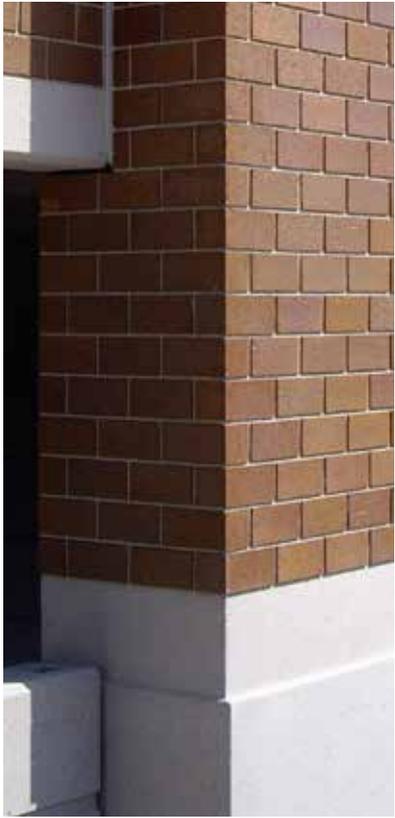


Doubling
the parking
capacity in a
simple way

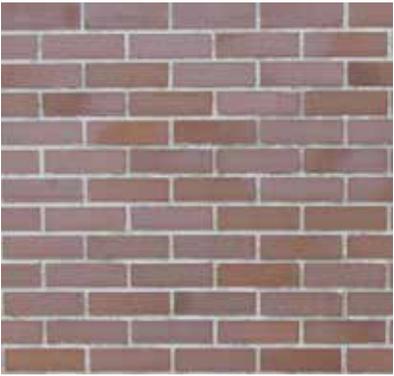




Large variety of facades



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Timeless style

Varied, unique façades

- » the structure of the surface is free of choice
- » various use of materials (thin brick, stone, cast stone...)
- » thin brick cladding in dozens of colors and sizes, with slats and corner elements
- » can also be integrated into a historical environment
- » not only a wall panel, it is a FACADE without compromise

Durability

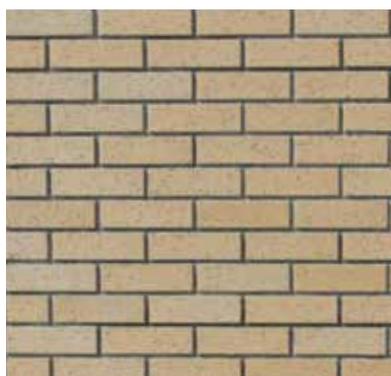
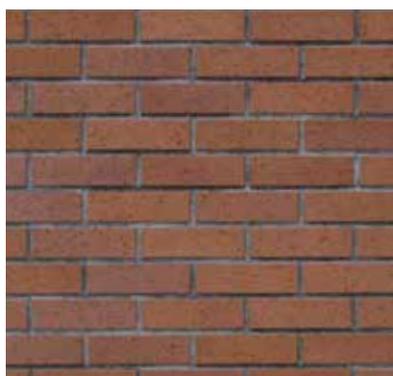
- » high-performance concrete without cracks
- » brick surface embedded in concrete, casted grout, eternal joints

Combined Façade and load-bearing element

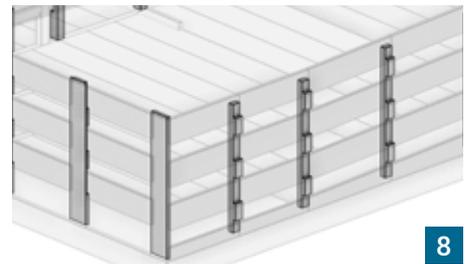
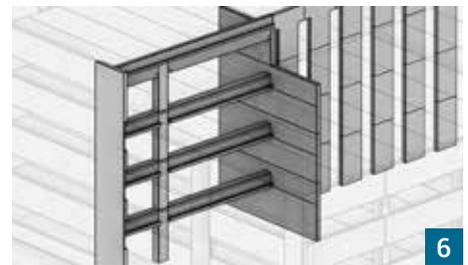
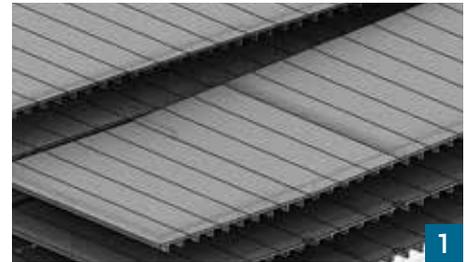
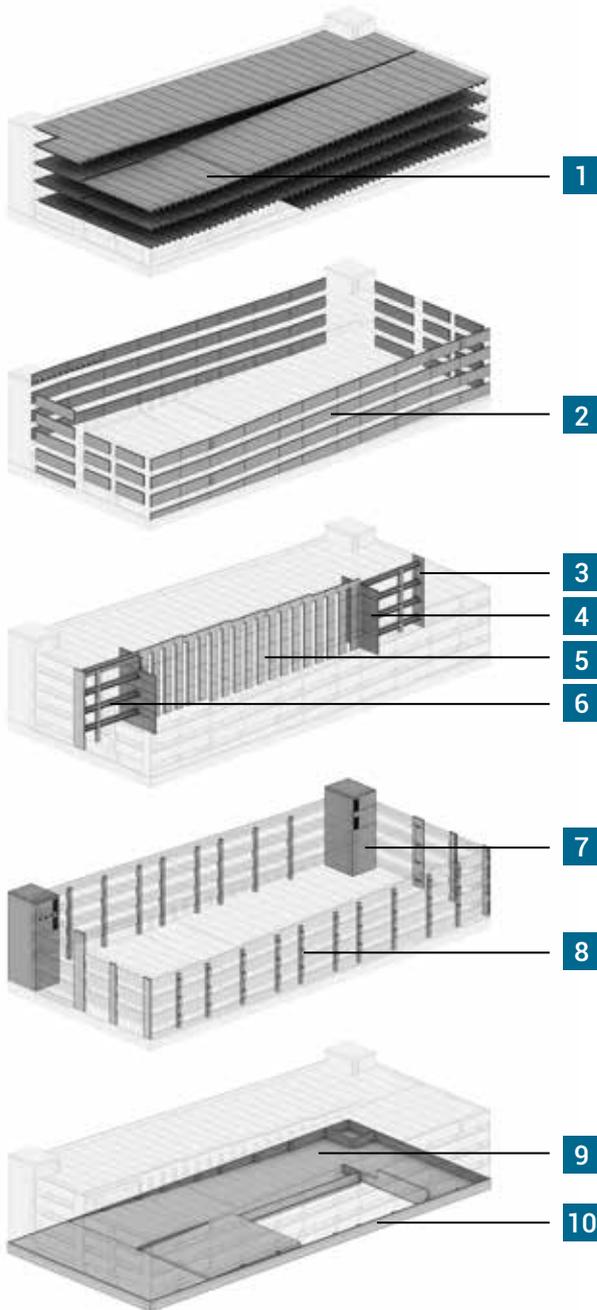
- » the element with finished surface can also be a load-bearing structure
- » large spans and load-bearing capacity with small structural thickness

Insulated version is also available

- » sandwich panels upon request, with 8-20 cm thick insulation
- » integrated insulation and inner load-bearing concrete provides high thermal inertia: saving energy all year round



SWeep structural system



1. Double-T ramp structure
2. facade beam (spandrel)
3. multistory façade wall element
4. wall members, assembled floor by floor
5. central load-bearing system
6. inverted T-beam
7. prefabricated reinforced concrete staircase
8. façade pillars or wall elements
9. cast-in-place raft with wearing layer
10. reinforced concrete basement wall

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Rough ramp surface of basalt concrete



Panel joints with silicone sealing



The assembled structure is the finished building itself

The structure of the speed-ramp parking garage is entirely built of pre-fabricated reinforced concrete elements. As a result of the architectural concept, small additional structures can be added to the structure but this is optional. Construction becomes fast paced by the use of elements produced in the factory under controlled conditions and assembled on site; due to the strict quality control in the factory consistent high quality is guaranteed. Slab and wall elements are manufactured with pre-stressed technology that makes them crack-free and therefore watertight. This provides extra durability. High fire- and earthquake-resistance is guaranteed; the elements do not require any additional coating.

DECK STRUCTURE

- » elements manufactured under indoor conditions with controlled quality
- » double-T slab panels are watertight, salt resistant and weatherproof, no need for costly insulation and cladding layers
- » the joining system of the slab elements is a proven construction tested for decades
- » 60 or even 120 minutes fire resistance
- » the upper surface is rough, finished with a wearing layer, it's durability exceeds that of the highway structures

FAÇADE

- » façade can be fit to the surrounding urban environment
- » structured surfaces, aesthetic thin brick and stone claddings
- » perfect protection against horizontal impact
- » the façade element is an efficient load-bearing structure at the same time
- » façade elements with large span (even 12m) give a light appearance

CONSTRUCTION

- » extremely rapid construction and implementation
- » construction of 10 parking bays within 1.5 days
- » weather-independent assembly
- » construction phases at the site are limited to a minimum
- » installation works can be started parallel to the erection works at sections where the structure is already assembled

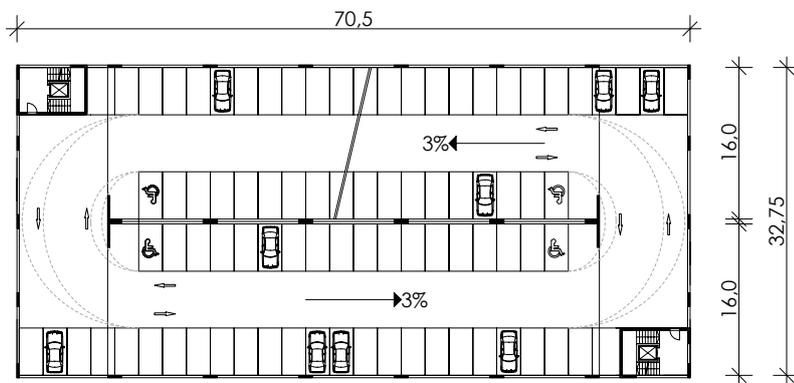
10 parking spaces within 1,5 days



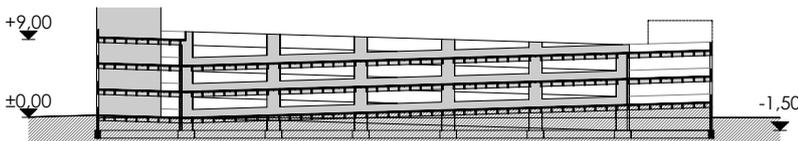
Effective layout, extremely good area ratio

The proportion of not used spaces is extremely low, the layout of the different functions is efficient. The area ratio per one parking space is highly favorable, which is also reflected in the economic benefits.

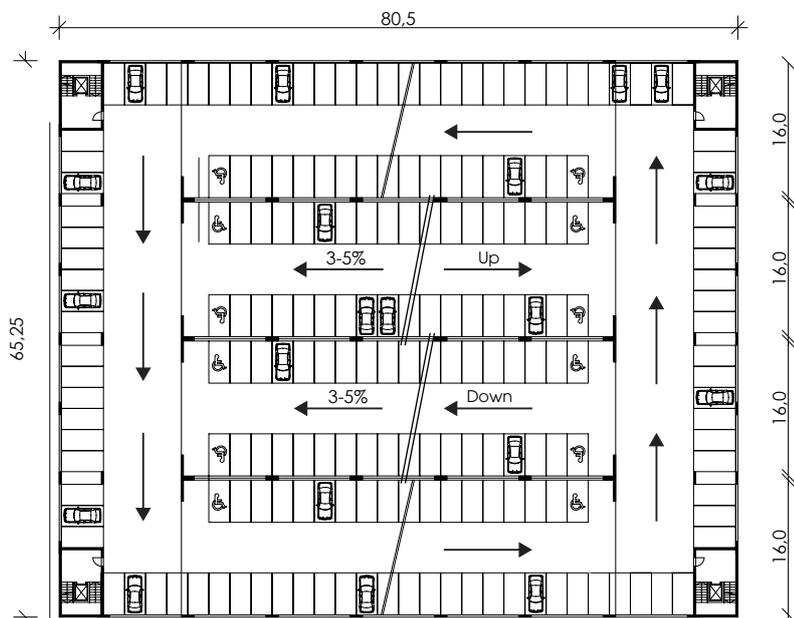
Single helical ramp – two-nave design



Structural section



Single helical ramp – multi-nave design



The dimensions of a parking lot are determined by the number of required parking places, which can greatly affect the floor plan. In case of SWeep speed-ramp parking garage vehicles can also park on the ramps, connecting the different floors. However it is recommended that the ground floor dimensions of the building are adjusted to the length and width of the ramp in order to place the vehicles in the most efficient way possible. Outstanding area ratio can be achieved with a regular floor plan.

By utilizing the possibilities of precasting, other than regular, rectangular layout is also possible. Varied layout may make the area ratio slightly greater, but it still remains favorable compared to other solutions with helicoid or side ramp.

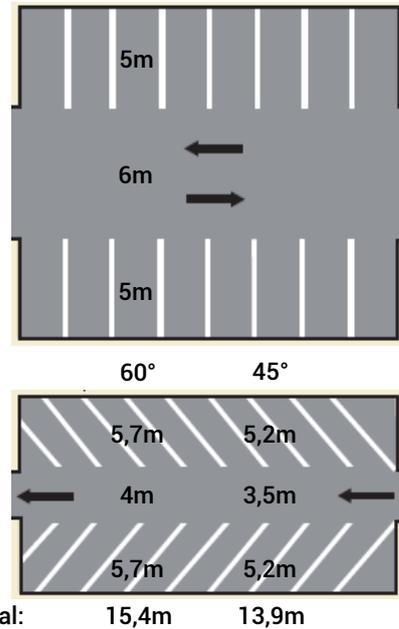
Speed-ramp parking garages – beside the necessary basic ramp modules – can be extended in transvers direction by adding extra naves and longitudinally by the expansion of the floor plan.

Area ratio can be achieved by SWeep:
23,5 - 25,5 m² / parking lot

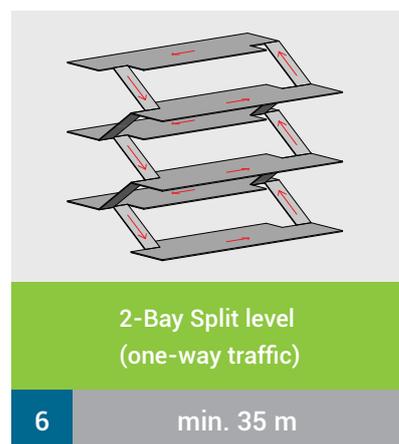
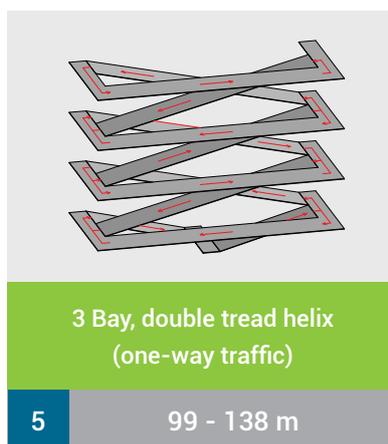
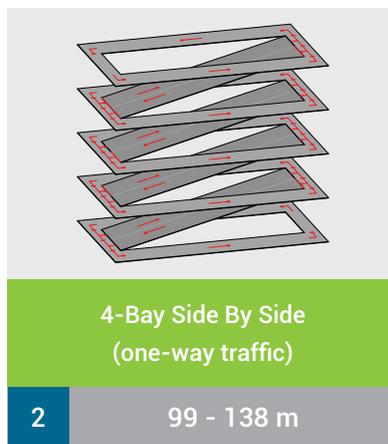
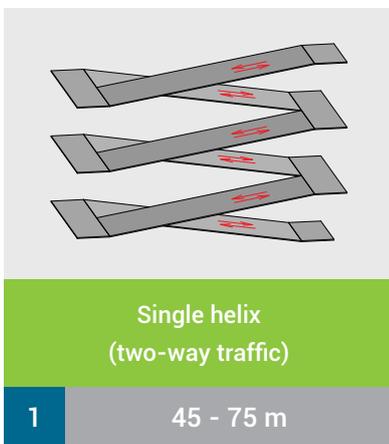


Slight angle, dynamic traffic flow

The basic idea of the traffic system is the ramp design that provides the parking garage an effective layout. The inclination of the ramps is typically 3-5%, ensuring a continuous and dynamic circulation between the floors. The defined dimension of a parking bay for personal vehicles is 2.50x5.00 m; in case of perpendicular parking the path for traffic is 6.00 m wide. In case of two-side perpendicular parking, the resulting ramp is 16 m broad, while for one-way traffic and 45° or 60° angle parking the ramp can be even narrower. This way, the parking and traffic system clearly defines the structural width. By the means of prestressed double-T members a clear span can be provided without intermediate support or column. Column-free design makes both parking and traffic simpler and more dynamic. Turns can be made wide, clear curves, and this can radically reduce the possibility of fender benders.



Principles Layouts of traffic systems, required lengths of the parking garage:





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