

The JUMBO BLOCK ® solution

Standardised retention, water storage and infiltration basins made to measure, for example for municipalities, industry, urban planners, landscapers and architects.

INFORM NOW



The JUMBO BLOCK ® System



Extremely stable, very strong static load-bearing capacity, can be built over and can be driven over by heavy goods vehicles!

RETENTION AREAS

- Municipalities,
- Industrial and chemical areas,
- areas near bodies of water,
- harbour areas,
- airports,
- agricultural land,
- endangered valleys and depressions,
- and many other applications.

There are no limits in planning!

Capacity ~13,900 litres/JUMBO BLOCK ®.

Composition freely selectable.

The total volume of a plant is determined by the number of blocks used.

OVERBUILDING IS NOT A PROBLEM !

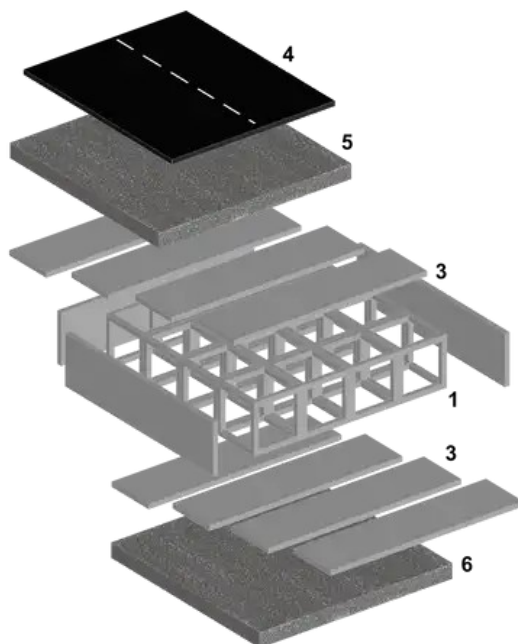
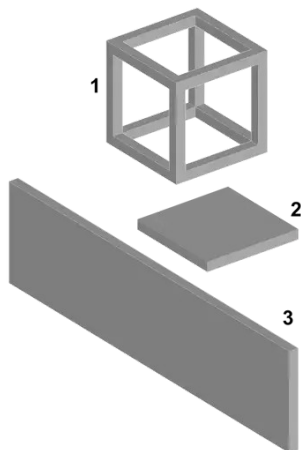
STRONG: ROAD RETENTION



Retention, water storage and infiltration basin

USING THE ROADBED FOR RETENTION

Basic components



Structure of a system

1. JUMBO BLOCK® system block
2. Square cover, closure or base plate
3. Rectangular cover, closure or base plate
4. Roadway (or construction)
5. Base course (usually gravel mix)
6. Base course, infiltration layer (usually gravel/sand mix)

We define road retention not only as a storage space for flood water (for example during heavy rain events), but also as an adaptation to the consequences of climate change, because water storage is also becoming increasingly important.

JUMBO BLOCK ® is statically a strong structure, but flexible in the system. Even when it has already been installed. It represents an enormous simplification for the maintenance, extension and installation of sewage and supply lines. Once a road surface has been installed, it remains in place for the long term.

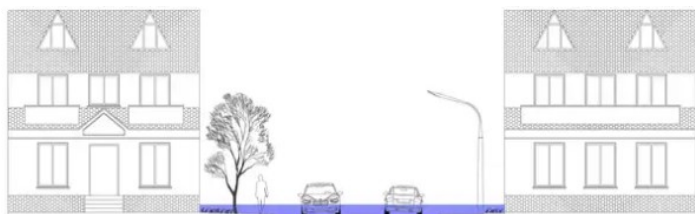


Figure 1

Case study of a flood

Calculation example: alley 15 m wide, 2.5 m deep.
Sealed area (e.g. city, old town, etc.)

Assumptions at 2.5 m depth

- 34.5 cm water level house left
- 37.0 cm water level house on the right
- 44.5 cm water level lantern right
- 50.0 cm water level at the highest point on the street
- 66.5 cm water level lowering (street ends)

Flooding at water level shown: 19.8 m³

With the JUMBO BLOCK® system under the road surface, a flooded road after a rainfall would be a thing of the past. (Figure 1).
Special concrete blocks efficiently capture and store rainwater to keep streets and sidewalks dry (Figure 2).



Figure 2

Case study of preventing flooding

Comparable depth of 2.5 m

- 250,0 cm Bautiefe JUMBO BLOCK ®
- Dimensions JUMBO BLOCK ®: 2.5 x 2.5 x 2.5 m x 4 pieces (1 row)
- Required retention volume: 19.8 m³
- Available retention volume: 55.6 m³
with a row of 4 blocks

Probability of flooding: 0.0 m³

MORE ABOUT ROAD RETENTION



Retention, water storage and infiltration basin

JUMBO BLOCK® and safety

JUMBO BLOCK® is smart.

Using water level data to better identify forecasts and developments due to climate change and prevent disasters.

Your Solution for Water Level Monitoring and Damage Documentation

Utilizing water level data and comprehensive damage documentation makes managing damage incidents more transparent. Through the Internet of Things (IoT), customized solutions for your facility can be developed, while simultaneously reducing hardware requirements.

Versatile Data Transmission Options

Data transmission to the network can occur through various methods, including wireless networks like LoRaWAN® or other pre-configured systems. LoRaWAN® stands out for its extensive coverage and low energy consumption, enhancing the efficiency of your facility.

Security and Documentation

Reliable security in documenting damage incidents ensures continuous monitoring. Measurement data can be made available to end-users, residents, and authorities for access and sharing.

Nameplates with QR codes allow for the clear identification of facilities, even when documentation is temporarily unavailable. This is particularly critical during acute damage incidents and flooding scenarios.

Water Level Monitoring with Sensor Solutions

Standardized sensors offer a long battery life of up to 10 years and can operate in a broad temperature range (-10°C to +60°C). Thanks to the LoRaWAN® technology, they are exceptionally efficient.

Recommended IoT Protocols: IOTA

IOTA transactions are fee-free and provide a cost-effective means of data transmission.

EXPLORE MORE



Retention, water storage and infiltration basin

Engineering, planning and execution

With over 20 years of experience.

EXPERIENCE: OUR TEAM



✓ Engineering

Development, design, production and the careful testing of our solutions are bundled in the engineering department.

This results in close coordination and innovative solutions that comply with the latest technology and environmental standards.

✓ Planning

We have solutions for many applications.

For example, in the planning of retention under heavy and special areas for industry, commercial and drainage and in drainage technology in general.

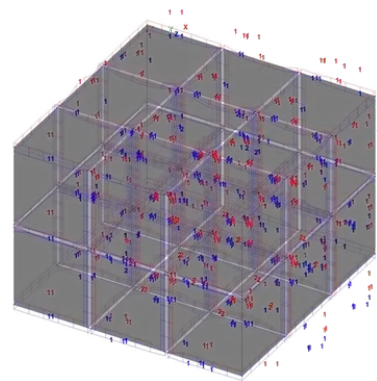
"Out of the box solutions are not new to us, no matter how difficult the requirements are.

✓ Ausführung

After the JUMBO BLOCK ® production and the purchase of supplementary plant components, a large network of partners from the structural and civil engineering sector is ready to install and commission your plants in the best quality.

From start to finish, we focus on quality and experience.

Connect with us



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