

Basement



Basement

Modern and innovative systems give a whole new value to underground spaces of the building. Fresh air, natural light and protection against flood or moisture provide the opportunity to make use of the basement, not only as storage and facility rooms, but also a variety of other purposes. With increasingly extreme weather events, the main objective is protecting the construction, underground spaces and any equipment installed against flood.

Designing effective protection systems prevents potential material and financial damages which could also affect the functionality of the whole building.



Water tightness

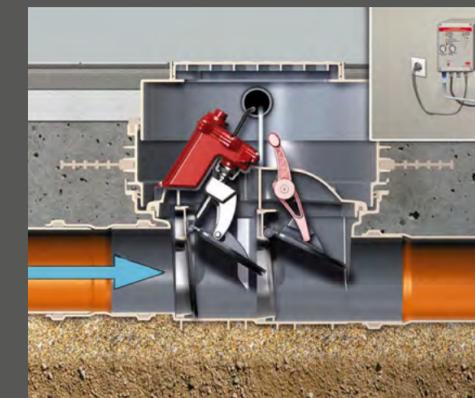
Climate change causes increasingly extreme weather incidents. Heavy rainfalls more frequently and initiates significant damages to buildings and infrastructure. The challenge to protect the lower levels of the building from flood and moisture is of utmost importance. The objective is to protect the construction, the underground spaces and equipment and thus the safety and comfort of inhabitants.

Backflow control

In the case of heavy rainfall the public sewer may be overloaded, the water presses down into the basement. Backflow control ensures that the basement remains dry. The underground areas in particular can be affected quickly by backwater. This may result in damages to equipment and cause significant maintenance costs.

Natural light and fresh air

The lack of fresh air or natural light significantly limits the functionality of the underground level of the building. Especially in urban areas with dense construction, every square meter is valuable for the investor. Providing access for natural light and ventilation not only gives more opportunities for use of the basement but also reduces the operational cost of the building.



European norms and regulations

- EN 13564 - Anti-flood devices for buildings
- EN 14351 - Windows and doors. Product standard, performance characteristics. Windows and external pedestrian doorsets





Smart solutions for a whole new purpose of underground spaces



Modern architecture trends clearly put high requirements for functionality of basement spaces. Real estate prices and return of investment rates imply that each square meter of the building should be used as effectively as possible. With the complexity of hotel projects, there are a variety of facilities situated in the basement levels - eg. a fitness centre, spa area, staff offices or house-keeping equipment.

Irrespective of the use designated to the below ground area, there are a number of factors that can guarantee safe and cost-effective operation within the areas and protect the building as well as equipment and ensure constant operation of the facilities.

The most important prerequisite is reliable anti-flood protection. Climate change requires pioneering innovations to counteract extreme weather conditions. That includes systems that guarantee ultimate water tightness, back-flow prevention and energy saving.

In addition, ACO's innovative solutions for base-

ment areas can give a whole new purpose to the underground spaces. Designing a system that allows natural light and fresh air into the room can make it comfortably inhabitable for a range of purposes.

In addition to the innovative system solutions, ACO work side by side with architects and planners and to support reliable designs with extensive knowledge on trends, regulations and contemporary requirements, professional consulting, calculation software and statutory documentation.



ACO System solutions for basement



ACO Therm Lightshaft



ACO Therm Cellar window



ACO Therm Block



ACO Backflow systems



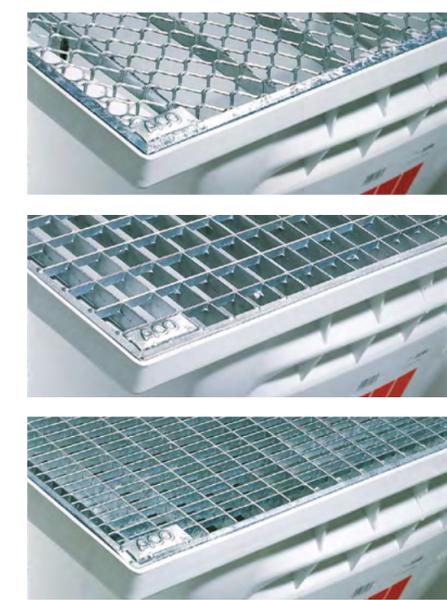
Roof Terrace & Facade
 Kitchen
 Bathroom
 Entrance & Lobby
 Spa & Pool
 Basement
 Parking
 Garden&Landscaping

ACO Therm Lightshaft

Product overview

The ACO Therm light shafts are highly rigid and can be used not only for standard areas but also for pressurized water. They can be adapted to the existing level of the ground or floor with the help of stacking components. ACO offers reliable protection for your basement and its contents. The ACO Therm basement protection system, which comprises the ACO Therm Block with an integrated window that is proof against flooding, together with the ACO Therm light shaft that is mounted so that it resists pressurized water, with the ACO light shaft drainage and ACO backflow protection, ensure the rooms in the basement are dry, warm and lit naturally.

- Awards for the design profile grating:
- Plus X Award**
 - Best product 2016/2017
 - High quality, design and functionality
 - Iconic Award 2016**
 - Winner category products facades



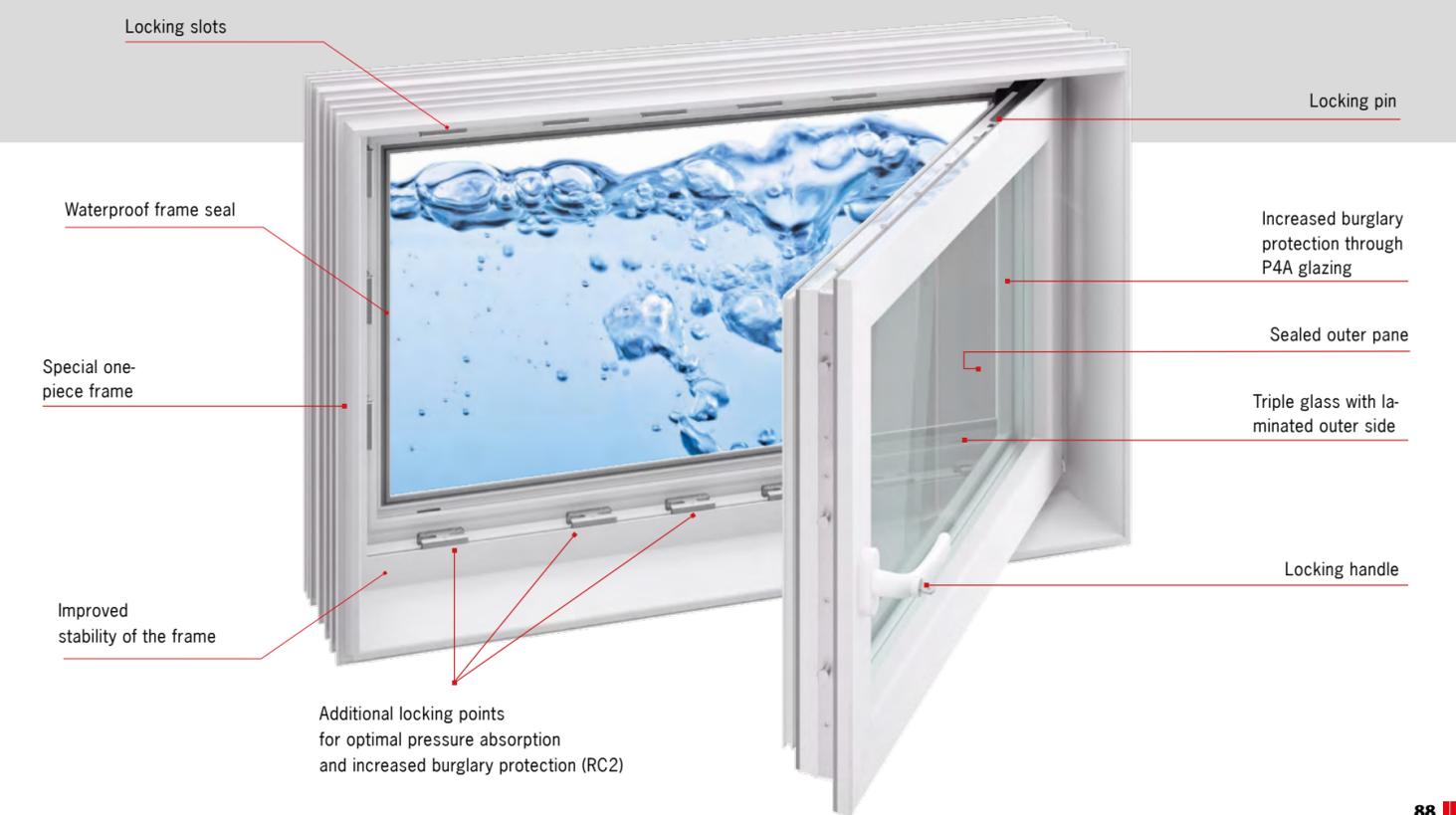
ACO Therm Lightshaft with backflow stop
 The ACO Therm light shaft is additionally secured thanks to the backflow stop. The integrated valve ensures that backflow is not pushed into the light shaft and thus can not get into the basement.



ACO Therm Cellar Window

Product overview

For new building construction, the ACO Therm® system consists of windows, which are based on current and future insulation standards. All ACO Therm® 3.0 windows - whether standard or passive house version - contains a 4-chamber plastic wing and a 5-chamber plastic frame with a profile depth of 82 mm. Mainly for flood-prone areas, a flood-proof version of the ACO Therm® 3.0 reveal window is available. The high-waterproof ACO Therm® 3.0 is also burglar-resistant to class RC2.





ACO Therm Block

Product overview

ACO Therm System provides integrated solution for basements. The innovative ACO Therm Block provides heat-insulation, waterproofing, and flood protection in one system. It is compatible with standard lightshafts and integrated waterproofing. Additional benefit of the system is the quick and simplified installation, preventing the need of additional finishing.



- The high quality PUR-material guarantees easy installation, watertight system and reliable heat-insulation
- Sealing flange for watertight connection
- Easy installation without need of additional finish
- Integrated system with ACO Therm Lightshafts and Cellar windows

ACO Therm Block range



Standard panel with integrated window frame

Standard panel with integrated therm-window

Panel with integrated waterproofing and window frame

Panel with integrated waterproofing and therm-window



Roof Terrace & Facade
 Kitchen
 Bathroom
 Entrance & Lobby
 Spa & Pool
 Basement
 Parking
 Garden & Landscaping

ACO Triplex & Quatrix-K Backflow preventers

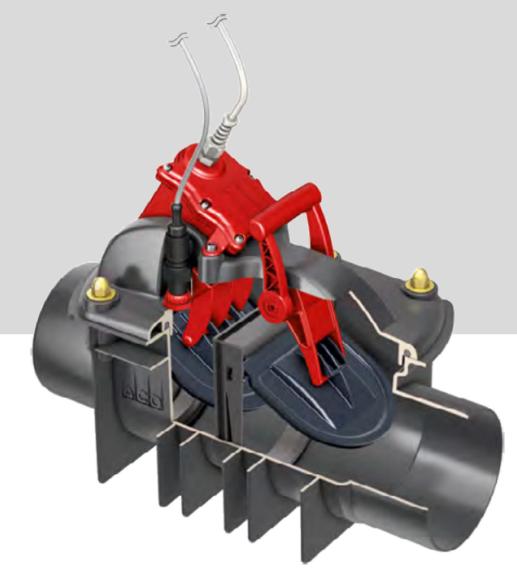
Product overview

Active backflow safety valve units are also differentiated according to the type of wastewater: either wastewater containing faeces or wastewater free of faeces. A large number of lifting plants, submersible pumps and pump stations are available for this purpose. Active backflow safety valves are used wherever there is no natural gradient towards the sewer.



Backflow safety valve Triplex for water without faecal matter

- Made of plastic
- Type 2 tested to EN 13564
- For non-faecal wastewater (grey water) and rainwater harvesting systems
- With two automatically closing backflow flaps, one of which as a manually lockable emergency valve
- With large cleaning and maintenance opening and test hopper



Quatrix-K – for exposed pipework

- For installation in exposed pipes
- Type 3F tested to EN 13564
- With double backflow safety valve
- With 1 automatic operating seal
- With 1 manual emergency valve
- With large cleaning and maintenance opening and test pipe
- With ready to plug in, electrical control unit IP 54 with integrated 4-week self-monitoring
- With visual and acoustic backflow signal