SCHELL products for sustainable buildings.
The guide to BREEAM®.

BREEAM®

SCHELL

BREEAM®.
Sustainability certification.

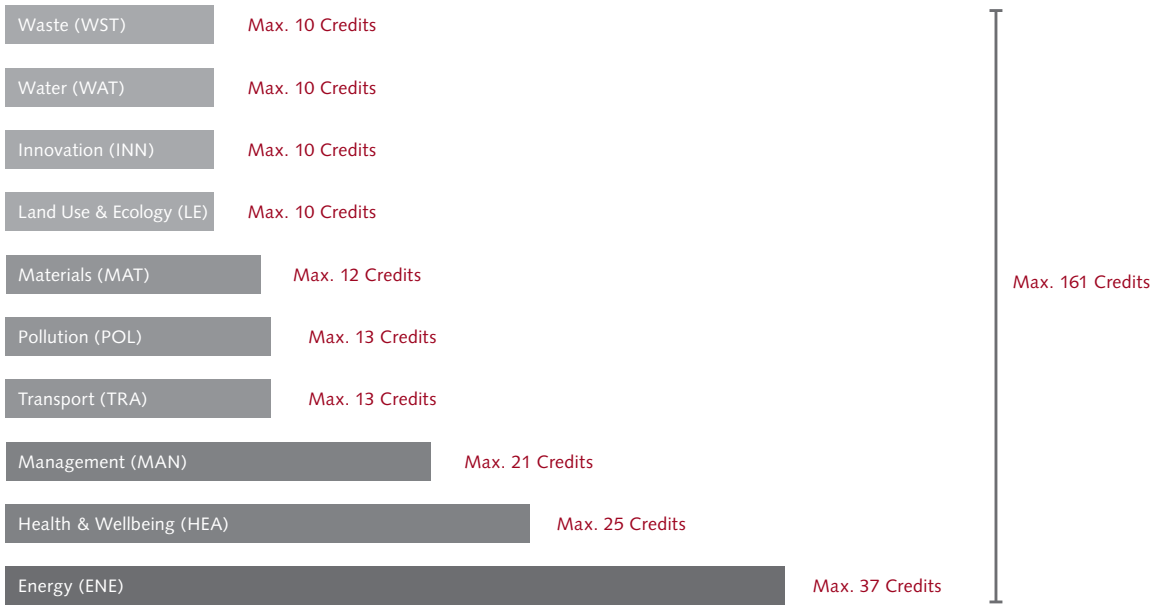
BREEAM® is a registered trademark of BRE (the Building Research Establishment Ltd. Community Trade Mark E5778551). The certification system recognises sustainable buildings that exceed national standards. As a quality label, it encourages the market to focus on sustainability in building design and on the environmental impact of products in buildings.

As this label assesses the overall building concept, BREEAM® specifies 10 main categories, sub-divided into a range of issues, which are used to assess the building. Credits are awarded and weighted for each category to generate the final score for the building, in levels from pass to outstanding.

The maximum credits available can differ slightly depending on building type.

BREEAM® Rating

★★★★★ Outstanding	≥ 85%
★★★★★ Excellent	≥ 70%
★★★★★ Very Good	≥ 55%
★★★★★ Good	≥ 45%
★★★★★ Pass	≥ 30%



SCHELL!
Mentor in sustainability.

Ultimately, sustainability is a key challenge for today's and future generations. Independent investigations have discovered that approx. 80% of the total life-cycle costs for a building are spent on operation and maintenance. This is where investments in water- and energy-efficient fittings quickly pay off. Maintenance and servicing costs also play a decisive role.

SCHELL enjoys a leading role as the pioneer in sustainable fittings. It is possible, for example, to save up to 60% of water, just by using our products. SCHELL products are also of superb quality, which forms the basis for all sustainable processes – from installation to operation and subsequent recycling. Products that need replacing after a short space of time are bad for the environment. SCHELL products are therefore particularly long-lasting, vandalism-proof and designed to be simple to maintain and straightforward to repair. Hygiene also plays a role in sustainability, particularly in public sanitary rooms. Although the BREEAM® system only has one point for hygiene, SCHELL focuses in particular on hygiene, providing many intelligent solutions. This include contact-free washbasins, WCs and urinal fittings.

Using SCHELL products in combination with other building components, you can get up to 13 credits for the following issues (according to BREEAM® International New Construction 2016):

Category	Issue	Max. credits
Management (MAN)	MAN 02 – Life cycle cost and service life planning	4
	MAN 03 – Responsible construction practices	6
	MAN 04 – Commissioning and handover	4
	MAN 05 – Aftercare	3
Health & Wellbeing (HEA)	HEA 05 – Acoustic Performance	2
	HEA 09 – Water Quality	1
Water (WAT)	WAT 01 – Water Consumption	5
	WAT 02 – Water Monitoring	1
	WAT 03 – Water Leak Detection & Prevention	2
Materials (MAT)	MAT 01 – Life Cycle Impacts	6*
	MAT 06 – Material efficiency	1
Waste (WST)	WST 01 – Construction Waste Management	3
	WST 06 – Functional adaptability	1

* Industrial buildings can score up to 3 credits, all other buildings can score up to 6.

Products in scope*.
Fittings.

Be it fittings for hand washbasin, shower, kitchen, WC or urinal. Whether regulating angle valves, domestic appliance connection fittings or heating installation fittings. Today, SCHELL supplies more than 2000 expert solutions to the increased demands for our customers globally, covering hygiene, saving water, reliability and robustness. Many of them supporting BREEAM® certification of your building.

Wash basin taps/kitchen taps

XERIS

PURIS

CELIS

MODUS

PETIT

GRANDIS

Concealed shower taps

LINUS

LINUS Basic

Concealed wash basin taps

PETIT

VITUS

LINUS

WALIS

Exposed shower fittings/shower panels

VITUS
VD-EH-M

VITUS
VD-T

LINUS

LINUS Inox

*Assessment focused on the listed products. Other SCHELL products with identical technical design achieve identical ratings.

Exposed WC flush valves
Exposed urinal flush valves

SCHELLOMAT flush valve

SCHELLOMAT Basic

SCHELLTRONIC

Concealed WC flush valves
Concealed urinal flush valves

EDITION

EDITION Eco

EDITION E

Cistern mounting modules

MONTUS C 80

MONTUS 820 C

Cistern mounting modules, masonry installation

C-N 120

C 80 n

Products in scope.
The SWS water management system.

For today's operators, investors, sanitary equipment installers, planners and facility managers, the efficient and safe handling of drinking water is a top priority particularly in ecological buildings. And this is no easy task, especially for larger properties, whether new buildings or part of an existing portfolio. How can I ensure that the drinking water system is operated hygienically in the long term? And how can I manage fittings and maintenance work productively and economically? Are there management systems that work with my building automation system?

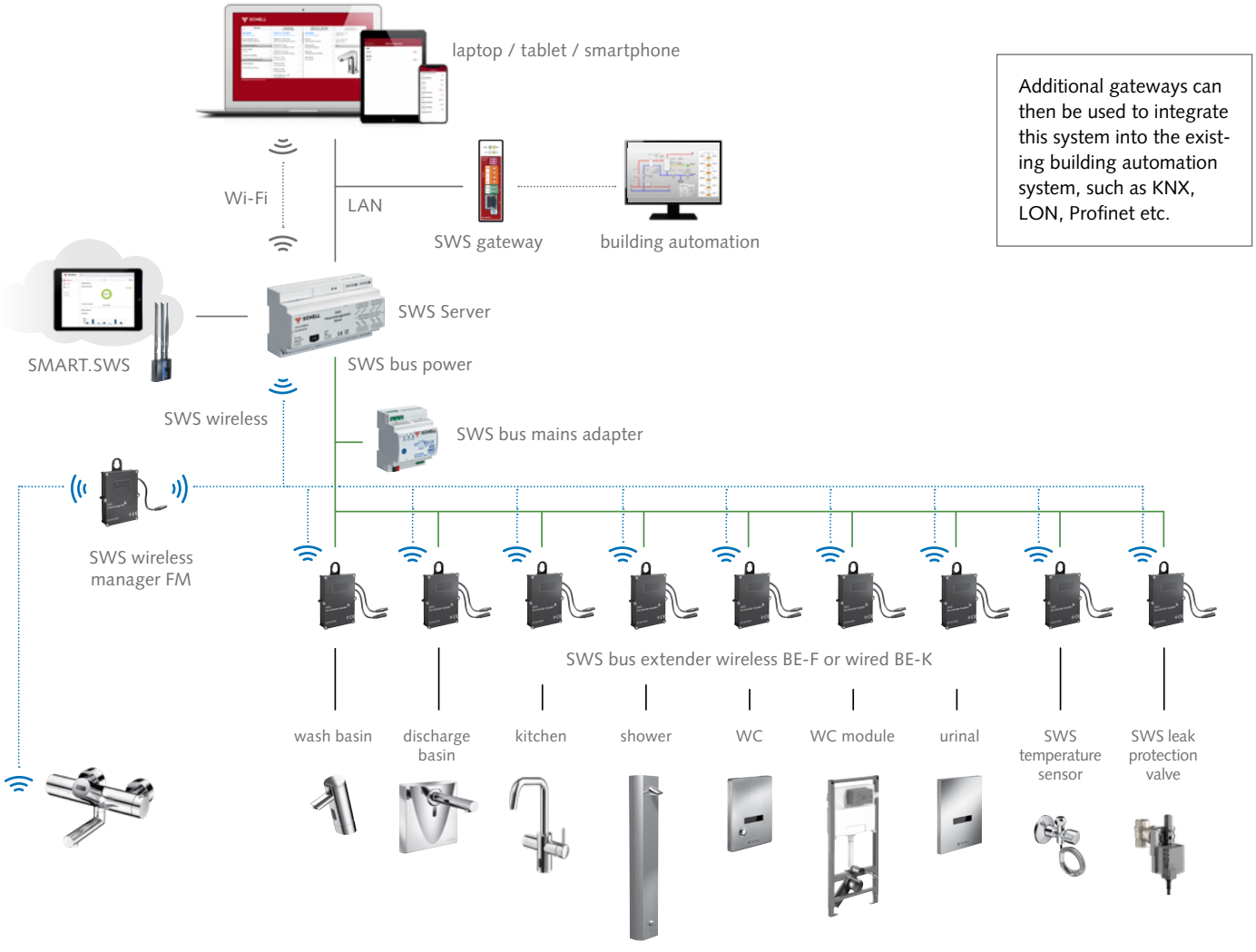
SCHELL has an innovative answer to all these questions: the SWS water management system – one of the first water management systems to offer intelligent wired/wireless networking and control for fittings – especially in public sanitary facilities.

The advantages

- Safe: First-class drinking water hygiene right up to the point of use with automated hygiene flushes
- Efficient: Optimised energy consumption and costs achieved by targeted control of water quantities and integration into the building automation system
- User-friendly: Operated via an intuitive, browser-based app available for popular PC, tablet and phone platforms
- Versatile: Can be used for analysis, end-to-end documentation, setting up groups, and much more
- Intelligent: Centralised control of fitting parameters via the water management server
- Practical: The system has a small number of components to avoid mistakes with orders and to help ensure rapid installation

The SWS water management system.
The components.

SWS allows you to network, control and monitor the associated SCHELL fittings via a centralised water management server and an intelligent software package specifically developed to operate the solution. The system works on the principle of ‘lots of features from a small number of components’. Installations can be networked on a wired or wireless network with the corresponding bus extenders. Up to 64 subscribers can be networked by each server.



Additional gateways can then be used to integrate this system into the existing building automation system, such as KNX, LON, Profinet etc.

MAN02 – Life cycle cost and service life planning.
4 credits.

Wash basin tap XERIS E

Aim
To deliver whole-of-life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation, and by promoting capital cost reporting to promote economic sustainability

Parameters
Elemental life cycle cost (LCC):
- An elemental LCC plan (future replacement, service life, maintenance, operation costs) is carried out at the Concept Design stage
- The elemental LCC plan is used to minimise life cycle costs and maximise critical value

Component level LCC options appraisal:
- A component level LCC options appraisal (envelope, services, finishes, external spaces) is developed in line with ISO 15686-5:2008
- The component level LCC options appraisal is used to minimise life cycle costs and maximise critical value

Note
- Elemental LCC: 2 credits (A)
- Component level LCC: 1 credit (B)

In detail
SCHELL has made great efforts to help reduce the life cycle costs of a building/project. These include costs such as the cost of the product, maintenance, operating and replacement costs. The manually controlled products are still reliable options but have a less positive impact on operating costs than the electrically controlled solutions.

SCHELL products in scope	Credits	Product suitability	Comments
Fittings (manual)	2	++	A+B
Fittings (electronic)	2	+++	A+B
SWS water management system	2	+++	A+B

MAN03 – Responsible construction.
6 credits.

Wash basin tap CELIS E

Aim
To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner

Parameters
Monitoring of site impacts:
Monitor and record data on transport of construction materials and waste

Note
Monitoring site impact: 1 credit (A)

In detail
Keep track of CO_2 emissions for transport and distance from factory/warehouse (Sauerland) to project site. To reduce impact, promote working on closely located projects and promote bulk transport. Currently not monitored, but could be an improvement in the future.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	N/A	+++	A
SWS water management system	N/A	+++	A

Waste reduction
All of the brass turnings and swarf generated during production at SCHELL are collected and returned to the brass manufacturer.Recycling also consumes less energy and produces less CO_2 than the original brass production process.

MAN04 – Commissioning and handover.
4 credits.

Wash basin tap MODUS E

Aim
To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants

Parameters
Commissioning building services:
- For buildings with complex building services and systems, a specialist commissioning manager is appointed
- For simple building services, this role can be carried out by an appropriate project team member

Handover:
- A building or home user guide is developed
- A training schedule is prepared for building occupiers
- The design intent of the building
- The available aftercare team
- Introduction to, and demonstration of, installed systems
- Introduction to the building user guide
- Maintenance requirements, including any maintenance contracts and regimes in place

Note
- Commissioning: 1 credit (A)
- Handover: 1 credit (B)

In detail
The products have comprehensive manuals to guide installation and to help the building users understand and operate these systems. The commissioning of complex building services such as building management systems (BMS) are also tested before handover.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	B
SWS water management system	2	+++	A+B

Complex systems: These include air-conditioning, comfort cooling, mechanical ventilation, displacement ventilation, complex passive ventilation, building management systems (BMS), renewable energy sources, microbiological safety cabinets and fume cupboards, cold storage enclosures and refrigeration plant.

MAN05 – Aftercare.
3 credits.

Concealed wash basin tap LINUS E

Aim
To provide post-handover aftercare to the building owner or occupants during the first year of occupation to ensure the building operates and adapts

Parameters
Aftercare support:
- Operational infrastructure and resources in place to:
  - Provide aftercare support to the building occupiers
  - Collect and monitor energy and water consumption data for a minimum of 12 months once the building is occupied

Note
Aftercare support: 1 credit (A)

In detail
Currently, SCHELL provides a lot of manuals to help with installing and maintaining the products. SCHELL also provides a service for reclamation and return of goods. A service to provide personal aftercare support during the first year of occupation of the building can be included.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	1	+++	A

HEA05 – Acoustic performance.
2 credits.

Concealed wash basin tap WALIS E

Aim
To ensure the building's acoustic performance, including sound insulation meets the appropriate standards for its purpose

Parameters
· A suitably qualified acoustician is appointed by the client at the appropriate stage in the procurement process

Indoor ambient noise and sound insulation:
· All unoccupied spaces comply with the indoor ambient noise level targets
· An suitably qualified acoustician (SQA) carries out ambient noise measurements

Note
Ambient noise & sound insulation: 1 credit (A)

In detail
SCHELL focusses on lowering sound transmission from the sanitary systems to the nearby areas. Low noise classes (WC, urinal) and good insulation for the sanitary works are important.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	–	–	–

HEA09 – Water quality.
1 credit.

Concealed basin tap VITUS

Aim
To minimize the risk of water contamination in building services and ensure the provision of clean, fresh sources of water for building users

Parameters
Minimizing risk of contamination:
All water systems are compliant with the national health and safety best practice guides or regulations to minimize the risk of microbial contamination (e.g. legionellosis)

Provision of fresh drinking water:
Taps in staff kitchenette

Note
Water quality: 1 credit (A)

In detail
The manually controlled water systems from SCHELL are well designed to minimize the development of germs. However, a manual flush is still required to prevent stagnating water and reduce the chance of legionella. This way of working is less efficient.

SCHELL products in scope (manual)	Credits	Product suitability	Comments
Fittings	1	++	A

The electronically controlled water systems from SCHELL are well designed to minimize the development of germs. The SCHELL water management system can trigger a flow of water to prevent stagnating water, is integrated with legionella flushing and only uses materials suitable for water.

SCHELL products in scope (electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	1	+++	A

WAT01 – Water consumption.
5 credits.

Exposed shower fitting VITUS VD-T

Aim
To reduce the consumption of potable water for sanitary use in new buildings from all sources by using water-efficient components and water recycling systems

Parameters
- Assess the efficiency of the building's domestic water-consuming components (WCs, urinals, taps, showers, baths)
- The water consumption (L/person/day) for the assessed building is compared against a baseline performance
- Any greywater systems must be specified and installed in compliance with the national best practice standard

Note
Water consumption: 5 credits (A)

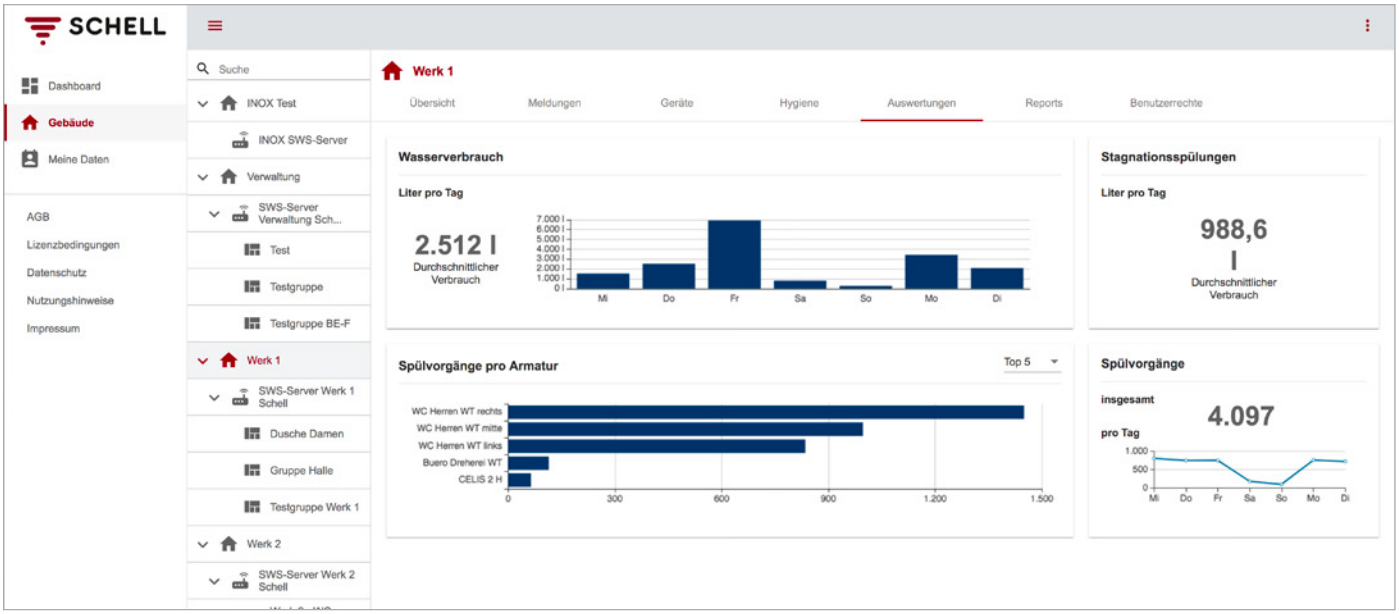
In detail
The SCHELL systems are designed to minimize the waste of water. Manually controlled products are less favourable than electrically controlled products. The lowest WC flush volumes can't be achieved by manual systems. The score is therefore lower. BREEAM® puts a high value on sanitary components (low flow rates) and the use of rain/greywater. (Calculations made using the BREEAM® Wat01 calculator)

SCHELL products in scope (manual)	Credits	Product suitability	Comments
Fittings	2	++	A+B

The SCHELL systems are designed to minimize the waste of water. It is possible to save up to 60% water by implementing these products. BREEAM® calculates the water consumption for each project individually at the building level. Important factors are sanitary components (flow rates) and the use of rain/greywater. (Calculations made using the BREEAM® Wat01 calculator)

SCHELL products in scope (electronic)	Credits	Product suitability	Comments
Fittings	3	+++	A+B
SWS water management system	N/A	+++	A+B

WAT02 – Water monitoring.
1 credit.



SMART.SWS reporting: water consumption (calculated)

Aim
To ensure water consumption can be monitored and managed, and therefore to encourage reductions in consumption

Parameters
- Installation of easily accessible sub-meters or water monitoring equipment
- Each meter has a pulsed or other open protocol communication output so that it can be connected to a monitoring and building management system (BMS)

Note
Water monitoring: 1 credit (A)

In detail
It is possible to install sub-meters without SCHELL, so no points can be credited. However, SCHELL also has its own water management system that can monitor and provide control over the electronically-controlled products (preventing stagnating water and providing thermal disinfection).

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	N/A	+++	A
SWS water management system	1	+++	A

WAT03 – Water leak detection and prevention.
2 credits.

SWS leak protection valve

Aim
To reduce the impact of water leaks that may otherwise go undetected

Parameters
Flow control devices regulate the supply of water to each WC area or facility according to demand

Note
Flow control devices: 1 credit (A)

In detail
SCHELL has its own water management system that provides control over the electronically-controlled products (preventing stagnating water and providing thermal disinfection). It can also provide protection against leaks (SWS leak protection valve) during periods of absence.

SCHELL products in scope (electronic)	Credits	Product suitability	Comments
Fittings	N/A	+++	A
SWS water management system	1	+++	A

MAT01 – Life cycle impacts.
6 credits.

Shower panel LINUS Inox

Aim
To recognise and encourage the use of robust appropriate life cycle assessment tools & specification of materials with low environmental impact over full building life cycle

Parameters
Measuring the life cycle environmental impact of building elements:
· Building fabric, services & landscaping
· Evaluating a range of material options for the building with a Life Cycle Assessment (LCA) tool > BREEAM® MAT1 calculator required (5 credits)

The SCHELL products have an influence on following categories:
· Communication, security and control
· Water and waste installations
· Sanitary installations

Note
Fabric and building services in MAT1 calculator: 5 credits (A)

In detail
SCHELL systems have made efforts to lower their environmental impact by designing compact systems requiring fewer materials, investing in circularity and striving towards products with a long lifespan. The systems therefore contribute to minimising the life cycle impacts of a building. Manually controlled systems have a slightly better LCA score because they contain fewer materials.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	1	+++	A

MAT06 – Material efficiency.
1 credit.

Concealed WC flush valve EDITION

Aim
To recognise and encourage measures to optimise material efficiency in order to minimise the environmental impact of material use and waste without compromising on structural stability, durability or the service life of the building

Parameters
The design team identifies opportunities and implements measures to optimise the use of materials in design, procurement, construction, maintenance and end of life

Note
Efficient use of materials: 1 credit (A)

In detail
This describes the most efficient use of materials over the life cycle of the building and its components. SCHELL products have compact designs using fewer materials and delivering a long lifespan. To improve further on the materials category in BREEAM®, recycling is a key factor.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	1	+++	A

WST01 – Construction waste management.
3 credits.

Exposed WC flush valve SCHELLOMAT

Aim
To promote resource efficiency via the effective and appropriate management of construction waste

Parameters
Diversion of resources from landfill: Waste materials are sorted into separate key waste groups (on or off-site) via a licensed contractor for recovery

Note
Diversion of resources: 1 credit (A)

In detail
The materials and packaging can be recycled and avoid being dumped in landfill. The packaging law in Europe aims to reduce the negative impacts of packaging waste on the environment and to significantly increase recycling rates. SCHELL promotes the return of goods to further increase the circularity of the materials.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	1	+++	A

WST06 – Functional adaptability.
1 credit.

Exposed urinal flush valve SCHELLTRONIC

Aim
To recognise and encourage measures taken to accommodate future changes of use of the building over its lifespan

Parameters
Functional adaptability:
- A building-specific functional adaptation strategy study
- Functional adaptation measures have been implemented in the design

Note
Functional adaptation measures: 1 credit (A)

In detail
Some types of installations do not have a lot of adaptability (wet construction). The descriptive manuals further help with the installation, replacement and possible expansion of these systems in the changing building.

SCHELL products in scope (manual and electronic)	Credits	Product suitability	Comments
Fittings	1	+++	A
SWS water management system	1	+++	A

Results of product analysis.
Complete overview.

Concealed urinal flush valve EDITION

Rating
Outstanding ≥ 85%
Excellent ≥ 70%
Very Good ≥ 55%
Good ≥ 45%
Pass ≥ 30%

*Extra sanitary credits include (MAN 03, MAN 05, MAT 01)

SCHELL products in scope	Total BREEAM® credits	Total BREEAM® credits (%)	Sanitary BREEAM® credits (%)*
Fittings (manual)	12	10,28 %	13,04 %
Fittings (electronic)	13	11,13 %	13,04 %
SWS water management system**	12	9,71 %	12,06 %
Fittings (electronic) + SWS water management system	16	13,36 %	15,80 %

** SWS can help in earning credits regardless of the fittings, but it should always be the goal to implement them together for maximum efficiency.

Summary

Sanitary systems make up a substantial part of the sustainability of a building. These systems require materials and produce waste during construction. They also need correct installation and maintenance, produce noise and use water.

It is therefore important to select reliable systems that deliver great results in all aspects. SCHELL strives towards the best results for its fittings and management systems. This is reflected in how the systems contribute to a range of credits in BREEAM®.

Despite the fact that BREEAM® is a certification scheme for sustainable buildings and includes much more than just sanitary systems, the SCHELL systems can still contribute up to 15,80% in the total score.

Manufacturer-neutral assessment by Encon.
External product analysis from the sustainability specialist.

SCHELL had the in-depth product analyses necessary for credits to be assigned within the BREEAM system carried out by Encon, the sustainability specialist. The analysis was therefore independent and neutral.

Successful collaboration

Encon is an accredited sustainability expert and assessor. Thanks to its extensive knowledge of sustainability certification for buildings, the company is always up-to-date with the latest developments in the property sector. That is why Encon has outstanding BREEAM® expertise and is the perfect partner for SCHELL in this area. The information in this brochure is based on the product analyses on SCHELL fittings conducted externally by Encon. The analyses therefore allow planners and specialist trades to carry out a manufacturer-independent assessment of SCHELL products under the BREEAM® ecological building certification.

SCHELL fittings in scope. Sustainable SCHELL products for your building.

Wash basin tap for public use: max. 1.33 l/min	Wash basin tap for private use: max. 1.33 l/min	Shower head: max. 6 l/min	WC flushing cistern 120 mm: Adjustable 2 to 4 litres
			
With flow regulator 28 926 00 99 (XERIS E) or 28 927 00 99 (PURIS E, CELIS E, MODUS E)	With flow regulator 28 926 00 99 (XERIS E) or 28 927 00 99 (PURIS E, CELIS E, MODUS E)	With flow restrictor 63 014 00 99 (COMFORT shower head)	WC flushing cistern (120 mm)

Exposed flush valve Mechanical: Adjustable 4.5 to 9 litres	WC flush valve, concealed/ exposed, electronic: Adjustable 3.5 to 9 litres	WC flush valve, concealed/ exposed, mechanical: Adjustable 4.5 to 9 litres	Urinal, concealed/exposed, electronic (adjustable flow time 1 to 15 sec.) and mechanical (adjustable 1 to 6 litres)
			
Exposed WC flush valves	Electronic WC flush valves	WC flush valves for manual flushing	Urinal flush valves

All day, every day.
Sustainability is day-to-day business at SCHELL.

Business has to lead on the environment. That is why SCHELL carefully examines all of its energy and material flows. From eco-friendly transport and energy-saving lighting to reducing resource consumption in the office – SCHELL adopts a wide variety of measures.

Sustainability in the round

Sustainability at SCHELL is based on a comprehensive, multi-dimensional approach. It is anchored within the company and exported in our products. Sustainability has always been a core part of our organisational DNA. SCHELL on the outside means sustainability on the inside. That's a promise.

An eco-friendly workplace

Sustainability means much more than just resource-friendly production. So we've embedded it into day-to-day business at SCHELL: from our own charging stations for EVs to smart water management throughout our premises and the exclusive use of 100% green electricity, we continue to apply and improve our sustainable principles in practical terms.

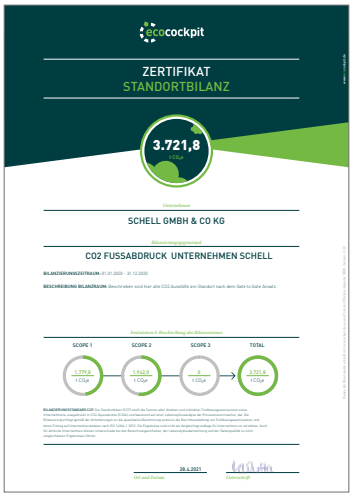
Our vision: cradle-to-cradle

We are committed to applying the cradle-to-cradle approach across the entire lifecycle of our products. From the design to product development, product usage and recycling, SCHELL therefore makes every effort to pursue the goal of a potentially infinite closed-loop economy. Raw materials and products are recycled and reused – which also helps others to become more sustainable. Anyone installing SCHELL products can depend on the no-compromise quality they offer, that lets users enjoy long-term planning, avoid costly conversion work and save key resources – especially water. At its production facility in Olpe, which features a compact site layout and low logistics costs, SCHELL is also extremely well-placed to keep its CO_2 footprint as small as possible.

Quality in black and white

Our products and processes are tested continuously, and are certified to all of the relevant quality and safety standards. As one example, our SCHELL Quality Management System has been certified to DIN EN ISO 9001:2015 by TÜV Rheinland.

TÜVRheinland® ZERTIFIZIERT
Management System ISO 9001:2015
www.tuv.com ID 9108624972


ecocockpit
ZERTIFIKAT
STANDORTBILANZ
3.721,8
SCHELL GMBH & CO KG
CO2 FUSSABDRUCK UNTERNEHMEN SCHELL

Independent audits have also confirmed SCHELL's frugal resource utilisation and low carbon impact.

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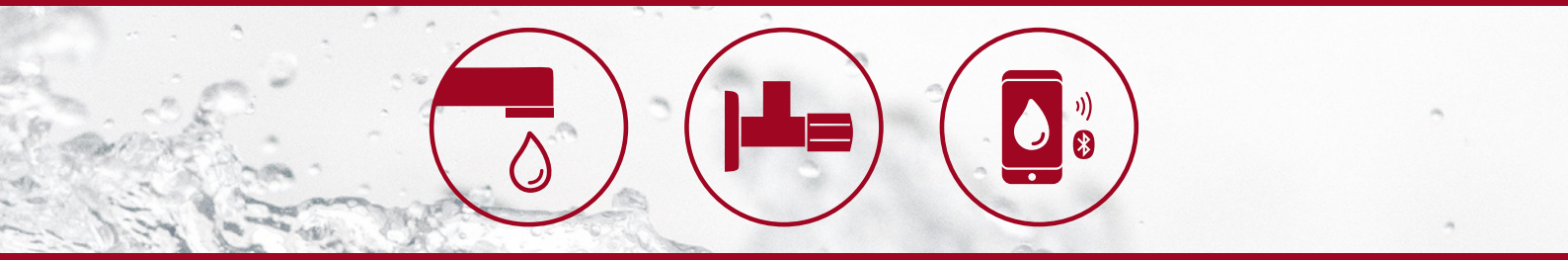

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