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

LEED®

SCHELL

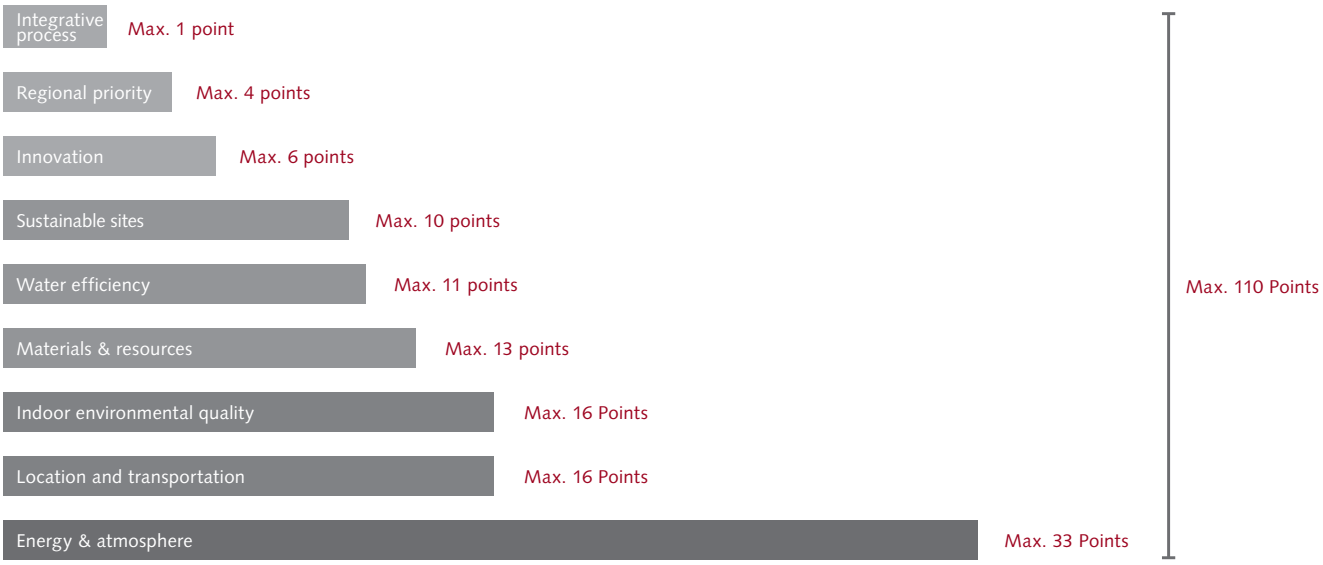
LEED®.
Sustainability certification.

The LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™ is a voluntary, evolving, consensus-based international standard for developing high-performance, sustainable buildings, using a comprehensive, point-based system. The LEED® certification programme is initiated by USGBC® (US Green Building Council) and is internationally recognized.

The certification confirms that a building is designed and built to achieve a performance that surpasses national standards for energy savings, water efficiency, CO_2 emissions reduction, indoor environmental quality, stewardship of resources and environmental impacts.
These topics are specified in nine categories, subdivided into a range of issues, which are used to assess the building. LEED® points are awarded per credit on a 110-point scale, resulting in four levels of performance – Certified, Silver, Gold and Platinum.

LEED® Rating

40–49 50–59 60–79 80+ points



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 LEED® 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 LEED®):

Category	Issue	Max. points
Water Efficiency (WE)	Prerequisite Indoor Water Use Reduction	–
	Prerequisite Building-Level Water Metering	–
	Credit Indoor Water Use Reduction	6
	Credit Water Metering	1
Energy & Atmosphere (EA)	Prerequisite Fundamental Commissioning and Verification	–
	Credit Enhanced Commissioning	6
Materials & Resources (MR)	Prerequisite Construction and Demolition Waste Management Planning	–
	Credit Building Life-Cycle Impact Reduction	5
	Credit Building Product Disclosure and Optimization –Sourcing of Raw Materials	2
	Credit Construction and Demolition Waste Management	2

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 LEED® 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?

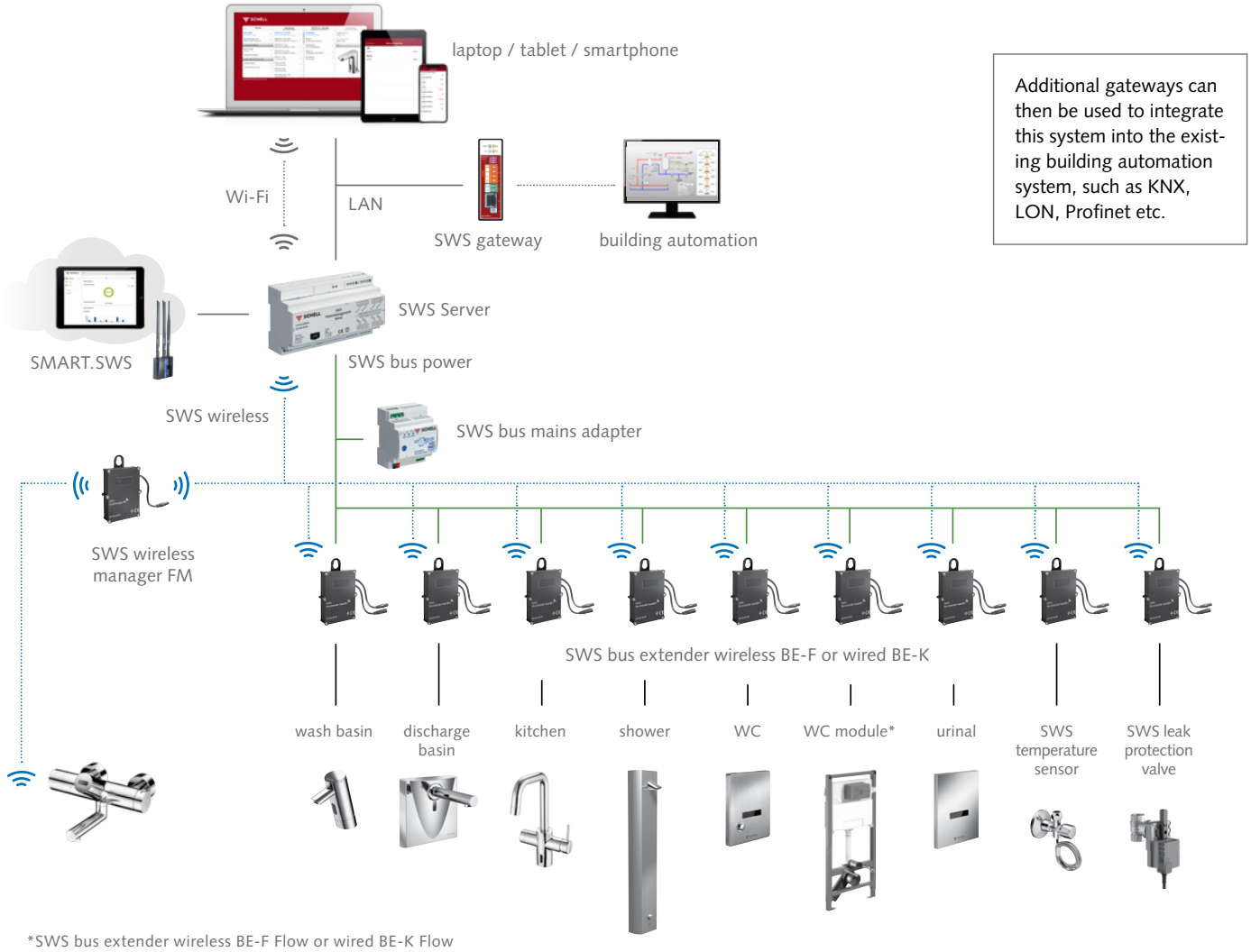
SCHELL has an innovative answer to all these questions: the SWS water management system – one of the first water management systems to offer intelligent wired/wireless networking and control for fittings – especially in public sanitary facilities.

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.

*SWS bus extender wireless BE-F Flow or wired BE-K Flow

WE – Indoor water use reduction.
6 points.

American High School and Elementary School, Stuttgart-Boeblingen

Aim
To reduce indoor water consumption

Parameters
The fixtures and fittings:
- Reduce aggregate water consumption by 20% from the baseline
- Are WaterSense labelled (or a local equivalent outside the U.S.)
- Additional potable water savings can be achieved using alternative water sources
- Further reduce water use from the calculated baseline: Basin, Shower, WC, Urinal

Note
Indoor water use reduction: 6 points (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 cannot be achieved by manual systems (values taken from LEED® brochure). The score is therefore lower.

SCHELL products in scope (manual)	points	Product suitability	Comments
Wash basin taps	2	+++	A
Concealed wash basin taps	2	+++	A
Exposed shower fittings & shower panels	3	+++	A
Concealed shower taps	3	+++	A
Exposed WC flush valves	2	+++	A
Concealed WC flush valves	2	+++	A
Exposed urinal flush valves	6	+++	A
Concealed urinal flush valves	6	+++	A
Cistern mounting modules & cover plates	2	+++	A
SWS water management system	–	–	–

American High School and Middle School, Spangdahlem

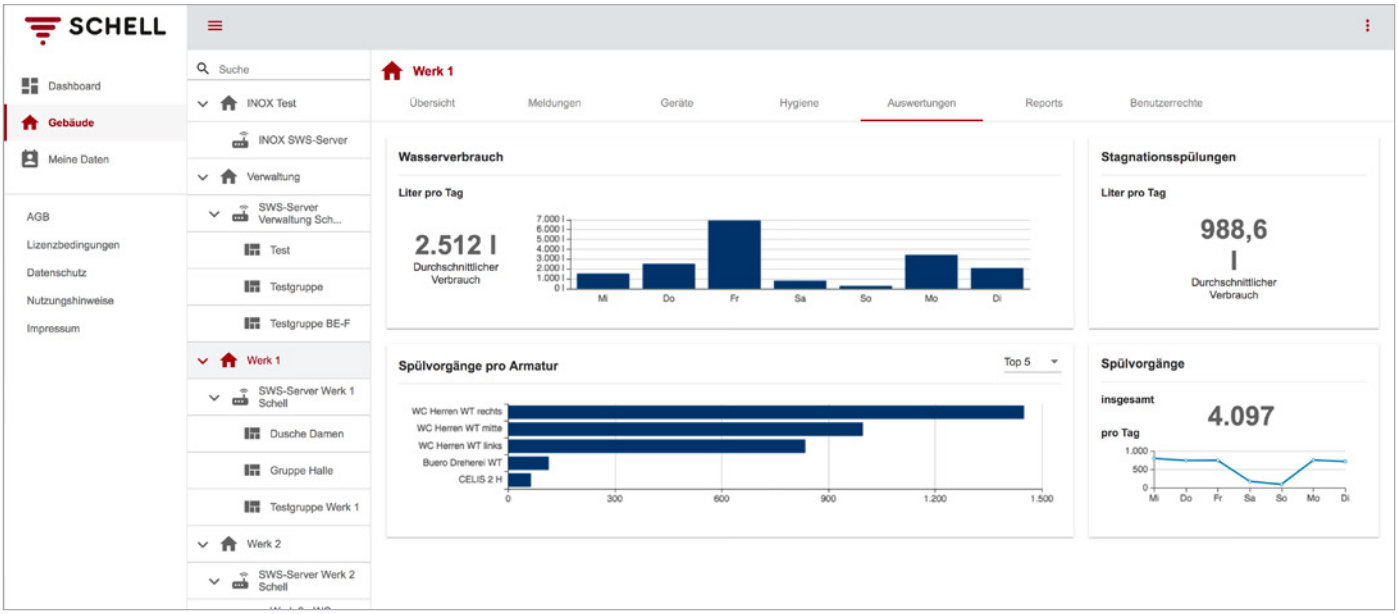
The SCHELL systems are designed to minimize the waste of water. It is possible to save up to 60% water by implementing electronic instead of manual products. The values vary depending on public/private use and electronic or manual control (values taken from LEED® brochure). It is important to note that these are individual values and not the total value for the building.

SCHELL products in scope (electronic)	points	Product suitability	Comments
Wash basin taps	2	+++	A
Concealed wash basin taps	2	+++	A
Exposed shower fittings & shower panels	3	+++	A
Concealed shower taps	3	+++	A
Exposed WC flush valves	4	+++	A
Concealed WC flush valves	4	+++	A
Exposed urinal flush valves	6	+++	A
Concealed urinal flush valves	6	+++	A
Cistern mounting modules & cover plates	2	+++	A
SWS water management system	N/A	–	–

These values are more representative of the total impact at the building level. Toilets and urinals have the largest impact followed by showers and taps. (Calculations made using the LEED® water use calculator)

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

WE – Building-level water metering.
1 point.



SMART.SWS reporting: water consumption (calculated)

Aim
To support water management and identify opportunities for additional water savings by tracking water consumption

Parameters
- Install permanent water meters that measure the total potable water use for the building and associated grounds
- Meter data summarized in monthly and annual records
- Meter readings can be manual or automated
- Share the whole-project water usage data for a five-year period with USGBC
- Install permanent water meters for two or more of the following water subsystems: 80% of the indoor fixtures and fitting

Note
Water metering: 1 point (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 provides further control over the electronically-controlled products (preventing stagnating water and providing thermal disinfection).

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

EA – Fundamental Commissioning and Verification/Enhanced Commissioning.
6 points.

Coca Cola Headquarters, Madrid

Aim
To support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability

Parameters
Commissioning Process Scope:
- ASHRAE Guideline 0-2005 and Guideline 1.1–2007
- Exterior Enclosures: inclusion in the owner's project requirements and basis of design
- Engage a commissioning authority
- Current Facilities Requirements and Operations and Maintenance Plan

Option: Enhanced systems commissioning
- Path 1. Enhanced commissioning
- Complete the commissioning process activities for mechanical, electrical, plumbing and assemblies
- Path 2. Enhanced and Monitoring-Based Commissioning
- Achieve path 1
- Develop monitoring-based procedures and assess performance of energy- and water-consuming systems

Note
Enhanced commissioning: 3 points (A)
Enhanced commissioning and monitoring: 4 points (B)

In detail
A commissioning authority must be included to control the commissioning of the sanitary systems. Other systems such as HVAC should be checked as well. The complex building services such as the BMS should be tested and can be used to monitor energy- and water-consuming systems.

SCHELL products in scope (manual and electronic)	points	Product suitability	Comments
Fittings	3	+++	A
SWS water management system	4	+++	B

MR – Building Life-Cycle Impact Reduction.
5 points.

Merck Innovation Center, Darmstadt

Aim
To encourage adaptive reuse and to optimize the environmental performance of products and materials

Parameters
· Demonstrate reduced environmental impact by reusing existing building resources or demonstrating a reduction in materials use via LCA: 4 options

Option 4: Whole-building life-cycle assessment:

· Conduct an LCA of the project's structure and enclosure that demonstrates a minimum of 10% reduction, compared with a baseline building, in at least three of the six impact categories:
· Global warming potential, depletion of ozone layer, acidification, eutrophication, formation of ozone, depletion of non-renewable energy resources

Note
Option 4: Life cycle assessment: 3 points (A)

In detail
The LCA study should include as many building materials as possible to be more accurate. Higher amounts of recycled materials and the energy-efficient and durable production of the materials decreases the life cycle impacts. Focus should be on the reduction of impacts during usage, which is the highest factor in the LCA. Manually controlled systems have a slightly better LCA score because they contain fewer materials.

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

MR – Sourcing of Raw Materials.
2 points.

Torre Rioja, Madrid

Aim
To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts
To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner

Parameters
Option 1: Raw material source and extraction reporting
Option 2: Leadership extraction practices
- Meet one of criteria below for at least 25% by cost of the total value of building products: Materials reuse, recycled content
- Products sourced (extracted, manufactured, and purchased) within 100 miles (160 km) of the project site are valued at 200% of their base contributing cost.

Recycled content:
- Use materials with recycled content
- Assessment only for permanently installed materials & furniture
- Material manufacturing study required

Note
Leadership extraction practices: 1 point (A)

In detail
Corporate sustainability reports (GRI, OECD, ISO 26000) are needed to prove the environmental impacts of raw material source, extraction and manufacturing operations (the product's supply chain). SCHELL seeks to offer products that have high recyclability (metals such as copper alloys), including by offering return of goods.

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

MR – Construction and Demolition Waste Management.
2 points.

Pegaso City, Madrid

Aim
To reduce construction and demolition waste disposed of in landfill and incineration facilities by recovering, reusing, and recycling materials

Parameters
- Recycle and/or salvage non-hazardous construction and demolition materials
- Option 1 – Diversion of total construction and demolition material (weight or volume)
  - Divert 50% and Three Material Streams
  - Divert 75% and Four Material Streams

OR

- Option 2: Reduction of total waste material

Note
Diversion of material: 2 points (A)

In detail
The materials and packaging can be recycled and avoid being dumped in landfill. SCHELL also promotes the return of goods to increase the reusability and circularity of the materials.

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

Results of product analysis.
Complete overview.

American High School, Kaiserslautern

Rating
Platinum ≥ 80
Gold 60–70
Silver 50–59
Certified 40–49

LEED® points total

	Manual		Electronic	
SCHELL products in scope	Total	Sanitary*	Total	Sanitary*
Wash basin taps	9	17	9	17
Concealed wash basin taps	9	17	9	17
Exposed shower fittings & shower panels	10	17	10	17
Concealed shower taps	10	17	10	17
Exposed WC flush valves	9	17	11	17
Concealed WC flush valves	9	17	11	17
Exposed urinal flush valves	13	17	13	17
Concealed urinal flush valves	13	17	13	17
Cistern mounting modules & cover plates	9	17	9	17
SWS water management system	9	13	9	13

* Extra sanitary credits included (Building Product Disclosure and Optimization – EPD, Sourcing raw materials, Material ingredients)

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. 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 LEED®.

LEED® points in each category (see also p. 4/5)

SCHELL products in scope	WE Manual	WE Electronic	EA	MR
Wash basin taps	2	2	3	4
Concealed wash basin taps	2	2	3	4
Exposed shower fittings & shower panels	3	3	3	4
Concealed shower taps	3	3	3	4
Exposed WC flush valves	2	4	3	4
Concealed WC flush valves	2	4	3	4
Exposed urinal flush valves	6	6	3	4
Concealed urinal flush valves	6	6	3	4
Cistern mounting modules & cover plates	2	2	3	4
SWS water management system	1	1	4	4

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 LEED® 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 LEED® 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 LEED® ecological building certification.

SCHELL fittings at a glance.
Sustainable SCHELL products for your buildings.

Wash basin tap for public use: max. 1.32 l/min

With flow regulator LEED 28 926 00 99 (XERIS E) or 28 927 00 99 (PURIS E, CELIS E, MODUS E): 2 points

Points for flow volume	
1	1.43 l/min
2	1.33 l/min
3	1.24 l/min
4	1.14 l/min
5	1.05 l/min
6	0.95 l/min

Wash basin tap for private use: max. 1.32 l/min

With flow regulator LEED 28 926 00 99 (XERIS E) or 28 927 00 99 (PURIS E, CELIS E, MODUS E): 6 points

Points for flow volume	
1	6.23 l/min
2	5.81 l/min
3	5.40 l/min
4	4.98 l/min
5	4.57 l/min
6	4.15 l/min

Shower head: max. 6 l/min

With flow restrictor LEED 63 014 00 99 (COMFORT shower head): 3 points

Points for flow volume	
1	7.13 l/min
2	6.65 l/min
3	6.18 l/min

WC flushing cistern 120 mm: max. 4 litres

WC flushing cistern (120 mm): 1-2 points

Points for flush volume	
1	4.50 l/flush
2	4.20 l/flush

Exposed flush valve Mechanical: Adjustable 4.5 to 9 litres

Exposed WC flush valves: 1 point

Points for flush volume	
1	4.50 l/flush

WC flush valve, concealed/ exposed, electronic: Adjustable 4.5 to 9 litres

Electronic WC flush valves: 1 point

Points for flush volume	
1	4.50 l/flush

WC flush valve, concealed/ exposed, mechanical: Adjustable 4.5 to 9 litres

WC flush valves for manual flushing: 1 point, with cartridge LEED 29 758 0099: 2 points

Points for flush volume	
1	4.50 l/flush
2	4.00 l/flush

Urinal, concealed/exposed, electronic (adjustable flow time 1 to 15 sec.) and mechanical (adjustable 1 to 6 litres)

Urinal flush valves: Up to 6 points

Points for flush volume	
1	2.85 l/flush
2	2.66 l/flush
3	2.47 l/flush
4	2.28 l/flush
5	2.09 l/flush
6	1.90 l/flush

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

www.eco cockpit.de

Unternehmen

SCHELL GMBH & CO KG

Bilanzierungsgegenstand

CO2 FUSSABDRUCK UNTERNEHMEN SCHELL

BILANZIERUNGSZEITRAUM: 01.01.2020 - 31.12.2020

BESCHREIBUNG BILANZRAUM: Beschrieben sind hier alle CO2 Ausstöße am Standort nach dem Gate to Gate Ansatz.

Emissionen & Beschreibung des Bilanzraumes

BILANZIERUNGSSTANDARD CCF: Die Standortbilanz (CCF) stellt die Summe aller direkten und indirekten Treibhausgasemissionen eines Unternehmens, ausgedrückt in CO2-Äquivalenten (CO2e) und basierend auf einer Lebenszyklusanalyse der Emissionsverursacher, dar. Die Bilanzierung erfolgt gemäß der Anforderungen an die quantitative Bestimmung sowie an die Berichtserstattung von Treibhausgasemissionen und deren Entzug auf Unternehmensebene nach ISO 14064-1:2012. Die Ergebnisse sind nicht als Vergleichsgrundlage für Unternehmen zu verstehen. Auch für ähnliche Unternehmen können Unterschiede bei den Berechnungseinheiten, der Lebenszyklusbetrachtung und der Datenqualität zu nicht vergleichbaren Ergebnissen führen.

28.4.2021

Ort und Datum

Unterschrift

Dieses Zertifikat wurde erstellt mit ecocockpit.de, einem Tool der Effizienz-Agentur NRW. Version: 2.2.0

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

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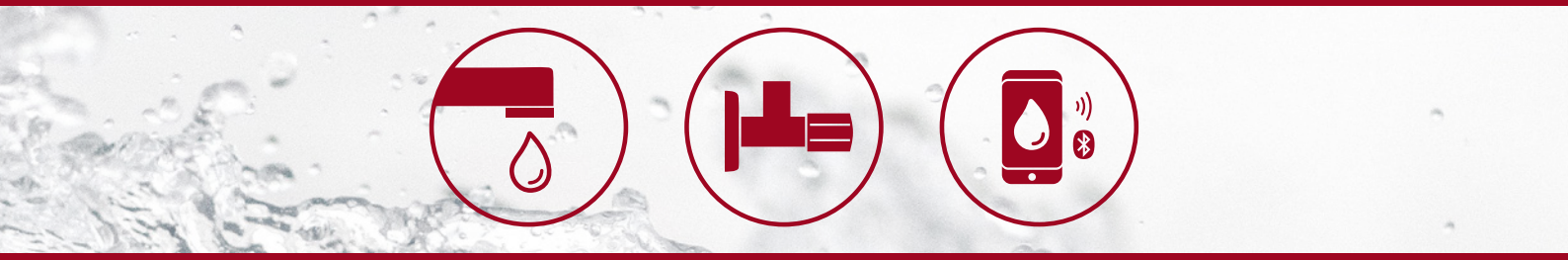

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