BLACKFIRE

Fire resistant push-fit waste system

MADE IN ITALY

valsir®

QUALITY FOR PLUMBING


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BLACKFIRE

Blackfire®, the perfect system for every situation, even the most infernal ones!

Fraunhofer IBP
Hoch Fladungen
DE

Valsir Blackfire® is a drainage system made of pipes, fittings and accessories, perfect for drainage systems and conventional rainwater drainage systems.

Blackfire®, just like any other Valsir drainage system, is a push-fit system distinguished by a quick and easy installation.
Moreover, Valsir Blackfire® allows to reach good results in terms of acoustic comfort and in terms of fire resistance (B1 according to the norm DIN 4102).

It is perfect for high and low temperature drainage systems, drainage ventilation systems and rainwater drainage systems, within any sort of building: hospitals, hotels, residential or commercial.

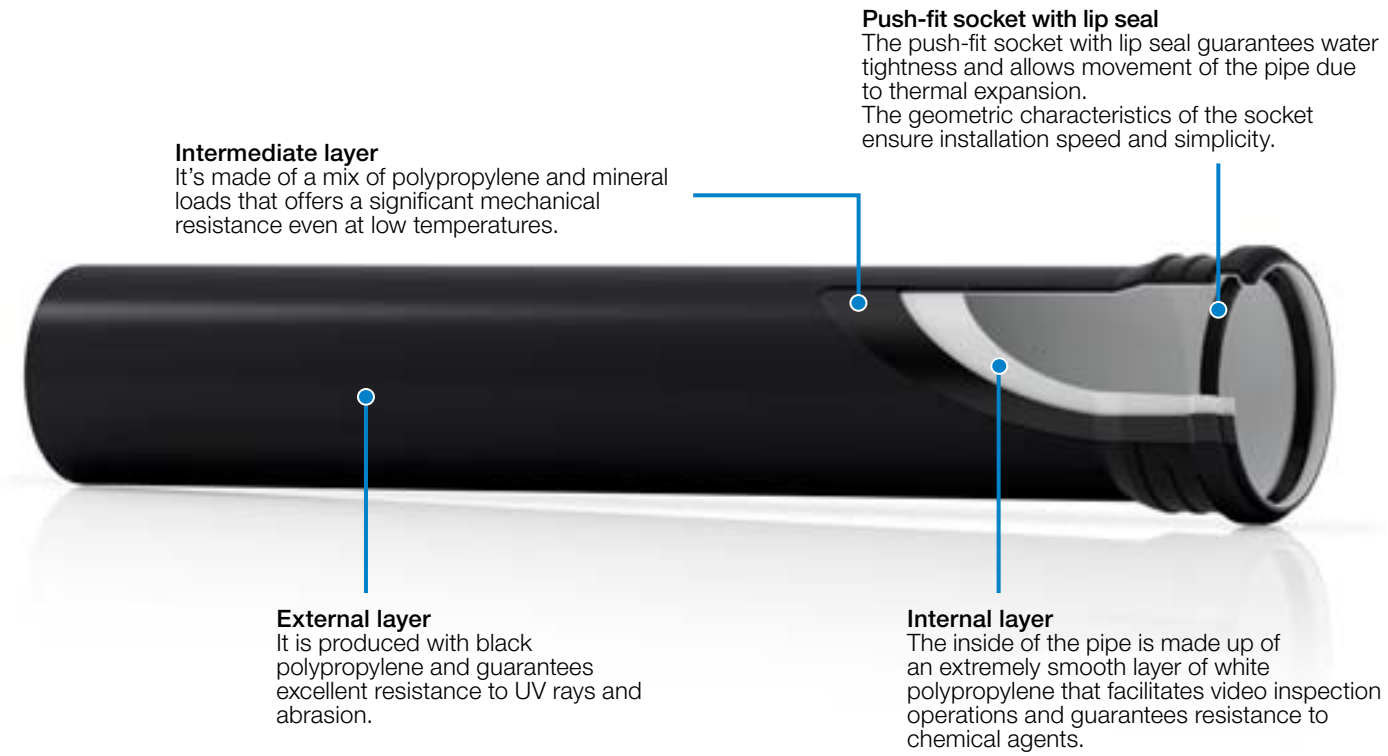
The wide range of pipes, fittings and accessories allows to cover every point of the drainage system, from the horizontal branches, to the stacks to the collector.

MADE IN ITALY

CHALLENGE IT!

With more than 270 items and accessories, the Blackfire® system boasts:

- **Ease of installation:** thanks to the push-fit connection, there is no need of glues or harmful solvents.
- **Inner white layer** to make video inspection easier.
- Fire resistance **in class B1**.
- **Mechanical resistance:** very high resistance to mechanical stress; even to impacts up to **-10°C**.
- **Good acoustic comfort:** in compliance with EN 14366 and DIN 4109, equal to **16 dB(A) with a flow rate of 2 l/s** (certificate P-BA 258/2019e).
- Resistant to **negative pressure** up to -800 mbar and to **positive pressure** of 1.5 bar.
- **High chemical resistance** to substances dissolved in civil and industrial wastewater.
- Wide range of pipes and fittings: **from Ø 32 mm to Ø 160 mm**.
- Exceptional **resistance to UV rays**.
- Outside storage and installation are allowed without risks of damage or colour fading.
- **Tailor-made fittings** available in order to meet every design and installation requirement.
- Valsir Blackfire® is **environment-friendly** since it is produced with **completely recyclable** raw materials.
- Compatibility with all the other Valsir waste systems.
- Possibility of connection with other materials such as Cast iron, PE, PVC and PP.



AN EXTREMELY WIDE RANGE

The range is composed of pipe lengths between 150 mm and 3 m and is characterised by a wide choice of fittings and accessories that allows the construction of the most varied system configurations.

The smaller diameters such as 32, 40 and 50 mm are used for the branch pipe connections on each floor, while the larger diameters such as 160 mm are used for the waste manifolds.

The range is completed with accessories for the connection to other Valsir waste systems and pipe clips, which, when fitted with anti-vibration rubber, allow reduction of the vibrations that are transferred to the installation walls when the waste system is in use.

Fire stop collars

When standards and local regulations require the **fire compartmentation of rooms** such as, for example, boiler rooms, underground garages or industrial fire-hazard areas, then fire stop collars shall be used.

To cover all system necessities and to meet the most severe fire prevention requirements a **complete range** is available, that covers diameters **to 160 mm**.

It is important to remember that the Blackfire waste system is made of a polypropylene based material and therefore, unlike other materials such as PVC, it does **not produce carcinogenic compounds** such as dioxins and vinyl chloride **in the event of fire**.

ADVANCED SOLUTIONS

Valsir is the only company that can supply a triple layer waste system with a Blackfire® VBF (Ventilation Branch Fitting System). This is the ideal solution in high-rise buildings with a high simultaneous use factor of the sanitary appliances.

This innovative waste system guarantees excellent ventilation of the stack and branch connections on each floor thus limiting pressure fluctuations within the system.

This system allows great advantages and huge savings thanks to the possibility of creating single stacks (therefore without need for parallel ventilation) **in the diameters 110 mm with more than double waste flow rate** if compared to primary ventilation.

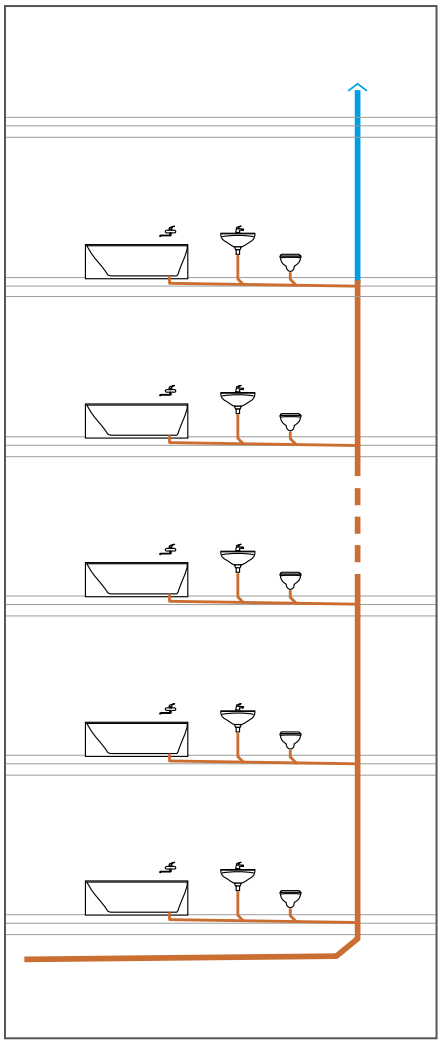
The ideal solution for high rise buildings

- **One soil stack,** no separate ventilation pipes required.
- **Increase in stack load** in comparison with conventional systems.
- **Reduction in speed** of effluents.
- **Excellent ventilation** of the stack and branches of each floor.
- **Up to 6* connections** on one branch fitting.
- **Up to 45** flats** connected to the same waste stack.

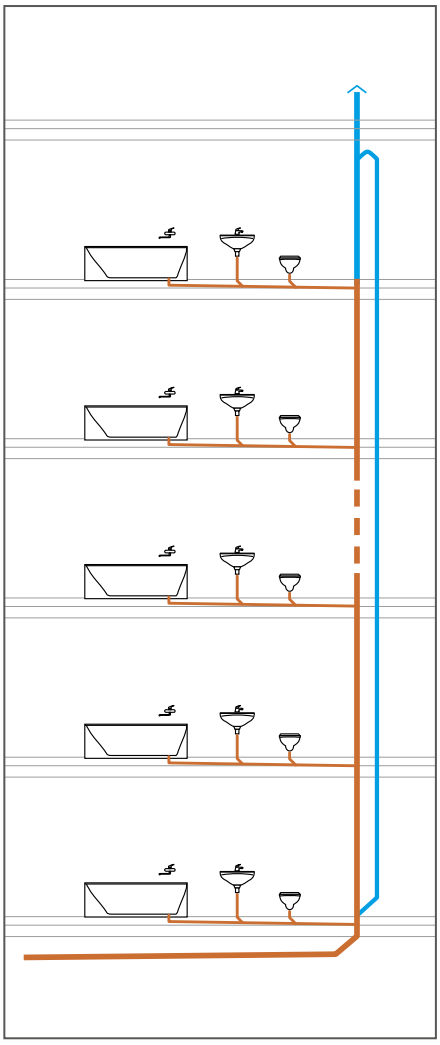
* The side connections on the Blackfire® VBF (Ventilation Branch Fitting System) are made in the factory according to project specifications.
** The number of flats depends on their composition.

Waste systems with Blackfire® VBF (Ventilation Branch Fitting System) allow greater stack loads than any other waste system (systems with primary ventilation, systems with direct or indirect parallel ventilation, systems with secondary ventilation).

System with primary ventilation

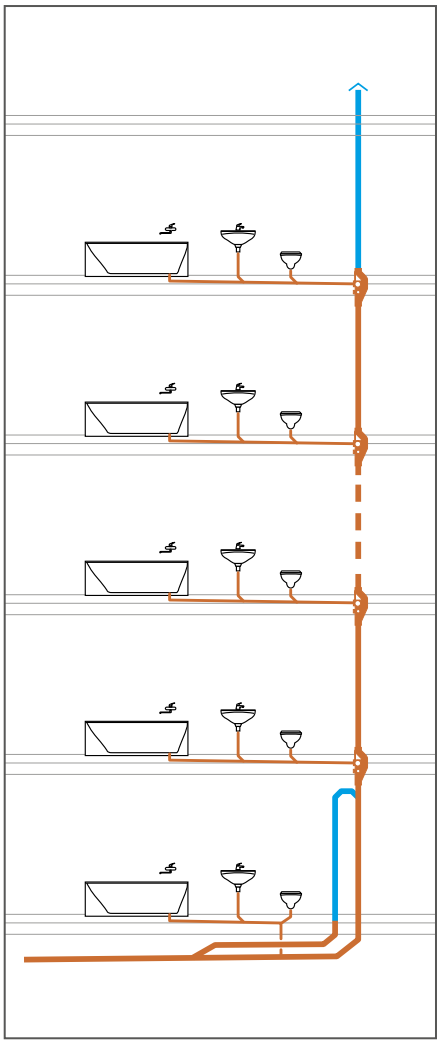


System with parallel ventilation



Drainage capacity **40% greater** than systems with primary ventilation.

System with VBF



Drainage capacity **120% greater** than systems with primary ventilation.

SIGNIFICANT ACOUSTIC PERFORMANCE

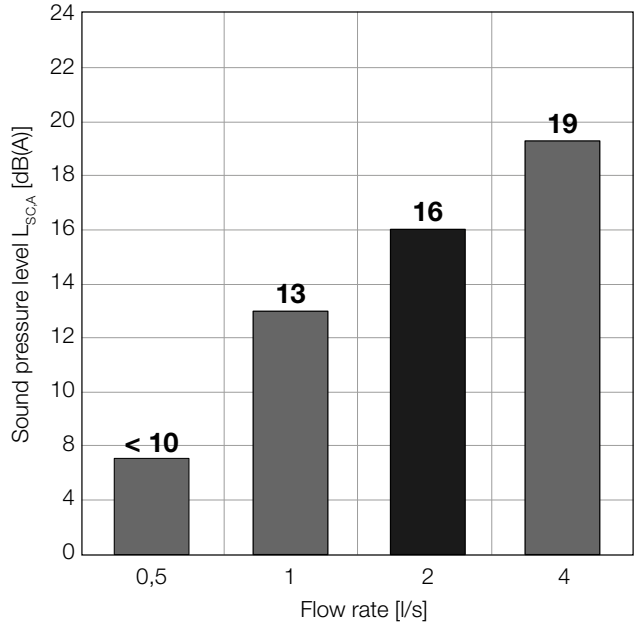
When a waste system is in use, noises are generated inside the pipelines causing it to vibrate from the fall of the liquid being discharged.

Most of the noise generated spreads inside the pipe but the vibrations that are generated are transmitted from the walls of the pipe to the surrounding area and to the bracketing systems and consequently to the building structure.

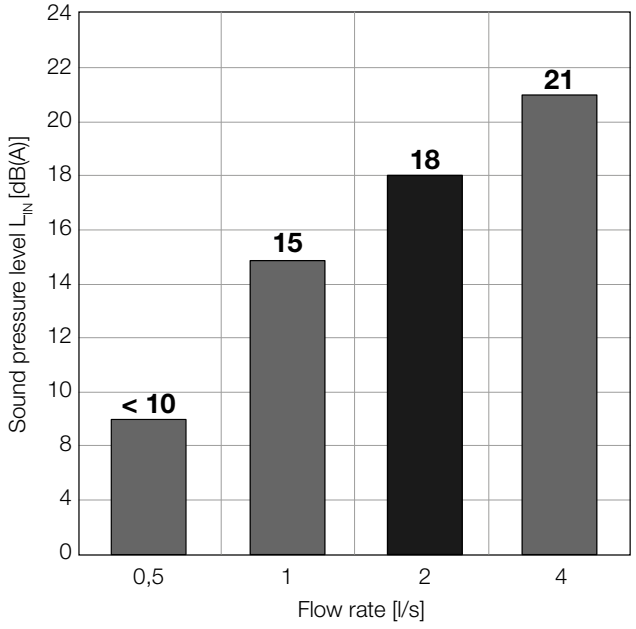
To minimize noise levels in waste and drainage systems, not only should the system be properly designed and the waste circuit be mounted correctly, but it is also important to choose a system with an elevated soundproofing performance.

Blackfire® allows waste systems to be installed that guarantee excellent soundproofing performance, **with 2 l/s (typical toilet flush) noise emissions of 16 dB(A) were measured**.

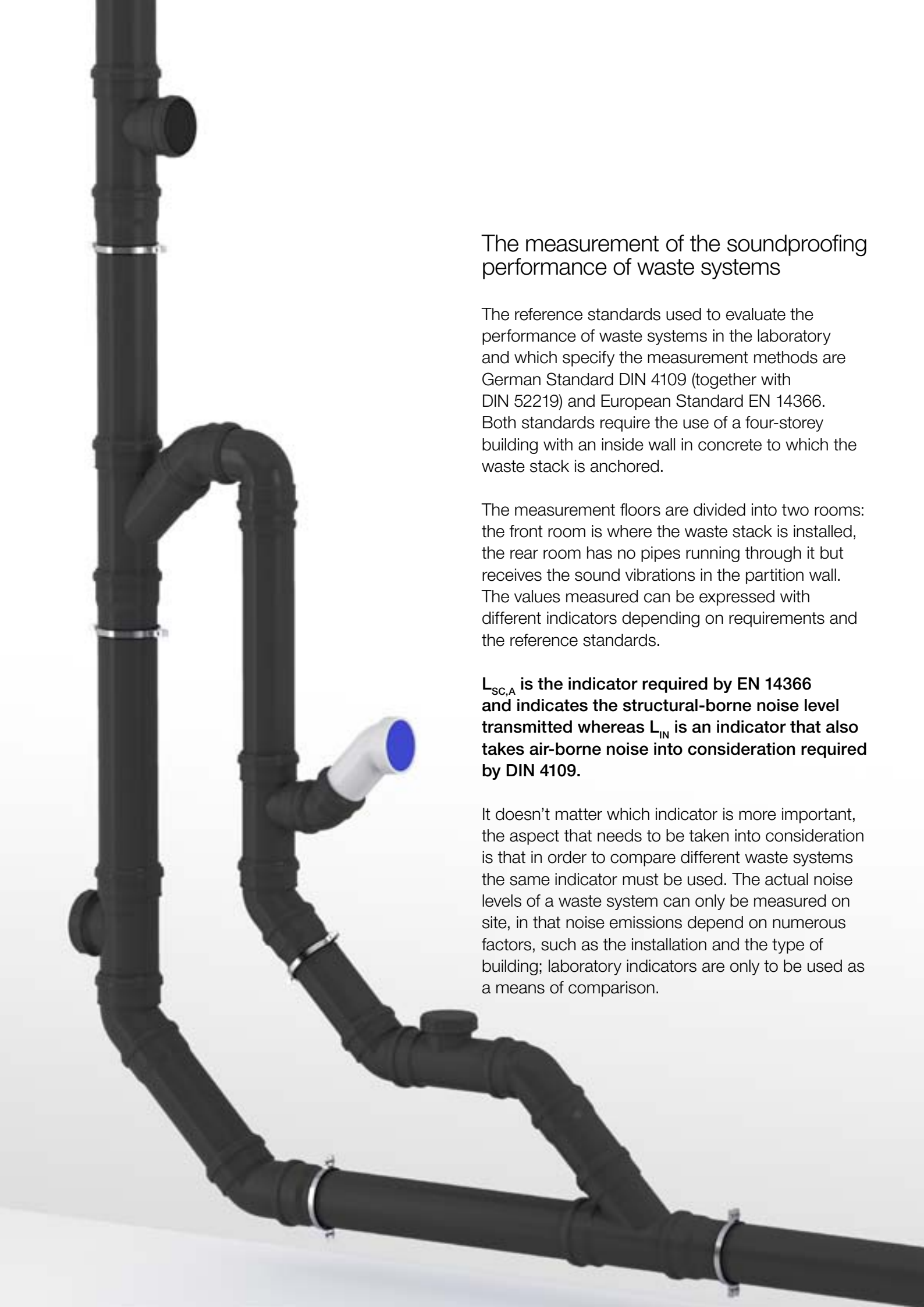
Sound pressure levels $L_{SC,A}$ of the Blackfire® pipe in compliance with EN 14366



Sound pressure levels L_{IN} of the Blackfire® pipe in compliance with DIN 4109



Certificate P-BA 258/2019e in accordance with EN 14366 and DIN 4109.



The measurement of the soundproofing performance of waste systems

The reference standards used to evaluate the performance of waste systems in the laboratory and which specify the measurement methods are German Standard DIN 4109 (together with DIN 52219) and European Standard EN 14366. Both standards require the use of a four-storey building with an inside wall in concrete to which the waste stack is anchored.

The measurement floors are divided into two rooms: the front room is where the waste stack is installed, the rear room has no pipes running through it but receives the sound vibrations in the partition wall. The values measured can be expressed with different indicators depending on requirements and the reference standards.

$L_{SC,A}$ is the indicator required by EN 14366 and indicates the structural-borne noise level transmitted whereas L_{IN} is an indicator that also takes air-borne noise into consideration required by DIN 4109.

It doesn't matter which indicator is more important, the aspect that needs to be taken into consideration is that in order to compare different waste systems the same indicator must be used. The actual noise levels of a waste system can only be measured on site, in that noise emissions depend on numerous factors, such as the installation and the type of building; laboratory indicators are only to be used as a means of comparison.


Labeling resistant
to abrasion or solvents.
The seal is completely inaccessible thanks to the particular structure of the housing.
The joint guarantees total bore passage thanks to the absence of reductions in the section.
B1
The only black triple-layer polypropylene system
fire-resistant according to the DIN 4102 B1 standard.
New design of the push-fit socket.

PUSH-FIT JOINTS, INSTALLATION EASE AND RAPIDITY

Blackfire® ensures practical and rapid installations without the use of glues, electrical appliances or special tools, thanks to the push-fit jointing system.

The special geometry of the seal and the push-fit socket guarantee total water tightness and allow the normal movements of the pipeline including those caused by thermal expansion.

A system suited to temperature fluctuations: **thermal expansion of Blackfire® is extremely low in comparison with other more common plastic materials:** a 3 m pipe expands by just 9 mm when the flow of liquid is at a continuous temperature of 60°C.

It is thanks to its low coefficient of heat expansion that the push-fit joints are capable of absorbing the variations in pipe length, without the need to take any particular measures; simply follow the installation instructions indicated in the Valsir technical handbooks.

The bi-joint sleeve to minimise waste

In order to make use of pipe cut offs that would otherwise be discarded, Valsir supplies the bi-joint sleeve. This is a special fitting that allows plain ended pipes to be connected guaranteeing water tightness without penalising waste flow rates.


THE TECHNICAL MANUAL FOR WASTE SYSTEMS
Characteristics, project design, calculation, installation and testing
valsir
SILVESTRO
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CUSTOMER SERVICE

Technical support

Valsir provides complete support during design and on site, thanks to a high-level technical department that consists of a team of engineers with international experience that are capable of providing solutions to all installation needs.

Valsir Academy

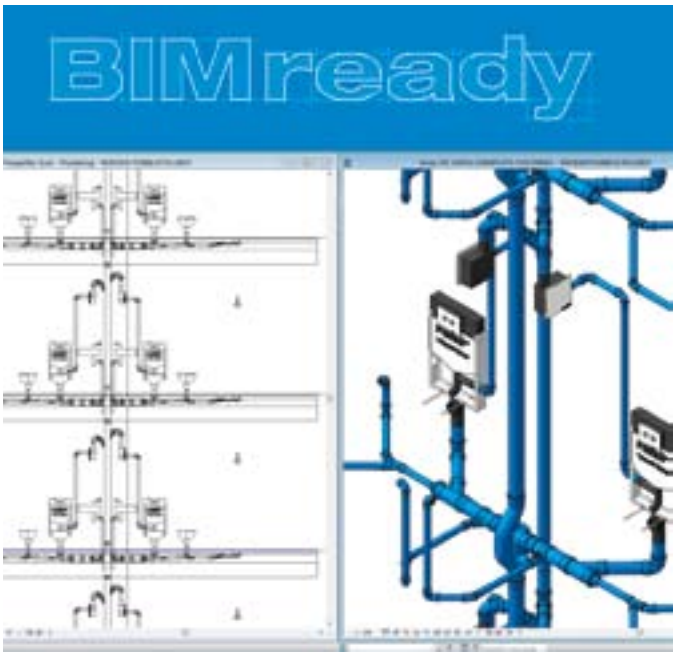
Valsir has an important training facility - **Valsir Academy** - dedicated to clients, distributors, plumbers and planners that provides perfectly equipped courses, both theoretical and practical on the use and the design of plumbing and heating systems. Courses are provided both inside the training facility and on customers' premises.

SOFTWARE

Silvestro software

The design of floor and radiator heating systems, water supply as well as waste and drainage systems, is extremely easy and the issue of the technical documents is rapid when using the Silvestro software program. Rapid, simple, unique, Silvestro has numerous strong points:

- rapid learning curve thanks to a simple and intuitive interface
- completely graphic background that facilitates input of the project details
- automatic drawing of the loops in the floor radiant systems
- automatic repositioning of the stack points on the plan view
- generation of calculation reports that are exportable in an .xls format
- import and export of files in .dwg format
- immediate update of software with a guided procedure
- creation of complete bill of materials from the project files



Valsir is BIM ready

Valsir has embraced the BIM philosophy, the modelling process that allows the improvement of planning, design, construction and the management of buildings, concurring with the transition of the industry toward the digital representation of buildings. “BIM oriented” planning offers extraordinary competitive advantages: greater efficiency and productivity, fewer errors, less downtime, lower costs, enhanced interoperability, maximum sharing of information, a more punctual and coherent supervision of the project.
Valsir captures the essence of this system creating a series of Revit applications and models designed for simple and fast use.

QUALITY AND ENVIRONMENT

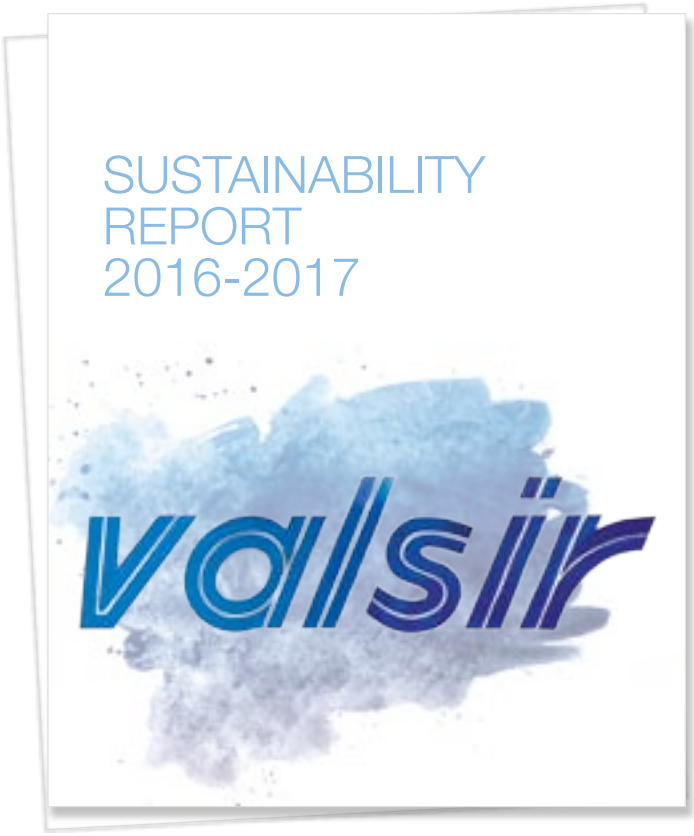
Quality

The constant commitment of Valsir in the production of quality products is attested by over **200 product approvals** obtained throughout the world by the most stringent certification bodies (data updated to 01/02/2020), by a Management System of the Quality (QMS) certified in compliance with the **UNI EN ISO 9001:2008** standard and the Energy Management System (SGE) certified according to the international standard **UNI EN ISO 50001:2011**.
Valsir S.p.A. has further demonstrated its commitment to the environment by obtaining certification **ISO 14001:2015** on the Vestone production site.
Since 2019 an innovative and modern plant has also been built that, integrated with the already installed photovoltaic park, will be able to produce over 30% of the electricity needed for all Valsir plants. This is a Trigenerator powered by methane gas capable of producing electricity, steam and cooling energy.

Sustainability

Efficient processes and reliable products are no longer the only parameters used to perform an assessment of the quality of a company's conduct: the capacity of the company and its management to design and implement production process that are sustainable from an environmental point of view is of equal importance.

Valsir has started a project of Corporate Social Responsibility and has published its 2nd Sustainability Report that gathers facts and figures relating to the daily commitment of Valsir in terms of social, economic and environmental responsibility.



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TRAPS

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HRV SYSTEM

ACADEMY

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QUALITY FOR PLUMBING

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