

TECHNICAL DATA SHEET

VALSIR® WASTE SYSTEMS

BLACKFIRE



valsir®
QUALITY FOR PLUMBING

The product

The Valsir BlackFire® system is suitable for the construction of high and low temperature waste systems, for the ventilation of waste systems and for rainwater drainage inside civil and industrial buildings, hospitals, hotels, etc.

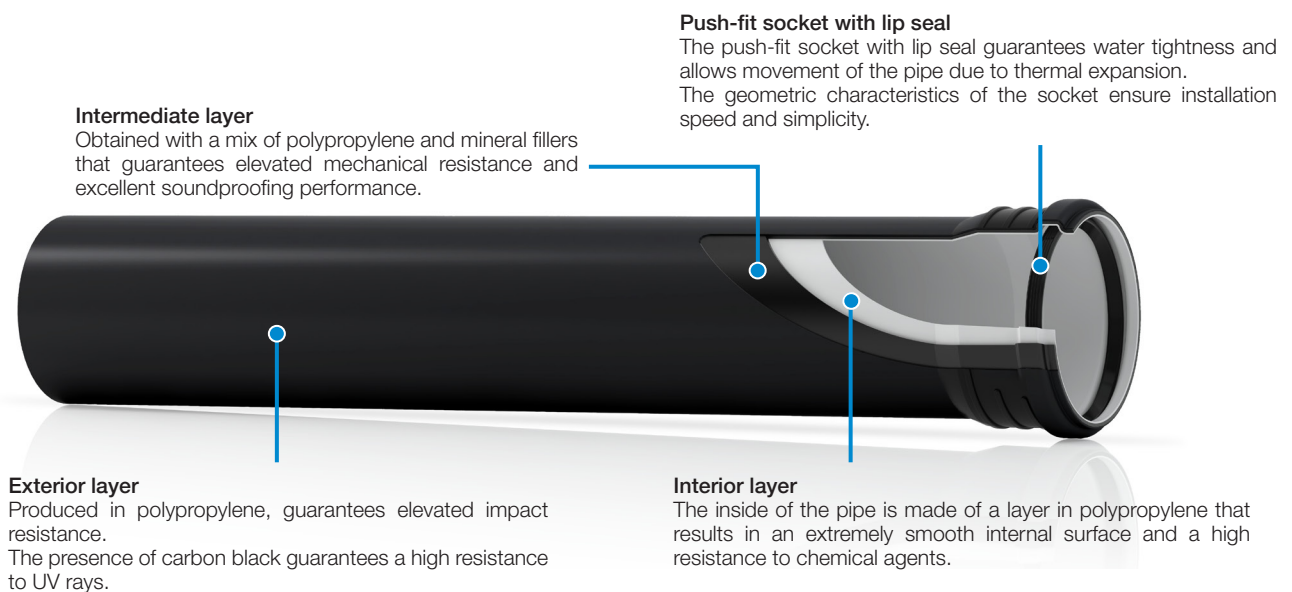
The pipes are composed of three layers of material, which, when put together, give the pipes high mechanical characteristics at low temperatures and an excellent soundproofing performance.



Characteristics

- Absolute guarantee of watertight joints, thanks to the elastomeric seal (factory fitted), that do not require the use of any special tools, glues or solvents.
- Extremely fast and easy to install thanks to the light weight of the products.
- Wide range of diameters from OD 32 mm to OD 160 mm and the availability of transition accessories for connection to existing waste systems in different materials.
- Excellent impact resistance even at low temperatures thanks to the triple-layer structure.
- High resistance to a wide range of chemical compounds also at high temperatures; not affected by stray currents.
- An high abrasion resistance and extremely smooth internal surfaces guarantee minimal pressure losses and no deposit formation.
- Pipes are available in various lengths (from 150 mm to 3 m) and by using the dual socketed pipes and fittings (sliding double socket) material wastage is avoided.

Figure Layering of the pipe.



Technical details

Table Typical technical details.

| Property | Value | Test method |
|------------------------------------|--|---------------|
| Pipe material | Homopolymer polypropylene for the internal and external layers, mix of polypropylene and mineral loads for the intermediate layer | - |
| Fitting material | Homopolymer polypropylene + mineral charges | - |
| Seal material | SBR rubber | - |
| Colour | Fittings: Black. Pipes: Black for the intermediate and external layers, White for the internal layer. | - |
| Sizes | 32÷160 mm | - |
| Application | High and low temperature waste and drainage systems inside the building or anchored externally to the walls of the building (application area B) or laid directly in concrete; ventilation of waste systems; gravity rainwater drainage systems. | - |
| Connections | Push-fit socket connection with rubber seal. | - |
| Minimum temperature of use | -10°C | - |
| Maximum temperature of waste water | +95°C (intermittent) +80°C (continuous) | - |
| Composition of waste water | pH 2÷12 | - |
| Soundproofing performance | $L_{SC,A}$ =16 dB(A) with flow of 2 l/s, measurement performed on ground floor, behind the installation wall with 2 clips per floor | EN 14366 |
| | L_{IN} =18 dB(A) with flow of 2 l/s, measurement performed on ground floor, behind the installation wall with 2 clips per floor | DIN 4109 |
| Density at 23°C | pipes: >1100 kg/m ³ (medium thickness) pipes: > 1200 kg/m ³ (intermediate layer) fittings: > 1100 kg/m ³ | EN ISO 1183-2 |
| Melt Index 230/2.16 | < 3.0 g/10 min | EN ISO 1133 |
| Elasticity modulus | 1500 MPa | ISO 527-2 |
| Tensile strength | ≥ 20 MPa | ISO 527-2 |
| Ultimate elongation | ≥ 50% | ISO 6259-3 |
| Crystalline melting temperature | ≥ 160°C | EN 728 |
| Linear heat expansion coefficient | 0.08 mm/m·K | - |
| UV resistance | Suitable for use outdoors thanks to the presence of Carbon Black and others components | - |
| Halogen content | Halogen-free | - |
| Fire resistance | B1 | DIN 4102-1 |
| Reference construction standard | EN 1451-1 - AS7671:2003 | - |
| Packaging | Pipes in wooden frames with strapping for large diameters, in bundles tied with plastic elements for other diameters, in cardboard boxes for small diameters and reduced lengths. Fittings in cardboard boxes | - |

Application field

The Valsir BlackFire® pipes and fittings meet the requirements of the EN 1451 Standard and can be used inside buildings for residential and industrial use and in particular for the following applications:

- a) Waste systems for transporting domestic waste waters (low and high temperature).
- b) Ventilation pipes connected to the waste systems previously indicated.
- c) Rain water systems inside the structure of the building.

Followings in the European Standard EN 1451 the Valsir BlackFire® pipes are suitable for applications identified with the “B” marking that identifies pipes and fittings for use inside the building or outside, anchored to a wall.

Dimensions

The diameters, the wall thickness and the relative tolerances of the Valsir BlackFire® pipes are indicated in the following table.

Table Pipe dimensional characteristics.

| Nominal diameter DN [mm] | External diameter OD [mm] | Thickness s [mm] | Series S | Application area |
|-----------------------------|------------------------------|---------------------|----------|------------------|
| 30 | 32 $^{+0,3}_0$ | 1,8 $^{+0,4}_0$ | 16 | B |
| 40 | 40 $^{+0,3}_0$ | 1,8 $^{+0,4}_0$ | 16 | B |
| 50 | 50 $^{+0,3}_0$ | 1,8 $^{+0,4}_0$ | 16 | B |
| 70 | 75 $^{+0,4}_0$ | 2,3 $^{+0,5}_0$ | 16 | B |
| 90 | 90 $^{+0,4}_0$ | 2,8 $^{+0,5}_0$ | 16 | B |
| 100 | 110 $^{+0,4}_0$ | 3,4 $^{+0,6}_0$ | 16 | B |
| 125 | 125 $^{+0,4}_0$ | 3,9 $^{+0,6}_0$ | 16 | B |
| 150 | 160 $^{+0,5}_0$ | 4,9 $^{+0,7}_0$ | 16 | B |

Note: The tolerances indicated are specified in the reference standard EN 1451.

Connection systems

Different methods can be used for connecting the pipes and/or fittings:

- Connection with push-fit socket.
- Connection with sliding sleeve.

Approvals:

The approvals of Valsir® waste systems are available on the website: www.valsir.com

Marking

Figure Pipe marking.

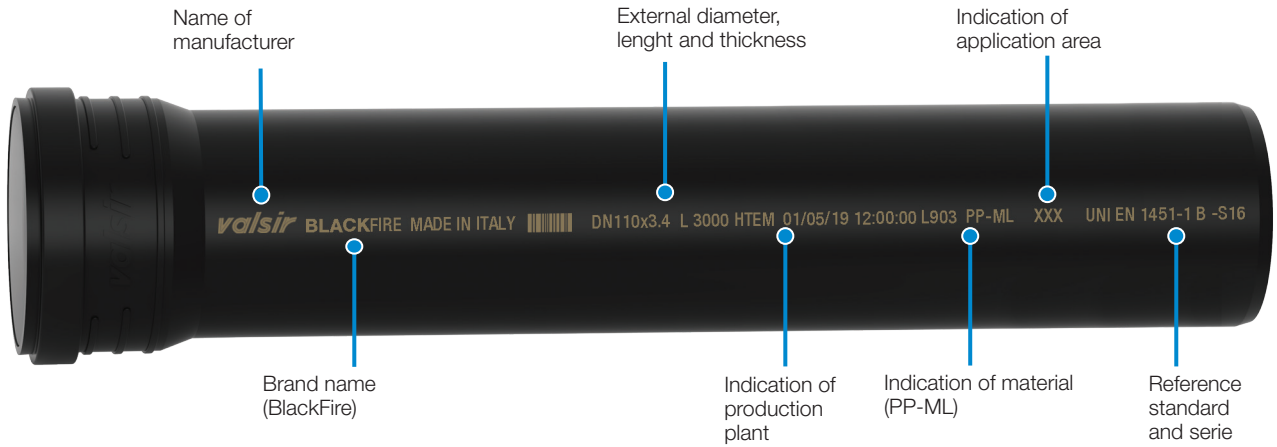
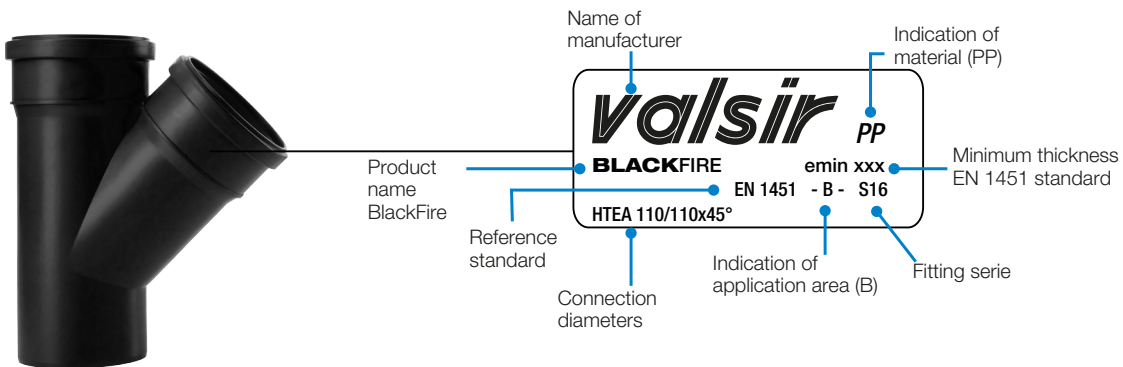


Figure Fitting marking.



PLUMBING

WASTE SYSTEMS



SUPPLY SYSTEMS



GAS SYSTEMS



FLUSH SYSTEMS



BATHROOM SYSTEMS



TRAPS



RADIANT SYSTEMS



DRAINAGE SYSTEMS



HRV SYSTEM



ACADEMY



SEWER SYSTEMS



WATER TREATMENT



BUILDING

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