TECHNICAL DATA SHEET

VALSIR® WASTE SYSTEMS

HDPE

valsir®
QUALITY FOR PLUMBING

HDPE

The product

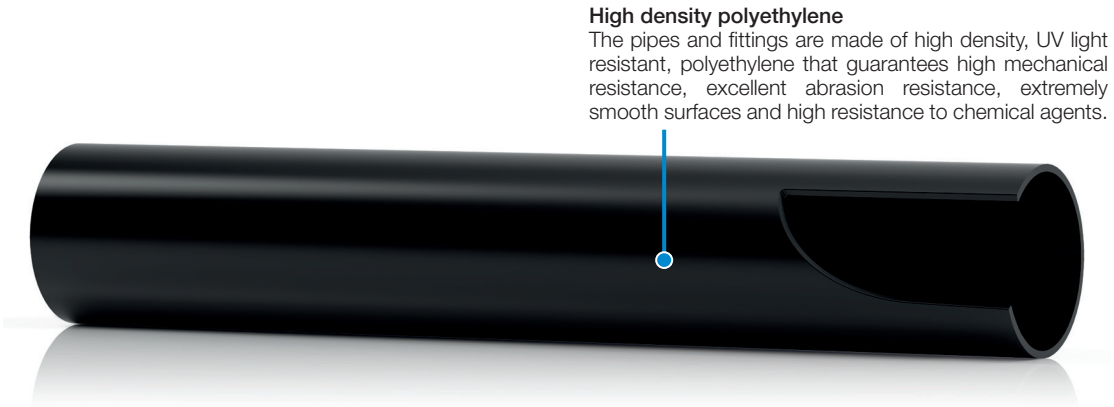
The Valsir® HDPE product line is composed of pipes, fittings and accessories to create waste and ventilation systems as well as rainwater drainage systems that operate under negative pressures.

Valsir® HDPE is suitable for above ground installations thanks to its resistance to UV rays, as well as underground installation and inside concrete.
It is widely used for waste systems inside buildings for civil and industrial usage, in hotels, hospitals, laboratories and industrial plants.

Characteristics

- Wide range of diameters from OD 32 mm to OD 315 mm and two types of wall thickness SDR 26 and SDR 33.
- Extremely fast and easy to install thanks to the light weight of the products, the numerous connection methods available and the possibility of prefabrication.
- Wide range of special fittings that allow the construction of any type of system and transition fittings for the connection to waste systems in different materials such as cast iron, PP, PVC, etc.
- High chemical resistance and excellent compatibility with the majority of substances normally present in civil and industrial waste waters. HDPE is immune from the attack by microorganisms and it is not affected by corrosion due to stray currents.
- An high abrasion resistance and an extremely smooth internal surface guarantee minimal pressure losses and the absence of deposit formation.
- The pipes are stabilized to reduce dimensional variations and are coloured with carbon black which makes the system resistant to UV rays.

Figure Layering of the pipe.



Technical details

Table Typical technical details.

Property	Value	Test method
Pipe material	High density polyethylene PE 80	-
Fitting material	High density polyethylene PE 80	-
Colour	Black	-
Diameters	32÷315 mm	-
Application	High and low temperature waste and drainage systems inside the building, externally anchored to the walls of the building (application area B) or mounted inside the building and embedded inside the structure (application area D) and or for both installations (application area DB); ventilation for waste systems; rainwater drainage systems both gravity and under negative pressure.	-
Connections	Butt welding, electrofusion welding using a sleeve coupling, push-fit method with rubber seal, mechanical joint with flange, mechanical joint with screw fitting.	-
Minimum operating temperature	-40°C (-5°C for welding)	-
Maximum temperature of waste water	+95°C (intermittent) +80°C (continuous)	-
Minimum pressure(1)	-800 mbar (SDR 26) -450 mbar (SDR 33)	-
Maximum pressure(2)	Without push-fit sockets or expansion sockets: +5 bar (SDR 26); +4 bar (SDR 33) With push-fit sockets or expansion sockets: +0.5 bar	-
Composition of waste water	pH 0÷14	-
Density at 23°C	> 945 kg/m^3	EN ISO 1183-2
Melt Index 190°C/5.0 kg	< 1.1 g/10 min	EN ISO 1133
Elasticity modulus	1000 MPa	ISO 527-2
Tensile strength	22 MPa	ISO 527-2
Ultimate elongation	≥ 350 %	ISO 6259-3
Carbon black content	≥ 2.0 %	ASTM D 1603
Thermal stability (OIT) at 200°C	≥ 20 min	EN 728
Crystalline melting temperature	≥ 130°C	EN 728
Linear heat expansion coefficient	0.20 mm/m·k	-
UV resistance	Suitable for storage outdoors as well as applications with exposure to sunlight	-
Halogen content	Halogen-free	-
Fire resistance	Class M4 Class B2 Euroclass E	NF P 92-505 DIN 4102, DIN 19535-10 EN 13501-1
Reference construction standard	EN 1519-1 - AS/NZS 5065 - AS/NZS 4401 - SN S92010 SN S92012 - DIN 19537-2 - DIN 19535-10 - NBK 8 SI 4479-1 - SANS 8770	-
Packaging	Pipes in wooden frames with strapping Fittings in cardboard boxes	-

(1) Operating conditions at 20°C valid only for rainwater drainage systems under negative pressure (Rainplus syphonic drainage systems).
(2) Maximum pressures in relation to special applications not in compliance with EN 1519 considering a safety factor SF=1.25 and temperature of 20°C.

Application field

The Valsir® pipes and fittings in polyethylene meet the requirements of the EN 1519 Standard and can be installed inside buildings destined for residential and industrial usage and in particular for the following purposes:

a) Waste pipes for domestic waste water (low and high temperature).
b) Ventilation pipes connected to the waste pipes previously indicated.
c) Discharge of rain water inside the structure of the building.

The EN 1519 Standard establishes different applications identified with a specific marking:

- The “B” marking identifies pipes and fittings used inside or outside the building but anchored to the wall. The use is limited to the S16 series, this series cannot be destined to underground applications of any type.
- The “D” marking identifies pipes and fittings underground used below the building at a distance no greater than 1 m from the same and connected to the building’s waste system.
- The “BD” marking identifies pipes and fittings destined for both uses as specified in the previous points. For this use nominal diameters equal to or greater than 75 mm belonging to the S 12.5 series, are allowed.

Dimensions

The diameters, the wall thickness and relative tolerances of the Valsir® pipes in high density polyethylene are indicated in the following table. These values are in compliance with those set by the standards currently in force.

Table Pipe dimensional characteristics.

Nominal diameter DN [mm]	External diameter OD [mm]	Thickness s [mm]	Series s	SDR	Application area
30	$32\ ^{+0.3}_{0}$	$3.0\ ^{+0.5}_{0}$	12.5/16	26/33	BD
40	$40\ ^{+0.4}_{0}$	$3.0\ ^{+0.5}_{0}$	12.5/16	26/33	BD
50	$50\ ^{+0.5}_{0}$	$3.0\ ^{+0.5}_{0}$	12.5/16	26/33	BD
56	$56\ ^{+0.5}_{0}$	$3.0\ ^{+0.5}_{0}$	12.5/16	26/33	BD
60	$63\ ^{+0.6}_{0}$	$3.0\ ^{+0.5}_{0}$	12.5/16	26/33	BD
70	$75\ ^{+0.7}_{0}$	$3.0\ ^{+0.5}_{0}$	12.5/16	26/33	BD
90	$90\ ^{+0.9}_{0}$	$3.5\ ^{+0.6}_{0}$	12.5	26	BD
100	$110\ ^{+1.0}_{0}$	$4.2\ ^{+0.7}_{0}$	12.5	26	BD
125	$125\ ^{+1.2}_{0}$	$4.8\ ^{+0.7}_{0}$	12.5	26	BD
150	$160\ ^{+1.5}_{0}$	$6.2\ ^{+0.9}_{0}$	12.5	26	BD
200	$200\ ^{+1.8}_{0}$	$6.2\ ^{+0.9}_{0}$	16	33	B
200	$200\ ^{+1.8}_{0}$	$7.7\ ^{+1.0}_{0}$	12.5	26	BD
250	$250\ ^{+2.3}_{0}$	$7.7\ ^{+1.0}_{0}$	16	33	B
250	$250\ ^{+2.3}_{0}$	$9.6\ ^{+1.2}_{0}$	12.5	26	BD
300	$315\ ^{+2.9}_{0}$	$9.7\ ^{+1.2}_{0}$	16	33	B
300	$315\ ^{+2.9}_{0}$	$12.1\ ^{+1.5}_{0}$	12.5	26	BD

Note: The tolerances indicated are specified in the reference standard EN 1519.

Connection systems

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

- Connection by butt-welding.
- Electrofusion coupling.
- Connection by push-fit socket.
- Connection by expansion sockets.
- Connection by threaded fittings.
- Connection by contraction sleeves.
- Connection by screw fittings.
- Connection by screw fittings and flange bushing.
- Connection by flanged fittings.

Approvals:

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

Marking

Figure Pipe marking.

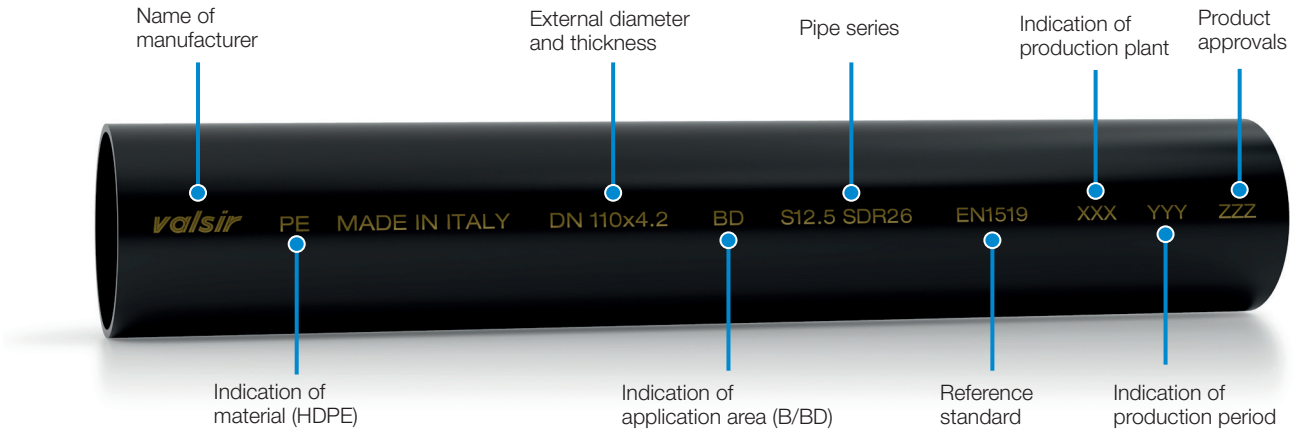
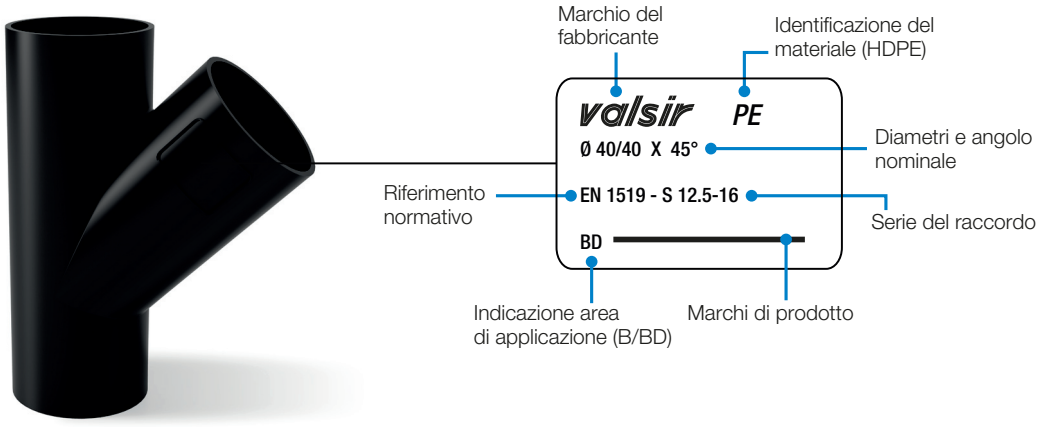


Figure Fitting marking.



PLUMBING

WASTE SYSTEMS

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QUALITY FOR PLUMBING

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