

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 and inside concrete installations. It is widely used for waste systems inside buildings for civil and industrial use, in hotels, hospitals, laboratories and industrial plants.

Features

- Wide range of diameters from Ø 32 mm to Ø 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 not attacked by microorganisms and it is not affected by corrosion due to stray currents.
- High abrasion resistance.
- Extremely smooth internal surface guarantee minimal pressure losses and the absence of deposit formation.
- The pipes are stabilized to reduce dimensional variations.
- Pipes and fittings are colored with carbon black which makes the system resistant to UV rays.

Pipe structure.



High density polyethylene

The pipes and fittings are made of high density, UV light resistant, polyethylene that guarantees high mechanical resistance, excellent abrasion resistance, extremely smooth surface and high resistance to chemical agents.

Technical details

Typical technical details.

Property	Value	Test method
Pipe material	High density polyethylene PE 80	-
Fitting material	High density polyethylene PE 80	-
Seal material ⁽¹⁾	SBR	-
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 buried in ground within the building structure (application area D) or for both installations (application area BD); ventilation for waste systems; both gravity and under negative pressure rainwater drainage systems.	-
Connections	Butt welding, welding using electrofusion coupling, push-fit method with rubber seal, mechanical joint with flange, mechanical joint with screw fitting.	-
Minimum operating temperature ⁽²⁾	-40°C	-
Maximum temperature of waste water	+95°C (intermittent) +80°C (continuous)	-
Minimum pressure ⁽³⁾	-800 mbar (SDR 26) -450 mbar (SDR 33)	-
Maximum pressure ⁽⁴⁾	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	UNI EN ISO 1183-2
Elasticity modulus	1000 MPa	ISO 527-2
Tensile strength	22 MPa	ISO 527-2
Ultimate elongation	≥ 350 %	ISO 625-3
Carbon black content	2.0-2.5 %	S14476-1
Thermal stability (OIT) at 200°C	≥ 20 min	EN 728
Crystalline melting temperature	≥ 130°C	ISO 11357-3
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 4102-1 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) Seal present on some fittings only. For most fittings, jointing is made by welding.

(2) For joint realization with both butt-welding and electrofusion coupling, the minimum permitted temperature is -5°C.

(3) Operating conditions at 20°C valid only for rainwater drainage systems under negative pressure (Rainplus® syphonic drainage systems).

(4) 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 intended for residential and industrial use and in particular for the following purposes:

- Waste pipes for domestic waste waters (low and high temperature).
- Ventilation pipes connected to the waste pipes previously indicated.
- Rainwater systems 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 buildings and outside buildings fixed onto the wall. The use is limited to the S16 series, which cannot be used for underground applications of any type.
- The “D” marking identifies pipes and fittings buried in the ground within the building structure 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 for both inside buildings and buried in the ground within the building structure. 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.

Pipe dimensional characteristics.

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

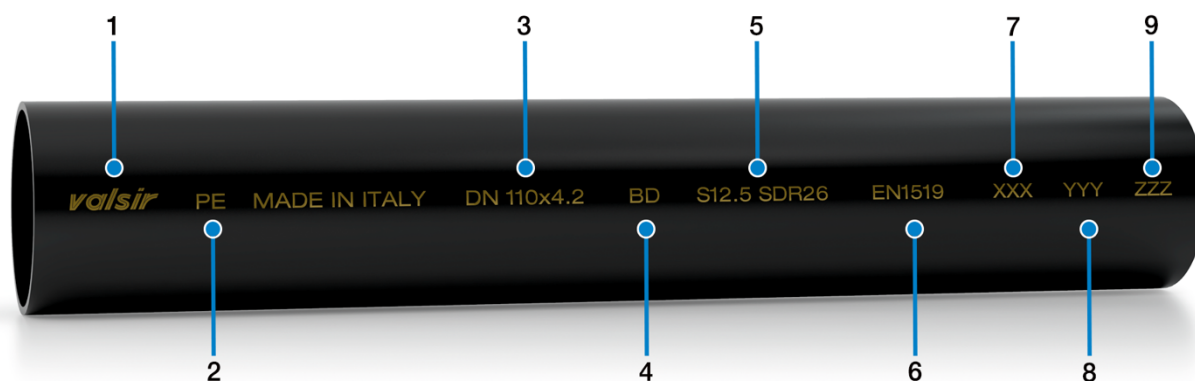
- Connection by butt-welding.
- Connection by electrofusion welding.
- Connection by push-fit socket.
- Connection by expansion socket.
- Connection by threaded fitting.
- Connection by contraction sleeve.
- Connection by screw fitting.
- Connection by screw fitting with flange bushing.
- Connection by flanged fitting.

Approvals

The approvals of Valsir high density polyethylene pipes and fittings are available on the website www.valsir.it

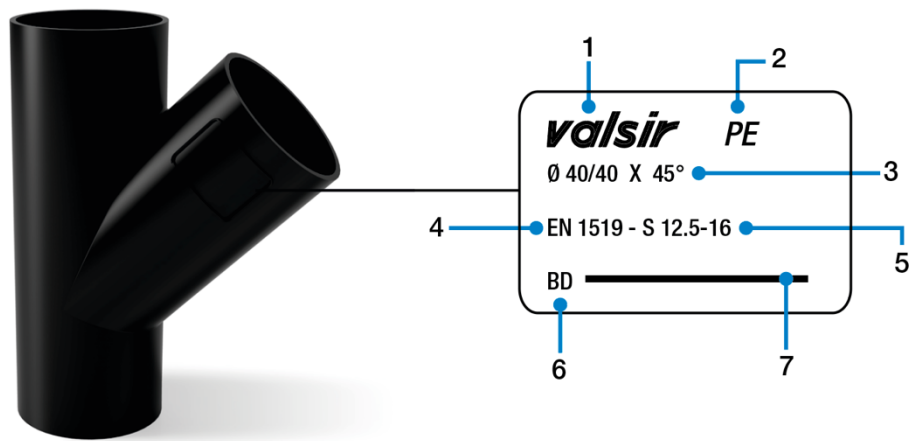
Marking

Pipe marking.



1. Name of manufacturer
2. Indication of material (HDPE)
3. External diameter and thickness
4. Indication of application area (B/BD)
5. Pipe series
6. Reference standard
7. Indication of production plant
8. Indication of production period
9. Product approvals

Fitting marking.



1. Name of manufacturer
2. Indication of material (HDPE)
3. Diameters and nominal angle
4. Reference standard
5. Fitting series
6. Indication of application area (B/BD)
7. Product approvals