

SYSTEM

ULTRASILENT™

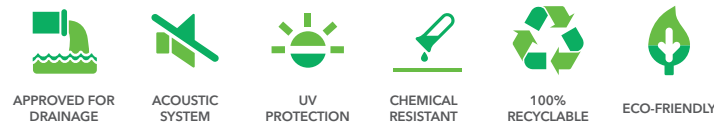
The **ULTRA SILENT™** drainage piping system is composed by three-layered PP and PP-MD pipes and fittings. The pipes intermediate layer of high density polypropylene based mix with minerals provides excellent mechanical characteristics granting excellent soundproofing performance.

ULTRA SILENT™ push-fit drainage piping system is suitable for the transportation of waste waters and other fluids with pH values from 2 to 12 and operation temperatures of 95°C continuously.

The pipe is supplied in black colour with 4 longitudinal green lines.

The fittings are composed of a PP-MD material making them shock and sound absorbing while its advanced design ensures an efficient and silent flow.

The system is suitable for external installations when protected from exposure to direct sunlight and can be stored outside up to two years.



Pipe, fittings and system certification.

ADVANTAGES AND KEY FEATURES

- EXCELLENT SOUNDPROOF PERFORMANCE
- HIGH MECHANICAL RESISTANCE
- HIGH TEMPERATURE RESISTANCE
- EASY AND SAFE INSTALLATION
- EFFICIENT DESIGN
- WIDE DIMENSIONAL RANGE
- UV PROTECTION
- LIGHTWEIGHT
- LONG LIFE EXPECTANCY
- IDEAL FOR VISUAL INSPECTIONS
- ECO-FRIENDLY
- NATIONAL AND INTERNATIONAL CERTIFICATIONS

FIXING TECHNIQUES

For anchoring **Ultra Silent™** system to walls and ceiling use steel brackets with rubber inserts approved for acoustic insulation systems.

As a general rule, straight lengths of pipe must be anchored by mean of fixed point brackets under each socket while the rest of the pipework and the fittings will be supported by sliding point brackets.

The Maximum distances between the brackets for horizontal and vertical installation are shown in the table below.

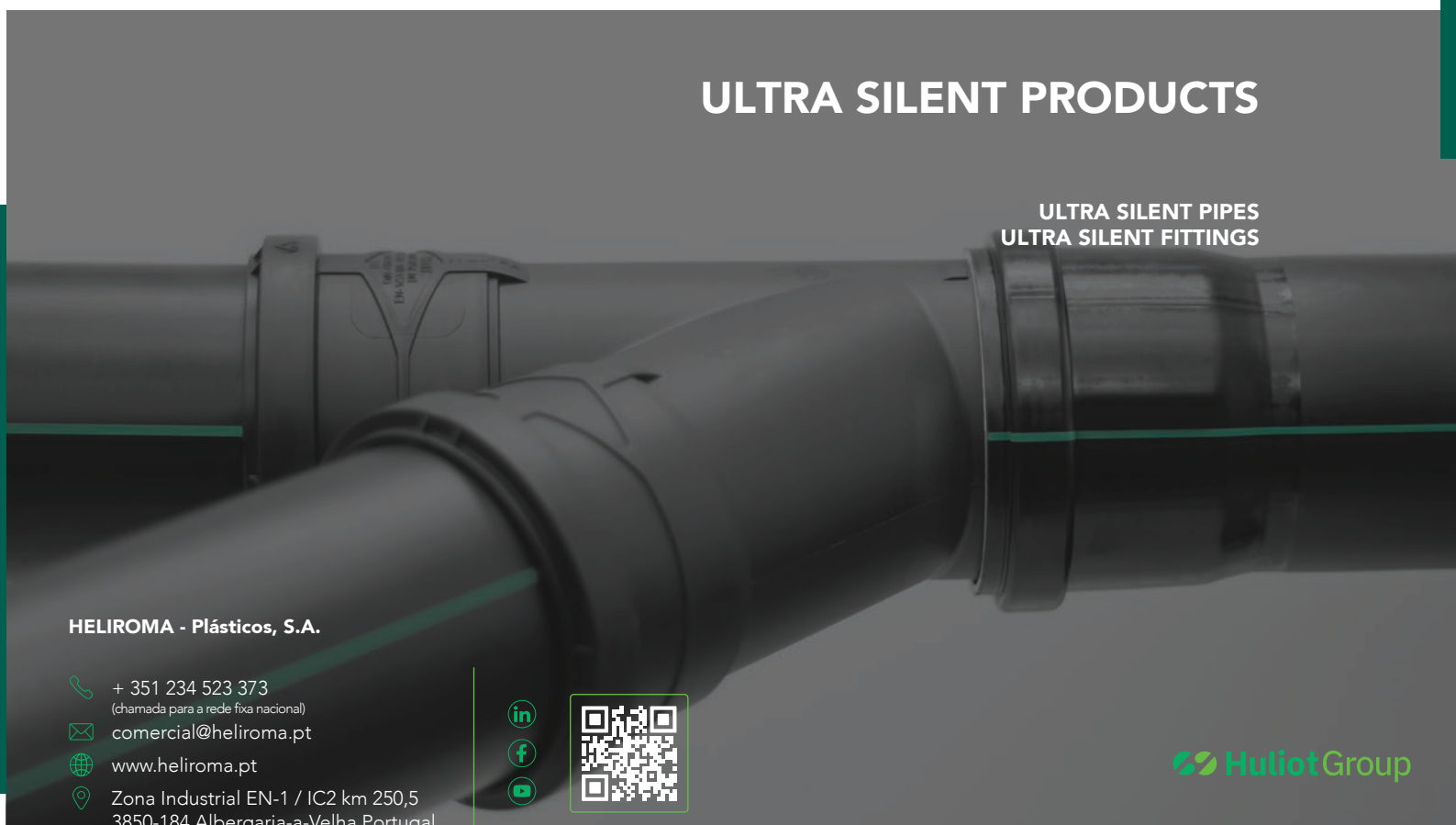
DISTANCE BETWEEN CLAMPS		
DIAMETER OF PIPE	MAX. CLAMP DISTANCE FOR HORIZONTAL INSTALLATION	MAX. CLAMPS DISTANCE FOR VERTICAL INSTALLATION
(mm)	(mm)	(mm)
32	0,80	1,50
40	0,80	1,50
50	0,80	1,50
75	1,10	2,00
90	1,40	2,00
110	1,65	2,00
125	1,85	2,00
160	2,40	2,00
200	2,40	2,00

SIZING CLAMPS		
DIAMETER OF PIPE	HANGING DISTANCE FROM THE CEILING (L)	CEILING ROD DIAMETER
(mm)	(mm)	(")
110, 125, 160, 200	Up to 0,7 meters	3/8"
	Over 0,7 meters	1/2"
	Up to 2,5 meters	
	Over 2,5 meters	3/4"

ULTRA SILENT PRODUCTS

ULTRA SILENT PRODUCTS

ULTRA SILENT PIPES
ULTRA SILENT FITTINGS



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SYSTEM

ULTRA SILENT™

PRODUCTS	DIMENSION	MATERIAL
USEM Single Socket Pipe	32; 40; 50; 75; 90; 110; 125; 160; 200	PP-MD
USDM Double Socket Pipe *	32; 40; 50; 75; 90; 110; 125	PP-MD
USB Bend 15°	32; 40; 50; 75; 90; 110; 125; 160	PP-MD
USB Bend 30° *	32; 40; 50; 75; 90; 110; 125; 160	PP-MD
USB Bend 45°	32; 40; 50; 75; 90; 110; 125; 160; 200	PP-MD
USB Bend 67,5° *	32; 40; 50; 75; 90; 110	PP-MD
USB Bend 87,5°	32; 40; 50; 75; 90; 110; 125; 160	PP-MD
USEA Branch 45°	32x32; 40x40; 50x40; 50x50; 75x50; 75x75; 90x40; 90x50; 90x90; 110x40; 110x50; 110x75; 110x90; 110x110; 125x110; 125x125; 160x110; 160x160; 200x160; 200x200	PP-MD
USEA Branch 87,5°	32x32; 40x40; 50x40; 50x50; 75x50; 75x75; 90x50; 110x50; 125x125; 160x160	PP-MD
USEA Swept Branch 87,5°	90x90; 110x75; 110x90; 110x110; 125x110; 160x110	PP-MD
USED Corner Branch 87,5°	110x110; 125x110; 160x110	PP-MD
USDA Double Branch 67,5°	110x50; 110x110	PP-MD
USDA Double Branch 87,5°	110x110	PP-MD
USRE Inspection Pipe	50; 75; 90; 110; 125; 160; 200	PP-MD
USMM Double Socket	32; 40; 50; 75; 90; 110; 125; 160; 200	PP-MD
USU Sleeve *	32; 40; 50; 75; 90; 110; 125; 160; 200	PP-MD
USLL Long Socket *	50; 75; 90; 110; 125; 160	PP-MD
USSW Technical Bend / Siphon Connector	32x46; 40x46; 40x50; 50x50	PP-MD
USSWL Long Technical Bend / Siphon Connector	40x46; 40x50	PP-MD
USR Reducer	40x32; 50x32; 50x40; 75x50; 90x40; 90x50; 90x75; 110x40; 110x50; 110x75; 110x90; 125x110; 160x110; 160x125; 200x160	PP-MD
USS Straight Fitting / Siphon Connector	32x46; 40x46; 40x50	PP-MD
USR Rubber Gasket	26/32x46; 40x46; 26/32x50; 40x50	PP-MD
USM End Cap	40; 50; 75; 90; 110; 125; 160; 200	PP-MD
USSBL Long Wc Bend	90; 110	PP-MD
Acoustic Clamp	110; 125; 160*	PP-MD
Lock Seal™	75; 90; 110; 125; 160*; 200*	PP-MD
End Lock™	110; 125; 160*; 200*	PP-MD
Pressure Clamp™	110	PP-MD
Ultra Seal™	110; 125; 160*	PP-MD

* Available on demand;



PHYSICAL AND MECHANICAL PROPERTIES

PARAMETER	VALUE
Density - Pipes	1,3-1,4 g/cm ³
Density - Fittings	1,18-1,25 g/cm ³
Seal Material	SBR-NR, NBR, EPDM
Colour	Black
Inside Colour	White
Area of Application	BD
Elasticity Modulus	2.300 - 3.000 N/mm ²
Ring Stiffness	SN16 (6,0 kN/m ²)
Thermal Expansion Coefficient	0,09 mm/m C°
Minimum Working Temperature	-25°C
Waste Water Temp. (Max.) Continuous	+95°C
Waste Water Temp. (Max.) Discontinuous	+98°C
Fire Resistance	D-s2,d2 I B2
Chemical Resistance	pH 2 to pH 12
Halogen & Cadmium Content	Free of halogen or cadmium
Acoustic Performance (EN 14366)	L _{sc,A} = 15 dB(A) at 2 L/s

ACOUSTIC PERFORMANCE

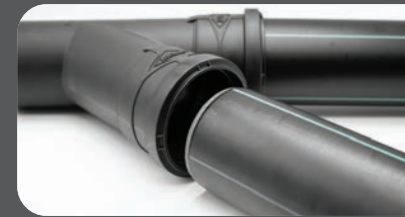


The soundproof performance of the waste system is measured according to the European Standard EN 14366 with additional evaluation for comparison with requirements following German standards DIN 4109:2018 and VDI 4100:2012.

SOUND LEVEL SUMMARY RESULTS (P-BA 20/2019e)					
		FLOW RATE (L/s)			
		0,5	1,0	2,0	4,0
Wastewater system "ULTRA SILENT", D 110x3,4, PP ML MD - S16					
Airborne sound pressure level L _{p,A} [dB(A)] acc. to EN 14366 for the basement test-room	UG front	43	49	52	54
Structure-borne sound characteristic level L _{sc,A} [dB(A)] acc. to EN 14366 for the basement test-room	UG rear	<10	11	15	20
Installation sound level L _{A,req,n} [dB(A)] following DIN 4109 in the basement test-room	UG front	43	49	52	54
	UG rear	<10	15	19	24
Installation sound level L _{A,req,NT} [dB(A)] following VDI 4100 in the basement test-room	UG front	40	47	49	52
	UG rear	<10	12	16	21

It is advised that the measured value at a volumetric flow of 2 L/s should be the one used for comparison as it approximately equates to the mean volumetric flow of a WC flush. According to the Fraunhofer Institute for Building Physics IBP guidelines, for a proper assessment of the measurement results, only test reports published after 2014 should be used.

Ultra Silent™
Installation and Assembly



PUSH FIT CONNECTION



TOOLS

STANDARDS

EN 1451-1

Polypropylene (PP) piping systems for soil and waste discharge (low and high temperature) within the building structure.

EN 14366

Laboratory measurement of noise from wastewater installations.

ISSO 7671

Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings - Polypropylene.

HR 3.43

Drainage and Sewerage Pipes and Fittings made of PP with Mineral Modifiers within the Building Structure.

SI 14020

Environmental Labels and Declarations – General Principles, the requirements set in the specific relevant standards, and by the Green Label Board.