ATLANTA INDUSTRIES

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ATLANTA HDPE SOVENT

SOIL & VENTILATION STACK PIPING SYSTEM

The Intelligent Soil and Ventilation Stack Piping System.

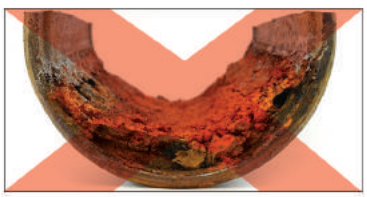
Zero Maintenance • Lower Noise • Mix Soil and Ventilation • Quick Drain • Economical

Atlanta Sovent HDPE is highly suitable for all types of drainage including above ground, below ground and chemical waste. Can be use for residential or industrial Construction, for laboratories, conventionally installed or prefabricated, embedded in concrete or underground.

ADVANTAGE

Economical

Atlanta Sovent HDPE pipe weighs considerably less than pipes made from conventional materials. Typically, it is only ¼ to 1/10 the weigh of cast iron, steel or concrete pipe used for same service. This affords significant savings in transportation and installation by reducing manpower and equipment need to a minimum.



Zero Maintenance

Atlanta Sovent HDPE piping has replaced steel, stainless steel, cast iron and concrete piping where chemical or corrosion resistance is required. It is resistant to attack by acids, bases, salt and many hydrocarbon materials. In addition, even the most aggressive soil will not corrode the pipe.

Mixed Soil and Vent

Atlanta Sovent HDPE is fully integrated in to a single drainage system. It is flexible and operationally reliable drainage system, even in soils in which a certain degree of settling of ground must be anticipated. The versatility of the system makes it suitable for soil and waste stacks, vent pipe, connection and branch pipes, collectors pipes, ground pipes, and domestic drainage pipes.

Quick Drain

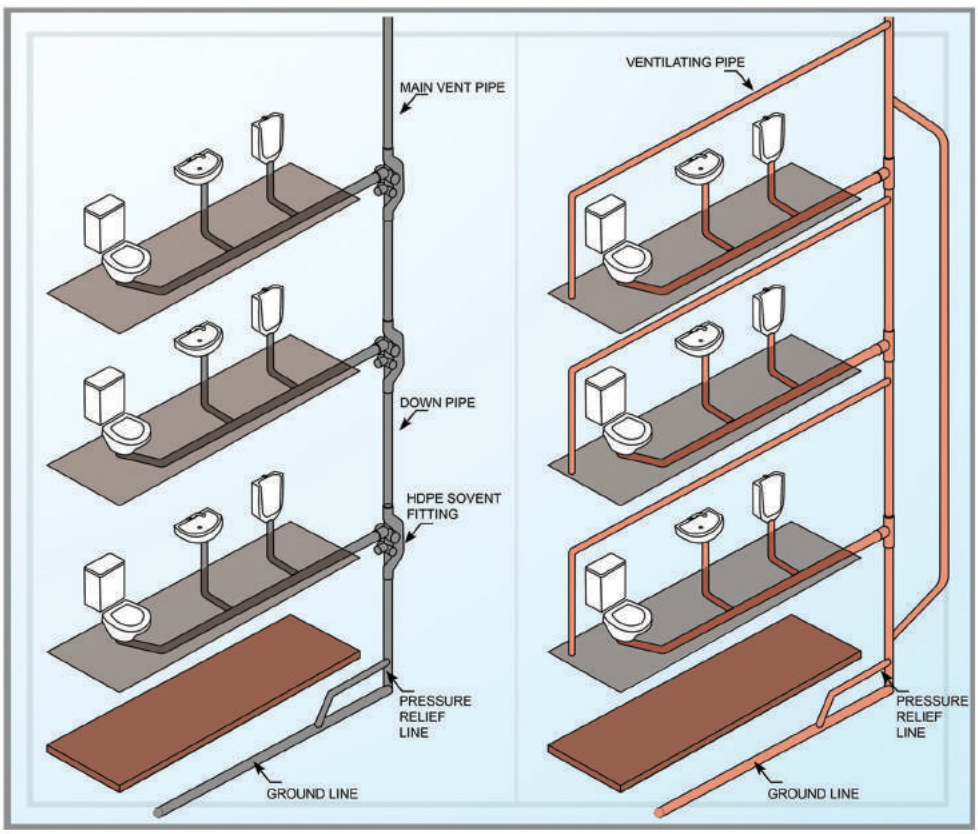
Atlanta Sovent HDPE has smooth inside pipe surface allows for a high Hazen–Williams "C" factor. "C" remains constant throughout the lifetime of the system due to an innate high resistance to scale and biological build up. Polyethylene (PE) is also biologically inert. Excellent water hammer characteristics to with stand surges: The inherent properties of polyethylene allow the system to significantly lower the effect of surges compared to PVC and ductile iron systems.

Lower Noise

Noise from DWV pipe in wall cavities adjacent to living rooms, dining rooms and bedrooms can be annoying when wastewater is discharged into the drainpipe from upper floors. In the past, the only sensible option to reduce sound was to use cast iron in place of PVC plastic pipe.

	Atlanta HDPE Sovent Pipe	Cast Iron Pipe	PVC Pipe
Base Meter Setting	70 db	70 db	70 db
Meter Reading	+3 db	+2 db	+6 db
Sound Level	67 db	72 db	76 db
	Registered the Lowest Noise Level	3.2 Times greater noise than Atlanta HDPE Sovent	8 Times greater noise than Atlanta HDPE Sovent

The Innovative Soil and Waste Drainage System



Sovent System **Conventional Ventilated System**

The Aerator Fittings is characterized by the most common stack size of 110mm (4") in diameter, and could reach a capacity of up to over 710 apartments per stack.

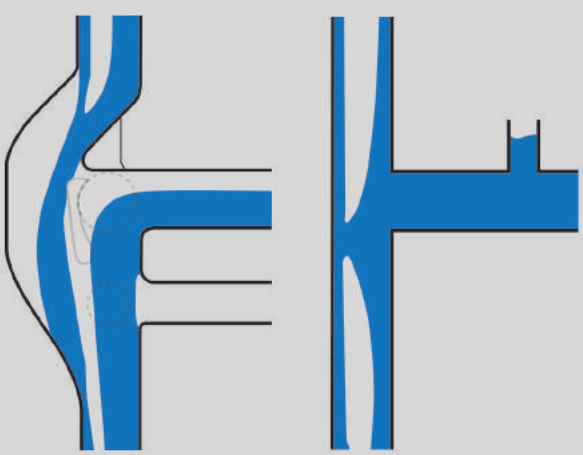
Sovent System

With the Atlanta Sovent Aerator Fitting, the vent pipe can be easily managed by using only one fitting on each floor level. Which means there is no additional ventilation pipe necessary.

Conventional Ventilated System

Each sanitary fittings has an additional vent pipe connected which will have more installation time, more material cost and larger pipe ducts.

Performance of the Sovent Aerator Fitting



Atlanta Sovent Aerator **Conventional Ventilated System**

Performance of the Sovent Aerator Fitting

With the formation of hydraulic plug in the stack by the inflowing water from a branch, conventional stacks can be easily overloaded with negative pressures, exceeding the tolerable limits and traps losing the water seal.

The Aerator Fittings is designed to:

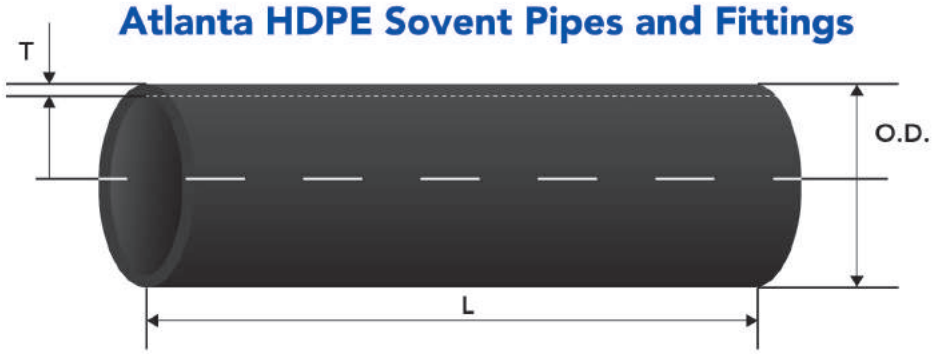
- Better lateral water-flow in the branch, which prevents the accumulation plug of water in the stack.
- It effectively & efficiently mix the waste flowing in the branches with the water/air-flow in the stack.
- Assures the ventilation to every branch pipes
- Controls the speed of flow in both air and liquid in the stack.
- Prevents the penetration of any water or debris into the branches.
- Multiple and flexible jointing possibilities in one fitting.

Rules of Application

Stack O.D / I.D.Ø [mm]	Max Permitted Numbers			Max. expected simultaneous flow rate Qs [l/s]
	Design Units (DU) per stack	WC		
		per stack	per storey	
110/100	300	approx. 70	8	8.7

The Sovent Aerator fittings have proven their performance in High-Rise Buildingsup to 50 floors all over the world.

Atlanta HDPE Sovent Pipes and Fittings



Specification: ISO 3633 / ISO 4435 **Color:** Black **Jointing Method:** Butt Fusion and Electrofusion

Nominal Size (in)	Outside Diameter (mm)	Inside Diameter (mm)	Standard Length (mm)	Thickness (mm)	SDR
2	63	57	5000	3	21
2-1/2	75	69	5000	3	25
3	90	83	5000	3.5	26
4	110	101.4	5000	4.3	26
6	160	147.6	5000	6.2	26
8	200	187.6	5000	6.2	32
10	280	233	5000	9	31
12	315	296	5000	11	29

Physical Properties of Atlanta Sovent HDPE Piping System

Property	ASTM Test	Value
Destiny, GMS/CC	D 1505	0.955
Melt Flow (Condition F), MS/10 Min.	D 1238	1.5
Environmental Stress Cracking Resistance, (Hrs.) Condition A, B & C	D 1693	>1500 No Failures
Tensile Strength, Yield, PSI		
20 In./Min.	D 638	4800
2 In./Min.	Die IV	3200
Elongation, %I		
2 In./Min.		>600
Impact Strength, Ft. Lbs./In. Notch		
Specimen Thickness		
0.250 Inch	D 256	7
0.125 Inch		12
Vicat Softening Temperature, °F	D 1525	257
Brittleness Temperature, °F	D 746	180
Thermal Conductivity, BTU, In./Ft./Hrs. °F	C 177	3.7
Flexural Modulus, PSI	D 790	140M
Modulus of Elasticity, PSI	D 638	100M
Hardness, Shore D	D 2240	65
Coefficient of Linear Thermal Expansion In./In./°F	D 696	1.2 x 10

ELBOW 90°

Size (in.)	Size (mm)
1-1/2	50
1-3/4	56
2	63
2-1/2	75
3	90
4	110
5	125
6	160
8	200
10	250
12	315

EXPANSION JOINT

Size (in.)	Size (mm)
1-1/2	50
2	63
2-1/2	75
3	90
4	110
5	125
6	160
8	200
10	250
12	315

RING SEAL ADAPTER

Size (in.)	Size (mm)
2	63
3	90
4	110
6	160
8	200
10	250
12	315

ELBOW 45°

Size (in.)	Size (mm)
1-1/2	50
1-3/4	56
2	63
2-1/2	75
3	90
4	110
5	125
6	160
8	200
10	250
12	315

TEE

Size (in.)	Size (mm)
1-1/2	50
2	63
2-1/2	75
3	90
4	110
6	160

FLANGE ADAPATOR/ STUB END

Size (in.)	Size (mm)
1-1/2	50
1-3/4	56
2	63
2-1/2	75
3	90
4	110
5	125
6	160

ELBOW 90° LONG

Size (in.)	Size (mm)
2	63
2-1/2	75
3	90
4	110
6	160
8	200
10	150
12	315

ACCESS CAP

Size (in.)	Size (mm)
1-1/2	50
2	63
2-1/2	75
3	90
4	110
5	125
6	160
8	200

ACCESS TEE

Size (in.)	Size (mm)
1-1/2	50
2-1/2	63
3	75
4	90
5	110
6	160

TEE REDUCER

Size (in.)	Size (mm)
1-1/2 x 1-1/4	50 x 40
1-3/4 x 1-1/2	56 x 50
2 x 1-1/2	63 x 50
2 x 1-3/4	63 x 56
2-1/2 x 1-1/2	75 x 50
3 x 1-3/4	90 x 56
3 x 2-1/2	90 x 75
4 x 1-1/2	110 x 50
4 x 2	110 x 63
4 x 2-1/2	110 x 75
4 x 3	110 x 90
5 x 1-3/4	125 x 56
6 x 4	160 x 110

ELECTRO COUPLING

Size (in.)	Size (mm)
1-1/2	50
1-3/4	56
2	63
2-1/2	75
3	90
4	110
5	125
6	160
8	200
10	250
12	315

FLOOR GULLY TRAP

Size (in.)	Size (mm)
4 x 2-1/2 x 1-1/2	107.10 x 75 x 50

AERATOR

Size (in.)	Size (mm)
4	110
6	160

DOUBLE BALL BRANCH 90°

Size (in.)	Size (mm)
4 x 4	110 x 110
4 x 6	110 x 160

90° ELBOW WITH ACCESS

Size (in.)	Size (mm)
1-1/2	63
2	75
2-1/2	90
3	110
4	160
5	200
6	250
8	315

DOUBLE Y BRANCH

Size (in.)	Size (mm)
4 x 4	110 x 110

DOUBLE BALL BRANCH 180°

Size (in.)	Size (mm)
4 x 4	110 x 110
4 x 6	110 x 160

DOUBLE BALL BRANCH 135°

Size (in.)	Size (mm)
4 x 4	110 x 110
4 x 6	110 x 160

WYE

Size (in.)	Size (mm)
1-1/2	50
1-3/4	56
2	63
2-1/2	75
3	90
4	110
5	125
6	160
8	200
10	250
12	315

SWEPT ENTRY TEE

Size (in.)	Size (mm)
1-1/2 x 1-1/2	50 x 50
1-3/4 x 1-3/4	56 x 56
2 x 1-1/2	63 x 50
2 x 1-3/4	63 x 56
2 x 2	63 x 63
2-1/2 x 1-1/2	75 x 50
2-1/2 x 1-3/4	75 x 56
2-1/2 x 2-1/2	75 x 75
3 x -1-1/2	90 x 50
3 x 2-1/2	90 x 75
4 x 1-1/2	110 x 50
4 x 1-3/4	110 x 56
4 x 2-1/2	110 x 75
4 x 4	110 x 110
5 x 4	125 x 110
6 x 4	160 x 110
6 x 6	160 x 160
8 x 4	200 x 110

WYE REDUCER

Size (in.)	Size (mm)
2 x 1-1/2	63 x 50
2 x 1-3/4	63 x 56
2-1/2 x 1-1/2	75 x 50
2-1/2 x 1-3/4	75 x 56
3 x 1-1/2	90 x 50
3 x 2	90 x 63
3 x 2-1/2	90 x 75
4 x 1-1/2	110 x 50
4 x 1-3/4	110 x 56
4 x 2	110 x 63
4 x 2-1/2	110 x 75
4 x 3	110 x 90
5 x 2	125 x 63
5 x 2-1/2	125 x 75
5 x 3	125 x 90
5 x 4	125 x 110
6 x 2-1/2	160 x 75
6 x 3	160 x 90
6 x 4	160 x 110
6 x 5	160 x 125
8 x 2-1/2	200 x 75
8 x 3	200 x 90
8 x 4	200 x 110
8 x 5	200 x 125
8 x 6	200 x 160
10 x 2	250 x 63
10 x 3	250 x 90
10 x 4	250 x 110
10 x 5	250 x 125
10 x 6	250 x 160
10 x 8	250 x 200
12 x 4	315 x 110
12 x 5	315 x 125
12 x 6	315 x 160
12 x 8	315 x 200
12 x 10	315 x 250

CONCENTRIC REDUCER

Size (in.)	Size (mm)
2 x 1-1/2	63 x 50
2-1/2 x 1-1/2	75 x 50
2-1/2 x 2	75 x 63
3 x 1-1/2	90 x 50
3 x 2	90 x 63
3 x 2-1/2	90 x 75
4 x 1-1/2	110 x 50
4 x 2	110 x 63
4 x 2-1/2	110 x 75
4 x 3	110 x 90
5 x 1-1/2	125 x 50
5 x 2	125 x 63
5 x 2-1/2	125 x 75
5 x 4	125 x 110
6 x 3	160 x 90
6 x 4	160 x 110
6 x 5	160 x 125
8 x 4	200 x 110
8 x 5	200 x 125
8 x 6	200 x 160
10 x 4	250 x 110
10 x 5	250 x 125
10 x 6	250 x 160
10 x 8	250 x 200
12 x 4	315 x 110
12 x 5	315 x 125
12 x 6	315 x 160
12 x 8	315 x 200
12 x 10	315 x 250

ECCENTRIC REDUCER

Size (in.)	Size (mm)
1-1/2 x 1-1/4	50 x 40
1-3/4 x 1-1/2	56 x 50
2 x 1-1/2	63 x 50
2 x 1-3/4	63 x 56
2-1/2 x 1/2	75 x 20
2-1/2 x 1-1/2	75 x 50
2-1/2 x 1-3/4	75 x 56
2-1/2 x 2	75 x 63
3 x 1-1/2	90 x 50
3 x 1-3/4	90 x 56
3 x 2	90 x 63
3 x 2-1/2	90 x 75
4 x 1-1/2	110 x 50
4 x 1-3/4	110 x 56
4 x 2	110 x 63
4 x 2-1/2	110 x 75
4 x 3	110 x 90
5 x 1-1/2	125 x 50
5 x 1-3/4	125 x 56
5 x 2	125 x 63
5 x 2-1/2	125 x 75
5 x 3	125 x 90
5 x 4	125 x 110
6 x 3	160 x 90
6 x 4	160 x 110
6 x 5	160 x 125
8 x 4	200 x 110
8 x 5	200 x 125
8 x 6	200 x 160
10 x 5	250 x 125
10 x 6	250 x 160
10 x 8	250 x 200
12 x 8	315 x 200
12 x 10	315 x 250

S-TRAP WITH ACCESS

Size (in.)	Size (mm)
2	63
3	90
4	110

S-TRAP

Size (in.)	Size (mm)
2	63
3	90
4	110

P-TRAP WITH ACCESS

Size (in.)	Size (mm)
2	63
3	90
4	110

SIPHONIC OUTLET

Size (in.)	Size (mm)
1-3/4	56
2	63
2-1/2	75
3	90
4	110
5	125

VENT CAP

Size (in.)	Size (mm)
3	90
4	110
6	160

U-TRAP

Size (in.)	Size (mm)
1-1/2	50
2-1/2	75
4	110

VERTICAL PIPE CLIP

Size (in.)	Size (mm)
2	63
2-1/2	75
3	90
4	110
6	160
8	200
10	250
12	315

ELECTRO FUSION ANCHOR STRIP

Size (in.)	Size (mm)
1-1/2	50 (160±5)
1-3/4	56 (180±5)
2	63 (200±5)
2-1/2	75 (240±5)
3	90 (290±5)
4	110 (350±5)
5	125 (400±5)
6	160 (510±5)
8	200 (635±5)
10	250 (510±5)
12	315 (635±5)

HDPE Welding Machines - Electro Fusion

MUSTANG 160 V1

Technical Features	
Working Range	Ø32 - Ø160mm
Power Supply	230V Single Phase - 50/60 Hz
Maximum Output Current	4.9A
Maximum Absorbed Power	900W
Dimensions Machine (WxDxH)	75 x 180 x 230mm
Dimensions Carrying Case (WxDxH)	220 x 450 x 180mm
Weight Machine	2.5 kg
Weight with Carrying Case	5 kg

SUPPLIED WITH - Welding Machine complete with Cables with Pins, Transport Case and Manual Scraper

UNIVERSAL 315 V1

Technical Features	
Working Range	Ø20 - Ø315mm with option cables
Power Supply	230V - Single Phase 50/60 Hz
Maximum Absorbed Power	2470W
Dimensions Machine (WxDxH)	255 x 180 x 110mm
Dimensions Carrying Case (WxDxH)	440 x 220 x 180mm
Weight	3.4 kg
Overall Weight	7.2 kg

HDPE Welding Machines - Butt Fusion

MAXI 315

Technical Features	
Working Range	Ø90 - Ø315mm
Power Supply	230V - Single Phase 50/60Hz
Total Absorbed Power	3705W
Working Temperature	180 - 280°C
Time to Reach Welding Temperature	~20mm
Materials	HDPE, PP, PB, PVDF
Dimension (WxDxH)	1420 x 1300 x 1570mm
Weight	184kg

SUPPLIED WITH
- *Machine Body with a milling cutter and lateral supports*
- *TP 315 TE Plate*
- *R ight and Left Clamp Ø315*
- *Steel Frame on Wheels (for Transporting and for use as a work bench)*
- *Wooden case with clamps and lateral supports adapters Ø200 and 250mm (Ø90 to 280mm on request) and service spanner)*

MINI 160 AC

Technical Features	
Working Range	Ø40 - Ø160mm
Power Supply	230V - Single Phase - 50/60Hz
Total Absorbed Power	1850W
Dimen sion (WxDxH)	525 x 470 x 710mm
Weight	50.60kg

SUPPLIED WITH
- *Machine body with a milling cutter, lateral supports and service spanners*
- *TP 200 TF Plate*
- *Right Clamp Ø160mm*
- *Left Clamp Ø160mm*
- *Frame*
- *Steel case with adapters for clamps and lateral supports Ø40 - 125mm (Ø 56 and 140mm on request)*

Jointing Method

Butt-Welding Guide

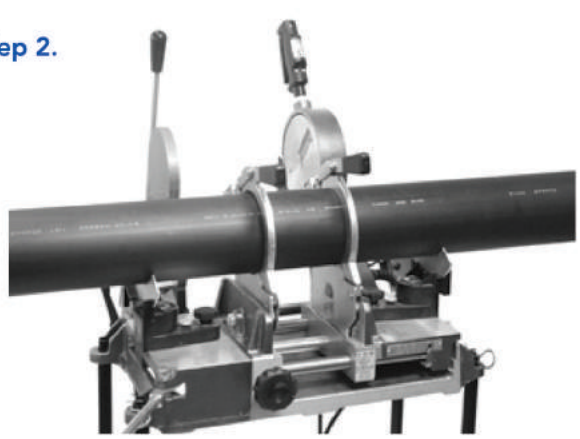
Butt-welding is a very economical jointing technique. Correctly made butt-welds reach the strength of the pipe. Well-trained personnel are recommended for making butt-welds.

In butt welding, two pipe ends, two fitting ends or a pipe end and a fitting end are bonded by melting the circular pipe faces simultaneous and pressing these together. Butt-welding can only be performed using a butt-welding machine.

The Butt-Welding Procedure incorporates the following 15 steps:

1.) Check environmental conditions.
When the outside temperature is below 5°C and/or during rainy and windy conditions, special precautionary measure have to be taken to ensure dry and sufficiently warm welding conditions.

Step 2.



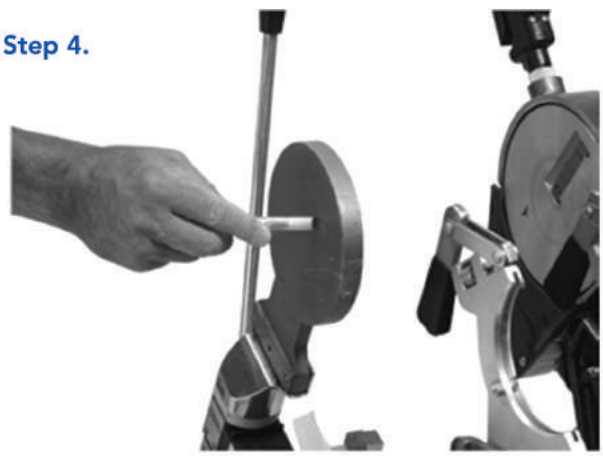
2.) Check welding machine is in good functional order.
At least the following issues should be checked: temperature, alignment, play of the moving parts, smooth movement of the moving parts, electrical connections, cutting machining plane (sharpness).

3.) Clean heater plate with PE cleaner and a soft cloth
Prevent any damage of the Teflon coating.

Step 3.

4.) Check temperature heater plate on 210°C.

Step 4.

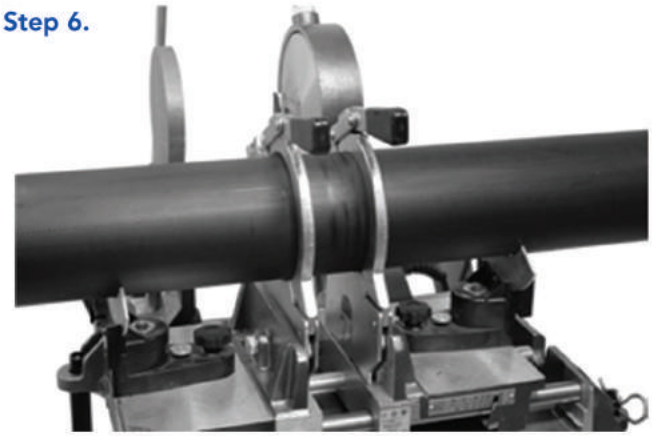


5.) Cut pipe to required length.
Note: Take into account that in the welding process a few millimeters pipe will be consumed. Best practice is to use a rotary pipe cutter. The pipe ends are then square and free from burrs. If a saw is used, it is advised to use a spare clamp as a sawing guide. Such cut pipe ends must be de-burred before placing in the welding machine.

Step 5.

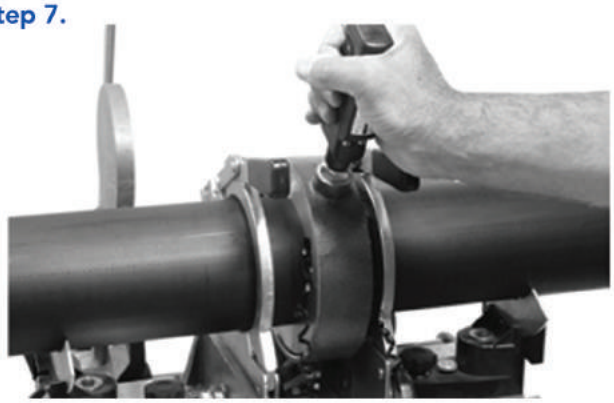
6.) Clamp both pipe-ends in the welding machine and ensure correct alignment.
Eliminate any bending forces if present.

Step 6.



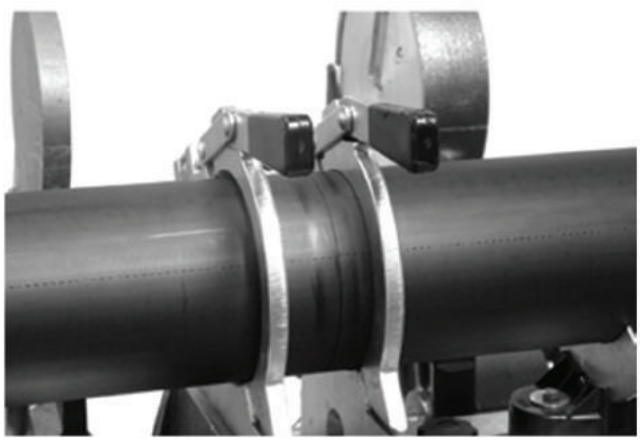
7.) Trim both pipe-ends using the planer.
Keep planer running while slowly reducing pressure. Do not stop planer when still in contact with pipe ends in order to prevent uneven surfaces.

Step 7.



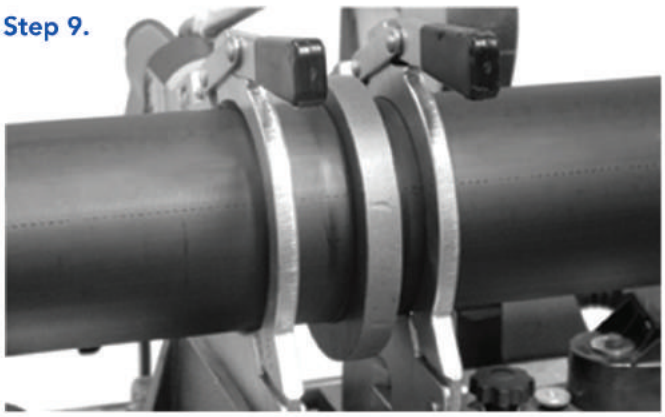
8.) Check that pipe ends are matching.
If not correct either re-clamp pipes (alignment) and/or repeat trimming. After re-clamping it is necessary to trim the pipe-end again with a planer.

Step 8.



9.) Insert heater plate and press both pipe ends during a few seconds with a higher force on the plate for ensuring full contact.

Step 9.



10.) Reduce force until nearly zero, assuring contact with heater plate so that heat is soaked into both pipe ends.

11.) Maintain heat soaking till a bead is formed of approximate 1mm for diameters 40 up to 200 and 1.5mm or diameters 250 and 315mm.
Use the figures mentioned in table 2 as guidance for the heat soaking duration.

12.) After heating time is elapsed, quickly open the welding machine, remove the heater plate and close immediately.
This part of the welding operation must be kep as short as possible in order not to loose too much heat!

Step 12.

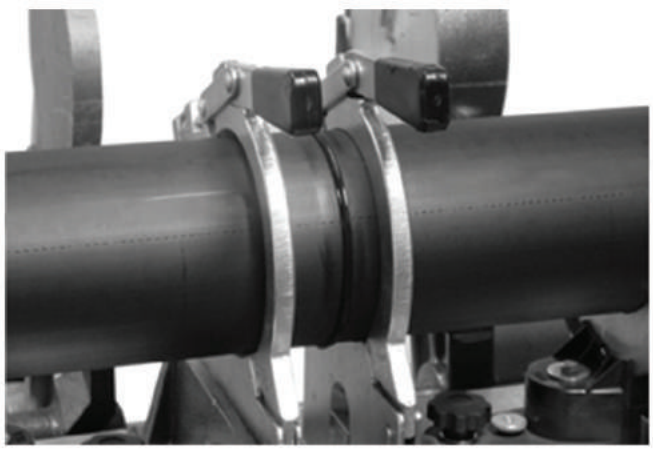


Table 1. Guidance of the heat soaking duration (in seconds) for butt-welding.

Diameter	40	50-110	125	160	200	250	315
Time(s)	30	40	60	80	100	140	170

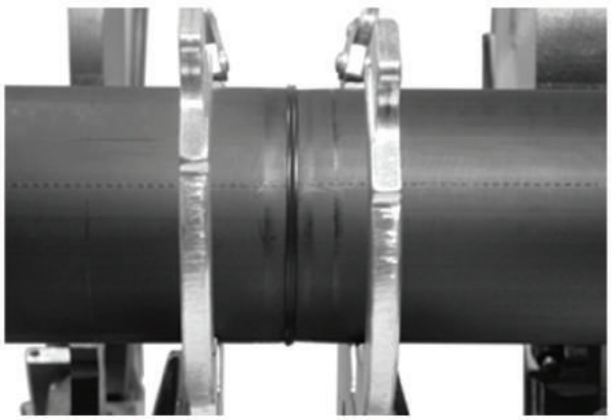
Table 1a. Guidance of the minimum cooling time (in seconds) for butt-welding at 20°C.

Diameter	40-75	90	110	125	160	200	250	315
Time(s)	60	70	80	100	120	200	280	340

13.) Slowly apply welding force and maintain for required cooling time according to table 1a.

14.) Inspect weld bead for evenness.
Uneven weld beads indicate incorrect alignment or out of roundness. Large welds beads could be caused by either too high heater temperature and/or too high welding force. A small weld bead could be caused by a too low heater temperature and/or too low welding force. In both cases the weld should be rejected due to reduced strength.

Step 14.



15.) Remove welded joint from the welding machine after cooling time is elapsed.
The joint need to be kept free from any loads within 5 minutes after the cooling time is elapsed.

If the above steps are followed correctly, the above mentioned four basic requirements shoul be fully met.

Electro Fusion

Electro fusion couplers are fitted with a resistance wire. Heat should be applied to the welding zones using appropriate welding equipment. The polyethylene expands during the fusion process. This expansion ensures that the necessary welding pressure is generated. Wavin welding equipment automatically supplies the precise amount of heat required for a perfect weld.

General

With wet and cold conditions on site, take special precautions in order to create a working environment that is sufficiently dry and warm.

When installing the system, the maximum acceptable temperature range is -10°C to +40°C.

Electro fusion jointing procedure:

1.) Clean pipe roughly in the circumferential direction, cut precisely square with pipe cutter and deburr edges. Cut off obvious reversed pipe ends.

2.) Check fusion ends with a circumferential measuring tape before and after peeling operation. Adhere to standards and specifications (EN 12666-1). (See Table 2).

3.) Measure the length of the coupler with a measuring stick to calculate the peeling length. Formula for peeling length: (coupler length / 2) + 10mm. In case of use as a sliding coupler or repair coupler the peeling length is equal to the length of the coupler. Remove center stop with a knife.

4.) Measure area which must be peeled with a measuring stick on the pipe and mark with a permanent marker.

Step 3.

Step 4.

5.) Peel pipe with a rotary peeler or hand scraper past the marking. Do not use sand paper. Ensure that the complete surface of the peeling area is peeled sufficiently. Minimum peeling thickness of 0.2 mm. (See Table 2).

6.) Clean the peeled area of the pipe with PE cleaner using a clean, lint-free, colorless cloth in circumferential direction and let the cleaner evaporate.

7.) Always mark the insertion depth with a permanent marker on the pipe. Formula for insertion depth: (coupler length / 2).

8.) Clean the inside of the electro fusion coupler with PE cleaner using a clean, lint-free, colorless cloth in circumferential direction and let the cleaner evaporate until coupler is free of residues.

Step 5.

Step 6.

Step 7.

Step 8.

9.) Proper marking allows complete control over fully inserting the pipe and movements of pipe and fittings during the welding process.

10.) Ensure a low stress installation. Secure pipe and electro fusion coupler against movements. If appropriate, use pipe clamps to hold the system in place.

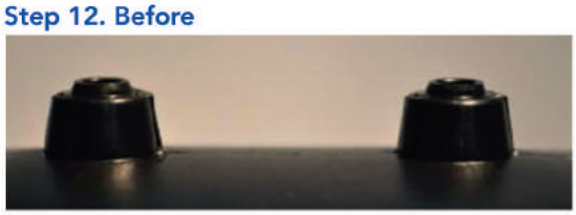
11.) Follow the instructions on the display of the welding machine. Control and supervise fusion process. Do not touch the electro fusion coupler during the fusion process and the cooling time. Risk to be burned!

Step 9.

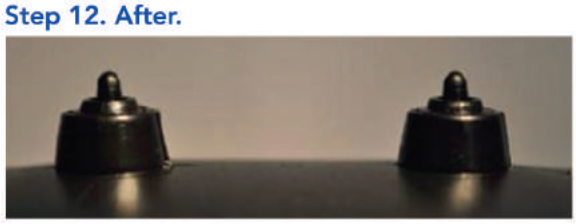
Step 11.

12.) During and after fusion, check message on display of the fusion unit. When fusion is successful, remove fusion cables. Check fusion indicators on the coupler. Both indicators have to be visible. If not, coupler must be cut out and a new coupler should be installed. **Defective connections must not be welded twice!**

Step 12. Before



Step 12. After.



13.) Make sure you have a low stress installation. Secure the pipe and electro fusion coupler against movements (i.e. using pipe clamps) and keep fixed and still until cooling time has elapsed.

Pressure Testing Pipe Systems

There are no standard requirements relating to rainwater piping in buildings. Where a pressure test is to be carried out, close off the piping system at the cleaning trap using a sealing bladder. The system can then be filled with water and the pressure value above hydrostatic determined.

OUR PROJECTS

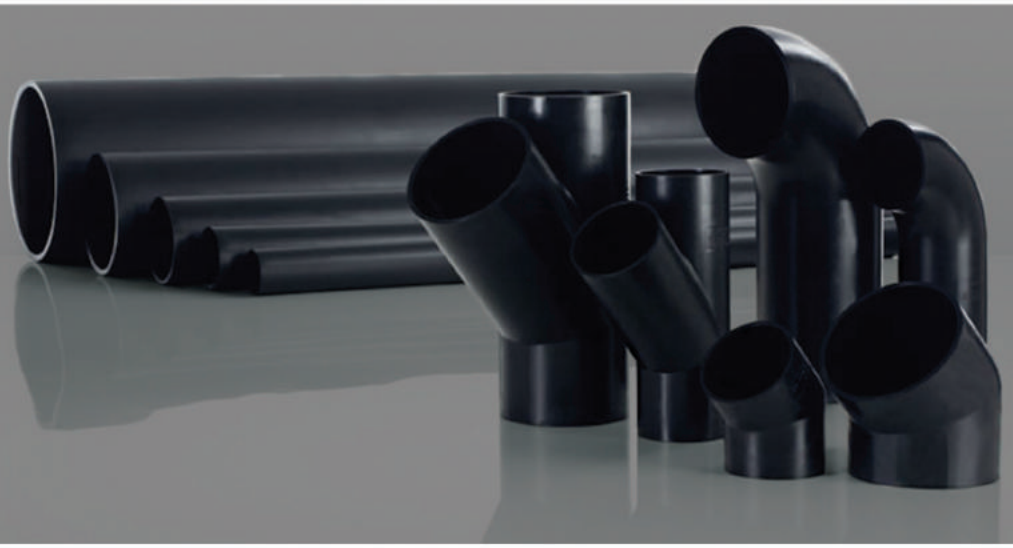






WHY SPECIFY ATLANTA SOVENT HPDE?

- ☑ Zero Maintenance
- ☑ Lower Noise
- ☑ Mix Soil and Ventilation
- ☑ Quick Drain
- ☑ Economical



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