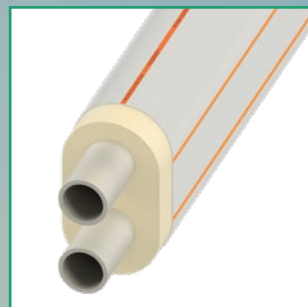


Hiline

Clover



System Overview

An advanced, UK-produced pre-insulated polymer pipe system for heating and cooling networks

Hiline Clover

CPV's next generation pre-insulated pipe system brings to market the most efficient solution to further enable heat networks to play their leading role in the drive to decarbonise heat.

Hiline

Clover



Designed and Manufactured in the UK

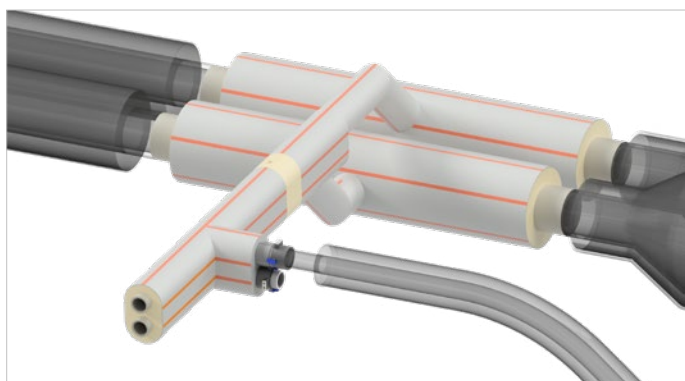
As a pioneer in the advancement of polymer piping systems, CPV has developed an extensive portfolio of solutions that have served both past and current heat network generations, challenging convention and driving efficiencies. Built on this experience, Hiline Clover now offers the optimal solution to drive the efficiency of fourth and even fifth-generation ambient loop heat networks.

Comprehensive Range

Hiline Clover offers sizes from DN20 to DN250, with continuous operating temperatures up to 80°C and peaks up to 95°C. The system's performance capabilities and trouble-free 50-year service life expectancy are validated by compliance with international material performance standards. It is compatible with CPV's other ranges of pre-insulated composite polymer pipe systems to provide both flexible pipes and large-diameter pipes up to DN600.

Tough Outer Casing

Hiline Clover is distinguishable by its light grey outer casing with permanent, orange-coloured identification stripes. This casing is manufactured from a high-modulus polymer material to provide exceptional mechanical properties and resistance to all ground conditions for a full, uncompromised service life.



Specification	Hiline Clover
Maximum continuous operating temperature:	+80°C
Maximum peak operating temperature:	95°C
Maximum continuous operating pressure:	10 bar
Operational service life:	50 years
Thermal conductivity:	0.021 W/mK
Thermal Insulation:	PUR (CFC free, water blown)
Contact Technical Support for service life for specific operating parameters	

Hiline Clover - UNO

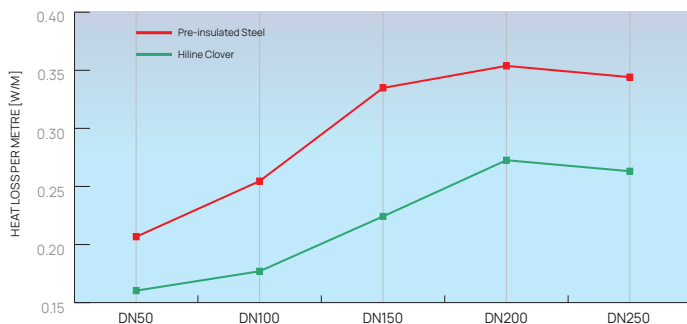
Size	Nominal Bore	Outer Casing
	[mm] *	[mm]
d25	DN20	110
d32	DN25	110
d40	DN32	125
d50	DN40	125
d63	DN50	140
d75	DN50/65	160
d90	DN65/80	180
d110	DN80/100	225
d125	DN100	250
d160	DN125	280
d225	DN150/200	355
d280	DN200/250	450
d315	DN250	500

Hiline Clover - DUO

2 x d25	2 x DN20	110 / 171
2 x d32	2 x DN25	110 / 171
2 x d40	2 x DN32	125 / 205
2 x d50	2 x DN40	125 / 205
2 x d63	2 x DN50	140 / 234
2 x d75	2 x DN50/65	160 / 268
2 x d90	2 x DN65/80	180 / 305
2 x d110	2 x DN80/100	225 / 380

Sizing based on SDR9 pipe with SDR11 also available. See technical catalogue for full specification and dimensional data.

Casing sizes based on Series 2 insulation to EN253. Both Series 3 and Series 1 insulation are also available.



Efficient Insulation

Hiline Clover utilises a water-blown PUR foam with a Lambda value of 0.021 W/mK and is manufactured with an insulation thickness aligned with Series 2 within the EN253 standards. As illustrated in the graph above, when compared with typical pre-insulated carbon steel pipe system, Hiline Clover demonstrates an improved thermal efficiency and therefore significantly reduces heat losses which results in lower costs for the system operator and end users connected.



Unique DUO

With both the flow and return pipes having a unique 'stadium' shaped single casing pipe, it offers maximum thermal efficiency whilst minimising piping insulation materials. This allows trench widths to be reduced and thereby lowering the cost of installation.

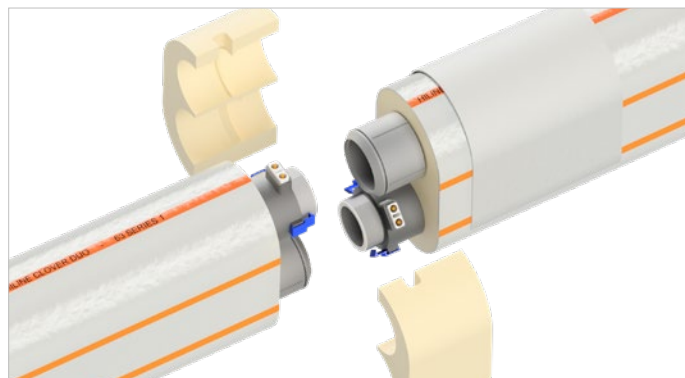
Lowering CAPEX and OPEX

Not only more environmentally aligned over that of conventional products, Hiline Clover will also help drive down the cost of both the installation and the operation of heat networks.

Using technologically advanced and proven polymers technologies, it meets and exceeds all the criteria demanded of future generations of heat network distribution systems.

Innovative Joints

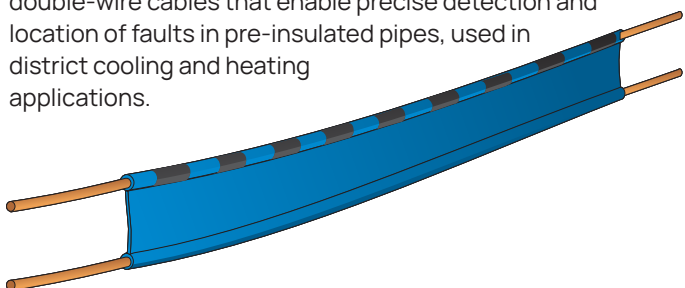
Hiline Clover service pipe jointing is by means of proven fusion welding by either butt-fusion or electro-fusion technologies. An innovative Hiline Clover ClickWeld system (pictured below) allows for pipe and fitting assemblies to be supplied with factory-fitted electro-fusion connections – offering fast-track site installation as a 'push-lock-fuse' process.



Alternatively, service pipes can be supplied with traditional spigot ends for other fusion jointing techniques. Casing pipe joints also can be supplied with optional electro-fusion oversleeves.

Electronic Surveillance System

Hiline Clover is available with a patented solution of two double-wire cables that enable precise detection and location of faults in pre-insulated pipes, used in district cooling and heating applications.



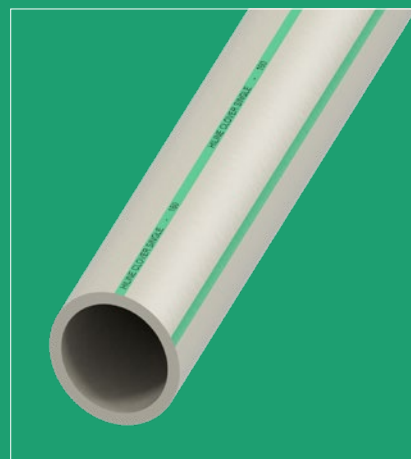
These fully-insulated cables are perfect for monitoring pre-insulated polymer pipes where the use of conventional alarm wires is not effective.

Hiline Clover - AMBIENT	
Size [mm]	Bore [mm]
DN40	40.9
DN50	51.5
DN50/65	61.4
DN65/80	73.6
DN80/100	90.0
DN100	102.3
DN125	130.9
DN150/200	184.1
DN200/250	229.1
DN250	257.7

Ambient Heat Networks

Hiline Clover, can also be supplied without its insulation and outer casing, making it ideal for fifth generation ambient heat networks.

Note that this is available in two different wall thickness dimensions - according to SDR11 with SDR9 also available.



About CPV

CPV Ltd is a leading UK manufacturer of specialist engineering pipe systems for industrial and building-related applications.

Founded in 1949, the company has established a world-class reputation for an innovative range of pipe systems and off-site fabrication services.

Its state-of-the-art production facility - based at the site of CPV's headquarters near Romsey in Hampshire UK - is backed by a comprehensive selection of research, design, engineering, testing, quality, training and support services.

This approach ensures the perfect marriage between its products and the applications in which they serve.

These include:

- Pre-insulated pipe systems
- Critical infrastructure systems
- Chemical and hazardous drainage systems
- Pressure pipe systems
- Tanks and vessels
- Custom extrusions and fabrications

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