

# UNDERCOVER

## PressureCIPP™

THE SMART RELINING SOLUTION  
FOR PRESSURISED PIPELINES



A PressureCIPP liner being installed into a 800mm diameter pumping main sewer at Wisbech in Cambridgeshire

### Perco's new Pressurised CIPP liner, PressureCIPP™ widens the options for renovating non potable pumping mains.

Developed by Perco in partnership with Brandenburger GmbH and Jason Consultants, PressureCIPP is the only dry, UV-cured GRP liner which meets all of the criteria for CIPP lining pressurised mains. Nick Sheehan explained that PressureCIPP offers many advantages to Water Companies and main contractors alike. 'PressureCIPP means that leaking or damaged pumping mains can now be repaired quickly and cost-effectively without the loss of capacity or pressure associated with other lining systems. PressureCIPP requires a much smaller site footprint and causes much less disruption to the surrounding area during

installation than other liner systems.

'With its thin wall section and smooth liner wall, PressureCIPP not only maintains original pipe pressures but can also improve flow. The system can operate at a wide range of positive and negative pressures and is a standalone system not relying on the host main for support.

'In trials and recent pilot projects, installation times have been up to 50% quicker than other relining systems.'

For more information and case histories visit [www.perco.co.uk](http://www.perco.co.uk)



Deena and Mel show off their medals!

### Deena and Mel raise £320 in the Race for Life

Two members of our intrepid admin team took part in this year's Race For Life at Campbell Park in Milton Keynes.

Mel wanted to take part after losing both of her parents to cancer. Deena is always keen to get involved, so she didn't need much persuading to keep Mel company on the 5 km course. They embarked on a training programme and knew they couldn't back out when our MD, Gary Houghton, agreed to sponsor them and arranged their stunning pink T shirts.

On the day of the race, Deena and Mel had lots of support from family and friends, including Nick Sheehan, our Marketing Director, who were all there to cheer them on to success.

Mel said 'our goal was to finish the race together. We ran the first, third and fifth kilometres and walked the other two. Even though the finish line was at the top of a hill, we finished together in under an hour and felt really proud that we had managed to raise £320 for Cancer Research.'

SEE US AT THE DRAIN TRADER EXHIBITION, SEPTEMBER 5TH & 6TH  
THE CENTAUR, CHELTENHAM RACECOURSE, STAND NO. H3



Timber heading at Gosport, Hampshire

## Headings work in Gosport alleviates local flooding problem

A major flooding problem affecting housing in a cul-de-sac at Gosport, Hampshire had been causing problems for residents and attracting news coverage in the local press and on TV.

Because the affected sewers ran under housing, open cut was not an option. We recommended tunnelling under the houses using timber headings constructed to British Standards.

The headings enabled us to connect to the sewers at the back of the properties and divert the flows into a new carrier sewer which had been installed under the adjoining highway.

We constructed two separate headings, each of 30 metres in length. In the first heading, we installed a 450mm ID Ultra Rib sewer pipe. In the second heading, a 300mm ID Rigi Sewer pipe was installed. After installing the new pipework, the headings were back filled with structural hardfoam.



One of the three launch shafts dug for the project

# EXPANDIT IN INDIA

In May Nick Sheehan and the Expandit™ Training Team spent two weeks in Mumbai with our licenced Expandit partner, Shriram, training them in Expandit pipe bursting techniques.

The training package was part of our licence agreement with Shriram, who bought three Expandit moles of 355mm, 500mm and 630mm diameters.



Preparing to work in a busy Mumbai street

Expandit's ability to operate from existing manholes, without launch or reception pits, was a major factor in Shriram winning the contract to renovate 6 km of sewers in Mumbai. The new upsized pipe was Snapit™ HDPE pipe manufactured in India by Shriram under licence from Perco.

Initial works were the replacement of 200mm pipe with 335mm pipe using an

Expandit M35 mole. Our training team attended site in the Mumbai suburbs, to instruct on preparing manholes and setting up machinery.

The operation went smoothly although the onset of the monsoons will put the project on hold until early September, when the team will return to train Shriram in the installation of more 355mm diameter pipe and the larger, more challenging, 630mm pipe.



Richard & Dai cooling down after a hot day on site!

For more information about Expandit go to [www.perco.co.uk/products](http://www.perco.co.uk/products)



## EcoCIPP KEEPS THE JETS FLYING!

When asbestos cement cable ducts at RAF Valley in Anglesey needed upgrading we were called in by main contractor, Carillion.

RAF Valley is the busiest RAF airfield and provides fast jet and helicopter search and rescue training for the RAF and Royal Navy.

We recommended relining the 30 metre length of 150mm ID pipe using EcoCIPP.

After excavating launch and recovery pits, a specialist contractor removed two sections of the asbestos pipe and we surveyed the pipe by CCTV.

The EcoCIPP liner was then installed in the existing pipe and new cables pulled through for connection. There was no disruption to station operations during the works.

# 2006 German IKT Report shows EcoCIPP™ liners are outperforming felt liners

IN THE KEY AREAS OF MODULUS OF ELASTICITY, FLEXURAL STRENGTH AND WATER TIGHTNESS, PERCO'S ECOCIPP\* SYSTEM, MANUFACTURED BY BRANDENBURGER GMBH, ACHIEVED A 100% PASS RATE IN EACH CATEGORY.

In 2006 The IKT tested 1084 samples taken directly from live installations on building sites throughout Germany. They sampled two distinct types of liners that were supplied by a number of companies.

Four tests were carried out on samples. The tests were:

- Short Term Flexural Modulus
- Flexural Strength
- Wall Thickness
- Water Tightness

## Modulus of Elasticity

This tells us about the liner's ability to withstand loads i.e. traffic, ground and water. Tests were carried out in accordance with EN ISO 178 & EN ISO 13566. Perco's EcoCIPP\* system achieved 100% pass rate, whilst Needle Felt liners only achieved an 84% pass rate with 16% failing the test.

## Flexural Strength

This is generally the failure strength of the liner. Perco's EcoCIPP\* system achieved 100% pass rate. Felt liners only achieved a 56% pass rate, with nearly half failing the test.

## Water Tightness

A negative pressure is applied to the liner to see if the liner will allow water to pass through. Should water pass through then the liner is classified as porous. Perco's

EcoCIPP\* system achieved 100% pass rate. Felt liners only achieved a 68.8% success rate with 31.2% failing.

## Conclusions

When it comes to Water Tightness, Modulus of Elasticity and Flexural Strength GRP UV liners such as Perco's EcoCIPP\* system have on average nearly 30% better results than felt liners.

## The IKT Report says:

*'Contractors still have adequate margin for improvement of their quality and work. This applies particularly to those companies using needle-felt liners.'* Contractors in the UK using needle felt liners include Insituform, Onsite, May Gurney, Ferro Monk, Lanes for Drains and many more.

## The IKT Report goes on to say:

*'This group of technologies [Felt liners] needs to improve its quality to catch up with GRP liners.'*

The full IKT Report can be downloaded at [www.perco.co.uk/ecocipp](http://www.perco.co.uk/ecocipp)

*\*EcoCIPP is Perco's trade name for Brandenburger's GRP CIPP liner which was tested by IKT in Germany for this report in 2006.*



Perco's Snapit pipe

## WE RETURN TO THE RHONDDA

After the successful sliplining of an old culvert draining redundant mine workings under the new Porth Relief Road in 2006, main contractor Costain invited us back to upsize two storm drains using our Expandit pipe bursting system.

Costain wanted to avoid excavating a deep trench through an access road and car parks of a nearby industrial estate to rehabilitate these pipes. To reduce disruption to near zero, works the area were carried out at night.

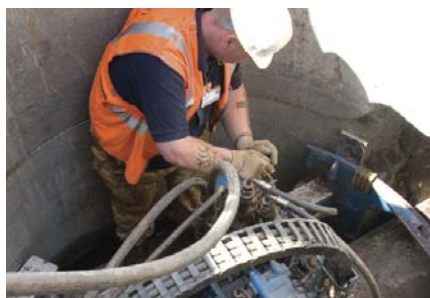
We recommended our Expandit pipe bursting system to upsize a mix of 150mm and 225mm ID clay and cast iron pipes to 300mm diameter.

300mm diameter Snapit pipe sections in 790mm lengths were lowered into the launch manhole, jacked into position and snapped together to form the new pipe. The overall pipe length was 150 metres and the work was completed in one week.

## Auger boring in Marlborough

As part of this turnkey package for the new Marlborough Business Park we installed 60 metres of 300mm ID lost steel casing which was then sliplined with 225mm ID segmental HDPE pipe.

The full project was completed in two weeks. As part of the works we installed a 2m diameter launch shaft, constructed access roads and, on completion of the works, landscaped the site.



Inserting a lost steel sleeve

## GUIDED AUGER BORING RESOLVES BLACKBURN FLOODING PROBLEM

Flooding problems in the Granville Road area of Blackburn meant that United Utilities' main contractor, Balfour Beatty Utilities had to install a new overflow system to reduce local flooding.

The affected area was mainly residential, comprising 1950's housing, busy local roads, a petrol station and the main trunk road between Blackburn and Preston.

Guided auger boring was chosen as it was the least disruptive installation method available. The proximity of the petrol station to the works meant that all operatives had to receive Petrol Station Fire Awareness Training.



Preparing Naylor Denlock Clayware for installation

120 metres of 525mm ID and 40 metres of 225mm ID Naylor Denlok Clayware pipes were installed in three shots from three 2.4 metre ID caisson shafts sunk by Balfour Beatty Utilities.

Ground conditions were difficult, with a high water table and mix of peat and silt. The works were carried out in a four week window in January and February.

# PROJECT ROUNDUP

## Pipe cleaning in Walsall

When Veolia Environmental needed to increase the flow in their pumped effluent pipe running under a park and wildlife area, we were called in to advise on a solution. The steel pipe ran for over a mile from the factory and discharged at a local treatment works. The pipe bore was badly affected by sulphate deposits coating the pipe wall which severely reduced flow to below required volumes.

We recommended a two part solution. Firstly the pipe was cleaned with a series of coated pigs to open the bore enough for Veolia's factory to work at 100%. The second phase, undertaken in April, was to use a rack feed borer to clean the pipe back to the surface steel. To maintain flow in the future, we are working with Veolia to develop a cleaning and maintenance routine.

## Perco installs more Under Track Crossings by guided auger boring

Flooding of the railway near Nottingham needed an urgent solution. Installation of a new storm drain by guided auger boring provided the solution.

With restricted access and the need to keep rail operations running to schedule, guided auger boring is recognised as the ideal solution for installing Under Track Crossings (UTXs) under live rail. Perco's highly skilled rig operators can operate to settlement tolerances at rail level of down to 3mm.

Working for Construction Marine and Network Rail, Perco installed two 2.4 metre diameter launch and reception shafts. Our BM400 rig was used to install 20 metres of lost steel sleeving under the track which, after the augers were removed, was then slip lined with 355mm Snapit™ MDPE segmental pipe. The new pipe was then connected to the sewer network.

As part of the reinstatement works, the shafts were converted into manholes. Rail operations continued unaffected throughout the project.



Train schedules were unaffected as works continued...



Lee at the controls of the EcoCIPP lining truck

## EcoCIPP™ repairs radial cracks in 900mm ID pipe

When cracks started to appear in a recently installed 900mm diameter storm drain, we were asked to reline the pipe.

The 67 metre length of pipe under the South Leeds Stadium Link Road was found to have been laid incorrectly and a repair solution was needed which would allow for possible future settlement of the pipe.

Following a site survey we recommended that the pipe should be relined with an 11.5mm thick EcoCIPP GRP liner, which had sufficient structural integrity for the size and depth of the pipe.

With such a great wall thickness, the liner had to be kept refrigerated between manufacture and being installed.

The new liner was installed in one day with minimal disruption to local traffic.

# PERCO PEOPLE

Aramis and Sam join the Perco team, a baby boy for Donna, and a promotion for Martin...



**Aramis Tonks** joined us last Autumn as Senior Quantity Surveyor with responsibility for project cost

management and negotiations with clients and sub-contractors. He brings to Perco many years experience gained with leading players in the industry.



**Donna Doy**, our telesales specialist has recently given birth to a baby boy, called Nathaniel. They

are both doing well and we wish them both all the best for the future. Donna will be back from maternity leave in August.



**Sam Burgoine** has recently joined us as Site Agent working on projects throughout the UK. With a

background in Civils and Construction, he brings a new dimension of modern site experience to strengthen the management team.



**Martin Gwatkin** has been promoted to Contracts Manager with responsibility for CIPP projects

throughout the UK. Martin has been with Perco since 1998.



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