

# February 2021 Vol. 3

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## PPN- The Leading Source of Industry News on Polymer Pipes and Plastic Pipe Testing

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NEWSMAKERS: \* ExcelPlas \* GF Piping \* PEX \* PE100 \* Polypipe \* PEX \* PPI \* PPXX \* PPN  
\* PP-RCT \* Reliance \* RWC \* Uponor

### INDUSTRY NEWS

**PEX Alert - Migration of Volatile Organic Compounds (VOCs) from PEX-a Pipes into the Drinking Water during the First Five Years of Use**

<https://www.mdpi.com/1996-1944/14/4/746/pdf>

**New PPI Report Warns of Installation Variables that Can Cause PEX Pipe to Fail in Certain Situations**

<https://www.supplyht.com/articles/103776-pex-pipe-and-tubing-freeze-break-resistance-and-benefits-addressed-in-new-technical-report>

**Uponor Unveils Complete PP-RCT Polymer Solution for Commercial Projects**

<https://www.prnewswire.com/news-releases/uponor-unveils-complete-polymer-solution-for-commercial-projects-301223177.html>

### **GF Piping Releases Newly Stabilized PP-R Aquasystem Piping**

<https://www.gfps.com/content/dam/gfps.com/product-ranges/en/gfps-hakan-product-range-aquasystem-en.pdf>

### **Video Tours of GF Piping Systems UK Operations**

<https://www.youtube.com/watch?v=FJv0FasqhUw>

### **Connecting Orion® Pipe with RionFuse® Electrofusion System**

<https://www.youtube.com/watch?v=mJqIN1PtIHg>

### **The One Drawback of PEX Pipe Even Plumbers Didn't See Coming**

<https://www.bobvila.com/articles/rodents-chew-pex-pipe/>

### **Evolution of the Water Pipe Market and Material Uses**

Harvey Svetlik is global polyethylene pipe consultant for Harvey Svetlik Consulting. Svetlik can be reached at 817.501.9260

<https://www.wwdmag.com/pipe-plastic/evolution-water-pipe-market-material-uses>

### **Reliance Worldwide Corporation Joins Forces with Home Builders Institute for a Partnership to Address Skilled Labour Gap**

<https://au.news.yahoo.com/reliance-worldwide-corporation-joins-forces-151600607.html>

### **NEW RESEARCH**

### **Study on Discontinuous Slow Crack Growth Kinetics from an Arbitrarily Located Defect of Polyethylene Based on the Crack Layer Theory**

<https://www.sciencedirect.com/science/article/abs/pii/S0020740321000618>

### **Numerical Evaluation of Buried Medium Density Polyethylene Pipelines Subjected to Axial Ground Movement**

<https://trid.trb.org/view/1759274>

### **Mechanical Characterization of HPDE Pipes Before And After Aging In Water At Two Different Temperatures**

[https://www.granthaalayahpublication.org/journals/index.php/granthaalayah/article/view/IJRG21\\_A01\\_5031](https://www.granthaalayahpublication.org/journals/index.php/granthaalayah/article/view/IJRG21_A01_5031)

### **New Polyethylene with Improved Mechanical Properties at Elevated Temperatures Using Boron-based Dynamic Crosslinking**

<https://pubs.acs.org/doi/abs/10.1021/acs.macromol.0c02870>

### **Electrical Properties of Graphene-Filled UPVC Nanocomposites for Mining Pipe Application**

<https://mjfas.utm.my/index.php/mjfas/article/view/1937>

### **A Leak Detection in Water Pipelines Using Discrete Wavelet Decomposition and Artificial Neural Network**

[https://link.springer.com/chapter/10.1007/978-981-16-0425-6\\_4](https://link.springer.com/chapter/10.1007/978-981-16-0425-6_4)

### **Get More Poly Pipe News**

<https://www.polypipenews.com.au/>

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### **ExcelPlas Labs Pipe Failure Investigations**

ExcelPlas Labs have created a new benchmark in failure analysis of HDPE, PP-R, PB and PEX pipes in addition to PVC & CPVC pipes as well as composite GRP and GRE pipes. When a plastic pipeline fails to perform as intended, our team can determine the root cause of failure (e.g. oxidative failure, chemical failure, creep failure, over-stress failure, fatigue failure, design failure, etc). ExcelPlas are experienced with all plastic piping failure modes and mechanisms including Slow Crack Growth (SCG) Rapid Crack Propagation (RCP), Environmental Stress Crack Resistance (ESCR), Oxidative Stress Cracking (OSC), cyclic fatigue, manufacturing defects, and polymer material problems.

<http://www.excelplas.com/>

### **ExcelPlas Strain Hardening Test (SHT) for HDPE Pipes**

The SHT in accordance with ISO 18488 is a relatively new, but excellent way to obtain a rapid indication of the Stress Crack Growth (SCG) resistance of your piping material. This tensile test performed at 80°C has become in just a few years the new standard for Batch Release Testing (BRT). And not without reason. The test requires only a very small amount of material, the results are very reliable with a very low inter-laboratory scatter and the results are available within a few days, regardless of the PE grade. The SHT is usually performed on resin material but it can also be performed on samples taken directly from pipes or sheets. As accredited lab, EXCELPLAS is happy to discuss the possibilities with you, whether it is for BRT, benchmarking, quality control of your (high performing) PE grade or for polymer compliance/ validation.

<http://www.excelplas.com/>

### **Australian Plastic Pipe Testing Laboratory**

ExcelPlas Laboratories provides a comprehensive plastic pipe joint testing service and is equipped with a state of the art laboratory to test a range of polymer materials including polyethylene and polypropylene. ExcelPlas can carry out testing on plastic tube and pipe ranging in wall thickness from 3 mm to 80 mm. ExcelPlas Laboratories provide a comprehensive service to Industrial & commercial companies, environmental consultants, Government bodies and local Authority customers throughout Australia & NZ. All testing is carried out in accordance with ISO & ASTM methods and is fully accredited to ISO 17025 by NATA.

<http://www.excelplas.com/>

### **Australia's Plastic Pipe Testing Laboratory**

ExcelPlas Laboratories provides a comprehensive plastic pipe joint testing service and is equipped with a state of the art laboratory to test a range of polymer materials including polyethylene and polypropylene. ExcelPlas can carry out testing on plastic tube and pipe ranging in wall thickness from 20mm to 1200mm. ExcelPlas Laboratories provide a comprehensive service to Industrial & commercial companies, environmental consultants, Government bodies and local Authority customers throughout Australia and Asia.

All testing is carried out in accordance with ASTM, ISO & WIS methods and is fully accredited to ISO 17025 by NATA.

- Butt Fusion Weld Testing
- Weld Testing
- Testing of Electro-fusion Welds
- Tear on saddle joints
- Crush De-cohesion of Electro-fusion welds
- Polymer & Plastics Identification

- Chemical & Thermal Testing
- Site Audits

<http://www.excelplas.com/>

## **ExcelPlas - the Australian Pipes & Fittings Testing Laboratory**

- Accredited to ISO 17025 by the National Association of Testing Authorities (NATA) Australia, and is Australia's largest laboratory dedicated for the testing of plastic pipes and fittings to various Standards which include Australian, European and International Standards.
- The staff employed at the laboratory have a combined experience of more than 85 years within the plastics industry specifically with manufacturing, quality control and the research and development of plastic piping systems including HDPE, PEX, PP-R, PVC, U-PVC, M-PVC, O-PVC, ABS, GRP, GRE and PB.
- Services provided include conformance testing, compliance testing, batch release testing, root cause analysis for field failures and non-destructive testing of samples.
- <http://www.excelplas.com/>

## **ExcelPlas Lab Specialising in HDPE Pipe Condition Monitoring, Failure Analysis and Testing**

In the event of a HDPE butt weld or electrofusion weld failing during initial testing, or in service, we can conduct investigations to assist in identifying the root cause of the failure.

This service also extends to the premature failure of the pipe or fitting itself.

<http://www.excelplas.com/plastic-pipes>

## **ExcelPlas Pipe Testing is a Leader in the Field of Polyethylene (PE) and High-Density Polyethylene (HDPE) Testing**

ExcelPlas is accredited with the National Association of Testing Authorities (NATA) for butt weld tests, bend and tensile tests, peel decohesion tests on electro fusion sockets and failure mode determination

<http://www.polypipetesting.com.au/butt-fusion-welds/>

## **New UHMWPE Pipe for Tailing Offers Greater Than 4X the Abrasion Resistance of PE100 (Australia wide)**

<http://slurrypipes.com.au/>

### **ExcelPlas Poly Pipe Weld Inspection Lists Top 7 Causes of Weld Failure:**

- Lack of scraping
- Inaccurate scraping
- Contamination from dirt, water, oil or clays
- Lack of Paralell-ness of fusion faces
- Misalignment of surfaces
- Time, temperature and pressure deviations
- Not adhering to cool times

We have extensive experience in inspection of poly pipe welds for assuring welded joint quality. Direct Poly Pipe Inspection ensures that operators are following the proven welding procedure; this reduces the occurrences of operational errors which lead to defects such as inclusions, lack of fusion (LoF), porosity and misalignment.

More information, contact [john@excelplas.com](mailto:john@excelplas.com)

### **Get Your HDPE Pipe Products or Services Noticed – Advertise in Poly Pipe News (PPN) Australia**

<https://www.polypipenews.com.au/advertise/>

### **This Newsletter is brought to you by Excelplas Labs, Australia's Largest group of Poly Pipe Testing Labs.**

Pipe Poly News (PPN) is now Australia's most current and comprehensive source of news on Polyethylene pipes and Poly Pipe Welding;

Poly Pipe News is now sent to over 4500 Poly Pipe Industry Members every week.

Any news requests should be sent to [john@excelplas.com](mailto:john@excelplas.com)

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