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Author : PPN

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

Accelerated Testing Method to Estimate the Long-term Hydrostatic Strength of Semi-crystalline Plastic Pipes

<https://onlinelibrary.wiley.com/doi/abs/10.1002/pen.25087>

Stability Performance Assessment of Pipelines under Hydrostatic Pressure

<https://irispublishers.com/ctcse/pdf/CTCSE.MS.ID.000524.pdf>

Structural Integrity Assessment of Defected High-Density Polyethylene Pipes

<https://www.sciencedirect.com/science/article/abs/pii/S1350630718308410>

PEX-AI-PEX Tubing What Inside (Video)

<https://www.youtube.com/watch?v=u7VGwfX5Zkc>

Mining Town Uses PEXa Pipe for Water Distribution

https://www.mswmag.com/online_exclusives/2019/03/manitoba-mining-town-leads-canada-into-new-era-of-water-main-technology_sc_01uyt

Reliance Worldwide United PEX Pipes and Fittings Brand Family

<http://www.sharkbite.com.au/rwc-set-unveil-new-united-brand-family/>

PE-X Education

The choice of cross-linked polyethylene (PE-X) piping products has significantly increased in the past few years

But not all PEX pipes are created equal and many builders and plumbers still confused as to which piping is best for which job.

<https://search.informit.com.au/documentSummary;dn=151324064404429;res=IELENG>

Uponor Patents New PEX/PERT Insulated Pipe

<https://patents.google.com/patent/US20190017646A1/en>

Impact of Mining Subsidence on Natural Gas HDPE Pipeline Failures

<https://iopscience.iop.org/article/10.1088/1757-899X/471/4/042024/pdf>

Thermography of Thermal Pulsing in Electrofusion Joints of Gas Pipelines

<https://www.sciencedirect.com/science/article/pii/S1350449518305279>

Flow-induced Failure Mechanisms of Copper Pipe in Potable Water Systems

<https://www.degruyter.com/view/j/correv.2018.36.issue-5/correv-2017-0120/correv-2017-0120.xml>

Australian Pipe Failure Experts

ExcelPlas has extensive experience investigating plastic pipe system failures, and can provide a root cause diagnosis.

With most pipe system installations consisting of kilometres of pipe and potentially thousands of fittings, failures over time are an unfortunate but common occurrence.

Our experience shows these typically originate from four key sources:

- Faults in the original pipe or joint components (manufacturing) such as material substitution/incorrect processing
- Faulty installation / engineering such as ovality/misalignment/pressure/temperature (workmanship)

- Contamination effects, e.g. grease/oil during fusion welding (environment)
- System operating outside of the design criteria (end-user operation)

The consequences of such failure can vary dramatically dependent on the final application and location - from small scale failures in the home to potentially catastrophic industrial installation failures with significant associated damage and financial loss.

Supported by our extensive microscopy, analytical, material and product testing laboratories ExcelPlas are able to fully characterise polymer composition and mechanical performance in order to assess the cause of product / material failure. This can involve recommendations for remedial or corrective actions to minimise the risk of further failure. Our capabilities and experience investigating plastic pipe system failures provides valuable support to the service installation sector.

ExcelPlas Labs Providing Hydrostatic Pressure Testing For Plastic Pipes ASTM D-1598, ASTM D-1599, ISO 1167

ASTM D1598-2004 Standard Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure. This test method covers the determination of the time-to-failure of both thermoplastic and reinforced thermosetting/ resin pipe under constant internal pressure. It provides a method of characterizing plastics in the form of pipe under the conditions prescribed.

<http://www.excelplas.com/contact-us>

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

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
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