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Author : PPN

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

Keep Up-to-Date During Corona Isolation with PPN

NEWSMAKERS: * BPF * Borouge * CPVC * ExcelPlas * FGS * GF Piping * GRP * JANA * Iplex * PEX * PE100 * PPI * PPN * Purdue University * Rehau * Reliance Worldwide Corp * RWC * SharkBite™ * Tubi * Uponor

BREAKING NEWS

Drinking Water Contamination From the Thermal Degradation of Plastics: Implications for Wildfire and Structure Fire Response [PDF]

<https://pubs.rsc.org/en/content/articlepdf/2021/ew/d0ew00836b?page=search>

Purdue Researchers Show Plastic Pipes Are Polluting Drinking Water Systems After Wildfires (Breaking News)

<https://www.fireengineering.com/2020/12/14/497391/researchers-plastic-pipes-are-polluting-drinking-water-systems-after-wildfires/>

Plastic Pipes are Polluting Drinking Water Systems After Wildfires – it's a Risk in Urban Fires, Too (Breaking News)

Results indicated that thermally damaged drinking water pipes can be sources of VOC leaching, with ten of the eleven materials (namely PEX, HDPE, PP, PVC, and CPVC plastic drinking

water pipes) leaching benzene, a carcinogen, into water without the end user knowing. This study has significant implications for both wildfire and structure fire recovery as plastic materials are increasingly being used in buried and building plumbing, and visual inspection is not a sufficient indicator of contamination risk.

<https://www.preventionweb.net/news/view/75190>

INDUSTRY NEWS

Georg Fischer Piping: GF Expands Footprint in South America (Breaking News)

GF Piping Systems, a GF division, announces the acquisition of FGS Brasil Indústria e Comércio Ltda. (FGS) (Brazil) a leading manufacturer of polyethylene piping systems. FGS serves the local water and gas distribution market and other industrial segments. The acquisition will provide GF Piping Systems with a unique platform for further growth in Brazil and the South American region.

<https://www.marketscreener.com/quote/stock/GEORG-FISCHER-AG-68977/news/Georg-Fischer-GF-expands-footprint-in-South-America-32022196/>

Edinburgh Hotel Gets the Silent Treatment from REHAU Pipework

<https://www.buildingtalk.com/edinburgh-hotel-gets-the-silent-pipework-treatment-from-rehau/>

Uponor Launches Ground-breaking App for its PEX Pipes and Accessories

<https://www.youtube.com/watch?v=Zh1YhtkJEE8>

PPN - market research, competitor analysis/marketing intelligence for product positioning and communication strategies

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

Iplex Pipelines Launches Refreshed Brand

<https://www.trenchless-australia.com/2020/11/18/watch-iplax-launches-refreshed-brand/>

Tubi (ASX: 2BE) Stock Price Slides Across 2020

Tubi Limited (2BE) deals in the development, operation, leasing and sale of mobile

manufacturing plants for the production of HDPE Pipes
<https://cloud.excelplas.com/s/6Nm2OQ9zFU6OzV9?>

LEGAL CASES

Plaintiff Brings Action against Defendant Reliance Worldwide Corporation (RWC) re: SharkBite® Push-To-Connect Fittings

<https://www.classaction.org/media/elder-v-reliance-worldwide-corporation-et-al.pdf>

Dispute Over Litigation Involving Allegedly Faulty PEX Plumbing Pipe - Defendant JANA Corporation (Declassified)

<https://scholar.google.com/scholar-case?case=10242061272644513795&q=pex+pipe&hl=en&as-sdt=2006&as-ylo=2020>

PEX Pipe Manufacturer NIBCO Sued by Plaintiff (Declassified)

Plaintiff asserts that it did not have sufficient knowledge to discover the latent defects in the PEX Products or to initiate an investigation until more than 200 leaks occurred in a single year.

https://scholar.google.com/scholar_case?case=4769409059607571407&q=pex+pipe&hl=en&as-sdt=2006&as-ylo=2020

PE PIPE FAILURE

British Plastics Federation (BPF) Publishes Failure Modes of Polyethylene Pipelines Under Pressure

<https://www.bfpipesgroup.com/media/41469/Lifetime-of-polyethylene-pipelines-under-pressure-v2-July-2020.pdf>

Borouge Researchers Study on the Re-distribution of Residual Stress in Polymer Pipe Extrusion and Effect of Eccentricity on Pipe Failure Time

Residual stress in pipes induces compressive force at outer surface and tensile force at the inner surface of the pipe. The compressive stress near the outer surface can help suppress failures initiated by external cracks near the external surface. On the other hand, the tensile

stress near the inner surface of the pipe adds to the stress generated by hydrostatic pressure thus it increases the net stress the pipe is exposed during a hydrostatic pressure test, hence reduces the time to failure.

<https://www.sciencedirect.com/science/article/pii/S0142941820322005>

PVC PIPE FAILURE

Failure Modes of PVC Pipes: Burst Failure of PVC Pipes, Long-Term Pressure Failure of PVC Pipes, Cyclic Surge Failure of PVC Pipes

<https://edis.ifas.ufl.edu/pdf/CH/CH17100.pdf>

Exposure to POE Oil Can Be Disastrous to PVC Piping

POE oil is a synthetic oil that is used to lubricate compressors utilized in direct expansion (DX) systems utilizing refrigerants such as R410A. POE oil is added into the R410 refrigerant charge, and it circulates with the refrigerant. Substance can lead to environmental stress cracking of PVC and CPVC pipes.

<https://www.esdglobal.com/news/article/1707-exposure-to-poe-oil-can-be-disastrous-to-hvac-plastic-piping>

PIPE REPAIR

Development and Qualification of a New Polymeric Matrix Laminated Composite for Pipe Repair

<https://www.sciencedirect.com/science/article/abs/pii/S0263822316307140>

Repairing a Crack in PVC Pipe

<https://tbbonding.com/repairing-pvc-pipe/>

NEW RESEARCH

Revisiting Creep Test on Polyethylene Pipes — Data Analysis and Deformation Mechanisms

<https://onlinelibrary.wiley.com/doi/abs/10.1002/pen.25603>

GRP PIPES

An Overview of Buckling, Burst and Corrosion Analyses on Pre-Stressed Thermosetting Glass Fibre-Reinforced Polymer (GFRP) Tubular Structures

<https://www.scientific.net/MSF.1015.82>

NEW TECHNOLOGY

New Wear Resistant HDPE Pipe with Thermoplastic Elastomer (TPE) Liner

<https://www.dredgingtoday.com/2020/12/09/dredging-discharge-lines-with-high-wear-resistance-and-their-incidence-per-m3-of-the-dredged-material/>

ENVIRONMENTAL

Polypropylene Manufacturers Set Up Global Coalition for PP Pipes Recycling and PP Products Recycling

<https://recyclingpartnership.org/polypropylene-coalition/>

LATEST TENDERS FOR PE PIPES

<https://www.trenchless-australia.com/2020/12/08/view-the-latest-trenchless-technology-tenders-54/>

PIPE FAILURE INVESTIGATIONS

2020 – The Year of COVID-19 and Plastic Pipe Failures

It has been a busy 2020 with ExcelPlas working on the following jobs:

- 11 PEX pipe failures
- 8 Polybutylene pipe failures
- 36 PP-R pipe failures
- 7 PVC pipe failures
- 5 HDPE pipe failures

Should you want to discuss a plastic pipe failure investigation please contact us at:

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

ExcelPlas Investigating Poly Pipe Failures

Through failure analysis & forensic chemistry, we help clients improve product performance, increase profits, & resolve product liability claims with plastic pipes and fittings.

We are dedicated to unmatched excellence in failure analysis, investigative chemistry, material testing, and expert witnessing for plastics, polymers and composites.

With over 25 years of investigative experience, the staff at ExcelPlas are uniquely positioned to help clients resolve the most challenging performance and processing issues related to materials and finished pipes and fittings.

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

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 and 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 and 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

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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