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

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Reflecting on a Year of Polymer Pipe Failures
2018 was a year of multiple failures of PP-R, PB, HDPE and PEX piping in homes, commercial buildings and hospitals.
Contact ExcelPlas Pipeline Integrity Services to Get Your Piping Assessed
http://www.excelplas.com/

Uponor Gets Massive PEX Pipe Contract
https://www.contractormag.com/radiant/rolling-out-radiant

Plastics Pipe Institute Issues Advisory for Substandard Plastic Pipe Used in Oil and Gas Fields
https://www.plasticstoday.com/extrusion-pipe-profile/plastics-pipe-institute-issues-advisory-substandard-plastic-pipe-use-oil-and-gas-fields/69758061459405

PIPA Publishes New Industry Guidelines for HIGH STRESS CRACK RESISTANT PE100 (December 2018)
https://www.pipa.com.au/wp-content/uploads/2018/12/POP016.pdf

PIPA Updates December 2018 - SUPPLEMENTARY LIST – MATERIALS SPECIFIC TO ELECTROFUSION AND MOULDED FITTINGS
https://www.pipa.com.au/wp-content/uploads/2018/12/POP004A.pdf

New Method for Inspection of Polyethylene Gas Pipe Defects
https://www.spiedigitallibrary.org/conference-proceedings-of-spie/10964/109645N/Inspection-of-polyethylene-gas-pipe-defect-based-on-terahertz-time/10.1117/12.2506393.short?SSO=1

Crack Resistance of a Welded Butt Joint of Polyethylene Pipes
https://aip.scitation.org/doi/pdf/10.1063/1.5084461?class=pdf

Creep Lifetime Assessment of Pressure-Tight PE100 Pipes Based on a Slow Fatigue Crack Growth
https://link.springer.com/article/10.1007/s11223-018-0023-5

New Patent for Electrofusion of Pipes and Pipe Linings
https://patents.google.com/patent/US20180363822A1/en

Interpretation of EF Joint Failure (Presentation)

https://cloud.excelplas.com/index.php/s/ibkajLOQkBsi6VR

Calculation of the Thermal and Stress-strain States in Electrofusion Welding of Polyethylene Pipes
https://aip.scitation.org/doi/pdf/10.1063/1.5084533?class=pdf

Fault Classification in Electrofusion Polyethylene Joints by Thermal Pulsing and IR Thermography Methods
https://reader.elsevier.com/reader/sd/pii/S1350449518303761?token=3C11E1DF63A330403111FF13F7990B1C0E61CA1573511E704611A796C100A82A3C22A4A961FE170517C9FC18E82335AA

Vinidex Offering Polywelding & Electrofusion Welding Courses
http://outsourceinstitute.com.au/polywelding-electrofusion-welding-courses/poly-welding-dual-accredited-one-day-course/

Increasing the Accuracy of Wall Thickness of Polyethylene Pipes During the Extrusion Process
https://www.sciencedirect.com/science/article/pii/S2405896318330131

Installation of Reinforced Thermoplastic Pipes (RTP) as Permanent Gas Flowlines
https://www.onepetro.org/conference-paper/SPE-193234-MS

Structural Integrity Analysis of HDPE Pipes for Water Supplying Network
https://onlinelibrary.wiley.com/doi/abs/10.1111/ffe.12951

Leaks Attributed to Inherent Defects in the Polybutylene Piping System
https://scholar.google.com.au/scholar_case?case=4043033706689800623&q=polybutylene&hl=en&as_sdt=2006&as_ylo=2018

Destructively Testing PEX Pipe and Fittings - Sharkbite vs Viega vs Uponor (Video Demonstration)
https://www.youtube.com/watch?v=fT2ftQ_ab-w

Braided Hose Failure On the Rise
https://plumbingconnection.com.au/bursting-the-flexi-hose-bubble/

Use of Flexible PVC Pipe Liners for Rehabilitation of Pipes
https://www.dow.com/en-us/insights-and-innovation/product-news/thermoplastics-analysis-pvc-pipe-liners

Lingering Fears About Plastic-lined Water Pipes Encourages City to Take the Lead on Safety Tests
https://www.cambridgeday.com/2018/12/20/lingering-fears-about-plastic-lined-water-pipes-encourages-city-to-take-the-lead-on-safety-tests/

Assessing Remaining Service Life of HDPE Pipelines (How Long Will My Asset Last?)

ExcelPlas has developed Protocol for Determining the Remaining Service Life of In-Service HDPE Pipelines
The 5 step protocol is based on lab testing to measure the following:
I. The oxidative induction time (OIT) profiling to assess whether or not oxidation protection is still afforded by the additives.
II. Measure the carbonyl index (CI) to assess extent of any polymer oxidation that has occurred.
III. Determine the critical CI at which stress cracking (SC) is initiated.
IV. Measure stress cracking resistance (SCR) to determine the time until SC is initiated.
V. Measure the depth of micro cracking on 180 degree bent coupons by Scanning Electron Microscopy
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 buttweld 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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