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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

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INDUSTRY NEWS

Qenos-Parent Mega-Merger May Have Come Too Late and Faces Possible Sanctions (Breaking News)
https://www.bloomberg.com/opinion/articles/2020-09-07/chemchina-sinochem-merger-could-now-face-sanctions-hurdle

Iplex-Parent Fletcher Building Executives to Take 30 per Cent Pay Cut After Pressure From Staff (Breaking News)
https://www.tvnz.co.nz/one-news/new-zealand/fletcher-building-executives-take-30-per-cent-pay-cut-after-pressure-staff

Reliance (RWC) Reports Minimal Impact of COVD-19 on its Profit in Plumbing Pipe and Fittings
https://kalkinemedia.com/au/news/stock-market/asx200-industrials-sector-player-reliance-worldwide-reports-strong-operating-performance-for-fy20

Vinidex Seeking Projects Coordinator for PVC and PE Pipe Projects
https://www.seek.com.au/job/50513030?type=standout

HDPE GAS PIPES

ASTM New Standard Guide for Squeeze-Off of Polyolefin Gas Pressure Pipe and Tubing (ASTM F1041)
Improper squeeze-off of HDPE pipes can cause damage to the pipe or create a safety hazard, or both.
https://www.astm.org/Standards/F1041.htm

New Rapid Response Clamp for Gas Application on Polyethylene Pipe
https://www.youtube.com/watch?v=2PPSBiJZM58&pp=QAA%3D

PP PIPES

Experiment on Frost Heave Failure Mechanism of PP-R Water Pipes
https://www.sciencedirect.com/science/article/abs/pii/S1350630719320369

Effect of Different Shear Modes on Morphology and Mechanical Properties of Polypropylene Pipes Produced by Rotational Shear
https://link.springer.com/article/10.1007/s10118-020-2477-8

PEX PIPES

Explaining The Difference Between PEX-a, PEX-b and PEX-c Crosslinked Polyethylene Pipes
https://hydroflow.co.nz/uploads/202aaf0a23aa8225a4a5969cfec669e4.pdf

Interactive Effects of Copper Pipe, Stagnation, Corrosion Control, and Disinfectant Residual on the Levels of Legionella in PEX Pipes and Copper Pipes
https://www.mdpi.com/2076-0817/9/9/730/pdf

FORZA Release New PEX Pipe and Fitting Guide
https://www.forzaglobal.com.au/wp-content/uploads/2020/08/ForzaCataloguePlasV5-1_compressed.pdf

GRAPHENE

Graphene Nanotubes Give Improved Performance of PE100 Pipes
New HDPE nanocomposite pipe materials developed using TUBALL™ graphene nanotubes synthesized by OCSiAl. OCSiAl Matrix 809, Matrix 811, Matrix 815 are specifically designed for HDPE applications.
https://tuball.com/

Initial Results Confirm the Potential of Graphene as a High Performing Additive for HDPE
https://www.plasticstoday.com/compounding/oysters-beware-graphene-delivers-step-change-hdpe-performance

Graphene Nanotube Masterbatches for Plastics Pipes
https://www.materialstoday.com/composite-applications/news/graphene-nanotubes-help-prevent-grain-losses-/

Graphene Masterbatch Boosts Properties of PP to Make Self Reinforced Polymer Composites (SRPC)
https://www.sciencedirect.com/science/article/pii/S0264127520306080

The Preparation and Application of Polymer/Graphene Nanocomposites for PE100
https://www.icevirtuallibrary.com/doi/abs/10.1680/jemmr.17.00031

New Way to Check the Quality of Nanomaterials Like Graphene
https://www.sciencedaily.com/releases/2020/08/200812144100.htm

ELECTROFUSION

Data Acquisition for EF Welding to Avoid EF Failures
https://www.caldertech.com.au/wp-content/uploads/2020/01/Caldertech-AUS-CalderSafe-Presentation-Widescreen.pdf

ExcelPlas Failure Analysis of Electrofusion Fittings
This presentation covers 98% of the likely causes of EF Fitting Failures
http://cloud.excelplas.com/s/ebGxZQptT7BooFK#pdfviewer?

ENVIRONMENT

An Emerging Mobile Air Pollution Source From Cured-in-Place Pipes (CIPP)
Outdoor Plastic Pipe Liner Manufacturing Sites Discharge VOCs Into Urban and Rural Areas
https://pubs.rsc.org/en/content/articlelanding/2020/em/d0em00190b#!divAbstract

TESTING

Testing and Compliance of Thermoplastic and GFRP Pipes
ExcelPlas has a wide experience in the field of plastic pipes and helps to detect failure causes in the behaviour of pipes in service and to prepare technical sheets both of a finished product and a raw material.
The ExcelPlas Laboratory has developed a series of procedures to identify failure and breakage causes that can appear during the use of structures designed with plastic pipes, corrugated pipes and/or GFRP, combining both analysis and tests on the material and the pipe as well as the knowledge acquired from the point of view of pipe installation. We check that the requirements are met following the standards EN 1796, EN 16422 and EN 13476-6, among

many others. Some of the tests in which we are specialised are:
* Identification of polymer materials by DSC and FTIR
* Determination of the degree of curing by DSC
* Stress-strain tests: tensile, flexural and rigidity, with testing equipment up to 250kN.
* Circumferential rigidity and geometric control
* Calculation of densities and k values.
* Resistance to hydrostatic pressure
* Failure cause analysis
https://www.excelplas.com/wp-content/uploads/2020/01/Excelplas-A4-Brochure-2pp-Composite-NTs.pdf

Oxidative Resistance Testing of Plastic Pipes
ExcelPlas' Advanced Pipe Test Facility (APTF) has introduced new oxidative resistance testing capacity, providing the unique ability to quickly and effectively measure and evaluate material performance over time. Our capabilities include accelerated testing of the potential impact of disinfectants (chlorine, chlorine dioxide, chloramines) on the long-term performance of materials in potable water applications (most commonly PE, PEX, PE-RT and PP-R) as well as proprietary testing methodologies and leading edge proprietary analysis methodologies.
We currently test to:
• ASTM F2023 – Standard Test Method for Evaluating the Oxidative Resistance of Crosslinked Polyethylene (PEX) Tubing and Systems to Hot Chlorinated Water
• ASTM F2263 – Standard Test Method for Evaluating the Oxidative Resistance of Polyethylene (PE) Pipe to Chlorinated Water
https://www.excelplas.com/

Experts in Forensic Failure Analysis of Polymer Pipes and Fittings
https://www.excelplas.com/wp-content/uploads/2020/01/Excelplas-A4-Brochure-2pp-Mechanical-Testing-NTs.pdf

Australia’s State-of-the-Art 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.
https://www.excelplas.com/wp-content/uploads/2020/01/Excelplas-A4-Brochure-4pp-Plastic-Pipe-Testing-NTs.pdf

ExcelPlas Labs - for Testing Times
https://www.excelplas.com/

PPN Now Reaching Over 10,000 Readers in the Plastic Pipe Industry Worldwide (Free Subscriptions)
https://www.polypipenews.com.au/

• PPN Now Offering Digital Ads, Featured Articles and Premium Positioning

• PPN Can Publish Press Releases and Time Sensitive Messages Instantly to a Global Geosynthetic Audience

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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 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 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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