Pipe Test Equipment for

PE Structured Wall Pipes

According to EN 13476
Pipe Test Equipment for PE Structured Wall Pipes

- IptDataLogging®
- Density to ISO 1183 Model No. H3002
- MFR to ISO 1133 Model No. 1709
- OIT to ISO 11357-6/EN 728 Model No. H3003
- Oven Test to EN 12091 Model No. H3014
- Heat Reversion Test to ISO 2505 Model No. H3014/1291
- Impact Resistance to EN 744/EN 1411 Model No. 1713
- Ring Stiffness to ISO 9969 Model No. 1669/1663
- Creep Ratio to ISO 9967 Model No. 1669/1663
- Ring Flexibility to ISO 13968 Model No. 1669/1663

www.iptnet.de

Competence creates Confidence. Since 1969.
How does one perform an efficient quality control of the quality control? Who counter-checks the test run if no-one is there or many tests are performed simultaneously?

In combination with IPT’s specialized software IptDataLogging® you are in command of a test manager which continuously performs quality control, 24 hours, automatically monitors and records the ongoing procedures. The software supervises the correctness of the data throughout the complete test duration, constantly, reports, displays events and, if requested, forwards you the information per email or SMS. Due to this self-control and diagnostic, malfunctions can be recognized quickly and unnecessary costs caused by test repetitions can be minimized.

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<th>Your benefits are</th>
<th>Performance characteristics 6.0</th>
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<td>Automatic supervision</td>
<td>Comprehensive configuration possibilities</td>
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<td>Decentralized control</td>
<td>Optimal sample management</td>
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<td>Automatic documentation</td>
<td>Intuitive status management</td>
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<td>Random number of tests simultaneously</td>
<td>Variable database access as well as data export</td>
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<td>Full network capability</td>
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<td>Integration of non-IPT-equipment possible</td>
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<td>Improved Pipeson Integration</td>
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<td>Integrated Webserver (for the presentation of the tests via Tablet PC, or Smartphone)</td>
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IPT Institut für Prüftechnik Gerätebau GmbH & Co. KG
Schulstr. 3, 86447 Todtenweis, Germany
Tel.: +49 8237 966-0, Fax: +49 8237 966-480, E-mail: ipt@iptnet.org
Density is one of the major physical properties that characterize a PE compound.

The grade of the pipe or compound required by ISO 1183 must be greater than 930 kg/m³. Density influences directly the mass of a length and stiffness of the pipe.

For more information go to www.iptnet.de
MFR indicates the flow behavior and viscosity of PE compounds.

When the molecular weight and narrow distribution increase, the MFR decreases. **Considering pipe producing process, the MFR range for PE pipes shall be less than 1.6 gr/10 min.** For pipe grades the MFR 190°C, 5 kg are used.

More than 40 years experience. Our strength lies in our versatility, problem solving, quality and competitiveness. We invite you to share in our successful 40 traditional years of service.

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The OIT indicates the content of antioxidant being in a pipe compound.

The requirement to be fulfilled is an induction time of at least 20 min at the temperature of 200 °C.

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Describes a method for assessing the pipe wall homogeneity of structured-wall thermoplastics by inspection of the effects of heating in an oven.

During this test, the test pieces (300 ± 10 mm long) are placed in an oven with hot air circulation of (110 ± 2 °C) for at least 60 min (with respect to the wall thickness of pipe wall) and there shall be no cracking on the internal or external surfaces and when sectioned into quarters along the axis of the pipe there shall be no delamination.

For more information go to www.iptnet.de
Heat Reversion Test to ISO 2505
Model No. H3014/1291

During this test, the samples are placed in an oven with hot air circulation of (110 ± 2 °C) for at least 60 min (depending upon the wall thickness of the pipe) and then the decrease of the sample length as compared to the original length is calculated. Following the thermal exposure and after cooling down, the length of pipe sample will become shorter. This could lead to the change in roundness of the installed pipes.

Therefore, having completed the test, the standard limit of linear changes (approximately up to 3 %) will be studied in the laboratory. The pipe shall show no delamination, cracks or bubbles.

For more information go to www.iptnet.de
The impact resistance of PE corrugated pipes is important especially at low working temperatures.

The impact resistance is determined by 2 methods, staircase and round-the-clock. The type and grade of PE compound, profile geometrical shape and dimensions of the profile have influence on impact resistance of the pipes, particularly, at temperatures below 0°C. For the staircase-method the failure energy is determined and round-the-clock method is an examination around the circumference of the pipe against the impact resistance.
Ring Stiffness to ISO 9969
Model No. 1669/1663

Ring stiffness is the necessary force which can deflect the PE corrugated pipe to 3% of its initial diameter. This value is an important parameter specially for designers of sewerage networks as they should select the pipes and fittings considering to weight of the soil and traffic loads.

The parameters such as type and grade of the PE compound, dimensions (diameter and wall thickness) and geometrical parameters (profile designing and type) all influence the value of Ring Stiffness. Meanwhile, environmental conditions specially the temperature have a great effect on it.
Due to their performance (non-pressure) and because of the weight of the soil or traffic load, PE corrugated pipes are deflecting, gradually. The parameters such as type and grade of PE compound, pipe wall thickness and profile designing influence the Creep Ratio. According to Creep Ratio Law, with 2 years test duration and greater force, this test enables to estimate the deflection of the pipe during the service life (50 years).

For more information go to www.iptnet.de
This test specifies the ring flexibility of a thermoplastic pipes having a circular cross section.

During the test, a predefined force is applied on the pipe, which causes a 30% deflection.

According to this deflection it can be examined the following mentioned factors:

- Irreversible deflection: After releasing, the pipe shall return to its initial shape and has no yield.
- Quality of the layers adherence: No delamination and physical damage should be detected.

For more information go to www.iptnet.de 1669 1663