Competence creates Confidence.

Pipe Test Equipment for

PE GAS PIPES

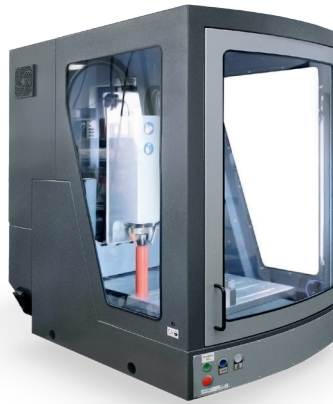
According to

EN 1555

ISO 4437

Model No. 1643

SPECIMEN MILLING MACHINE FOR PREPARATION OF TEST BARS



The IPT CNC-controlled unit has been specifically developed to meet the requirements of plastic pipe manufacturers and is capable of accommodating even the largest test bars required for PE pipes. Customized test specimen according to various standards such as EN, ISO, ASTM, etc. are available upon request.

For more information go to www.iptnet.de
1643

Model No. H3016

ELONGATION AT BREAK TO ISO 6259

This tensile test is a shortened inspection method to determine the tensile properties; in particular, the stress at yield, and elongation at break, of PE pipes. Failures of PE pipes are classified as ductile or brittle, whereas the ideal behavior of PE pipes is ductile, for which a high force and travel is required to obtain the required elongation range of the specimens (dumbbells) of over 350%.

For more information go to www.iptnet.de
H3016

Model No. 1653

RESISTANCE TO SLOW CRACK GROWTH TO ISO 13479

The crack growth rate of a pipe depends on the type of polyethylene used e.g. PE 63 / PE 80 / PE 100. The Notched Pipe Test is intended to mimic the growth of externally-made notches that might occur in the field. It may be regarded as a reference test considering the number of norms in which it is prescribed, and the number of years it has been in use. This standard specifies a method to determine the resistance to slow crack growth of polyolefin pipes. The test consists of a hydrostatic pressure test on a pipe with machined longitudinal notches on the outside surface with the result expressed in terms of time to failure. PE 100, for example, has a required test time of 165 hours at 80 °C for most application norms.

For more information go to www.iptnet.de
⌕ 1653

Model No. 1629/1671

RESISTANCE TO RAPID CRACK PROPAGATION TO ISO 13477

The test simulates the phenomenon of RCP in plastic pipes and measures the determination of arrest or propagation of an initiated crack. In pipelines, RCP caused by a small crack could run the length of several hundred meters of pipe almost at the speed of sound. This demands ever more awareness of RCP. The current EN / ISO standards provide a maximum operating pressure of 10 bar for natural gas and 25 bar for potable water pipelines.
The determination of the necessary testing pressure is based on the MOP (maximum operation pressure) and, for example, would result in a testing pressure of only 4.2 bar for a MOP of 10 bar.

For more information go to www.iptnet.de
⌕ 1629 ⌕ 1671

Model No. 1720/1751-1760

INTERNAL PRESSURE TEST TO ISO 1167/ASTM D 1598

The major test which can assure the pipes lifetime is the hydrostatic pressure test. The test is used to examine a polymer creep behaviour and is the basis on which the pressure rating, required dimensions or anticipated service life of pipes (over 50 years) can be determined.

More than 50 years experience. Our strength lies in our versatility, problem solving, quality and competitiveness. We invite you to share in our successful 50-year tradition of service .

For more information go to www.iptnet.de

⌕ 1720 ⌕ 1751-1760

Model No. H3014/1291

HEAT REVERSION TEST TO ISO 2505

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). The sample length is then compared to the original and the length reduction is calculated. Following thermal exposure and subsequent cooling, pipe samples become shorter. This can lead to a change in the installed pipes' roundness.
Once the test is completed, pipes measuring outside of the linear-change standard limit of 3% shall be examined in the laboratory. The pipes must show no delamination, cracks or bubbles.

For more information go to www.iptnet.de
⌕ H3014 ⌕ 1291

Model No. H3021

MOISTURE CONTENT TO EN 12118

Because of its carbon black structure, PE compound is capable of absorbing water.

If for any reason, the raw materials are stored over a long period of time, water absorption may increase and could cause some processing problems. These can, for instance, include cavities or bubbles in the wall or on the surface of the pipe.

The water content shall be not more than 300 mg / kg.

For more information go to www.iptnet.de
⌕ H3021

WHAT YOU HAVE

RAW MATERIAL

FINISHED PRODUCTS

WHAT YOU NEED TO TEST

chemical tests

thermal tests

sample preparation

physical/mechanical tests

raw material tests

measurement devices

WHAT WE OFFER

Products

additional products & supplies

IPT DataLogging® V6

customer care

After-sales service

Training

Reliable and time saving

IPT DATALOGGING® V6

How do you perform efficient quality control of quality control? Who counterchecks the test run if no one is there or if several of the tests are performed simultaneously? In combination with IPT's specialized software IPT DataLogging® V6, you are in command of a test management suite which continuously performs quality control with automatic 24-hour monitoring and recording of all ongoing procedures. The software monitors the accuracy of the data for the duration of the entire test; continuously reporting, displaying events and if requested, even forwards you the information by email or SMS. Thanks to this self-monitoring and diagnostics, malfunctions can be recognized early, thus minimizing unnecessary costs caused by test repetition.

YOUR BENEFITS ARE

> Automatic monitoring

> Automatic decentralized-control

> Documentation

> Unlimited number of tests simultaneously

PERFORMANCE CHARACTERISTICS 6.0

> Extensive configuration possibilities

> Optimal sample management

> Intuitive status management

> Multi-database access as well as data export

> Full network capability

> Integration of non-IPT equipment possible

> Integrated Webserver (for test presentation on tablet, PC or Smartphone)

Model No. H3002

DENSITY TO ISO 1183

Density is one of the major properties that characterize a PE compound. It is generally determined according to ISO 1183. Compound manufacturers are free to decide on the density of a compound. The only limitation is that the base density must be greater than 930 kg/m³ to prevent any LD-PE material from being used for PE 80/ PE 100 pressure pipes.

For more information go to www.iptnet.de
⌕ H3002

Model No. 1709

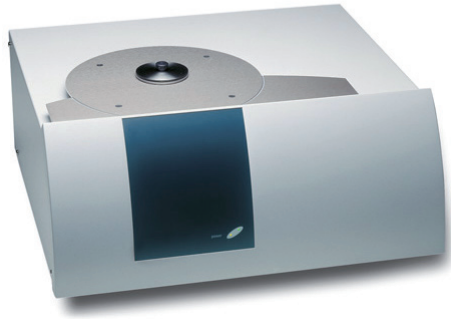
MFR/MVR TO ISO 1133

MFR gives an indication of the flow behavior of a PE pipe compound. The method has to be conducted as described in ISO 1133. For the nominal mean value there is no limitation given in the ISO 1133. The MFR range shall not exceed ± 20% of the nominal mean given by the compound producer. For pipe grades the MFR 190 °C – 5 kg is generally used.

For more information go to www.iptnet.de
⌕ 1709

Model No. H3003

OIT TO ISO 11357-6



The OIT indicates the presence of antioxidants in a pipe compound. The method is laid down in ISO 10837. The requirement to be fulfilled is an induction time of at least 20 min at a temperature of 200 °C.

For more information go to www.iptnet.de
H3003

Model No. 1398

CARBON BLACK CONTENT TO ISO 6964

Carbon Black is the only pigment used for black pipes. The evaluation has to be conducted according to ISO 6964. The content is limited to 2.0 – 2.5 % in order to provide long term UV resistance and to keep the impact on mechanical properties as low as possible.

More than 50 years of experience. Our strength lies in our versatility, problem solving, quality and competitiveness. We invite you to share in our successful 50-year tradition of service.

For more information go to www.iptnet.de
⌕ 1398

Model No. H3009/H3022

CARBON BLACK AND PIGMENT DISPERSION TO ISO 18553

The standard describes the method for preparing samples for evaluation as well as the way they are to be evaluated. Either microtome cuts or pressed films of a certain thickness are viewed under a microscope with a specific magnification. Through the use of a high-grain photomicrograph the size and number of agglomerates are evaluated and assigned to particular classes. Based on the number of agglomerates per class, a so-called grade can be calculated. Furthermore the standard contains a set of examples for background patterns for comparison, each reflecting a different degree.
The grade of a compound shall be less than or equal to note 3. It is recommended that the background patterns shall not be worse than degree B.

For more information go to www.iptnet.de
⌕ H3009/H3022

Model No. H3004

VOLATILE CONTENT TO ISO 12099

Depending on the efficiency of the Ziegler-Nata catalyst when PE synthesizes, some inactivated solvents or catalysts might be imprisoned in PE. This may cause the volatile materials to come to the surface of the pipe during pipe production and result in serious safety issues.
The volatile content shall not exceed 350 mg /kg after 1 hour of evaporation in an oven at 105 °C

For more information go to www.iptnet.de
⌕ H3004
