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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 35451.1-2017

**Polypropylene structure-wall piping systems for underground
drainage and sewerage - Part 1: Polypropylene double wall
corrugated pipes**

埋地排水排污用聚丙烯（PP）结构壁管道系统 第1部分：聚丙烯双壁波纹管材

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Foreword

GB/T 35451 "Polypropylene (PP) structural wall pipe system for buried drainage and sewage disposal" is divided into two parts.

---Part 1. Polypropylene double wall corrugated pipe;

--- Part 2. Polypropylene winding structural wall pipe. This part is the first part of GB/T 35451. This part is drafted in accordance with the rules given in GB/T 1.1-2009. Please note that some of the contents of this document may involve patents. The issuer of this document is not responsible for identifying these patents. This part was proposed by the China Light Industry Federation. This part is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC48). This section drafted by: Yonggao Co., Ltd., Gudi Technology Co., Ltd., Fujian Yatong New Materials Technology Co., Ltd., Zhejiang Weixing New Building Materials Co., Ltd., Zhejiang Zhongcai Pipeline Technology Co., Ltd., Hubei Jinniu Pipe Industry Co., Ltd., Guangdong Liansu Technology Industrial Co., Ltd., Asia Pacific Group Corporation. The main drafters of this section. Huang Jian, Fu Zhimin, Chen Yu, Li Dazhi, Chen Jianchun, Zheng Wei, Zhang Weifeng, Li Yu, Sun Huan.

Polypropylene (PP) structural wall pipe for buried drainage and sewage System Part 1.
Polypropylene double wall corrugated pipe

1 Scope

Part 1 of China's national standard for polypropylene structured wall pipes for buried drainage and sewerage, covering double wall corrugated pipe. It specifies the terms, definitions, symbols and abbreviations, the materials, the product classification, and the requirements that follow. A structured wall pipe gets its stiffness from its shape rather than from its thickness: a smooth inner wall carries the flow, and a corrugated outer wall gives the ring stiffness needed to resist the soil load, with the space between them empty. The result uses perhaps half the material of a solid wall pipe of the same performance, which for a product bought by the kilometre is the whole argument. Polypropylene rather than PVC or polyethylene brings a higher softening point, which matters for sewers that receive hot discharges. What a buried pipe standard must fix above all is ring stiffness and how it is measured, because that number and the quality of the installation decide whether the pipe survives the ground around it.

6.2 Connection method Pipes are generally connected by means of inserts with elastic sealing rings. The typical connection is shown in Figure 2. Can also use it He connected. Description. A

--- joint length; Di

--- The inner diameter of the socket. Figure

1.5 GB/T 3682

3 Thermal stability (oxidation induction time, 200 ° C, aluminum dish)/min $\geq 20 \geq 20$ GB/T 19466.6

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document. Plastics -- Determination of density of non-foam plastics -- Part 1 . Dipping method, liquid pycnometer method and titration method Determination of tensile properties of plastics - Part 2. Test conditions for moulding and extruded plastics

GB/T 2828.1. Sampling procedures for sampling by sampling - Part 1 . Batch-to-batch sampling plan, searched by AQL Standard environment for

GB/T 2918 plastic sample conditioning and testing

GB/T 3682 Determination of melt flow rate and melt volume flow rate of thermoplastics

GB/T 6111 Test method for internal pressure resistance of thermoplastic pipes for fluid transportation

GB/T 8806 Plastic pipe system - Determination of dimensions of plastic parts

GB/T 9341 Determination of bending properties of plastics

GB/T 9345.1-2008 Determination of ash - Part 1. General method

GB/T 9647 Determination of the stiffness of thermoplastic pipe rings

GB/T 14152-2001 Test method for resistance to external impact of thermoplastic pipes -

GB/T 18042 Test method for creep ratio of thermoplastic pipes

GB/T 19278-2003 General terms and definitions for thermoplastic pipes, fittings and valves

GB/T 19466.6 Plastic Differential Scanning Calorimetry (DSC) Part 6. Oxidation induction time (isothermal OIT) and oxidative induction Determination of temperature (dynamic OIT)

GB/T 21873 Rubber seals, drain pipes and sewage pipes for interface seal material specifications

2.5 MPa, 1000

h) a No damage, no leakage, no damage, no leakage GB/T 6111, Type A sealing joint

3.1 Terms and definitions The following terms and definitions as defined in

GB/T 19278-2003 apply to this document.

3.1.1 Nominal inner diameter DN/ID The nominal size associated with the inner diameter.

3.1.2 Average outer diameter meanoutsidediameter D_{em} The value obtained by dividing the outer circumference of the maximum cross section of the tube (excluding the socket) by the pi (3.142) is rounded up to

0.1 mm.

3.1.3 Mean inner diameter meininsidediameter D_{im} Two or more (two or more sets) of mutually perpendicular inner diameter arithmetic mean values are measured in the same section of the tubing (excluding the socket).

3.1.4 Mean inner diameter meininsidediameterofasocket D_{im} The arithmetic mean of two or more mutually perpendicular inner diameters is measured in the same section of the socket.

3.1.5 Laminated wall thickness walthicknessoftheinsidelayer(waterwaywalthickness) The thickness of the pipe wall between the corrugations of the pipe (see Figure 1).

3.1.6 Inner wall thickness walthicknessoftheinsidelayerunderaholowsection E

1 The thickness of any part of the inner wall of the pipe (see Figure 1).

3.1.7 Minimum joint length of the socket minimumlengthofengagementofthesocket A_{min} The minimum allowable value of the length of the joint between the seal and the cylindrical end of the inner wall of the socket (see Figure 2).

3.1.8 Nominal ring stiffness SN The nominal value of the stiffness of the tubing ring obtained by rounding is usually a round integer that is easy to use. [

GB/T 19278-2003, definition 6.6]

3.2 symbol The following symbols apply to this document. A. joint length D_i . the inner diameter of the socket D_{im} . average inner diameter of the socket DN/ID. nominal size in inner diameter D_e . outer diameter D_i . inner diameter D_{im} . average inner diameter e . laminated wall thickness E1. inner wall thickness L. effective length of pipe SN. nominal ring stiffness

3.3 Abbreviations The following abbreviations apply to this document. MFR. melt mass flow rate (meltmass-flowrate) OIT. oxidation induction time (oxidationinduction time) PP. Polypropylene PP-B. impact copolymerized polypropylene (polypropyleneblockcopolymer) TIR. true impact rate (trueimpactrate)

4 See 8.11

7.5 System Suitability When the pipe is connected by elastic sealing ring, the system