ICS 83.140.30
CCS G 33

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 5836.1-2018

Unplasticized poly(vinyl chloride) (PVC-U) pipes for soil and waste discharge inside buildings

建筑排水用硬聚氯乙烯(PVC-U)管材

Issued on: December 28, 2018 **Implemented on: July 1, 2019**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

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Foreword

GB/T 5836 is divided into 2 parts.

---GB/T 5836.2-2018 Unplasticized polyvinyl chloride (PVC-U) pipe fittings for building drainage. This part is Part 1 of GB/T 5836. This section was drafted in accordance with the rules given in GB/T 1.1-2009. This part replaces GB/T 5836.1-2006 "Unplasticized Polyvinyl Chloride (PVC-U) Pipes for Building Drainage", and GB/T 5836.1-2006 In comparison, the main technical changes are as follows:

---Added terms and definitions (see Chapter 3);

---Modified the material requirements and added the requirements for resin K value (see 4.2);

---Added the classification of pipes. According to whether the additives contain lead, they are divided into lead-free pipes and lead-containing pipes (see 5.2);

--- Corrected the nominal wall thickness of dn315 (see 6.3.1);

--- Increase the elongation at break requirements (see Table 4);

--- Deleted the requirements for the methylene chloride immersion test;

--- Increase lead limit requirements (see 6.6);

---Modified the pipe drop hammer impact test conditions (see 7.9);

---The factory inspection items have increased the density requirements (see 8.3.1);

---The size group of pipes has been added (see 8.4.1);

---Modified the sampling plan to increase the acceptance quality limit (AQL) from

6.5 to 4.0 (see 8.4.2);

1 Scope

Part 1 of China's national standard for unplasticized PVC pipes used for soil and waste discharge inside buildings. PVC-U replaced cast iron in building drainage almost completely, and for good reasons: it is a fraction of the weight, it is jointed by solvent welding rather than by caulking, it does not corrode, and its smooth bore does not accumulate deposits. Its limitations are equally definite and are what the requirements address. The material softens with temperature, so a discharge of hot water from a dishwasher or a bath is a real load case rather than a hypothetical one; it expands and contracts far more than iron, so a vertical stack of any height needs its movement accommodated; and it is more brittle in cold weather, which matters where a pipe is exposed. This part specifies the terms and definitions, materials, product classification, requirements, test methods, inspection rules, marking, transport and storage for extruded PVC-U pipes, may also be used for industrial drainage given the material's chemical and heat resistance, and is used with the fittings of GB/T 5836.2.

2.Unplasticized polyvinyl chloride (PVC-U), Chlorinated polyvinyl chloride (PVC-C) and high impact polyvinyl chloride (PVC-HI) pipes

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 1033.1-2008 Determination of the density of plastic non-foam plastics Part

GB/T 2918-1998 Standard environment for condition adjustment and testing of plastic samples

GB/T 5761-2006 Suspension method general-purpose polyvinyl chloride resin

GB/T 5836.2-2018 Unplasticized polyvinyl chloride (PVC-U) pipe fittings for building drainage

GB/T 6671-2001 Thermoplastic pipe longitudinal shrinkage determination

GB/T 8802-2001 Thermoplastic pipes and fittings Determination of Vicat softening temperature

GB/T 8804.2-2003 Determination of tensile properties of thermoplastic pipes Part

GB/T 8806-2008 Determination of the dimensions of plastic parts in plastic piping systems

GB/T 14152-2001 Thermoplastic pipe resistance to external impact test method hour hand rotation method

GB/T 19278-2018 General terms and definitions for thermoplastic pipes, fittings and valves

GB/T 21873-2008 Specification for interface sealing ring materials for rubber seals for water supply, drainage and sewage pipes

GB/T 26125-2011 Determination of six restricted substances in electronic and electrical products (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers) QB/T 2568-2002 Solvent adhesive for hard polyvinyl chloride (PVC-U) plastic piping system QB/T 2803-2006 Rigid plastic pipe bending degree measurement method

3 Terms and definitions

The following terms and definitions defined in GB/T 19278-2018 apply to this document.

3.1 Un-leaded pipe Take polyvinyl chloride (PVC) resin as the main raw material, and do not use lead additives in the production process.

4 Materials

4.1 The material for the production of pipes should be a mixture of unplasticized polyvinyl chloride (PVC-U). The mixed ingredients should be mainly polyvinyl chloride (PVC) resin, and add Necessary additives, additives should be evenly dispersed.

Note. See Appendix A for the performance of mixed ingredients.

4.2 PVC resin should meet the requirements of GB/T 5761-2006, and the K value should not be less than 64.

4.3 It is allowed to use a small amount of clean recycled materials produced by the same product produced by the factory.

4.4 Adhesive for connection should meet the requirements of QB/T 2568-2002.

4.5 The elastic sealing ring should meet the requirements of GB/T 21873-2008.

5 Product Classification

5.1 According to the connection form, it is divided into adhesive connection type pipe and elastic sealing ring connection type pipe.

5.2 According to the lead limit value, it is divided into lead-free pipes and lead-containing

pipes.

6 Requirements

6.1 Appearance The inner and outer walls of the pipe should be smooth, without bubbles, cracks, obvious marks, depressions, uneven color and discoloration lines. Both ends of the pipe should be cut flat and perpendicular to the axis.

6.2 Color The pipe is generally white or gray, and other colors are determined by the supplier and the buyer through negotiation.

6.3 Dimensions

6.3.1 Average outer diameter, wall thickness and out-of-roundness of the pipe The average outer diameter, wall thickness and out-of-roundness of the pipe shall meet the requirements of Table 1.

6.3.4 Pipe socket size

6.3.4.1 Adhesive connection type pipe socket size Adhesive connection type pipe socket size should meet the requirements of Table 2, the schematic diagram is shown in Figure 2.

6.3.4.2 Elastic sealing ring connection type pipe socket size The size of the socket of the elastic sealing ring connecting pipe should meet the requirements of Table

3.The schematic diagram is shown in Figure 3.

6.4 Physical and mechanical properties of pipes The physical and mechanical properties of the pipe should meet the requirements of Table 4.

6.5 System suitability The elastic sealing ring connection type socket shall be tested for system suitability for water tightness and air tightness, and the results shall meet the requirements of Table 5.

6.6 Lead limit The lead limit value of lead-free pipes should not be greater than.200mg/kg.

7 Test method

7.1 State adjustment Except for special regulations, according to GB/T 2918-1998, the state should be adjusted at (23±2)°C for at least 24h, and in the same Test under the same conditions.

7.2 Appearance and color Visual inspection.

7.3 Pipe size measurement

7.3.1 Average outer diameter Measure according to GB/T 8806-2008 regulations. In case of