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

**GB/T 20674.1-2020**

Replacing GB/T 20674.1-2006

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**Plastics pipes and fittings. Equipment for fusion jointing  
polyethylene systems - Part 1: Butt fusion**

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### Foreword

GB/T 20674 "Plastic pipes and pipe fittings polyethylene system welding equipment" is divided into 4 parts.

---Part 1.Hot Fusion Butt;

---Part 2.Electrofusion connection;

---Part 3.Operator code;

---Part 4.Traceable coding.

This part is Part 1 of GB/T 20674.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 20674.1-2006 "Plastic pipes and pipe fittings polyethylene system welding equipment Part 1.Hot melt

Next, compared with GB/T 20674.1-2006, the main technical changes are as follows.

---Deleted the operating temperature range; added a note about the application range of hot melt docking equipment (see Chapter 1, Chapter 1 of the.2006 edition);

---Relevant terms and definitions have been revised (see Chapter 3, Chapter 3 of the.2006 edition);

---Modified the equipment classification, and added a note about the working temperature, larger diameter and larger wall thickness of the hot fusion butt equipment.

(See Chapter 4, Chapter 4 of the.2006 edition);

---Added appearance, safety, and cable requirements (see 5.1~5.3);

--- Deleted the manual system (see.2006 version 5.2.2);

---Modified the interchangeability requirements of fixtures from Note to text (see 5.4.1, 5.1.1 of the.2006 edition);

---Added the unique coding and identification of hot melt docking equipment and the mobile identification requirements of the movable fixture (see 5.4.1.1);

---Modified the switching time requirements of hot melt docking equipment (see 5.4.2.1,.2006 version 5.1.2.1);

---Modified the maximum clearance requirements (see 5.4.2.2,.2006 version 5.1.2.2);

---Modified the maximum axial deviation requirements after the support roller is removed (see 5.4.2.3,.2006 edition 5.1.2.3);

---Added the unique coding requirement of the transmission system hot melt docking equipment (see 5.5.1);

---Relevant requirements for drag pressure compensation have been modified; relevant requirements for net force and interface force have been added (see 5.5.2,.2006 edition 5.2.5);

---Added the unique code identification of hot melt docking equipment (see 5.6.1, 5.7.1);

---Added the power supply voltage rated frequency requirements (see Chapter 6);

---Added the switching time test method, added the interface force test method; added the automatic hot melt docking equipment test method,

Modified the rigidity test method under bending conditions and the heating plate test method (see Chapter 7, Chapter 7 of the.2006 edition);

---Added maintenance related requirements (see Chapter 9);

---Added periodic inspections and requirements, and revised the relevant requirements for factory inspection and type inspection (see Chapter 10, Chapter 9 of the.2006 edition);

---Added relevant information about equipment signs (see Chapter 11);

---Added other performance requirements for automatic hot melt docking equipment (see Appendix C);

--- Added classification and code characterization (see Appendix D).

This part uses the redrafting method to modify and adopt ISO 12176-1.2017 "Plastic pipes and pipe fittings polyethylene system welding equipment No.

#### Part 1.Hot Fusion Butt.

Compared with ISO 12176-1.2017, this part has more structural adjustments. This part and ISO 12176-1 are listed in Appendix A.

The.2017 chapter number comparison list.

Compared with ISO 12176-1.2017, this part has technical differences. The clauses related

to these differences have been passed on the outer margins.

The vertical single line (?) of the position is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B.

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

This part was proposed by the China National Light Industry Council.

This part is under the jurisdiction of the National Plastic Products Standardization Technical Committee (SAC/TC48).

Drafting organizations of this section. Chinaust Plastic Products Co., Ltd., Xi'an Sulong Welding Equipment Co., Ltd., Rosenberg (Wuxi) Pipeline Technology

Co., Ltd., Ganghua Huixin Engineering Plastics (Zhongshan) Co., Ltd., Guangzhou Special Pressure Equipment Testing and Research Institute, China Petroleum & Chemical Corporation

Company Beijing Research Institute of Chemical Industry, Jinan Bada Plastic Pipe Welding Equipment Co., Ltd., Nansu Building Materials Plastic Products (Shenzhen) Co., Ltd., Jilin Province

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## 1 Scope

This part of GB/T 20674 specifies the heat-fusion butting equipment for polyethylene (PE) piping system heated by electric heating plates (referred to as fusion equipment)

Terms and definitions, classification, requirements, power supply, test methods, auxiliary devices and random documents, maintenance, inspection rules, signs, packaging, transportation and

Store.

This part, together with other parts of GB/T 20674, is applicable to welding equipment for polyethylene pipes and fittings for gas/water supply.

Gas pipes and fittings comply with GB/T 15558 (all parts), and pipes and fittings for drinking water and general pressure water transmission comply with GB/T 13663

(All parts).

Note. Welding equipment is used for prefabricated connection of gas/water supply components (such as valves, steel-plastic conversion, etc.) or for nuclear power pipes, PE-RT pipes for cold and hot water,

When connecting industrial pipes, composite pipes, etc., the supply and demand parties

shall negotiate and agree.

## 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 document.

For undated references, the latest version (including all amendments) applies to this document.

GB 2894 Safety signs and guidelines for their use

GB/T 3505 Product Geometric Technical Specification (GPS) Surface structure profile method terms, definitions and surface structure parameters

(GB/T 3505-2009, ISO 4287.1997, IDT)

GB/T 4208 enclosure protection class (IP code) (GB/T 4208-2017, IEC 60529.2013, IDT)

GB/T 5013.4 Rubber insulated cables with rated voltages of 450/750V and below Part 4.Flexible wires and flexible cables (GB/T 5013.4-

2008, IEC 60245-4..2004, IDT)

GB/T 11337-2004 Flatness error detection

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

GB 19517-2009 National Electrical Equipment Safety Technical Code

GB/T 20674.3 Polyethylene system welding equipment for plastic pipes and fittings-Part 3.Operator code (GB/T 20674.3-

2020, ISO 12176-3.2011, MOD)

GB/T 20674.4 Polyethylene system welding equipment for plastic pipes and fittings-Part 4.Traceability coding (GB/T 20674.4-

2020, ISO 12176-4..2003, MOD)

GB/T 32434 Plastic pipes and pipe fittings, polyethylene (PE) pipes and pipe fittings for gas and water distribution systems

(GB/T 32434-2015, ISO 21307.2011, MOD)

## 3 Terms and definitions

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

### 3.1

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