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**PHARMACEUTICAL INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YY 0710-2025

Replacing YY 0710-2009

Dentistry - Polymer-based crown and veneering materials

牙科学 聚合物基牙冠和贴面材料

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Foreword

This document is in accordance with GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. This document replaces YY 0710-2009 "Polymer-Based Crown and Bridge Materials in Dentistry". Compared with YY 0710-2009, the only changes are structural adjustments. Aside from editorial changes, the main technical changes are as follows:

---The statement "This document does not apply to polymer-based materials used in direct dental restorations, such as crowns, veneers, or repairs" has been removed (see 2009). Chapter 1 of the edition);

---The requirements for ambient light sensitivity and the corresponding tests have been removed (see

7.3 in the 2009 edition);

---The category 2, Class 1 materials includes "pre-cured polymer-based crowns and veneers" (see Chapter 4);

---Biocompatibility has been removed (see 5.1 in the 2019 version);

---A footnote b has been added to Table 1. "If the material is a pre-cured polymer-based crown or veneer, no testing is required" (see Table 1);

---The sample preparation process has been expanded to include additional requirements for the preparation of pre-cured polymer-based crowns and veneers (see 7.4, 7.5.3.1, 7.7.3, 7.8.4);

---The specific grit size range has been added after the sandpaper grade (see 7.5.2.3);

---The thickness of the water absorption value and solubility value samples, as well as the color consistency and color stability samples, has been changed from "(1.0±0.2) mm" to "(1.0±0.1)mm" (see 7.7.3, 7.8.4, and

7.9.4 in the 2019 edition);

---The requirements for specimens in color consistency and color stability have been changed (see 7.8.4,

1 Scope

YY 0710 is the mandatory standard for polymer-based crown and veneering materials in dentistry, the composite and resin systems used to build or face a restoration. It specifies their classification and requirements and describes the experimental methods used to

determine compliance. These materials live in the mouth under cyclic load, thermal swings and staining agents, so flexural strength, water sorption, solubility and colour stability are the properties that decide whether a restoration lasts, and they are what the test methods target. The YY prefix without /T makes compliance compulsory in China. The 2025 edition takes effect on 1 July 2028, giving three years of transition. For a manufacturer or an importer of dental composites and veneering polymers, this is the governing document.

This document specifies the classification and requirements for polymer-based dental crowns and veneers, and describes the tests used to determine whether these requirements are met. method. This document applies to polymer-based crowns and veneers used in dental labs (dental fabrication labs or dental technology labs) for the fabrication of formal crowns or veneers. Materials are also suitable for polymer-based materials that manufacturers claim can bond to substrate structures without the need for macroscopic mechanical fixation (such as beads or threads). Dental crowns and veneers.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 4340.1 Metallic materials - Vickers hardness test - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 9937 and the following terms and definitions apply to this document. ISO and IEC maintain a standardized terminology database at the following address.

---IEC Electropedia. <http://www.Electropedia.org>. Composed of powders, liquids, or pastes, it may contain monomers, inorganic fillers, and/or polymer fillers, and after polymerization, it is suitable for making formal dental crowns or... Veneer.

Note 1.(Material) polymerization is activated by mixing initiators and catalysts ("self-curing" materials) and/or by external energy ("thermosetting" materials) through heating. And photoactivated materials irradiated by visible light ("photocurable" materials) and/or by ultraviolet (UV) irradiation. Note

2.Polymer-based crown and veneer materials used in dental labs (dental fabrication labs or dental craft labs) for the fabrication of formal veneers or crowns may or may not be used. Attached to the substrate structure.

4 Classification, Type

2 Class 1 materials have been expanded to include "pre-cured polymer-based crowns and veneers" (see Chapter 4) to suit... In response to market demand;

---Footnote b has been added to Table 1 to better reflect practical applications;

---The requirement of "not less than 5 MPa" has been added (see 5.5.2,

5.5.2 in Table 2, and 7.6.1.5.2) to meet the minimum requirement of 5.5.1;

---Added test method 2 for bond strength and Figure 4 (see 7.6.2) to increase operability;

---In sample preparation, additional requirements have been added for the preparation of pre-cured polymer-based crowns and veneers (see 7.4, 7.5.3.1). (7.7.3, 7.8.4) to increase operability;

---Add a specific grit size range after the sandpaper grade (see 7.5.2.3) to increase operability; The following editorial changes have also been made to this document.

---Corrected typos in ISO 10477.2020 regarding the thickness of samples for water absorption and solubility values, as well as color consistency and color stability. The value of "(1.0±0.2)mm" is corrected to "(1.0±0.1)mm" (see

7.7.3 and 7.8.4). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the National Medical Products Administration. This document is under the jurisdiction of the National Technical Committee on Standardization of Dental Materials and Instruments (SAC/TC99). The release history of this document and the document it replaces is as follows:

---First released in.2009 as YY 0710-2009;

---This is the first revision.

This document does not include specific qualitative and quantitative testing methods to demonstrate the absence of unacceptable biohazards, but recommends using these methods when assessing potential biological hazards. When studying the hazards, refer to GB/T 16886.1 and YY/T 0268. Dental polymer-based crowns and veneers