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Titania doped silica glass for lithography

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by China Building Materials Federation.

This document is under the jurisdiction of the National Technical Committee for Standardization of Industrial Glass and Special Glass (SAC/TC447).

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Titanium-doped quartz glass for photolithography

1 Scope

This document specifies the requirements, inspection rules, and marking, packaging, and transportation of titanium-doped quartz glass for lithography (hereinafter referred to as titanium-doped quartz glass).

Transport and storage, and the corresponding test methods are described.

This document applies to the production, inspection, delivery and acceptance of titanium-doped quartz glass used in semiconductor integrated circuit lithography reflective optical systems.

2 Normative references

GB/T 191

GB/T 5949

GB/T 7962.7

GB/T 43881

3 Terms and definitions

The terms and definitions defined in JC/T 2205 and the following apply to this document.

3.1

Quartz glass containing titanium dioxide whose average linear thermal expansion coefficient is not greater than 5x10-8 °C-1 within a certain temperature range.

Note. The minimum test temperature of the average linear thermal expansion coefficient shall not be lower than -50°C and the maximum test temperature shall not exceed 300°C.

4.1 Specifications and dimensions

The diameter (or length and width) and its deviation, thickness and its deviation, key area

and non-key area of titanium-doped quartz glass shall be agreed upon by the supply and demand parties.

The schematic diagram of key areas and non-key areas is shown in Figure 1.