***भारतीय मानक***

***Indian Standard***

**IS 5920 (Part 11) : 2024**

**ISO 10110-17 : 2004**

प्रकाशिकी और फोटोनिक्स — प्रकाशीय तत्वों और प्रणालियों के लिए आरेखण तैयार करना

भाग 11 लेजर विकिरण क्षति सीमा

**Optics and Photonics — Preparation**

**of Drawings for Optical Elements**

**and Systems**

**Part 11 Laser Irradiation Damage**

**Threshold**

ICS 01.100.20; 37.020; 31.260

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

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**March 2024 Price Group**

Optics and Photonics Sectional Committee, PGD 39

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 10110-17 : 2004 ‘Optics and photonics — Preparation of drawings for optical elements and systems — Part 17: Laser Irradiation Damage Threshold ’ issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Optics and Photonics Sectional Committee and approval of the Production and General Engineering Division Council.

This standard specifies the presentation of design and functional requirements for optical elements in technical drawings used for manufacturing and inspection. This standard also specifies rules for the indication of the damage threshold from laser irradiation up to which optical surfaces shall not exhibit any damage as defined in ISO 11254-1.

This standard has been published in thirteen parts. Part 1 of this series supersedes the originally published Indian Standard IS 5920 : 1970 ‘Recommendation for the preparation of drawing for optical elements and system’. The other parts in this series are:

Part 1 General

Part 2 Surface form tolerances

Part 3 Centering tolerances

Part 4 Surface imperfections

Part 5 Surface texture

Part 6 Surface treatment and coating

Part 7 Non-tolerance data

Part 8 Aspheric surfaces

Part 9 Wave front deformation tolerance

Part 10 Diffractive surfaces

Part 12 Stress birefringence, bubbles and inclusions, homogeneity, and striae

Part 13 General description of surfaces and components

The text of ISO standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following

1. Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
2. Comma (,) has been used as a decimal marker while in Indian Standards, the current-practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in its place is listed below along with its degree of equivalence for the edition indicated.

|  |  |  |
| --- | --- | --- |
| *International Standard* | *Corresponding Indian Standard* | *Degree of Equivalence* |
| ISO 10110-5 Optics and optical instruments — Preparation of drawings for optical elements and systems — Part 5 : Surface form tolerances | IS 5920 (Part 2) : XXXX/ISO 10110-5 : 2015 Optics and photonics — Preparation of drawings for optical elements and systems : Part 5 Surface form tolerance | Identical |
| ISO 10110-6 Optics and optical instruments — Preparation of drawings for optical elements and systems — Part 6 : Centring tolerances | IS 5920 (Part 3) : XXXX/ISO 10110-6 : 2015 Optics and photonics — Preparation of drawings for optical elements and systems : Part 6 Centring tolerances | Identical |
| ISO 10110-7 Optics and optical instruments — Preparation of drawings for optical elements and systems — Part 7 : Surface imperfection tolerances | IS 5920 (Part 4) : XXXX/ISO 10110-7 : 2017 Optics and photonics — Preparation of drawings for optical elements and systems : Part 7 Surface imperfections | Identical |
| ISO 11145 Optics and optical instruments — Lasers and laser-related equipment — Vocabulary and symbols | IS/ISO 11145 : 1994 Optics and optical instruments - Lasers and laser - Related equipment - Vocabulary and symbols | Identical |

The technical committee has reviewed the provisions of the following International Standard this referred in this adopted standard and has decided that it is acceptable for use in conjunction with standard.

|  |  |
| --- | --- |
| *International Standard* | *Title* |
| ISO 11254-1 | Lasers and laser-related equipment — Determination of laser-induced damage threshold of optical surfaces — Part 1 : 1-on-1 test |
| ISO 11254-2 | Lasers and laser-related equipment — Determination of laser-induced damage threshold of optical surfaces — Part 2 : S-on-1 test |