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

GB/T 39645-2020

**Technical drawings - Symbols for geometrical tolerancing
proportions and dimensions**

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Standardization Administration**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1:1-2009:

This standard uses the redrafting method to modify the ISO 7083:1983 "Technical Drawing Geometric Tolerance Symbol Ratio and Dimensions":

The technical differences between this standard and ISO 7083:1983 and the reasons are as follows:

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments:

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows:

* Replace ISO 1101 with GB/T 1182-2018, which is modified to adopt international standards;

* Replace ISO 3098-1 with GB/T 14691, which is equivalent to the international standard;

* The international standard ISO 5459 is deleted:

---Added Figure 15~Figure 25, Figure 27~Figure 52, Figure 55~Figure 57, Figure 60~Figure 62, in line with my country's standards:

---Delete the original image 15 in ISO 7083:1983, replace the original image 16 and image 17 in ISO 7083:1983 as image 58, and replace the original image

Figure 18 is Figure 59, which replaces the original Figure 19 as Figure 53, and replaces the original Figure 21 as Figure 54, which is consistent with my country's standards:

This standard also made the following editorial changes:

---Modified the standard name:

This standard was proposed and managed by the National Technical Product

Documentation Standardization Technical Committee (SAC/TC146):

Drafting organizations of this standard: Beijing Kexinjiyuan Information Technology Co., Ltd., Xi'an Jesse Aviation Technology Co., Ltd., Maanshan Fangyuan Precision

Machinery Co., Ltd., Beijing Institute of Technology, Hunan Vocational and Technical College of Industry, Qingdao Mesduff Standard Technical Service Co., Ltd., Guangdong Special

Zhongshan Testing Institute, China National Heavy Duty Truck Group Co., Ltd., Anhui Quality and Standardization Research Institute, Dalian Science and Technology

Institute, Shanghai Shushe Technology Co., Ltd., CRRC Qishuyan Locomotive and Rolling Stock Technology Research Institute Co., Ltd., Xi'an Rongjun General Standardization Research Institute have

Limited Liability Company, China Machinery Productivity Promotion Center, Changshu Zhongke Century Biotechnology Co., Ltd., Heke Software (Beijing) Co., Ltd., An

Hui Province Product Quality Supervision and Inspection Institute:

1 Scope

This standard specifies the recommended form and ratio of symbols used for marking geometric tolerances on product technical drawings and product technical documents:

size:

This standard is applicable to various drawing methods such as computer, manual, template, and drawing:

The size of these symbols is based on the font standard height given by GB/T 14691:

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 1182-2018 Product Geometric Technical Specification (GPS) Geometric tolerance shape, direction, position and runout tolerance label

(ISO 1101:2017, MOD)

GB/T 14691 technical drawing fonts (GB/T 14691-1993, ISO 3098-1:1974, EQV)

3 General requirements

3:1 The fonts contained in the symbols should comply with the requirements of GB/T 14691:

3:2 On the same technical drawing, the type, height and line type of the font in the symbol should be the same as the font size of the figure and other marks:

4 Form and proportion

The forms and proportions of symbols and boxes used in conjunction with type B fonts or italics are shown in Figures 1 to 62:

Symbols should be drawn on a grid with spacing equal to the thickness of the line: The type of mark font is mostly not shown in the figure, but it should be

Type B in GB/T 14691 is the same as straight or italic:

For A-type straight or italic fonts, a grid suitable for it should be used, but attention should be paid to:

---The grid should be drawn as a square or rectangle;

--- The symbols and additional symbols (see GB/T 1182-2018) indicating the tolerance features, straight or italic, should be entered according to Figure 1 to Figure 62

Line drawing: