



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

GB/T 131-2006

**Geometrical Product Specifications (GPS) -- Indication of
Surface texture in technical Product documentation
(English Translation)**

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Foreword

This Standard equivalently adopted ISO 1302:2002 Geometrical Product Specifications (GPS)

- Introduction of Surface Texture in Technical Product Documentation (English Version).

For the benefit of use, this Standard made the following editorial modifications.

--- Delete the Foreword and Introduction in the International Standard;

--- Modify some descriptions apply to the international standard into that apply to Chinese Standard; e.g.. modify the marking example in the international standard such as R_{alpha}

0.3 and R_z 0.9, etc. into R_{alpha} 0.2 and R_z 0.8, etc.

This Standard was formulated by reference of the serial standards on (GPS) surface texture published in 1996 and 1997.

This Standard replaced GB/T 131-1993 Mechanical Drawings - Surface Roughness Symbols

and Methods of Indicating.

Compared with Chinese standard in 1980s, this Standard made great changes in the technical

contents. For instance, some marking examples in the standard have been re-interpreted totally.

In this Standard, the Annex A is normative; while Annexes B, C, D, E, F, G, H, I and J are informative.

This Standard shall be under the jurisdiction of National Technical Committee on Product Dimension and Geometric Element Specifications of Standardization Administration of China.

Drafting organizations of this Standard. China Productivity Centre for Machinery, China Academy of Machinery Science & Technology; National Institute of Metrology; Times Group Co., Ltd.; and Jiangsu Teachers University of Technology.

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Geometrical Product Specifications (GPS) - Introduction of
Surface Texture in Technical Product Documentation

1 Scope

This Standard specifies the rules for the indication of surface texture in technical product documentation (e.g., drawings, specifications, contracts, reports) by means of graphical symbols and textual indications.

2 Normative References

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

3 Terms and Definitions

For the purposes of this Standard, the terms and definitions given in GB/T 6062, GB/T 3505,

GB/T 10610, GB/T 13361, GB/T 18777, GB/T 18618, GB/T 18778.2, GB/T 18778.3, GB/T

18780.1 and the following apply.

(Surface texture) basic or expanded graphical symbol expanded in order to facilitate the addition of complementary surface texture requirements (see Figure 4).

4 Graphical Symbols for the Indication of Surface Texture

When complementary requirements for surface texture characteristics have to be indicated, a

line shall be added to the longer arm of any of the graphical symbols illustrated in Figures 1 to 3, as shown in Figure 4.

5 Composition of Complete Graphical Symbol for Surface Texture

The mandatory positions of the various surface texture requirements in the complete graphical

symbol are shown in Figure 6.

6 Indication of Surface Texture Parameters

See annex E. If the parameter designations are indicated as in annex E, without "max". this means that the default definition or the default interpretation of the specification limit ("16 %-

rule". see 5.2 of GB/T 10610-1998) is invoked. See 5.3 of GB/T 10610-1998 for an indication

of the "max-rule" for the interpretation of the specification limit.

7 Indication of Manufacturing Method or Related Information

The surface texture parameter value of an actual surface is strongly influenced by the detailed

form of the profile curve.

8 Indication of the Surface Lay

The surface lay and direction of the lay emanating from the manufacturing process (e.g., traces left by tools) may be indicated in the complete symbol by using the symbols shown in Table 2 and illustrated by the example in Figure 14. The indication of surface lay by the defined symbols (e.g., the perpendicular symbol in Figure 14) is not applicable to textual indications.

9 Indication of Machining Allowance

In the same drawing, the surface of multiple machining operations can be marked with machining allowance, for example, the machining allowance is given in a casting and forging drawing representing a switch of a finished part (see Figure 15). The machining allowances given in Figure 15 are not applicable to text.

11 Position on Drawings and other Technical Product Documentation

If there is no risk of misinterpretation, the surface texture requirement may be indicated in connection with the dimensions given, as shown in Figure 19.

Annex A

(Normative)

Proportions and Dimensions of Graphical Symbols

In order to harmonize the size of the symbols specified in this International Standard with those of other inscriptions on technical drawings (dimensions, geometrical tolerances, etc.) the rules given in ISO 81714-1:1999 are applicable.

Annex B

(Informative)

Meanings of Surface Texture Symbols and Codes

Annex C

(Informative)

Examples of Indication of Surface Texture Requirements