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

GB/T 12105-2026

Replacing GB/T 12105-2017

General technical requirements for electronic keyboards

电子琴通用技术要求

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5 Requirements

5.1 Usage Environment The product should be able to work normally under ambient temperature conditions of 5°C~40°C and relative humidity of 45%~85%.

5.2 Functional Devices The functional devices shall conform to the requirements of Table 1.

5.3 Acoustic Quality

5.3.1 Legal System The twelve-tone equal temperament should be adopted.

5.3.2 Standard Pitch The 'a' sound in the first octave should be 440Hz.

5.3.3 Tone High-end frets should simulate a realistic tone, mid-range frets should simulate a fairly realistic tone, and entry-level frets should simulate a reasonably realistic tone.

5.3.4 Timbre Name It should comply with the provisions of Chapter 4 of GB/T 33722-2025.

5.3.5 Sound Quality It should comply with the provisions of Table 2.

5.3.6 Pitch fine-tuning device For those with pitch fine-tuning devices, the adjustable range should be greater than (inclusive) -50 cents to 50 cents, and have a reset function.

5.3.7 Permissible pitch error within the reference pitch group Using f-e1 as the reference pitch group, the permissible pitch error within the reference pitch group should conform to the provisions of Table 3.

5.3.8 Pitch stability Within the reference pitch group, the pitch variation of the same key should not exceed 2 cents.

5.4.1 Keyboard

5.4.1.1 Difference between the key drop depth and the white key drop depth of the entire keyboard It should comply with the provisions of Table 4.

5.4.1.2 Surface height difference of white bonds It should comply with the provisions of Table 5.

5.4.1.3 Key Movement The keys should be sensitive and not rub against each other; there should be no mechanical noise that affects the sound of the performance when pressing and releasing the keys; the keys should return to their original position quickly when released. Viscous.

5.4.1.4 The starting point of sound production on the piano keys It should be located at 1/3 to 3/4 of the sinking depth.

5.4.1.5 Key Load It should comply with the provisions of Table 6.

5.4.1.6 Load difference between two adjacent white keys and two adjacent black keys on the keyboard The value should not exceed 0.15N.

5.4.1.7 Key width and spacing It should comply with the provisions of Table 1 in QB/T 4131-2010.

5.4.1.8 Key Surface It should be flat and free from obvious shrinkage, scratches, cracks, stains, sharp edges, or other defects.

5.4.1.9 Key Durability After the durability test in section 7.4.1.9, the piano keys should not exhibit any defects that affect performance.

5.4.1.10 Force Keyboard The range of intensity variation should not be less than 26 dB.

5.4.2 Volume pedal interface When the volume pedal is connected, it should be able to fully represent the changes in volume and volume, and its sound pressure level change range should not be less than 30dB.

5.4.3 Sustain Function

5.4.3.1 Sustain Button There should be a noticeable sustain effect; the sustain time of the C1 note should not be less than 3 seconds.

5.4.3.2 Sustain Pedal Interface When the sustain pedal is engaged, there should be a noticeable sustain effect; the sustain time for C1 should not be less than 5 seconds.

5.5 Electroacoustic performance

5.5.1 Noise Level It should comply with the provisions of Table 7.

5.5.2 Total Harmonic Distortion of the Sound System It should comply with the provisions of Table 7.

5.5.3 Signal-to-noise ratio at the line output It should comply with the provisions of Table 7.

5.5.4 Maximum sound pressure level of a single key tone in the reference pitch group Using f~e1 as the reference pitch group, the maximum sound pressure level of a single key tone within the reference pitch group should conform to the provisions of Table 7.

5.5.5 Maximum volume variation of adjacent musical notes on the full keyboard It should be even and without any jumps.

5.5.6 Changes in Sound Pressure Level The force required varies with the feel, and there is no significant difference in the force response between adjacent keys.

5.5.7 Wireless MIDI Transmission It should not affect the musical expression.

Note. This applies to products with wireless MIDI transmission and reception capabilities.

5.5.8 Polyphony It should comply with the provisions of Table 1.

5.6 Safety Performance

5.6.1 Security It should comply with the relevant provisions of Chapters 4 to 6, 7.6, and Chapters 8 to 10 of GB 4943.1-2022.

5.6.2 Electromagnetic Compatibility. Radiated and Conducted Emissions It should comply with the provisions of Appendix A in GB/T 9254.1-2021.

5.6.3 Harmonic Current Limits It should comply with the provisions of Chapter 7 of GB 17625.1-2022.

5.6.4 Radio Frequency Specifications It should comply with the provisions of Chapter 5 of YD/T 3168-2016.

Note. This excludes low-power short-range radio transmitting equipment.

5.7 Power Adaptability

5.7.1 AC power supply The product should be able to operate normally within a frequency range of (50 ± 1) Hz and a voltage range of (220 ± 22) V.

5.7.2 DC Power Supply The product should be able to operate normally when the rated voltage deviates by $\pm 10\%$.

5.8 Appearance and Structure

5.8.1 The surface of the instrument body should be free from burrs, bubbles, cracks, deformation, obvious scratches, and overflow of the filling.

5.8.2 Metal parts should be free from rust, and plating or coating should not peel off.

5.8.3 Structural components should be free from mechanical damage.

5.8.4 The control elements should be complete, the action should be sensitive, and the control effect should be effective.

5.8.5 Text and symbols should be clear.

5.9 Environmental Testing After the

7.9 test, the product shall comply with the provisions of 5.3.2, 5.3.5~5.3.8, 5.4~5.8, and 5.11.

5.10 Limits for Hazardous Substances It should comply with the relevant provisions in GB 28489.

5.11 Energy Consumption It should comply with the provisions of

6.1.2 in GB/T 37878-2019.

6 Recycling of waste products

6.1 For general principles of electronic keyboard design and manufacturing, see Chapter 4 of GB/T 31731-2015.

6.2 For the classification, recycling, dismantling, storage, utilization, treatment and disposal of discarded electronic keyboards, see Chapter 5 of GB/T 31731-2015. Chapter 10.