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

GB/T 22530-2022

Replacing GB 22530-2008

**Safety requirements for rubber and plastics injection moulding
machines**

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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.

This document replaces GB 22530-2008 "Safety Requirements for Rubber and Plastic Injection Molding Machines".

In addition to rectification and editorial changes, the main technical changes are as follows.

a) Added terms and definitions (see 3.1.1~3.1.4, 3.1.6~3.1.8, 3.1.14, 3.1.16, 3.1.19~3.1.21, 3.1.23~

3.1.26);

b) Changed terms and definitions (see 3.1.5, 3.1.9~3.1.13, 3.1.15, 3.1.17, 3.1.18, 3.1.22, 3.1~3.1.22 of the.2008 edition

3.6, 3.9~3.11);

c) Changed the schematic diagram of the rotary machine [see Figure 1, Figure 1a), Figure 1b) of the.2008 edition];

d) Changed the schematic diagram of the slide reciprocating machine (see Figure 2, Figure 2 of the.2008 edition);

e) Changed the schematic diagram of the turntable machine (see Figure 3, Figure 3 of the.2008 edition);

f) Changed the schematic diagram of the multi-station machine with movable injection device [see Figure 4 and Figure 5, Figure 4a) and Figure 4b) of the.2008 edition];

g) Added start, stop and reset functions (see 4.1.2);

- h) Changed the specific safety requirements for emergency stop (see 4.1.3, 5.1.2, 5.4.7.1 of the.2008 edition);
- i) Changed the safety requirements for fixed guards (see 4.1.4, 5.1.4 of the.2008 edition);
- j) Changed the description of safety devices (see 4.1.4~4.1.7, 5.1.3~5.1.5 of the.2008 edition);
- k) Changed the requirements for automatic monitoring (see 4.1.8, 5.4.7.7 of the.2008 edition);
- l) Changed the requirements for the movement caused by gravity in the production process (see 4.1.9, 5.4.7.8 of the.2008 edition);
- m) Changed the specific safety requirements for the operation side of the mold area (see 4.2.1, 5.3.1.1.1, 5.4.7.2 of the.2008 edition);
- n) Changed the specific safety requirements for the non-operating side of the mold area (see 4.2.2, 5.3.1.1.2 of the.2008 edition);
- o) Changed safety requirements for hazards caused by movements other than clamping movement in the mold area (see 4.2.3,.2008 edition 5.3.1.1.3, 5.4.7.3~5.4.7.6);
- p) Added the specific safety requirements for the use of protective devices with control functions (see 4.2.4);
- q) Changed the safety requirements for thermal hazards in the mold area (see 4.2.5, 5.3.1.2 of the.2008 edition);
- r) Changed the safety requirements for machines with downstream templates (see 4.2.6, 5.4.3 of the.2008 edition);
- s) The additional requirements for machines with full body access to the area between the mold area and interlock guards or light curtains have been changed (see 4.2.7, 5.4.1 of the.2008 edition);
- t) Change the additional requirements for machines that allow the whole body of the human body to enter the mold area (see 4.2.8, 5.4.2 of the.2008 edition);
- u) Changed the safety requirements for the mold clamping mechanism area or the area behind the movable platen (see 4.3, 5.3.2 of the.2008 edition);
- v) Added additional safety requirements for machines with upstream templates (see 4.3.2);
- w) Added additional requirements for machines using the toggle link mold clamping mechanism (see 4.3.3);
- x) Changed areas for neutron and ejector pins and their drive mechanism movement

outside the mold area and/or clamping mechanism area

safety requirements (see 4.4, 5.3.3, 5.4.7.6 of the.2008 edition);

y) Changed the safety requirements for nozzle area, injection device area and product drop area (see 4.5~4.7, .2008 edition

5.3.4~5.3.6, 5.4.7.3~5.4.7.5);

z) Changed the requirements for hoses (see 4.8.1, 5.2.1 of the.2008 edition);

aa) Changed the requirements for the release of pressurized fluid (see 4.8.2, 5.2.1.2 of the.2008 edition);

bb) Added requirements for commissioning and maintenance (see 4.8.3);

cc) Changed the requirements for electrical and electromagnetic interference (see 4.8.4, 5.2.2, 5.4.7.9 of the.2008 edition);

dd) Changed the thermal hazard requirements (see 4.8.5, 5.2.3 of the.2008 edition);

ee) Changed the noise requirements (see 4.8.6, 5.2.4 of the.2008 edition);

ff) Changed the requirements for gas, smoke and dust (see 4.8.7, 5.2.5 of the.2008 edition);

gg) Changed the requirements for slips, trips and falls (see 4.8.8, 5.2.6 of the.2008 edition);

hh) Added safety requirements for hydraulic and pneumatic systems (see 4.8.9);

i) Changed the safety requirements for power-operated guards (see 4.8.10, 5.2.1, 5.4.1, 5.4.2 of the.2008 edition);

j) The requirement for unexpected interruption of the forward movement of the screw/plunger is added (see 4.8.11);

kk) Changed the safety requirements for slide reciprocating machines, rotary machines and rotary machines (see 4.9.1, 5.4.4, 5.4.5 of the.2008 edition);

l) Changed the safety requirements for multi-station machines with active injection devices (see 4.9.2, 5.4.6 of the.2008 edition);

mm) Added safety requirements for micro-foaming injection molding machines (see 4.9.3);

nn) Added additional requirements for machines where the injection device is facing the operating position (see 4.9.4);

oo) Changed the verification of safety requirements and/or risk protection/reduction measures (see Chapter 5, Chapter 6 of the.2008 edition);

pp) Changed the instruction manual (see Chapter 6, Chapter 7 of the.2008 edition);

qq) Added general requirements for instructions for use (see 6.2.1);

- rr) Added the emergency stop requirements in the instructions for use (see 6.2.2);
- ss) Changed the requirements for system-wide shutdown performance in the instructions for use (see 6.2.3, 7.1.9 of the.2008 edition);
- tt) Added stop time requirements (see 6.2.4);
- uu) Added requirements for light curtains (see 6.2.5);
- vv) Added requirements for molds and their extensions (see 6.2.6);
- ww) Increased requirements for the movement of neutrons and ejector rods (see 6.2.7);
- xx) Added requirements for machines with toggle linkage mechanisms (see 6.2.8);
- yy) Added requirements for machines with upstream or downstream templates (see 6.2.9);
- zz) Added requirements for thermal hazards in the mold area (see 6.2.10);
- aaa) Increase the maintenance work on the vertical machine (see 6.2.11);
- bbb) Added requirements for machines accessible to the whole body of the human body (see 6.2.12);
- ccc) Added the requirements for the presence sensing device in the mold area (see 6.2.13);
- ddd) Changed the requirements for injection devices (see 6.2.14, 7.1.1 of the.2008 edition);
- eee) Added requirements for machines with injection devices facing the operating position (see 6.2.15);
- fff) Added the requirement to interrupt the forward movement of the screw/plunger (see 6.2.16);
- ggg) Added requirements for commissioning and maintenance (see 6.2.18);
- hhh) Changed the requirements for the exhaust system (see 6.2.19, 7.1.3 of the.2008 edition);
- ii) Added requirements for safe non-fixed access facilities (see 6.2.20);
- jj) Changed the requirements for entry position and working position (see 6.2.21, 7.1.7 of the.2008 edition);
- kkk) Added requirements for microfoam injection molding (see 6.2.22);
- ll) Added the requirements for hydraulic system cleaning (see 6.2.23);
- mmm) changed the noise requirements (see 6.2.24, 7.1.2 of the.2008 edition);
- nnn) Added requirements for splash hazards when using two-handed controls (see 6.2.25);
- ooo) Changed the marking requirements (see 6.3, 7.2 of the.2008 edition);