



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

GB/T 5169.16-2017

**Fire hazard testing for electric and electronic products -- Part
16: Test flames--50 W horizontal and vertical flame test methods**

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Foreword

GB/T 5169 "Fire hazard testing for electric and electronic products" consists of the following parts.

- Part 1.Terminology concerning fire tests;
- Part 2.Guidance for assessing the fire hazard - General guidelines;
- Part 5.Test flames - Needle test method - Apparatus, confirmatory arrangement and guidance;
- Part 9.Guidance for assessing the fire hazard - Preselection testing procedures - General guidelines;
- Part 10.Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure;
- Part 11.Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT);

- Part 12. Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials;
- Part 13. Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials;
- Part 14. Test flames - 1 kW nominal pre-mixed flame - Apparatus, confirmatory test arrangement and guidance;
- Part 15. Test flames - 500 W flames - Apparatus and confirmational test methods;
- Part 16. Test flames - 50 W horizontal and vertical flame test methods;
- Part 17. Test flames - 500 W flame test method;
- Part 18. Toxicity of fire effluent - General guidance;
- Part 19. Abnormal heat - Mould stress relief distortion test;
- Part 20. Surface spread of flame - Summary and relevance of test methods;
- Part 21. Abnormal heat - Ball pressure test method;
- Part 22. Test flames - 50 W flame - Apparatus and confirmational test method;
- Part 23. Test flames - 500 W vertical flame test method for tubular polymeric materials;
- Part 24. Guidance for assessing the fire hazard - Insulating liquids;
- Part 25. Smoke obscuration - General guidance;
- Part 26. Smoke obscuration - Summary and relevance of test methods;
- Part 27. Smoke obscuration - Small-scale static test - Description of the apparatus;
- Part 28. Smoke obscuration - Small-scale static test - Materials;
- Part 29. Heat release - General guidance;
- Part 30. Heat release - Summary and relevance of test methods;
- Part 31. Surface spread of flame - General guidance;
- Part 32. Heat release - Heat release of insulating liquids;

- Part 33.Guidance for assessing the fire hazard - Ignitability - General guidance;
- Part 34.Guidance for assessing the fire hazard - Ignitability - Summary and relevance of test methods;
- Part 35.Corrosion damage effects of fire effluent - General guidance;
- Part 36.Corrosion damage effects of fire effluent - Summary and relevance of test methods;
- Part 38.Toxicity of fire effluent - Summary and relevance of test methods;
- Part 39.Toxicity of fire effluent - Use and interpretation of test results;
- Part 40.Toxicity of fire effluent - Estimation of toxic potency - Apparatus and test method;
- Part 41.Toxicity of fire effluent - Estimation of toxic potency - Calculation and interpretation of test results;
- Part 42.Test flames - Confirmatory tests - Guidance;
- Part 44.Guidance for assessing the fire hazard - Fire hazard assessment.

This Part is Part 16 of GB/T 5169.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB/T 5169.16-2008 "Fire hazard testing for electric and electronic products - Part 16.Test flames - 50 W horizontal and vertical flame test methods". Compared with GB/T 5169.16-2008, the main technical changes are as follows.

- MODIFY the clause of normative references (see Clause 2 of this Part, Clause 2 of 2008 edition);
- MODIFY part contents of terms and definitions (see Clause 3 of this Part, Clause 3 of 2008 edition);
- MODIFY the arrangement of "Test specimens" "Test method A" and "Test method B" clauses to make the structure clearer (see Clause 7, Clause 8 and Clause 9 of this Part, Clause 7, Clause 8 and Clause 9 of 2008 edition);

- ADD the criteria for "burned to the holding clamp" (see 9.2.4);
- DELETE the figure of "Burner/operator/test specimen orientation" (Figure 6 of 2008 edition);
- ADD 7 figures, i.e. "Clearance gauge", "Flame application", "Flame application when there are molten drops", "HB specimen gauge (example)", "V specimen gauge (example)", "Flame front position not classified as 'burned to the holding clamp'", "Flame front position classified as 'burned to the holding clamp'" (Figures 6, 7, 8, 9, 9, 10, 11 and 12).

This Part uses the translation method to identical to IEC 60695-11-10:2013 "Fire hazard testing - Part 11-10. Test flames - 50 W horizontal and vertical flame test methods".

The Chinese documents that are consistent with the normatively referenced international documents in this Part are as follows.

- GB/T 5169.1-2015 Fire hazard testing for electric and electronic products - Part 1. Terminology concerning fire tests (IEC 60695-4:2012, IDT)
- GB/T 5169.22-2015 Fire hazard testing for electric and electronic products - Part 22. Test flames - 50 W flame - Apparatus and confirmational test method (IEC 60695-11-4:2011, IDT)
- GB/T 5471-2008 Plastics - Compression moulding of test specimens of thermosetting materials (ISO 295:2004, IDT)
- GB/T 9352-2008 Plastic - Compression moulding of test specimens of thermoplastic materials (ISO 293:2004, IDT)
- GB/T 12006.1-2009 Plastics - Polyamides - Part 1. Determination of viscosity number (ISO 307:2007, IDT)
- GB/T 16499-2008 The Preparation of safety publication and the use of basic safety publications and group safety publications (neq IEC guide 104:1997)
- GB/T 20002.4-2015 Drafting for special aspects in standards - Part 4.