



Ashtray Fire Containment - Instrument Panel and Floor Console

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. To evaluate an ashtray receptacle for fire containment effectiveness in preventing the ignition of adjacent components and/or the generation of obnoxious fumes.

1.2 Applicability. This test is applicable to all ashtrays packaged within the instrument panel or floor console and stand-alone ashtrays that may be installed into the vehicle's cup holder.

1.3 Remarks. This test procedure subjectively determines whether or not a given amount; type, configuration, and location of fuel will ignite or cause heat induced damage to the areas surrounding the ashtray within the instrument panel or floor console. This test does not establish material burn rates nor analyze the types of fumes generated.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References. None

3 Resources

3.1 Facilities. A certified test lab containing a fire safe area with adequate ventilation and fire extinguisher system, or equivalent.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

3.2.1 An electrical source, used to operate the vacuum source for the heater and/or air conditioning mode shift operation (if required for the Heating, Ventilation, Air Conditioning (HVAC) blower and mode shift system).

3.2.2 A vacuum source, used to provide vacuum for heater and/or air conditioning mode shift operation (if required for the operation of the HVAC blower and mode shift system).

3.2.3 A variable resistance box, or equivalent, for the manual control of the automatic heater and/or air conditioning systems (if required for the operation of the HVAC blower and mode shift system).

3.2.4 Waxed paper (kitchen type), one sheet per test, 20 cm x 25 cm in size, loosely crushed into a ball approximately 50 mm in diameter as fuel for the fire.

3.2.5 Fire extinguisher, carbon dioxide type.

3.2.6 Stopwatch.

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3.3 Test Vehicle/Test Piece.

3.3.1 Test Vehicle. Complete vehicle ensuring that all interior HVAC components within the instrument panel and floor console are present along with all required parts (i.e., fully assembled instrument panel and floor console, hush panels, wire harness, acoustic treatments, carpet, electronic modules, etc.) The vehicle shall be capable to provide various cabin air flow modes.

3.3.2 Test Piece. Ashtrays representative of production design with necessary adjacent options to present worst case condition. Option selected to be recorded on Appendix A, Data Sheet A1.

3.4 Test Time.

Calendar time: 6 days

Test hours: 1 day

Coordination hours: 5 days

3.5 Test Required Information.

3.5.1 Documentation of the vehicle hardware present while conducting the test such as Buck or Kit Identification Number.

3.5.2 Pre and Post-test photographs of the ashtray and surrounding environment.

3.6 Personnel/Skills. Test technician with the skills required to perform the tests described.

4 Procedure

4.1 Preparation.

4.1.1 Prior to testing the vehicle ensure all required components are present and expose for 4 h to stable ambient laboratory conditions.

4.1.2 HVAC system ducts and seals are to be in their design position.

4.1.3 All holes in the cowl which are normally closed in a fully assembled vehicle must be closed.

4.1.4 The instrument panel and floor console shall be protected from extraneous drafts.

4.1.5 Position HVAC selector to Air Conditioning (A/C) recirculated air supply for A/C systems or to heater mode for non A/C systems unless otherwise instructed by the test requestor.

4.1.6 Position A/C air outlet vanes for direct rearward air flow and set blower control to the highest speed.

4.1.7 Record settings used on Data Sheet A1.

4.2 Conditions.

4.2.1 Environmental Conditions. The test is to be completed at ambient laboratory temperature of $+23\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc. All GM approved deviations shall be specified in the ashtray drawing and test report.

4.3 Instructions.

Note: Extreme caution is mandatory. This test subjects the ashtray and adjacent components to an open flame. Prudent fire safety precautions are required. If combustion propagates beyond the ashtray and ignites the adjacent components, immediately extinguish the flame with a carbon dioxide fire extinguisher.

Caution: Component combustion may generate obnoxious fumes.

4.3.1 Start HVAC blower at highest speed.

4.3.2 With the ashtray fully open, center the waxed paper ball in the ash receptacle and ignite. Using a stopwatch to determine timing, fully close the ashtray 15 s after initial ignition.

4.3.3 Observe environment for flame propagation. Use a stopwatch to capture the length of time from waxed paper ignition until flame is visible and record on Data Sheet A1.

4.3.4 Allow a minimum of 15 minutes after the waxed paper ignition before evaluating the flame containment performance.

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