



Designation: F 851 – 87 (Reapproved 1996)

## Standard Test Method for Self-Rising Seat Mechanisms<sup>1</sup>

This standard is issued under the fixed designation F 851; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This test method evaluates the performance of self-rising or automatic-lifting seat mechanisms of chairs in places of assembly.

1.2 This test method addresses only the raising of the seat. It does not address the load that may be placed on that seat. Committee F-15 is considering a standard addressing this load.

1.3 The values as stated in inch-pound units are to be regarded as the standard. The values in parentheses are provided for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Summary of Test Method

2.1 The principle of the test method is to test the reliability of the seat-lifting mechanism.

2.2 This test method consists of using hard rubber rollers attached dually to the end of an actuating bar to lower the seat. The seat is then released and allowed to lift automatically to the “at-rest” or “raised” position. The test method requires the seat to be cycled at a specified rate, and allows for the number of cycles completed, without failure, to be measured.

2.3 The “at-rest” position for an auditorium chair is the “raised” position. The seat is lowered to allow the occupant to be seated. When released, the seat is automatically returned to the “raised” position by use of a spring return mechanism or counter-weight for gravity lift (see Figs. 1 and 2).

### 3. Significance and Use

3.1 This test method provides the criteria for a practical, reproducible test for assuring the proper life-cycle of self-rising or automatic-lifting seat mechanisms of chairs.

3.2 This test method should be considered suitable for the testing required for design purposes, manufacturing control, service evaluation, specification acceptance, and regulatory statutes.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee F-15 on Consumer Products and is the direct responsibility of Subcommittee F15.23 on Auditorium Seating.

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FIG. 1 Self-Rising Seat Mechanism Apparatus (Down Position)



FIG. 2 Self-Rising Seat Mechanism Apparatus (Raised Position)