



January 22, 2024

TRANSMITTED VIA EMAIL

Mike Leshner
ASTM F15.19 Re-breathing Task Group Chair
ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428

Dear Mr. Leshner,

U.S. Consumer Product Safety Commission (CPSC) staff¹ submits the following comments on work item WK84614 – Standard Test Method for Airflow Resistance of Infant Bedding.

1.0 Scope

Staff notes that this ballot uses “performance specifications” and the Firmness ballot uses “pass/fail criteria.” Staff recommends consistent terminology.

2.0 Terminology

To be consistent with the Firmness ballot, staff recommends removing the definition of airflow resistance or editing to a more general definition of airflow resistance.

4.0 Significance and Use

In Section 4.1, staff recommends the following changes:

In the infant environment, soft items can lead to respiratory hazards if the infant’s face **presses against** ~~becomes engaged in~~ the surface. To avoid such hazards, products used with infants should be firm enough to resist conforming to the shape of an infant’s face and either impermeable to airflow (such as a vinyl-covered mattress) or offer low resistance to airflow (where practicable) or provide sufficient airflow through the product.

Rationale: Products that are firm enough to resist conforming to the shape of an infant’s face

¹ The views expressed in this letter are those of CPSC staff, and they have not been reviewed or approved by, and may not reflect the views of, the Commission.

do not occlude the nose and mouth, preventing a suffocation hazard.

Staff also recommends that the task group include a reference to the firmness test and should discuss whether it should be in this section or elsewhere in the standard.

5.0 Apparatus

In section 5.4, staff recommends moving the value for the fixed weight from section 5.4.1 into section 5.4.

In section 5.6, staff recommends the following changes:

~~Device—A differential pressure gauge for measuring pressure in the probe circuit, with a range of at least 0 to 20 inches of water and a resolution of at least 0.01 inches of water. A digital manometer is recommended, appropriate for measuring the pressure range of interest. (0 to 20 inches of water) with a resolution of at least .01 inches of water.~~

In section 5.7, change 2 LMP to 2.0 LMP.

Staff recommends combining sections 5.11 and 5.3. These sections include duplicate information.

6.0 Test Specimen

In Section 6.2, staff recommends the following changes:

~~Ideally, I~~the dimensions of the test specimen shall be at least 8 in (203 mm) in length and width. For ~~resilient~~ materials, components, and products that, because of their size or configuration, do not allow for at least this size test specimen, the largest size shall be obtained. Record the sample size.

8.0 Procedure

For section 8.6, consider whether a 2-directional tolerance for the tube diameter would be appropriate. Similarly, review the tolerance for the breathing holes and all connections in section 5.11.

For section 8.10, staff recommends the following change:

- Zero the manometer ~~to. (This negates any effect of resistance through the probe and tubing.)~~

For section 8.11, staff notes that the Firmness ballot uses 2 minutes.

For section 8.14, staff recommends the following changes:

- ~~Allow 5 min recovery time and then r~~Repeat 8.9 through 8.12-13 at each of the other two test locations, allowing 5 min recovery time between each test.
- Move Note 1 to between 8.13 and 8.14 to be consistent with the Firmness ballot.

Staff notes that Note 2 describes 8.8 to 8.12 although the title of the video describes 8.8 to 8.14.

9.0 Report

Staff recommends moving section 9.3 to Section 3.0 Summary of Test Method to be consistent with the Firmness ballot.

11.0 Keywords

Staff recommends removing the term “breathability” because it is not used in the standard.

Staff appreciates the work of the task group towards improving the safety of infant and juvenile products, and better understanding the hazards associated with such products. If you have any questions, you may contact me at: aaajohnson@cpsc.gov, or (301) 504-7872.

Sincerely,

Ashley Johnson
Physiologist
Directorate for Health Sciences

cc: Molly Lynyak, ASTM F15 Staff Manager
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