



U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

January 19, 2001

Mr. Peter Rush
Executive Director
Window Covering Manufacturers Association, Inc.
355 Lexington Avenue
New York, New York 10017

Dear Mr. Rush:

The staff of the U.S. Consumer Product Safety Commission (CPSC) is concerned with the continuing deaths and injuries in window covering products. While the current requirements of ANSI/WCMA A100.1-1996, *American National Standard for Safety of Corded Window Covering Products*, address loops in pull cords, they do not address strangulation in inner cords and with exposed cords or bead chains. The staff has prepared recommended revisions to the existing voluntary standard that we believe will address the remaining hazards with window covering cords. We recognize that these recommendations will require the use of new technologies that have been developed.

We plan to attend the ANSI WCMA Technical Committee Meeting scheduled on Tuesday, January 23rd, and would like to discuss these recommendations.

These comments represent the opinion of the Commission staff, and have not been reviewed or approved by the Commission. If you have any questions or comments, please contact the Project Engineer, Caroleene Paul at 301-504-0494 x-1292 or by email at cpaul@cpsc.gov.

Sincerely,

A handwritten signature in cursive script that reads "Ronald Medford".

Ronald Medford
Assistant Executive Director
Office of Hazard Identification and Reduction

Recommended Revisions to ANSI/WCMA A100.1-1996

Inner Blind Cords

Strangulation in the inner blind cords, the portion of the blind cord between the headrail and the bottom slat or cell of the blind, has been documented in at least 16 strangulations and one near strangulation. Victims have been able to pull the inner cords out to form a loop large enough to encircle their head and neck. The CPSC staff believes window covering products should be designed with inner cords that cannot be manipulated into a loop large enough to pose a strangulation hazard to children. To address this hazard, the CPSC staff recommends the following revisions to the standard:

- a. Add the following definitions in section 3:

Inner Cords. The cords that pass through the headrail and through each blind slat or fold and attach to the bottom rail for lifting of the blinds.

Inner Cord Stop. A device that prevents the inner cords from being pulled out to form a loop.

- b. Add the following performance requirements in section 4:

A product with inner cords shall not allow the cords to form a loop more than 6 inches in length (12 inch circumference) when tested to 6.6; if the product uses an inner cord stop to meet this requirement, the product shall first meet the parameters in 6.7.

- c. Add the following Test and Parameters in section 6:

6.6. **Inner Cords Test Requirement.** A product with inner cords shall be subject to the following in sequential order:

6.6.1 **Operation Test.** The product shall be raised and lowered smoothly 2500 times, with an interval of 15 seconds between each cycle.

Rationale: This simulates a daily operation of one opening and one closing of the window covering product over 7 years. The 7-year life of a window covering is similar to the requirements in section 6.2.2.1 for cord retraction devices. Cord retraction devices are required to have a service life of 5000 cycles. This is based on daily operation of one opening and one closing or 2 retractions over 7 years.

6.6.2 **Pull Force.** With the blind in the fully lowered position, and the cord lock not engaged, a 13.5 lbf. pull force shall be applied to each inner cord near the center of the blind in downward, upward, and horizontal directions.

Rationale: The 13.5 lbf. pull force is the horizontal force exerted by the weight of a 95th percentile 4 1/2 to 5 1/2 year-old (48.7 pounds) and the maximum pull force of a 5 year-old.

6.7 Inner Cord Stop Devices. Inner cord stop devices shall adhere to the following:

6.7.1 The inner cord stop device shall be attached to the cord before receipt by the end user.

6.7.2 The inner cord stop device shall be attached so that it can only be detached from the cord with a sequential process or with tools.

6.7.3 The inner cord stop device shall be subjected to AATCC Test Method 16-1998, for 500 hours before testing to 6.7.4, 6.6.1, and 6.6.2.

6.7.4 The inner cord stop device shall not break when subjected to a 25-lbf compression test, specified in ASTM F963-96a.

Exposed Cords

Since 1997, the CPSC staff is aware of 6 fatal incidents and 4 near strangulations involving exposed cords as shown in Table 1. The current standard attempts to eliminate the hazard posed by loops formed by multiple cords that terminate in a single tassel; it does not address other strangulation hazards posed by exposed cords. Window coverings with exposed cords longer than the circumference of a child's neck are potential strangulation hazards.

Table 1. Summary of Incidents Involving Exposed Cords
(where the incident is not caused by manufactured loop)

Report Number	Incident Date	Victim Age	Type of Window Covering	Summary
000831CNE5737 (death)	8/26/00	2 yr, M	Venetian w/ 2 separate cords meets standard	blind cord was knotted and placed atop blind, child somehow put cord around his neck, fell and hung himself
000518CNE5554 (near strangulation, suffers from seizures)	4/16/00	15m, M	Mini meets standard	long cord nailed to wall forming loop, raising blinds lowered loop allowing child to somehow place his neck in loop, slipped and hung himself
001108CCC0089 (near strangulation)	10/19/00	2.5 yr, M	Pleated w/ 3 separate cords meets standard	child wrapped one cord around neck six times
980305CBB5364 (death)	2/4/98	33m, M	Mini does not meet std	child climbed onto chair to look out window and wrapped cord around his neck, fell and hung himself (criss-cross pattern on neck)
981222CCC2128 (death)	9/1/98	5 yr, F	Mini does not meet std	blind cord attached to window lock forming a loop, child slipped and hit her head, falling into loop
001013CBB0041 (death)	10/26/98	16m, F	Venetian does not meet std	child wrapped cord twice around her neck "tremendously tight"
970418CEP9001 (near strangulation)	4/8/97	21m, M	Pleated w/3 separate cords meets standard	end of blind cord wrapped around child's neck and in turn became entangled in pacifier string around his neck
981001CCC4014 (death)	4/17/97	14m, M	Pleated w/3 separate cords meets standard	cord ends loosely tangled or knotted creating a loop, child found in loop
970808CCC3288 (near strangulation)	7/28/97	49m, M	Mini w/3 separate cords meets standard	cords tangled or knotted, child's neck caught in resulting loop
971119CWE5009 (death)	11/8/97	14m, M	Mini does not meet std	child found with head through loop and cord wrapped around his neck

Individual tassels, cord release devices, cord shear devices, cord stop devices, and cord shroud devices currently allowed by ANSI/WCMA A100.1 address cord loops but still do not address the strangulation hazards posed by exposed cords. CPSC staff is aware of past and recent window covering innovations that could address the above incidents and prevent future deaths to young children. The CPSC staff strongly believes that these strangulation hazards with window covering products could be eliminated if they were designed to meet the following conditions:

- 1) Window coverings shall not have exposed cords or bead chains; or
- 2) If exposed cords are required for operation, these cords shall be less than 7.25 inches long in any covering position; or
- 3) If exposed cords are required for operation, a tension device that eliminates access to a loop or loose cord shall contain these cords.

Specifically, CPSC staff recommends the following revisions to ANSI/WCMA A100.1-1996:

Add the following performance requirement to section 4:

4.X Window coverings with cords or bead chains shall not have free hanging exposed cords or bead chains longer than 7.25 inches in any covering position when measured to the maximum length in a free state under a load of 5 lbs.

Rationale: 7 1/4 inches is the neck circumference of a 5th percentile 7-9 month old child.

Delete the following sections:

3.4, 4.2, 6.1 Cord Release Device - definition, product requirements and test parameters.

3.6, 4.2, 6.3 Cord Shear - definition, product requirements and test parameters.

3.7, 4.6, 6.4 Cord Shroud Device - definition, product requirements and test parameters.

3.8, 4.5, Cord Stop - definition, product requirements.

Rationale: These devices allow exposed, free hanging cords or bead chains that are strangulation hazards if a child wraps the cord around his or her neck. In addition to the incidents in Table 1, CPSC staff is aware of one death in a product with a cord stop device where the child "was found with his head caught in one of the loops formed above the plastic cord stop where the 4 cords intersect." (IDI 000714CNE5665)

Recent expansions in window cord safety technology have modified the concept of tension devices that keep looped operation cords taut to prevent a child's head from entering into the loop. Tension devices do not necessarily require installation to a surface to perform their function. Accordingly, CPSC staff recommends the following revisions to section 4.4 and 6.5.3 to accommodate new tension device technology:

4.4 A product shall contain a passive tension device causing the cord or bead loop to be taut while limiting exposure to the cords, which meets the parameters outlined in 6.5; or

6.5.3 The tension device shall meet one of the following requirements:

6.5.3.1 If the tension device requires installation to a surface, fasteners for surface installation shall be provided with the product. Clear and accurate installation instructions shall be provided to describe proper installation. Once the tension device is installed, it shall hold the cord or bead loop taut and shall allow a maximum gap of 2.38 inches with a 13.5 lb normal pull force from the adjacent vertical surface.

Rationale: These requirements address tension devices attached to the wall. The 13.5 lbf. pull force is the horizontal force exerted by the weight of a 95th percentile 4 1/2 to 5 1/2 year-old (48.7 pounds).

6.5.3.2 The tension device shall hold the cord or bead loop taut in a manner that allows a maximum gap of 2.38 inches in the cord or bead loop with the application of a 13.5 lb normal pull force.

Rationale: These requirements address tension devices that are not attached to the wall. The 13.5 lbf. pull force is the horizontal force exerted by the weight of a 95th percentile 4 1/2 to 5 1/2 year-old (48.7 pounds).

6.5.4 Delete

Rationale: These requirements are included in the revised sections.