

Voluntary Standards Meeting Log

SUBJECT: ASTM F08.30 Fitness Products Subcommittee Treadmill Task Group

LOCATION: Hybrid meeting in-person in Seattle, WA and virtual Webex option

DATE OF MEETING: May 18, 2022

LOG ENTRY DATE: June 6, 2022

LOG ENTRY SOURCE: Caroleene Paul (ESMC)

CPSC ATTENDEE(S): Caroleene Paul (ESMC) in-person, Susan Bowley (ESMC) virtual

NON-CPSC ATTENDEE(S): For the complete list of attendees, contact ASTM.

SUMMARY OF MEETING:

The F08.30 Treadmill Task Group (TG) was formed in response to a letter from CPSC staff dated April 26, 2021, requesting that the ASTM F08.30 Fitness Products Subcommittee address the hazard related to entrapment of children and other objects underneath the rear roller on an operating treadmill. The task group has been meeting on a regular basis to develop requirements to prevent children from being pulled into and entrapped under the treadmill.

The task group reviewed the draft proposed language to ASTM F2115 *Standard Specification for Treadmills* and reviewed rear guard options that have been discussed since the last task group meeting on April 22, 2022. The draft language centered around requirements that the rear roller area be designed or guarded to reduce pull-in and/or entrapment hazard of children. The draft language included two illustrations of exemplar guard concepts at the rear roller, and focused on: limiting the gap between the guard and moving surface of the treadmill to 9.5 mm, limiting the distance between the bottom of the guard and floor to 94mm, and specifying that the guard width be as wide as the moving surface.

CPSC staff expressed concern that a child may reach under and past a mechanical guard (with a 94 mm gap between the floor) and contact the moving tread belt. The task group members responded that while the child's hand may abrade, pull-in and entrapment would not occur based on the direction of the belt movement and the ability of the child to remove their arm.

Two task group members shared videos of their testing of proof-of-concept (POC) guards that met the draft guard requirements. The tests were conducted at various speeds, at various incline angles, with various exercise/sports balls introduced to the rear of the operating treadmill, and on various floor surfaces. The two POC guards exhibited mixed results. One POC pulled in a rubber exercise ball when the ball was pushed against the gap between the guard and moving belt. In another video, a basketball was grabbed by the belt and kicked back when it hit the guard, with enough force to cause the rear of the treadmill to jump. Task group members who supply commercial treadmills with mechanical guards at the rear roller stated they are not seeing pull-in issues with exercise or sports balls.

The task group members discussed the variability in treadmill design (such as crowning of rear roller to keep belt centered, treadmill belt stretch, diameter of rollers, and tread design) that would make a simple performance test difficult. The variability also makes it difficult for an illustration of a guard to capture multiple factors that would affect the design. Therefore, the task group decided to remove the exemplar illustrations of mechanical guards from the draft proposal.

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A task group member suggested simplifying the draft language to require a mechanical guard with a gap of less than 9.5 mm between the rear roller and the guard, and a gap less than 94 mm between the guard and floor; and allowing manufacturers to determine the guard design. The task group generally agreed with this approach to only add a mechanical guard requirement to the standard.

CPSC staff asked if rationale for the requirements would be included in the standard. The task group chair agreed to explore language for the rationale.

The task group chair will revise the draft proposal to incorporate the discussed changes and suggestions. The task group chair will also upload videos that were presented at the meeting to the working group site. The intent is for the task group to review and comment to the proposal and send to ballot shortly thereafter.

Next action: CPSC staff will review revised proposal, and attend next meeting in June.