

**LOG OF MEETING
DIRECTORATE FOR ENGINEERING SCIENCES**

SUBJECT: ASTM F08.10 Committee on Bicycles meeting

DATE OF MEETING: November 6, 2019

PLACE OF MEETING: Marriott Marquis Houston – Houston, TX

LOG ENTRY SOURCE: Caroleene Paul (ESMC)

COMMISSION ATTENDEES: Caroleene Paul (ESMC)

NON-COMMISSION ATTENDEES: Contact ASTM for attendee list.

SUMMARY OF MEETING: The committee working group discussed the following:

- Review of ISO tag (F08.96) meeting.
- Review of Restricted Substance List (RSL) meeting.
- Review of Accessories subcommittee work on Front Mount Child Carriers and luggage racks (ISO 11243). Subcommittee also needs a new chairperson.
- Frame test methods – review of F2711, specifically heat build-up on disc brakes.
- Brakes – discussion of brake fade tests and difference in braking with e-bikes that are heavier and travel at higher speeds.
- Wheels – review of proposed durability tests because current ISO requirements do not really cover durability.
- Lights/reflectors – the committee asked CPSC staff for bicycle incidents related to conspicuity to help the committee determine if the standards for reflectors should be reviewed/revised.
- ASTM F2793 Standard Specification for Bicycle Grips – work item has been registered to establish a working group to develop new test procedures to test bicycle grips. The group discussed the Grip Related Injury Prevention (GRIP) study conducted by Dr. Andy Neilsen and the origin of the current ASTM standard in response to a petition received by CPSC in 2001. Subsequent discussion focused on two topics:

Grip Durability

- Outstanding issues remain with abrasion of grips and sharp edge cut hazard posed by exposed handlebar end.
- A review of test labs in China indicate different interpretations of the ASTM F2793 standard test procedures for grip impact testing. Some labs do the drop manually, while others use a string or electric device.
- Current ASTM F2793 test method is not stringent enough because it's not realistic or indicative of real world abuse of handlebar ends. Ten drops is not enough given that children throw bicycles down on the ground several times a day.
- Future test considerations will include natural free-fall of a bicycle, impact and sliding of the grip, more realistic impact surfaces, and possibly some type of pendulum test.

Handlebar End

- 95 percent of manufacturers use some type of bar end plug but if the plug is pushed into the handlebar, its effectiveness is lost.
- The ASTM F2793 impact test pushes the plug into the handlebar end (this was also verified in tests conducted by CPSC staff).
- Ways to enclose the handlebar end include specifying a rolling process or welding the area closed. One major seller of children's bicycles in Europe fully closed the handlebar ends on their bicycles with a welded metal plug.

Goals based on Research

- Open handle bar end is worse case – address by adding radius to end of handlebar and covering end.
- Closed handlebar end is better – address by better plugging of the handlebar end.
- Covered end with minimum diameter of 40 mm is best – address by increasing durability of grip. The committee will start by gathering more data on grip tests.

Action items:

- CPSC staff will contact committee chair for details on incident request related to conspicuity and provide data to committee by the next meeting.
- CPSC staff will join task group to develop new test procedures for ASTM F2793.
- Next meeting scheduled for May 2020 in Boston, MA.

Cc: Edwards