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LOG OF MEETING

SUBJECT: ASTM F08 Committee Meeting

DATE OF MEETING: May 24-26, 2000

DATE OF LOG ENTRY: June 6, 2000

PERSON SUBMITTING LOG: George F. Sushinsky

LOCATION: Sheraton Centre Hotel
Toronto, Canada

CPSC ATTENDEE: George F. Sushinsky

NON-CPSC ATTENDEE(S): Members and guests of ASTM F08 Committee on Sports Equipment and Facilities. Attendance lists were not available at the time of this report.

SUMMARY OF MEETING:

Various task group and subcommittee (s/c) meetings were attended in part during the 3-day meeting. They included:

1. ASTM F 08.17 on Trampolines (Task group and s/c meeting)
2. ASTM F 08.30 on Fitness Products
3. ASTM F08.53 On Headgear and Helmets
4. ASTM F08.63 on Playground Surfacing Systems.

Summary reports for those meetings follow.

ASTM F 08.17 on Trampolines (Task group and s/c meeting)

Enclosure task group - John Kuchno, leader - (5/24/00)

A task group was convened to discuss the third draft of a new standard. The drafts, up to this time, had been seen primarily by members of the task group formed to develop the test requirements. The standard is for a relatively new product - a trampoline enclosure and is intended to be a stand-alone standard. This product is sold either separately from or in combination with a trampoline. The enclosure is intended to reduce injuries due to inadvertent falls from the trampoline surface onto the ground. A typical enclosure consists of:

- Frame and attachment hardware
- Frame padding and caps
- Netting or similar material and attachment hardware
- Assembly and instruction manuals

- Product warnings

Each of these items was covered to some extent in the draft document. Some sections of the draft document are skeletal in terms of detail. This is particularly true of the performance test requirements.

The provisions of the draft document were discussed as needed. It was a consensus opinion that the standard, while referencing other approved ASTM documents, should extract those tests that are appropriate to testing of an enclosure. There was discussion of the need for padding covering the frame and hardware of a trampoline that has an enclosure – particularly ones that were sold with an enclosure. The need for padding was acknowledged by most of the participants because it provides protection to bystanders from broken springs, pinching of springs, and because a trampoline can be used without an enclosure. It was also agreed that a minimum height of 5 ft for the enclosure of the smallest trampolines and a minimum height equal to ½ of the bed diameter for other trampolines. The smallest trampoline covered by the requirement has a bed area of 3300in² (bed diameter of approximately 64 in.).

The draft test requirements were described as lacking in the detail needed to carry out the tests. There was also some confusion with regard to which sections of the other referenced standards applied to the enclosure system. Actions taken include dropping requirements for a flammability test, specifying in the document the testing required, and meeting in September at a test lab/manufacturing site in Dallas to observe testing and establish test parameters for the enclosure.

Warning labels were discussed in general terms. The “laundry list” in the draft document is a concern for all parties. The list is inclusive to address liability concerns of the manufacturer. It was agreed that the most important warnings be undiluted and focused on the specific hazards or behavior potential for misuse of the product.

Action items included the redrafting of the document and circulating it for comment prior to the scheduled test demonstrations in September.

Padding Task Group - Pat Welsh, leader - (5/24/00)

The same group that met for the enclosure task group attended the padding task group meeting. The April 28th meeting was summarized. Testing of all the requirements in the draft document submitted for the April meeting was in process for one manufacturer. A second manufacturer reported on strength of attachment tests for his padding attachments. He reported values of from about 70 to 90 pounds-force (lbf). The material used for his attachment tie had a tensile strength of about 180 lbf. The figure in the draft standard called for an attachment strength of 250 lbf. He did not feel that his product was unsatisfactory in performance and in no way could it be made to meet the 250-lbf level.

Photographs of various pad attachments tested at CPSC were circulated to the group. One of these designs had passed the 250-lbf level and most had passed at levels above 150 lbf. This data had been presented to the subcommittee in December through a letter to the

subcommittee chairman dated August 31, 1999.

Both manufacturers' reports (consumer complaints) and CPSC data indicate that padding attachment integrity is a critical safety issue. But how to test the attachment integrity is an issue due to wide variations in design. The draft test requirements focus on the individual performance of a single attachment. Some designs use one attachment tie at each of several locations, while others use multiple ties (up to 4) for keeping padding covering the frame and hardware. It was argued that a system test could subject the entire pad to an attachment integrity test, and that this would represent how different designs respond under typical use/abuse conditions. Two representatives of manufacturers offered to provide their test protocols for consideration. It was suggested that a system test combined with the individual strength tests, from the draft document, that emphasized environmental conditioning factors could be run in combination to judge long-term durability of the padding attachment system.

The padding task group also discussed the preliminary results of the round robin study of impact testing. The variation in data and the lack of complete test runs from 2 of the 4 reporting laboratories made it difficult to give definitive statistics. However, it was clear that the impact tests produce variation levels in both peak G and Severity Index (SI) that preclude all of the laboratories from testing the product in impact. Two of the laboratories with close agreement in peak G data produced larger variations in the calculated SI index. Because of the variation in this test, the members of the task group decided to look for an alternate measure for the padding specification. The initial thought was to consider a minimum thickness requirement combine with some mechanical property specifications. Potential candidates included density, compression set, and compression modulus. CPSC reserved the right to perform impact tests on materials that met the selected static test criteria.

Further discussion was postponed until completion of tests by the two manufacturers represented on the task group. Tests will tentatively be completed by the end of July. The meeting was adjourned.

Trampoline Subcommittee meeting John Kuchno, chair - (5/25/00)

The meeting was called to order at 9:00 am. No written agenda was available. It was announced that the agenda would consist of Introductions, Approval of Minutes, Discussion of a Draft Standard for Institutional Trampolines, Reports from the Padding and Enclosure Task Groups, and New Business.

The discussion of comments on the Institutional Trampoline standard took up most of the meeting time. The standard was modeled after the ASTM F 0381 standard for Trampolines with added requirements from prEN 13219 "Gymnasium Equipment - Trampolines, mini-trampolines and double mini-trampolines - Functional and safety requirement, test methods." A task group developed the standard and Lani Lokendahl presented the resulting document. Christian Klubitschko, who was not present at this subcommittee meeting, was responsible for many of the performance requirements adopted from the prEN 13219 standard. Many of his comments were not fully considered due to a lack of understanding of the requirement. Ms. Lokendahl offered to contact him for clarification of

his comments.

Short task group reports on padding attachment and enclosures were presented by the task group leaders. (See above for details.)

Under new business, a task group to consider development of a standard for floating trampolines was established. Bud Nichols volunteered to chair the group.

The meeting adjourned at 1:30 PM.

ASTM F08.53 on Headgear and Helmets - Task group on Soccer Headgear - Calvin Williams, leader - (05/25/00)

During a break in the trampoline meeting, I attended a portion of the task group meeting on Soccer Headgear. Scott Delaney, M. D. from McGill University discussed his studies on sports related head injuries - particularly head injuries in soccer. It is his opinion that head injuries in soccer occur from other events than heading the ball. Heading, when it produces injury symptoms, is usually related to prior concussive injury events that have not been diagnosed or given time to fully recover. He cited studies showing a high percentage of soccer players having experienced symptoms of concussions while not admitting to ever having a concussion. The resulting discussion in the group showed that there are diverse opinions on the need for headgear in soccer.

ASTM F 08.30 on Fitness Products - Harv Voris, Chair - (5/25/00)

I attended the afternoon session on fitness products; the discussion was on exercise bikes. Labeling of the consumer bikes for weight limitation was the topic. It was announced that CPSC (Heh) had sent in a comment on the treadmill standard objecting to no user weight limitation on the label for consumer treadmills but requiring it on commercial units. This issue on exercise bikes was considered a parallel issue to Mr. Heh's concern. After some discussion of the reasons for labeling commercial units and not labeling residential units, it was decided to request data from CPSC to determine if weight was a factor in reported incident data. The primary reason given for including weight limitation labeling on commercial units was the uncontrolled environment in a commercial setting compared to residential environments.

The ballot on exercise bikes was announced to have passed despite some serious issues raised in comments. The subcommittee members were told that if an issue was to be considered in lieu of a successful ballot that a negative ballot must be filed.

The results of the treadmill ballot were discussed. Several negatives were submitted. At least one (on paragraph 3.1.1) was found to be persuasive. The standard needs to be changed to address the negatives and rebaloted. Section 4.3.8.2 received several comments on the size and speed table. One commenter felt it was too restrictive because there were new models on the market that were outside the boundaries specified in the table that were both popular and had not presented problems despite having shorter lengths. This discussion was still unresolved when the meeting adjourned for the evening. I did not attend the next day's

meeting of this subcommittee.

ASTM F08.63 on Playground Surfacing Systems – Robert Heath, Chair – (05/26/00)

The meeting was called to order by subcommittee chairman Robert Heath (Fibar). A proposed agenda was passed out

The minutes from the December 1999 meeting were approved. A comment was offered that the members of the subcommittee were not given sufficient time to review the documents sent to the members. The documents were sent out Monday or Tuesday for the Friday meeting. Several subcommittee members had not received the documents because they were already on travel. It was requested that future documents be sent out at least 2 weeks prior to the meeting. The chairman so agreed.

Report on Calibration/Reference Pad Task Group – George Sushinsky, leader

George Sushinsky (CPSC) discussed the round robin that had started in October. Three laboratories had completed testing and submitted results. One more had completed testing but the results had not yet been received. Two more labs are needed for testing. Mr. Sushinsky reported that he is looking for a University to test to the protocol. Several questions were raised to the ultimate purpose of the round robin – to find the sources of variability and tighten up the precision and bias numbers at the test labs. It was suggested that the C headform was responsible for the variability. This will possibly be shown in the testing.

I left the meeting for the rest of the morning to attend part of the subcommittee session on headgear.

Report on Draft Guideline Document – Rolf Huber, leader

When I returned (after lunch), the subcommittee members were in the midst of reviewing a first draft of a new document intended to serve as a guide for selection of surfacing under and around playground equipment. The subcommittee was attempting to pare down the information into a readable package that may get an audience if it is both short and to the point. Rolf Huber from Everplay International was editing as the comments were made. A new draft was to be sent out for comment shortly after the Toronto meetings.

Update on IPEMA Certification

Ted Ilges discussed the status of the International Play Equipment Manufacturers Association (IPEMA) certification process. The process was officially approved in December 1999 and a certification committee was formed in March 2000. A single lab (Detroit Test Laboratory) will be the validating laboratory. There are five members in IPEMA with two more considering joining. No products will be certified before November 1, 2000.

The meeting was adjourned at 4:00 p.m.

ASTM F08.53 on Headgear and Helmets – Dave Halstead, Chair - (5/26/00)

During the portion of the subcommittee meeting I attended, negatives on the ski helmet standard were addressed and either withdrawn or found non-persuasive. Some of the

discussion centered on the number of impacts per site and per helmet allowed by the language. The negative was withdrawn after it was decided to clarify the language in the next revision as well as to clean up the ambiguous language of F1446 and F1447. The standard took 10 years to successfully ballot.

Two negatives on the draft standard for roller hockey helmets used in a controlled environment were reported to be unresolved. One negative commenter (Swart) wanted to be able to test any point above the test line. The second negative was concerned that the drop height (less than 1 meter) was too low. There was no movement on either issue. More work is needed to resolve these issues. There were also negatives received on a roller hockey helmet standard for helmets used in an uncontrolled environment. One commenter questioned the need for two standards, but the negatives were concerned with the low drop height of 1 meter onto a flat anvil. It was pointed out that roller blade helmets must meet a 2-meter drop. It was pointed out that the standard allowed multiple impacts on the same site for the roller hockey helmet but that only a single impact was used for the roller bade helmet standard. The negatives were found to be non-persuasive. One negative (Strumlock) regarding face shields passing with the intended helmet was found persuasive and the language was to be modified to reflect the change.

It was announced that a new equestrian helmet standard was in effect and that changes to it regarding the hazard anvil were already under consideration. The standard for rodeo helmets was noted to be struggling to define itself in terms of scope, requirements and negative comments received on the latest ballot.

The bicycle helmet standard (F 1447) was considered next. The spherical impactor was redefined in terms of impact surface shape. The requirement for the aluminum ball was dropped. There were no negatives. The test line offset language has 150 mm between impacts. It needs to be redrafted with the correct distance (120 mm). Miscellaneous items covered in discussion included:

- What is "excess water" and how to handle it
- The symbol "∇" is often translated as "*" in electronic transmissions of documents. This should be remembered in reviewing documents.
- CPSC uses chromed anvils - but it is not necessary to specify a surface finish in the standard.
- How to keep a helmet on the headform - duct tape, bungee cords, foam blocks, and do you need to account for the mass or damping effects of the method used

It was advised that the members keep up with the issues, that there were no unresolved negatives. A comprehensive cleanup of the standard was completed and goes to subcommittee ballot on June 1.

There was a discussion on the projection language and CPSC's letter on how conformance will be judged at CPSC. The CPSC language was not considered suitable as a specification. There was expressed concern also over projections below the test line (e.g. new types of retention systems) that are not addressed in F1447. This continues as a topic of discussion.