

Report of Subcommittee on Human Vibration

to

CAA Standards Committee

June 8, 2016

The subcommittee is harmonized with the Canadian Mirror Committee on ISO/TC 108/SC 4 "Human Exposure to Mechanical Vibration and Shock", and operates in parallel with TSC 4 "Occupational Vibration Control" of the CSA Technical Committee on Occupational Hearing Conservation S304. The subcommittee continues to direct its efforts in support of the development of international standards. In this role, members of the subcommittee serve as Convenors of two Working Groups (WG5 - Biodynamic Modeling, and WG8 - Vibrotactile Perception). The last meeting of ISO/TC 108/SC 4 was in September, 2014. The status of documents of interest to this committee is summarized below, and repeats what was reported in April 2015.

- 1) The omnibus standard on whole-body vibration (ISO 2631) is being revised with the goals of updating guidance and removing inconsistencies in the current document. This process will take several years and a complete rewrite can be expected.
- 2) Working Group (WG18) is developing a test method for estimating the effectiveness of seats for reducing vertical mechanical shocks transmitted to the occupant. This has applicability to land and marine vehicles (e.g., high-speed boats).
- 3) A review the frequency weighting used to predict the occurrence of vascular injuries to the hands from hand-transmitted vibration has concluded that no revision of ISO 5349-1 is appropriate at this time. There is, however, a growing body of evidence to support an alternative frequency weighting, and a Technical Report (TR) containing a new frequency weighting for predicting the onset of vibration-induced white finger is being prepared. When completed, the TR should be included in the next update of our omnibus standard.
- 4) The practical guidance on the measurement of hand-transmitted vibration contained in ISO 5349-2, including recommended accelerometer locations, has been revised to clarify the relationships to power tool vibration emission standards. ISO 5349-2 is included in our omnibus standard, and the revision should be included in the next update of our standard.
- 5) The second edition of the method for measuring and evaluating the vibration transmissibility of anti-vibration gloves at the palm of the hand (ISO 10819) has been approved as an international standard. Accordingly, it is now appropriate to include the new version of ISO 10819 for our omnibus standard. There are, nevertheless, still issues, for example the method does not address vibration reduction at the fingers, and an amendment to the new standard is being undertaken.

Membership of the Canadian Mirror Committee are: Dr. Alberto Behar (ON), Dr. Paul-Emile Boileau (IRSST, QC), Dr. Anthony Brammer (Chairman), Mr. Dan Charbonneau (Shoxs, BC), Dr. Tammy Eger (Laurentian University, ON), Dr. Ron House (University of Toronto, ON), Mr. Ed Lehtinen (Impacto Protective Products, ON), Dr. Pierre Marcotte (IRSST, QC), Dr. Jim Morrison (Shearwater Human Engineering, BC), Dr. Subhash Rakheja (Concordia University, QC), Mr. Timothy Rees (Shoxs, BC), Dr. Dan Robinson (Robinson Ergonomics, BC), Mr. John Swallow (Swallow Acoustical Consultants), Mr. Paul Taylor (Shoxs, BC), and Dr. Vic Schroter (MoE, ON).

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