

INTERNATIONAL SKATING UNION

Communication No. 1512

Rink Board Padding - Short Track Speed Skating

(this Communication supplements ISU Communication 1019)

1. ISU Communication No. 1019 dated March 1, 1999 was issued to indicate recommended *minimum* padding requirements (according to Rule 280, paragraph 5) for major international competitions.

2. The experience of Short Track Speed Skating, including the 2006 Olympic Winter Games, in implementing Communication 1019 has been satisfactory from a safety point of view. Nevertheless, in a continuing quest for improvement the ISU was made aware of testing by the University of Torino (TU) of padding manufactured by the company, Bortolotto supplier to the Torino Olympic Winter Games, which indicates the possibility of further padding enhancements for use with traditional ice hockey rink-boards, and also moveable, systems for use in rinks without traditional hockey rink-boards.

3. All expenses for the tests were covered directly by the manufacturer Bortolotto and the world-wide distributor "IMPAKT Sport Equipment".

4. The ISU does not accept responsibility for the technical results or conclusions to be drawn from the tests, but is able to verify that the tests were conducted as described in this Communication.

5. **Suggested Minimum specifications for traditional rink board padding:**

Based on the TU testing procedures (see Paragraph 7 below), and the *test results only*, the ISU has positively acknowledged a new standard for Short Track rink-board padding.

- **Size of each pad:** Height 120 cm; Length 200 cm; Width, 40 cm up to 50 cm.
- **Inside structure of each pad:** composed of layers of different foam densities and two (7cm minimum each) rows of alternate "open cell spaces" (also described as vacant, internal, air-spaces running from the bottom to the top of the pad).
- **Pad cover:** composed of a soft (even at cold temperatures), anti-abrasive and water resistant synthetic material with a vented top-edge that, upon impact, can permit immediate exhaust of the air contained in the open cell spaces within the pad.
- **Banner attachment strips:** for easy attachment of commercial banners, provide soft Velcro strips of 3 cm width placed length-wise at 10 cm from the top and 10 cm from the bottom of each pad.
- **Material to cover the joint where two pads come together:** an overlapping Velcro strip of 10 cm shall cover the joint between two pads to present a smooth exterior surface. This recommendation applies also to the moveable, self-standing padding systems.
- **Placement of pads:** place pads so as to cover all rink-board surfaces, with the weight of the pad resting on the surface of the ice, attached to the rink-boards and to the adjoining pads.

6. Suggested Minimum specifications for moveable self-standing padding system

Based on the TU testing procedures (see Paragraph 7 below), and the test results only, the ISU is presenting an additional new standard for use in short-track competitions held in rinks without rink-boards based on the following guidelines:

- **Size of each pad:** Height 120 cm; Length 200 cm; Minimum Width 50 cm up to a width of 90cm.
- **Inside structure of each pad:** composed of layers of different foam densities and two (8cm minimum each) rows of alternate “open cell spaces” (also described as vacant, internal, air-spaces running from the bottom to the top of the pad).
- **Pad cover:** composed of a soft (even at cold temperatures), anti-abrasive and water resistant synthetic material with a vented top-edge that, upon impact, can permit immediate exhaust of the air contained in the open cell spaces within the pad.
- **Banner attachment strips:** for easy attachment of commercial banners, provide soft Velcro strips of 3 cm width placed length-wise at 10 cm from the top and 10 cm from the bottom of each pad.
- **Material to cover the joint where two pads come together:** an overlapping Velcro strip of 10 cm shall cover the joint between two pads to present a smooth exterior surface.
- **Base dimensions:** a minimum of 20 cm and a maximum of 40 cm resting on a smooth ice surface with no obstacles or sharp edges underneath the pads.
- **Size of the ice rink within the moveable pad system:** to conform to the ISU Rules by proper positioning of the moveable pad system.
- **Movement on impact:** padding to be fixed to inhibit a fallen skater from passing underneath the pads on impact. On impact, the padding system should only move up to 20 cm toward the outside of the ice rink.
- **Pad control tension:** the belts or any other system that is used to control the movement of the pads should be in place and controlled continuously.
- **Control personnel:** are to be available for re-positioning the pads in their original position after movement due to impact.

7. Test to identify whether pads manufactured by others have achieved the standards of the new elaborated specifications

The following testing procedure will allow uniform measurements throughout the world of the impact-absorption qualities of proposed new padding to check that such padding would really be an improvement.

The test shall consist of:

- A mechanical drop test performed on a 40 cm wide test pad with a cylindrical drop mass of 32 kg. (20 cm diameter, 14,5cm height).
- Several trials at each drop height of 1, 2, 3 and 4 meters are to be performed.
- An accelerometer attached to the drop mass will measure the acceleration of the mass upon impact with the padding.
- The peak values of each of the accelerations and the impact forces will be recorded with the average of such values as the final result.

A **testing pad** of 40 cm width with the following specification, or two mats with the specifications of Communication 1019, will set the “zero” of the testing equipment and software.

- 12cm of 22,40 kg/m³ density open cell foam (front layer)
- 8cm of 32,04 kg/m³ density closed cell foam
- 12cm of 22,40 kg/m³ density open cell foam
- 8cm of 32,04 kg/m³ density closed cell foam

8. **Alternative Padding/Safety Measures**

Other types of padding and/or materials and/or inside structures may be used so long as the drop test results as explained above, or other valid objective engineering evaluations, produce equal or better results to those indicated below. The ISU would appreciate to receive the results for evaluation purposes in relation to other processors-parties.

9. It is recommended that in the design and construction of any new proposed rink-board pads and free-standing padding systems, that researchers and developers of the new padding and padding systems adopt an aggressive goal of 35% as the minimum improvement compared to the above mentioned Communication 1019 specification basis “zero”.

10. The installation of padding equal to or better in percentages of improvement, impact protection and other qualities than the padding tested by TU could become a key factor in allotment of an ISU Event.

11. The new specifications resulting in padding improvements are expected by the ISU to be reflected in padding used for ISU Championships, Olympic Winter Games and ISU World Cup Events.

12. The ISU considers that Members shall take all appropriate safety precautions and, in addition, procure liability insurance covering the competitions. The ISU assumes no responsibility for, or liability with respect to, bodily or personal injury or property damage incurred in connection with sanctioned competitions (See rule 119 par.2)

Milan,
July 14, 2008
Lausanne,

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