Baanbeveiliging shorttrack

In dit Communiqué 2B worden de volgende onderwerpen toegelicht:
1. Baanbeveiliging
2. Baanmarkering

1. Baanbeveiliging

In artikel 280 van het Shorttrack ISU-wedstrijdreglement en in ISU Communication 2365 met Technical Annex to Communication 2365 (december 2020) staan voor internationale wedstrijden de voorschriften betreffende banen en baanbeveiliging. De ISU hanteert in Communication 2365 een overgangstermijn tot eind april 2023. Voor trainingen en wedstrijden in Nederland zijn, gebaseerd op deze ISU-regelgeving, de onderstaande niveaus van baanbeveiliging van toepassing. Er wordt onderscheid gemaakt in de volgende vier vormen van baanbeveiliging (uitgaande van ISU-verdeling):

1. Basis baanbeveiliging (basic rink board padding)
2. Traditionele baanbeveiliging (traditional rink board padding) (advies KNSB)
3. Hybride baanbeveiliging (hybrid padding)
4. Volledig beweegbare baanbeveiliging (moveable padding)

Zoals bekend (op basis van het eerdere Communiqué 2B) gold vanaf seizoen 2021-2022 het uitgangspunt dat bij shorttracktrainingen en -wedstrijden altijd een volledige baanbeveiliging van kussens rondom geplaatst is (dit vloeit voort uit de regelgeving van de ISU). Verenigingen en/of ijsbanen in Nederland, die nog niet voldeden aan deze eisen, konden gebruik maken van de door de KNSB ingevoerde overgangsperiode tot eind april 2023. Verenigingen en/of trainingslocaties in Nederland hebben echter meer tijd nodig om te voldoen aan de gestelde minimumeisen van dit Communiqué. De KNSB heeft daarom besloten de overgangsperiode te verlengen met eenzelfde termijn. Verenigingen en/of trainingslocaties die gebruik willen maken van deze overgangsperiode tot eind april 2025, dienen dit vóór 1 oktober 2023 via email te melden aan het sectiebestuur Shorttrack van de KNSB (secretarissbst@knsb.nl).

Ook de KNSB Talent Teams hebben ten aanzien van hun trainingen meer tijd nodig om de transitie naar een hybride of beweegbare baanbeveiliging of een andere qua veiligheid vergelijkbare baanbeveiliging te realiseren. Ook voor deze Talent Teams heeft de KNSB besloten om de overgangsregeling met eenzelfde termijn te verlengen, namelijk tot eind april 2025. Gedurende deze periode zal de KNSB een regierol en inspanningsverplichting op zich nemen om de transitie naar een hybride of beweegbare baanbeveiliging of een andere qua veiligheid vergelijkbare baanbeveiliging te begeleiden. In de overgangsperiode (dus tot eind april 2025) geldt voor deze teams echter wel de ondergrens van tenminste een volledige baanbeveiliging (traditioneel bij vaste boarding) met 60/40 kussens. De KNSB Talent Teams/locaties, die gebruik willen maken van de overgangsperiode, dienen dit vóór 1 mei 2023 via email te melden aan de manager Talentontwikkeling van de KNSB.

Bij eventuele aanschaf van nieuwe baanbeveiliging/baankussens kan voor advies contact worden opgenomen met het secretariaat van het Sectiebestuur Shorttrack(secretarissbst@knsb.nl) en/of de disciplinemanager shorttrack van de KNSB.

Bij het bestellen van een hele of gedeeltelijke set nieuwe baankussens dient de producent /leverancier verplicht een testcertificaat te verstrekken, zoals door de ISU wordt voorgeschreven.

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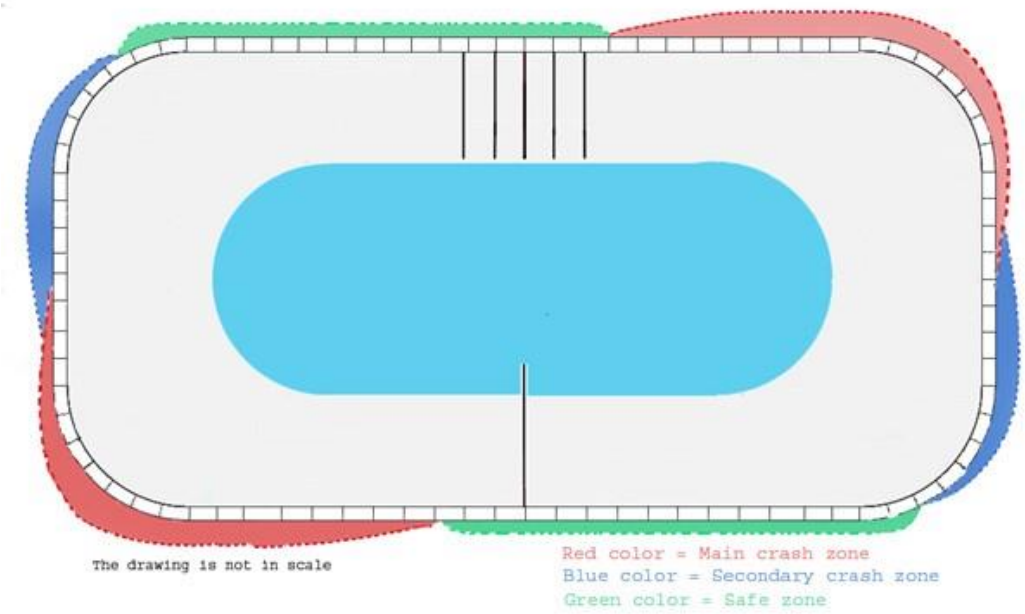
De specificaties, waaraan de verschillende typen baanbeveiliging moeten voldoen, staan omschreven in ISU Communication 2365. De testprocedure waaraan de baanbeveiliging moet voldoen staat beschreven in Technical Annex to Communication no. 2365 (deze is apart bijgevoegd). Aandachtspunt bij plaatsing baanbeveiliging: Indien de baanbeveiliging bestaat uit 2 lagen kussens dan dient de dikkere laag aan de zijde van het ijs te worden geplaatst. Daarbij dan wel de harde kussens plaatsen aan de boardingzijde en de zachte kussens (met luchtkamers) aan de zijde van de ijsbaan.

Het volgende diagram illustreert de locatie van de verschillende zones:



Deze tekening van de ISU is niet op schaal en is alleen bedoeld om duidelijk te maken waar de crash zones en de safe zones zijn. Let op: voor een optimale veiligheid zijn de belangrijkste crash zones in dit Communiqué 2B verlengd vergeleken met bovenstaande tekening.

Van belang is dat de kussens jaarlijks worden gecontroleerd op scheuren en gaten, zodat er bijvoorbeeld geen water in het schuim kan trekken. Aanbevolen wordt dat verenigingen samen met de ijsbaan en/of de eigenaar van de kussens afspraken maken over het herstel en onderhoud van de kussens. Dit draagt bij aan een adequate veiligheid en een langere levensduur van de kussens.

Op de volgende pagina's staan per type baanbeveiliging de juiste tekeningen met de positie van de verschillende maten kussens.

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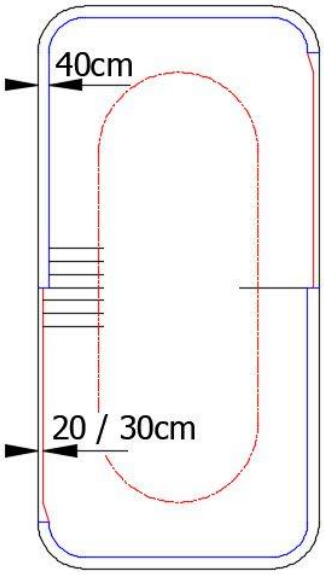
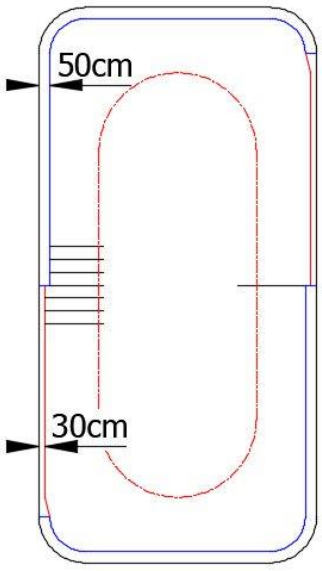
1. Basis baanbeveiliging bij vaste boarding

Niveau	Basis baanbeveiliging bij vaste boarding	Hoogte	Lengte / dikte	Wedstrijd / Training
1a		120 cm of gelijk aan de hoogte van de boarding	2x60 meter met een dikte van 40 cm (of 2x20 cm) in alle crashzones 2x30 meter met een dikte van minimaal 20 cm, bij voorkeur 30 cm op het tweede deel van het rechte eind.	ISU-norm voor Basis baanbeveiliging Indicatie: > 49’ op de 500m Training (langzamer dan 49 sec.) Pupillen wedstrijden Regiowedstrijden (langzamer dan 49 sec)
1b		120 cm of gelijk aan de hoogte van de boarding	2x60 meter met een dikte van 50 cm (of combi van 30/20 cm) in alle crashzones 2x30 meter met een dikte van 30 cm op het tweede deel van het rechte eind	Verzwaarde ISU norm voor basis baanbeveiliging Indicatie: > 46’/47’ op de 500m Training (langzamer dan 46’/47’) Regiowedstrijden (langzamer dan 46’/47’) Internationale juniorenwedstrijden CD: Star Class Junior CD (60 cm in bochten) en Herfsttoernooi.

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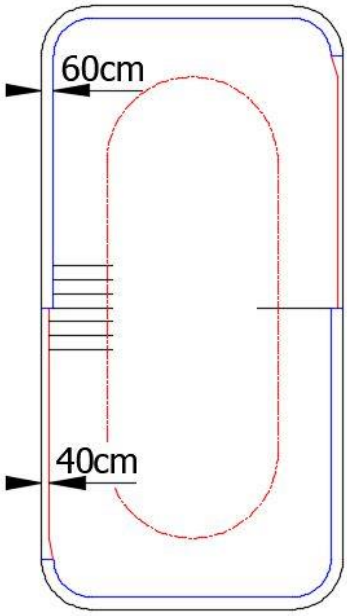
2. Traditionele baanbeveiliging bij vaste boarding

De KNSB adviseert de ijsbanen bij aanschaf of vervanging van de baanbeveiliging voor shorttrack te kiezen voor minimaal deze traditionele baanbeveiliging bij vaste boarding, mede op basis van de wijzigingen van de regelgeving van de ISU (Com. 2365).

Niveau	Traditionele baanbeveiliging bij vaste boarding	Hoogte	Lengte / dikte	Wedstrijd / Training
2		120 cm of gelijk aan de hoogte van de boarding	2x60 meter met een dikte van 60 cm (bestaande uit maximaal 2 lagen van 40/20 of 50/10 cm) vanaf het ingaan van de bocht tot het midden van het rechte eind. Bij 2 lagen is de dikste laag kussens voorzien van luchtkamers. 2x30 meter met een dikte van 40 cm voor de rest van de baan	ISU-norm voor Traditionele baanbeveiliging Indicatie: >46' op de 500m KTT-trainingslocaties*: minimale eis is volledig met 60/40 tot aanvang seizoen 25/26 (1 mei 2025) (overgangsperiode). KNSB-Cups: De 500 meter KNSB Cup wordt alleen verreden op banen met hybride of beweegbare beveiliging. Internationale wedstrijden: Star Class Junior CD; Herfsttoernooi

* Voor KTT-trainingslocaties geldt vanaf aanvang seizoen 25/26 (1 mei 2025) de verplichting van een hybride of een beweegbare baanbeveiliging of een andere qua veiligheid vergelijkbare baanbeveiliging (op basis van ISU Communication 2365). Tot die tijd geldt een overgangsperiode waarin een volledige baanbeveiliging met 60/40 kussens verplicht is volgens bovenstaande tekening.

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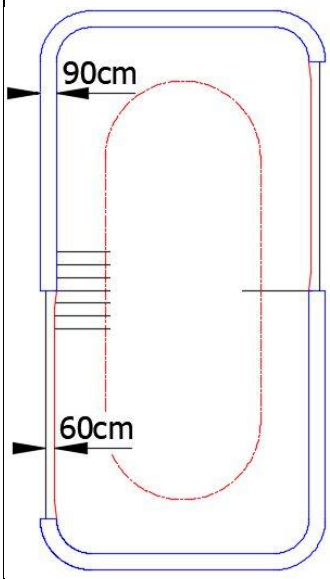
3. Hybride baanbeveiliging (hybrid padding): deels beweegbare beveiliging en deels traditionele beveiliging bij vaste boarding

Niveau	Hybride baanbeveiliging	Hoogte	Lengte / dikte	Wedstrijd/Training
3		120 cm of gelijk aan de hoogte van de boarding	2x50/55meter met een dikte van 90 cm vanaf de bocht tot het midden van het rechte eind, in principe de afstand waar geen harde boarding staat 2x40/35 m met een dikte van 60 cm voor de rest van de baan waar de vaste boarding nog aanwezig is	Verzwaarde ISU norm voor Hybride boarding NTS- Nationale trainingslocatie(in NL) KTT-trainingslocaties (in NL): verplicht vanaf seizoen 25/26 (1 mei 2025)* KNSB Cups ISU Junior Challenge NK-Junioren NK-Senioren World Cups EK WKJ WK

* Zie pagina 4

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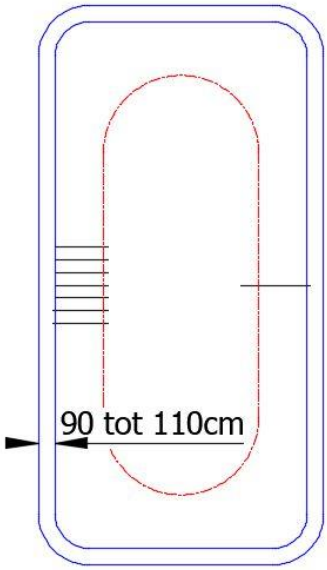
4: Volledig beweegbare baanbeveiliging (movebale padding) of free-standing padding

Deze baanbeveiliging wordt verplicht gebruikt bij Olympische Spelen en bij voorkeur ook bij ISU Kampioenschappen, World Cups en de Winter Jeugd Olympische Spelen. Internationale wedstrijden voor senioren en Nederlandse Kampioenschappen worden bij voorkeur ook op banen met volledig beweegbare baanbeveiliging gereden.

ISU-norm: De kussens hebben een hoogte van 120 cm en een lengte van 200 cm. De breedte van de kussens kan variëren van 90 cm tot max 110 cm. Let op de plaatsing van deze kussens (zie nieuwe Communication 2365).

Niveau	Beweegbare baanbeveiliging	Hoogte	Lengte / dikte	Wedstrijd/Training
4		120 cm of gelijk aan de hoogte van de boarding	180 meter beweegbare kussens van minimaal 90 cm tot 110 cm Let op: Extra regels voor plaatsing kussens (zie ISU Comm. 2365)	ISU-norm voor volledig beweegbare baanbeveiliging NTS- Nationale trainingslocatie (in NL) KTT-trainingslocaties (in NL): verplicht vanaf seizoen 25/26 (1 mei 2025)* KNSB Cups ISU Junior Challenge NK-Junioren NK-Senioren World Cups EK WKJ / WK Olympische Spelen

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Samenvatting van de verschillende niveaus: zie ISU Communication 2365
voor wedstrijden:

EVENT TYPE	TYPE OF PADDING SYSTEM			
	Moveable Padding	**Hybrid Padding**	**Traditional Padding**	**Basic Padding**
Olympic Winter Games	✓	Not applicable	Not applicable	Not applicable
ISU Championships	✓	✓	Not applicable	Not applicable
ISU World Cup Competitions	✓	✓	Not applicable	Not applicable
Winter Youth Olympic Games	✓	✓	Not applicable	Not applicable
International Competitions (Seniors and Junior A+B)	Not mandatory	✓	✓	Not applicable
International Competitions (Junior C and D)	Not applicable	Not applicable	✓	✓

Not applicable = niet van toepassing Not mandatory= niet verplicht

Bij iedere wedstrijd is de aangewezen scheidsrechter verantwoordelijk voor de controle van de baanbeveiliging. Als de baanbeveiliging niet aan de eisen voldoet of alsnog kan gaan voldoen, zal de scheidsrechter de wedstrijd in principe afgelasten.

4. Baanmarkering

Voor de baanmarkering is het gebruik van zachte blokken bij alle wedstrijden verplicht.

Ondertekening,

Utrecht, februari 2023

Annemarie Gijsberts
Vice-Voorzitter/Interim Voorzitter Sectiebestuur Shorttrack

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BIJLAGEN:

1. Communication No. 2365 SHORT TRACK SPEED SKATING PADDING MEASURES TO INCREASE SAFETY FOR SKATERS (This Communication will replace ISU Communication No. 2128, as of December 17, 2020)

ISU.ORG

INTERNATIONAL SKATING UNION

Communication No. 2365

SHORT TRACK SPEED SKATING PADDING MEASURES TO INCREASE SAFETY FOR SKATERS

(This Communication will replace ISU Communication No. 2128, as of December 17, 2020)

Taking into account the experience gained since the implementation of ISU Communication No. 2128, the ISU Council has decided to update and extend the specifications and guidelines relating to Rule 280, paragraph 5 on Rink Board Padding systems (hereafter called “Padding”) in the ISU Special Regulations for Short Track Speed Skating. The purpose of this update is to establish further requirements and guidelines, taking advantage of the developments and improvements in technologies and solutions for Padding, in order to increase the safety of Skaters.

Any newly purchased Padding must fully comply with this ISU Communication. However, in order to allow for a smooth transition phase, Padding purchased prior to the release of this Communication and respecting the requirements of Communication No. 2128 may still be used for ISU Events and other Competitions as specified in Section E. below until end of April 2023, pending the compliance procedure described in Section E.1.i.

A. DEFINITION OF RISK ZONES IN SHORT TRACK SPEED SKATING TRACKS

The purpose of the protective Padding is to provide the best possible safety conditions for Skaters by reducing the risk of injuries when Skaters fall and hit the Padding. The quality and installation requirements for the Padding take into account that different safety measures may be required for different zones of the track. For this purpose, a "**crash zone**" is defined as an area where a fall can cause a significant impact on the Padding.

The track can be divided into three zones:

1. Main crash zone
2. Secondary crash zone
3. Low-risk zone ("Safe zone")

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A.1 Main crash zone

The main crash zone in Short Track Speed Skating is generally considered to be the exit of the curves on both sides of the track. This area usually extends from the middle of the short side of the ice rink (the apex) up to about 10 meters ahead of the starting or finishing line at the centre of the track.

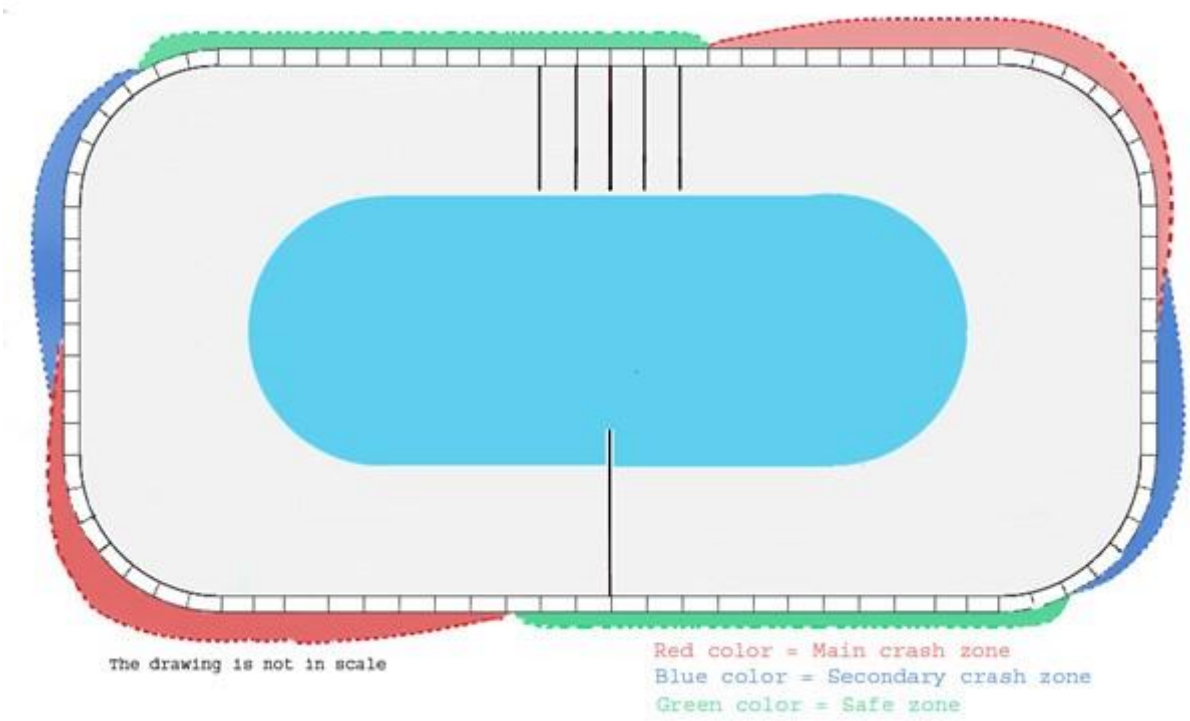
A.2 Secondary crash zone

The secondary crash zone in Short Track Speed Skating is generally considered to be the entry of the curves on both sides of the track. This area extends to the middle of the respective short side of the ice rink (the apex).

A.3 Low-risk zone ("Safe zone")

This zone covers all remaining areas of the perimeter, mainly on the straight parts of the track.

The following diagram illustrates the location of the different zones:



B. CLASSIFICATION OF PADDING

Padding can be classified into the following main categories:

1. Moveable Padding
2. Hybrid Padding
3. Traditional rink board Padding
4. Basic Padding

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B.1 Moveable Padding

A M*oveable Padding* is a self-standing installation consisting of single pads of a minimum width of 90 cm which are connected to each other through velcro strips on the front part, as well as by 2-3 safety belts, or an alternative technical solution, on the back side of the pads. No rigid ice hockey boards are in place on the entire perimeter of the ice surface. Posts are fixed to the ground in defined places, depending on the entry and exit doors to access the ice surface. The purpose of the posts and belts is to keep the Padding stable. Upon impact the pads may move up to 1,5 meters towards the outside of the ice surface. The purpose of the movement of the padding is to reduce the impact force. It is mandatory to have a smooth surface under the pads to prevent Skaters getting injured as the pads are moving.

A Moveable Padding must fulfil the following minimum technical specifications and requirements:

a) **Size of the pads:** Height 120 cm; Length 200 cm; Width 90 cm up to 110 cm.

b) **Inside structure of the pads:** Composed of layers of different foam densities and two or more rows of alternating “open cell spaces” (also described as vacant, internal, air-spaces running from the bottom to the top of the Padding) or similar solutions. “Open cell spaces” shall not exceed half the width of the pad. The front layer of foam shall have a soft structure in order to absorb the first impact force.

c) **Padding 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 release of the air contained in the open cell spaces within the Padding.

d) **Banner attachment strips:** For easy attachment of commercial banners, soft velcro strips of 3 cm width shall be placed lengthwise at 10 cm from the top and 10 cm from the bottom of the Padding.

e) **Material to cover the joint where two pieces of the Padding come together:** An overlapping velcro strip of at least 15 cm shall cover the connection between pads to present a smooth exterior surface. This velcro strip must overlap in the direction of skating.

f) **Placement of the Padding:** A minimum of 20 cm and a maximum of 60 cm of the pads shall rest on a smooth ice surface with no obstacles or sharp edges underneath the pads. To guarantee a smooth ice surface the Padding shall be moved prior to and after each competition day and frozen ice pieces shall be removed with a grinder. A smooth area outside the ice surface shall be guaranteed by either placing a rubber floor (with no sharp edges between the ice and the rubber floor) or any alternative, stable technical solution that allows a fallen athlete to glide and stand up on a protected floor. The rubber floor shall cover the entire zone where the padding moves until it ultimately stops. No moveable parts or moveable floor protections are allowed.

g) **Positioning of the Padding:** The moveable Padding shall be positioned in such a way that it allows the use of tracks in conformity with the ISU Rules.

h) **Movement on impact:** On impact, the Padding may move up to 150 cm towards the outside of the ice rink. However, the Padding shall be fixed so as to inhibit a fallen Skater from passing underneath the Padding on impact. The use of posts for entry and exit doors, as well as for the purpose of fixing the Moveable Padding, should be reduced to a minimum. No posts should be placed in the area of the main crash zone.

i) **Padding control tension:** 2-3 belts shall be positioned at different heights at the back side of the Padding. The belts, the purpose of which is to control the movement of the Padding, shall be checked continuously and properly tightened. Alternative technical solutions instead of using belts may be proposed in the overall technical design of the Padding, however the basic function of the movement of the Padding must be guaranteed.

j) **Repositioning of the Padding:** Dedicated personnel must be available for re-positioning the Padding to its initial position after movement due to impact. A coloured external demarcation line shall exactly define the correct position of the Padding.

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k) Installation of moveable Padding system and venue configuration
The moveable Padding system must be properly installed in order to provide the highest level of safety for athletes. The installation must take into consideration the venue configuration and ensure that the necessary space is available to allow the proper movement of the Padding in the main and secondary crash zones.

B.2 Hybrid Padding

A *Hybrid Padding* is a system combining a Moveable Padding for the main crash zones with Traditional rink board Padding for the remaining part of the track. The system consists of two different sets of pads, with a minimum width of 90 cm for the pads to be used for the moveable part (in the main crash zones) and with a minimum width of 60 cm for the pads to be used in all other areas around the perimeter of the ice surface.

Rigid rink boards (ice hockey boards) may stay in place except for the main crash zones where the rink boards are to be removed and replaced by moveable pads to cover those areas in accordance with the drawing in paragraph “A” on page 2 of this document. The moveable pads shall be connected to the pads covering the remaining rink boards with 2-3 belts on the back side of the Padding or through an alternative technical solution. The moveable pads must be placed on the ice in such a way that an even inner line of the complete Padding is achieved. The pads covering the areas where rink boards remain, shall be installed with the weight of the pads resting on the surface of the ice, and the pads shall be firmly attached to the rink boards. All pads must be connected to each other with velcro strips in order to provide a stable installation for the complete Padding.

For the moveable part of the system, all the requirements and technical specifications for a Moveable Padding as per B.1 above, must be fulfilled. For the remaining part of the system, as a minimum, all the requirements and technical specifications for a *Traditional rink board Padding* as per B.3 below, must be fulfilled.

B.3 Traditional rink board Padding (without moveable parts)

A *Traditional rink board Padding* consists of pads that are placed directly on the ice surface on the inside of the rink boards. There are no moveable parts in this kind of Padding. The following requirements and technical specifications must be fulfilled:

a) **Size of the pads:** Height 120 cm; Length 200 cm; Width at least 40 cm for the straights and at least 60 cm for both the main and secondary crash zones.
b) **Inside structure of the pads:** Composed of layers of different foam densities and two rows of alternating “open cell spaces” (also described as vacant, internal, airspaces running from the bottom to the top of the Padding) or similar solutions. “Open cell spaces” shall not exceed half the width of the pad. The front layer of foam shall have a soft structure in order to absorb the first impact force.
c) **Padding cover:** The same as for the Moveable Padding.
d) **Banner attachment strips:** The same as for the Moveable Padding.
e) **Material to cover the joint where two pieces of the Padding come together:** The same as for the Moveable Padding.
f) **Placement of the Padding:** The Padding must cover all rink board surfaces completely. The weight of the pads shall rest on the surface of the ice, and they shall be firmly attached to the rink boards. In order to reach the required 60 cm width in the crash zones a double layer of pads may be used.

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B.4 Basic Padding

To provide adequate safety for races at a lower level (with limited speed) the following recommendations for a *Basic Padding*, based on the same principles as the Traditional rink board Padding, should be observed:

a) Size of the pads:

- Height: Equal to the height of the rink boards
- Length: At least 200 cm
- Width: At least 20 cm and at least 40 cm, or double pads, for the crash zones.
- Form: The pads shall not have a sloped or angled outer surface.

b) Inside structure of the pads: Composed of layers of different foam densities. The softer foam shall be applied in the front layer of the pad.

c) Padding cover: Smooth texture, low coefficient of friction, and excellent tear resistance.

d) Placement of the Padding: The Padding must completely cover all rink board surfaces, with the pads attached to each other. The weight of the pads shall rest on the surface of the ice and they shall be placed perpendicular to and be firmly attached to the rink boards. In order to reach the minimum width of 40 cm in the crash zones a double layer of pads may be used in these areas. The pads must be placed so that the part of the pads with the softer foam is facing the track, and the less soft part of the pads is facing the rink board side.

C. RULES AND GUIDELINES FOR DIFFERENT TYPES OF EVENTS AND COMPETITIONS

The above classification of Paddings specifies different levels of protective measures, taking into account that the protection requirements depend on the performance level of the participating Skaters and the competitive standard of the Competition. The classification reflects that System B.1 is considered to provide enhanced safety features as compared to System B.2, etc.

Rules and guidelines for the selection of the type of Padding to be used for different categories of International Competitions are given below. ISU Members should establish similar guidelines for Competitions organized at national level, considering the competitive level in comparison with the categories of International Competitions listed below.

C.1 OLYMPIC WINTER GAMES

According to the ISU Special Regulations for Short Track Speed Skating, Rule 280, paragraph 5.a), Moveable Padding is mandatory for the Olympic Winter Games. The Padding must comply with the specifications in Section B.1 above. The Padding must have been tested at an independent Testing Centre recognized by the ISU and must have reached the minimum requirements laid down in the technical Annex to this Communication and in Section D below. In addition to successful testing, the Padding shall have been successfully used at one or more ISU Events, or another high-level competition approved by and held under the supervision of the ISU, thereby also proving the quality of its setup and installation. The supplier of the Padding must have a reference list of delivery and installation of Paddings for several venues and several high-level Short Track Competitions with the participation of world class athletes. A letter of recommendation from the ISU for the procurement of Padding for Olympic Winter Games will only be issued if the above conditions are fulfilled.
The selection of the Padding must also take into account venue requirements for the final setup, including adequate space for the moveability of the Padding as indicated in C.2 below, as well as logistical change-over issues, considering that Short Track Speed Skating and Figure Skating will be sharing the same venue. The Organizing Committee of the Olympic Winter Games shall forward all technical drawings, installation details as well as all other specifications to the respective ISU Technical Delegates.

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C.2 ISU CHAMPIONSHIPS, ISU WORLD CUP COMPETITIONS, WINTER YOUTH OLYMPIC GAMES

For the above-mentioned Events either a Moveable Padding or a solution with a Hybrid Padding, as per the specifications in Sections B.1. and B.2 above, shall be used. The minimum required outside space for the proper movement of the moveable part of the Padding is 1,80 meters for the main crash zone and 1,30 meters for the secondary crash zone, and no fixed posts shall be applied in this space. However, depending on special circumstances and special Venue configuration as well as the type of Padding to be installed, the ISU may evaluate a smaller space on a case-by-case basis.
For all such Events a feasibility plan must be developed, including all the technical specifications and solutions necessary to ensure the correct setup of the Moveable pads. All technical details, including a precise drawing of the padding installation as well as floor protections must be communicated to the ISU in due time for the plan to be evaluated and for necessary adjustments to be made.

C.3 OTHER INTERNATIONAL COMPETITIONS FOR SENIORS AND FOR THE JUNIOR AGE CATEGORIES A AND B

For the above-mentioned Competitions as a minimum a Traditional rink board Padding, as per the specifications in Section B.3 above, must be used.

C.4 INTERNATIONAL COMPETITIONS FOR THE JUNIOR AGE CATEGORIES C AND D

A Basic Padding as per the specifications in Section B.4 above may be used for this category of Competitions as an alternative to a Traditional Padding*.

Summary of minimum protective levels:

EVENT TYPE	**TYPE OF PADDING SYSTEM**			
	Moveable Padding	**Hybrid Padding**	**Traditional Padding**	**Basic Padding**
Olympic Winter Games	✓	Not applicable	Not applicable	Not applicable
ISU Championships	✓	✓	Not applicable	Not applicable
ISU World Cup Competitions	✓	✓	Not applicable	Not applicable
Winter Youth Olympic Games	✓	✓	Not applicable	Not applicable
International Competitions (Seniors and Junior A+B)	Not mandatory	✓	✓	Not applicable
International Competitions (Junior C+D)	Not applicable	Not applicable	✓	✓*

** subject to amendment of Rule 280, paragraph 5.g)*

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D. REQUIRED TESTING

a) In the case of new suppliers or newly manufactured pads for planned use as the Padding at Events listed in Section E. below, or at the specific request of the ISU for safety concerns, Padding manufacturers are obliged to send a test pad, which has exactly the same size and identical characteristics as the product to be offered, for testing at an ISU designated testing center. All technical details, such as foam materials used, information on the composition of the pads, detailed drawings, cover sheet specifications and the documentation of any additional tests performed, must be submitted to the testing center with a copy to the ISU.

b) The manufacturer must cover all related costs for the testing procedure, including costs for shipment, etc. None of these costs will be refunded by the ISU, whether the test is successful or unsuccessful.

c) The testing center will perform the scientific tests and release the testing data, including a certificate for the test results with reference to the benchmark indicated in the technical Annex to this Communication and notify the manufacturer and the ISU of the results. The ISU accepts no responsibility for this certificate nor any liability for any personal or material damage connected to the subsequent use of the respective Padding.
In the case that the test shows that the ISU requirements have not been reached, the ISU will forward this information to the organizers which intended to use the Padding. In such cases the ISU reserves the right to take action as indicated in section E. below.

d) The main purpose of the testing is to compare the properties of Padding with a reference testing value, so that the basic quality of Paddings being considered for procurement or use can be verified, and so that manufacturers can use this as guidance for further product development. For ISU Events organized after April 2023 the Padding must reach a benchmark value of at least 70 % improvement compared to the test value for the reference mattress (2x20 cm), as specified in the technical Annex to this Communication.

E. Implementation/Compliance of Padding to be used for the Olympic Winter Games, Winter Youth Olympic Games, ISU Championships, ISU World Cup Competitions and other ISU Events

E.1 Event Application and Event allotment process.

In order to control and ensure compliance with Sections C and D above, the ISU has established the following procedures during the phases of Event application and Event allotment:

i) ISU Members applying for ISU Events, or which are involved in an application for the Olympic Winter Games or the Winter Youth Olympic Games, must provide upon application specific information on the Padding that it is planned to install. This information must include detailed specifications for the Padding itself and indications of the technical setup and installation of the Moveable or Hybrid Padding. The respective ISU Members must also confirm in writing that in case of being allotted the Event, they will install Padding complying with the definitions and specifications (as given in Section B above) of the relevant type of Padding for the Event as well as the minimum requirements based on the tests performed. This information will be a key factor for the ISU in the Event allotment process. For ISU Events (and Winter Youth Olympic Games) to be held in the transition period until the end of April 2023, existing Paddings may be used based on a case-bycase evaluation. For Events to be held later than April 2023 only Paddings meeting the test benchmark specified in paragraph D.d) above shall be used.

ii) The ISU reserves the right to proceed with inspection visits of organizers which provide inadequate or insufficient information relating to the Padding foreseen to be used and to order a test of the Padding at an ISU designated testing centre.

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E.2 Actions in cases of non-compliance

In the case of non-compliance and/or unresolved issues, the ISU reserves the right to take the following steps:

i) If the organizing ISU Member of an ISU Event or of the Short Track Speed Skating events at the Olympic Winter Games or the Winter Youth Olympic Games does not provide the information as indicated in paragraph D above, and/or the ISU has reasonable doubts that the minimum specifications will be met, the ISU may:
   a) Require the replacement of the planned Padding by a Padding complying with the applicable requirements;
   b) For ISU Events: transfer an already allotted ISU Event to another ISU Member or to another venue where the requirements will be fulfilled.

ii) If, despite previous assurances and controls, it is observed shortly before the beginning of an ISU Event, the Olympic Winter Games or the Winter Youth Olympic Games that a Padding which is not in compliance with the above-mentioned requirements has been installed, the ISU Representative (at ISU Events) or the ISU Technical Delegates (at the Olympic Winter Games/Winter Youth Olympic Games) in consultation with the Chief Referee(s) of the Event may:
   a) Demand, if still possible, that the Padding be replaced immediately by a Padding in compliance with the relevant requirements. If such replacement is possible, training sessions shall not commence or resume until the new Padding is in place. All costs for the replacement of the Padding shall be borne by the Organizer;
   b) Depending on the Padding in place, and for borderline cases only, demand after careful evaluation that the organizing ISU Member provide a written and duly signed statement confirming its full and direct responsibility that the installed Padding ensures adequate protection at the same level as a Padding complying with the relevant requirements. This information must then be forwarded immediately to all participating teams;
   c) Cancel the ISU Event if the Padding which is deemed insufficient cannot be replaced in due time and a statement as per sub-paragraph (ii) b) cannot be obtained and/or accepted. The organizing ISU Member of the cancelled ISU Event will then be responsible for reimbursing all travel and accommodation expenses for all participants as well as all ISU Officials in attendance. This reimbursement obligation includes the ISU contribution payments already made to the organizing ISU Member and the loss of income (TV and/or sponsorship) or any other costs in relation to the cancelled ISU Event. In such case the organizing ISU Member is bound to reimburse to the ISU the total amount within one (1) year.

E.3 Safety precautions

All organizing ISU Members/organizers shall take all appropriate safety precautions and, in addition, procure sufficient 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 ISU Regulations, Rule 119, paragraph 2 and the responsibility of the Organizers for medical services according to Rule 140, paragraphs 1-4).

Tubbergen, December 17, 2020 — **Jan Dijkema**, President

Lausanne, — **Fredi Schmid**, Director General

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2. Technical Annex to Communication No. 2365 SHORT TRACK SPEED SKATING PADDING MEASURES TO INCREASE SAFETY FOR SKATERS

ISU.ORG

INTERNATIONAL SKATING UNION

Technical Annex to Communication No. 2365

SHORT TRACK SPEED SKATING PADDING MEASURES TO INCREASE SAFETY FOR SKATERS

A.1. General Information

The International Skating Union (ISU) has commissioned the International Academy of Sports Sciences and Technology (AISTS) and the COMATEC Institute of the High School of Engineering and Management of the canton of Vaud (HEIG-VD), Switzerland to develop a standardized testing procedure to certify padding systems used in Short Track Speed Skating competitions. The objective of the tests is to verify that the mattresses (padding) have sufficient shock absorption capacities, in order to prevent athletes' injuries, increase the promotion of the sport, and give direction to manufacturers for production and possibly innovation.

A.2. Description of the testing procedure

The following configuration (Figure 1) shows the vertical drop of a mass on a sample pad. The 32 kg mass has an accelerometer embedded in it. Three different heights (H) are taken into account - 2, 3 and 4 m. Only the measurements recorded from the 4 meter height are used for the final results and analysis.
The 32 kgs instrumental mass used has a diameter of 200 mm, is made of S235 Steel and is of 124 mm in height. For each sample pad and at each height, the acceleration shock is measured three times.

The absorption is calculated by the maximum acceleration "a_{max}" recorded during the first impact of the mass on the mattress.
The energy dissipation capacity corresponds to *how much energy is dissipated in the pad during impact*. This capacity is numerically given by the *restitution factor* "e%", which is calculated by knowing the initial height "H" of the mass, and then compared to the bouncing height "Hb".

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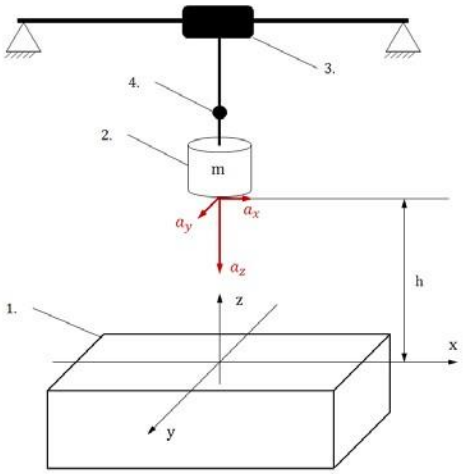

Figure 1 *Vertical shock performs on a sample pad;*
1. Sample to test, 2. Instrumented mass (32 kg), 3. Winch, 4. Drop triggering device.

A.3. Testing procedure

The testing procedure consists of:

- Installing the configuration (set-up) as seen above in Figure 1
- Mechanical drop test performed on the reference test pad (2x20 cm width) consisting of four different foam layers, with the following specifications to set the reference basis of the testing equipment and software:

  i) 12 cm of 22,40 kg/ m^3 density open cell foam (front layer);

  ii) 8 cm of 32,04 kg/m^3 density closed cell foam;

  iii) 12 cm of 22,40 kg/m^3 density open cell foam;

  iv) 8 cm of 32,04 kg/m^3 density closed cell foam.

- Mechanical drop test performed on the sample test pad.
- 3 tests per height, at 2, 3 and 4 m (9 shocks test per sample). - Acceleration is measured for each test (9 measures per pad).

A.4. Acquisition and post-processing

Accelerations shall be measured with a triaxial accelerometer which has the following characteristics:

- Minimum bandwidth: 0Hz-30Hz (it is important that the accelerometer captures the static component at 0Hz)
- Mounted eigen frequency: greater than 2KHz
- Noise in the 0-30Hz frequency band: less than 0.1g

In the case of digital sampling, an anti-aliasing filter should, if possible, be used. The sampling frequency shall be greater than 2,5 times the cut off frequency of the anti-aliasing filter at 3db.

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If no anti-aliasing filter is available, it is requested that the sampling frequency is large enough to capture the significant spectral content of the signal. It is requested to check that the resonant frequency of the mounted accelerometer does not disturb the measurement. The rupture of a fix pencil tip (0.7 mm in diameter and 4 mm in length) supported in the immediate vicinity of the accelerometer (possibly on the accelerometer) shall not generate a measured vibration amplitude greater than 0,2g.

The final signal shall be filtered with a bandwidth from 0Hz to 30Hz.

A.5. Form of results

For each height of fall, the measured results shall be compared with the results of the reference mattresses, however, the drop height of 4 meter is the decisive result for validation. The purpose of the testing is to compare the properties of the submitted mats with the reference mattress, so that suppliers/manufacturers get feedback for their further product development and "customers" (organizers of Short Track Events) can assess the basic quality of Paddings.

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