

Recommended Mat Regulations – Report to OSSA

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Current state

Historically OSSA has not have any distinct mat regulations in place, and instead are guided by SSC's mat regulations.

The FPVQ has created their own mat regulations, as they have been concerned that SSC has been slow to embrace change and new research, and are implementing unachievable goals for the Quebec club system (money, storage, time to put on / take off).

Almost all Ontario clubs do not comply with the SSC level 2 training mat regulation that came into effect this season (2014/15). This leaves clubs and skaters exposed as the gap between level 2 training (72 mats on an NHL rink, 78 on an International rink) and the mat requirements is too great. This issue gets greater in the next 2 years as the training mat requirements become Level 3 Training in 2015/16 (86 mats on an NHL rink, 92 on an International) and Level 4 Training in 2016/17 (even more mats)!

Plan

Define an Ontario mat plan that combines safety, cost, storage plus on/off solutions.

Look to the best of breed solutions to understand how others are innovating.

Understand the ISU and SSC requirements.

Recommended Ontario Regulations

Phase 1 Training – this season (2014/15)

All clubs provide Ontario Level 1 mat protection for training. Level 1 to be defined as (map to be drawn out, but below is a description). Please note, all descriptions go anticlockwise:

- Yellow zone 1: Minimum 8" wide mats – from the icing line for 16' (2 mats)
- Red zone: Minimum 10" wide mats – from end of yellow zone 1 to middle block marking of last (7th) set of block markings at corner exit.
- Yellow zone 2: Minimum 8" wide mats – from end of red zone to 16' before centre line (2 mats)

These protection regulations would mean clubs needing to provide 38 mats for a NHL rink practice and 42 for an International rink practice.

Clubs that have more mats and more protection are encouraged to use more, to ensure the safest operating environment for their skaters. These are the recommended minimum standards only.

Level 1 recommendations are the minimum required. Please utilize SSC KEF Value Chart to determine mat requirements for your three fastest skaters. If suitable mat system is not available in the red zone, please adjust practice lap times/speeds in order to match the available protection."

Table 1 – Short Track KEF Values

		Lap Times (sec)								
		12.0	11.5	11.0	10.5	10.0	9.5	9.0	8.5	8.0
Skater Mass	(kg/lbs)									
	20/44	0.14	0.15	0.17	0.18	0.20	0.22	0.25	0.28	0.31
	30/66	0.21	0.23	0.25	0.27	0.30	0.33	0.37	0.42	0.47
	40/88	0.28	0.30	0.33	0.36	0.40	0.44	0.49	0.55	0.63
	50/110	0.35	0.38	0.41	0.45	0.50	0.55	0.62	0.69	0.78
	60/133	0.42	0.45	0.50	0.54	0.60	0.66	0.74	0.83	0.94
	70/155	0.49	0.53	0.58	0.63	0.70	0.78	0.86	0.97	1.09
	80/177	0.56	0.60	0.66	0.73	0.80	0.89	0.99	1.11	1.25
	90/199	0.63	0.68	0.74	0.82	0.90	1.00	1.11	1.25	1.41
100/221	0.69	0.76	0.83	0.91	1.00	1.11	1.23	1.38	1.56	

Level 1
 Level 2
 Level 3
 Level 4
 Level 5

Clubs with half mat systems are encouraged to use said systems, as research has proved that they dramatically reduce injuries.

Phase 1 Competitions – this season (2014/15)

All Regional and Provincial hosted in Ontario must have Level 3 mat protection, per the SSC guidelines.

Ontario endorses and recommends the use of the half mat system within the Level 3 mat set up.

Mat requirements for Level 3 this year include (all anticlockwise):

- Blue zone: Minimum 12” wide mats – 16’ from the corner entrance to the icing line (2 mats worth)
- Yellow zone 1: Minimum 12” wide mats – from the end of the blue zone for 16’ (2 mats worth)
- Red zone: Minimum 20” wide mats – from the end of yellow zone 1 to middle block marking of last (7th) set of block markings at corner exit.
- Yellow zone 2: Minimum 12” wide mats – from the end of the red zone to the centre line of the rink. The outer layer of mats in this zone should be tied with elastic so that they move with the skater’s impact, and spring back to position to protect the next skater.

These protection regulations would mean clubs need to provide 88 mats for a NHL rink competition and 96 for an International rink competition. Or, when using the half mat system, clubs would need to provide 62 full size and 24 half size mats for and NHL rink competition, or 66 full size and 30 half size mats for an International rink competition.

While SSC has Level 4 identified as the mat requirement for competitions in the season 2015/16 and beyond, it is the opinion of this committee that Level 3 as defined above is a stringent enough requirement for mat systems in an Ontario class meets (Regional, Provincial) into the foreseeable future. However, if clubs have more mats they are encouraged to use to get to as close to Level 4 as possible.

Phase 2 Training – timelines to be confirmed, but should move in this direction asap!

This phase builds on the Ontario Level 1 Training, but adds a half mat system.

- Yellow zone 1: Minimum 8” wide mats – from the icing line for 16’ (2 mats).

- Red zone: Minimum 20" wide mats – from end of yellow zone 1 to middle block marking of last (7th) set of block markings at corner exit. Mats along the boards within this system must be the honeycomb half mats.
- Yellow zone 2: Minimum 8" wide mats – from end of red zone to 16' before centre line (2 mats).

Phase 2 Competitions – timelines to be confirmed, but should move in this direction asap!

This phase mandates the use of half mats as a requirement within Regional and Provincial competitions.

Mat requirements for Level 3 with half mats (all anticlockwise):

- Blue zone: Minimum 12" wide mats – 16' from the corner entrance to the icing line (2 mats worth).
- Yellow zone 1: Minimum 12" wide mats – from the end of the blue zone for 16' (2 mats worth).
- Red zone: Minimum 20" wide mats – from the end of yellow zone 1 to middle block marking of last (7th) set of block markings at corner exit. Mats along the boards within this system must be the honeycomb half mats.
- Yellow zone 2: Minimum 12" wide mats – from the end of the red zone to the centre line of the rink. The outer layer of mats in this zone should be tied with elastic so that they move with the skater's impact, and spring back to position to protect the next skater.

Phase 3 – timelines to be defined

Clubs to replace all 40" high mats and harder old mats

Note

These recommendations are all based on minimums. We should always be striving for more mats and more innovative systems as safety for our skaters should be paramount for all clubs.

Accessing new mats

Our plan for clubs to access mats would include

- Encourage clubs to apply for Trillium grants, and provide a Trillium grant template for clubs to easily access so that the application process is not too painful. The application should be based on safety!
- Prioritise the acquisition of half mats as they have proved to significantly reduce injuries (see charts at bottom of this document).
- Encourage redeployment of mats from those clubs that have been able to buy new ones to clubs needing mats
 - OSSA to maintain a mat inventory by club
 - OSSA to maintain a priority list so that the most needy clubs get spare mats first.
- Build a fundraiser, such as selling red hats that include the SSC logo, so that money becomes available for clubs.
- OSSA to include funds for half mats within their Trillium grant application.

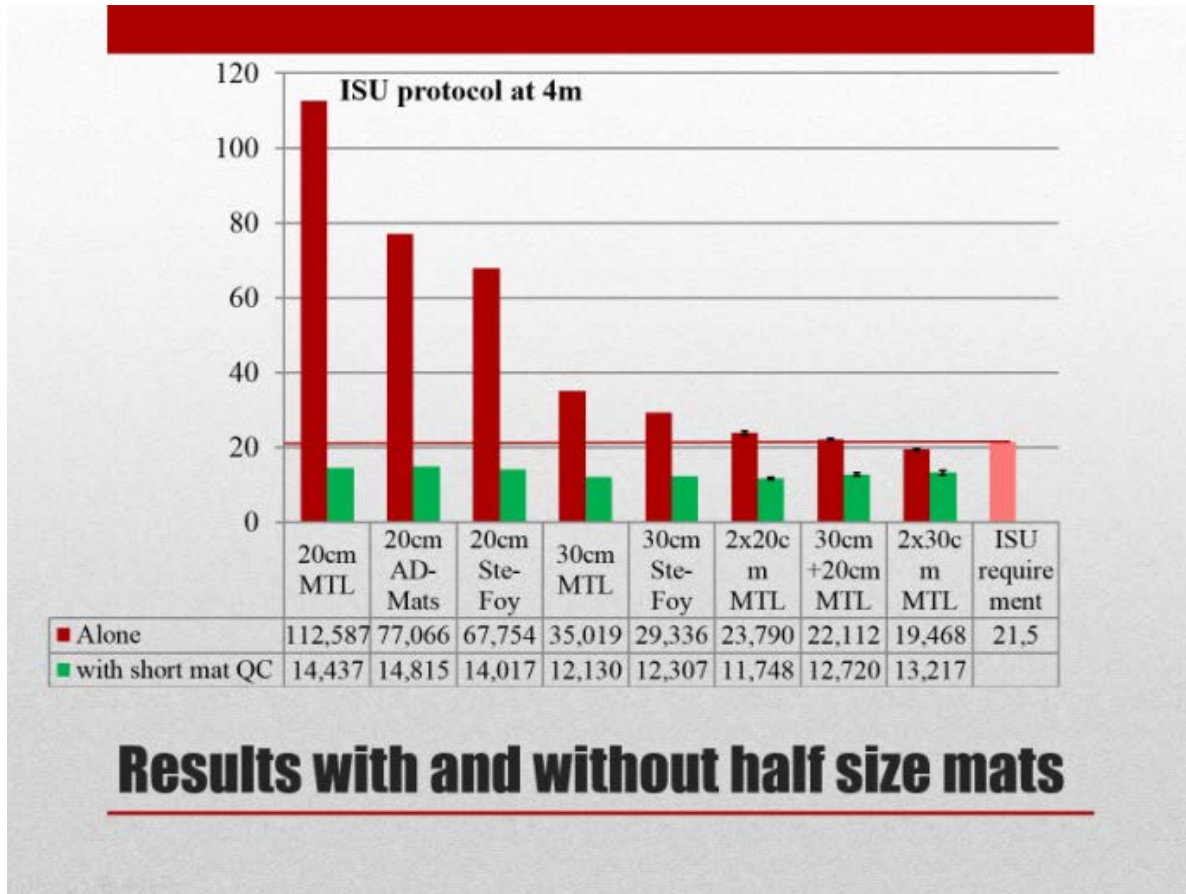
Other safety

There has been lots of work around flooding, leaving frost zones, creating more flexible blocks, helmets, rounding of blades, dyneema, etc, to increase safety for skaters. We recommend that OSSA focuses on this as some of the work can significantly reduce injuries. See Robert Tremblay's web presentation for more information:

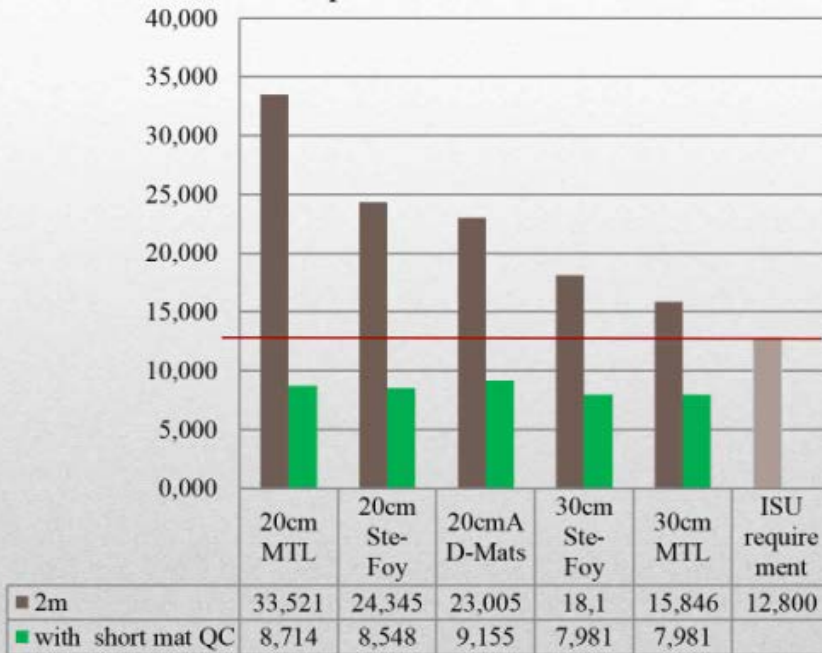
<http://speedskatingcanada.adobeconnect.com/p66avpyoh7e/>

The benefit of half mat systems

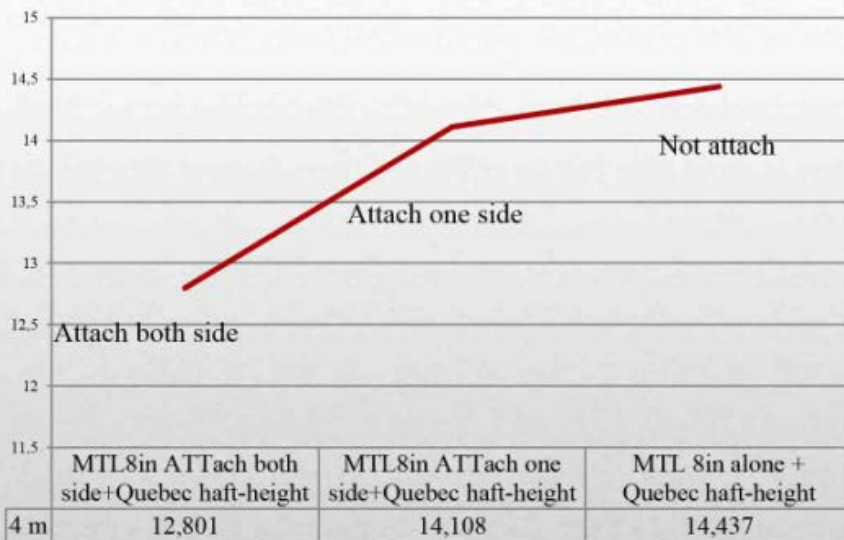
The ISU has a g-force standard of 21.5 from 4 metres (adult going fast) and 12.8 from 2 metres (youth going slowly) for mat protection. The graphs below represent systems with and without half mats. The graph shows that multi mat systems without half mats of 30 cm + 20 cm (or 20 inches total) do not hit the ISU requirement. However, a single 20 cm (8") mat combined with a half mat is significantly better than the ISU requirement!



ISU protocol at 2m

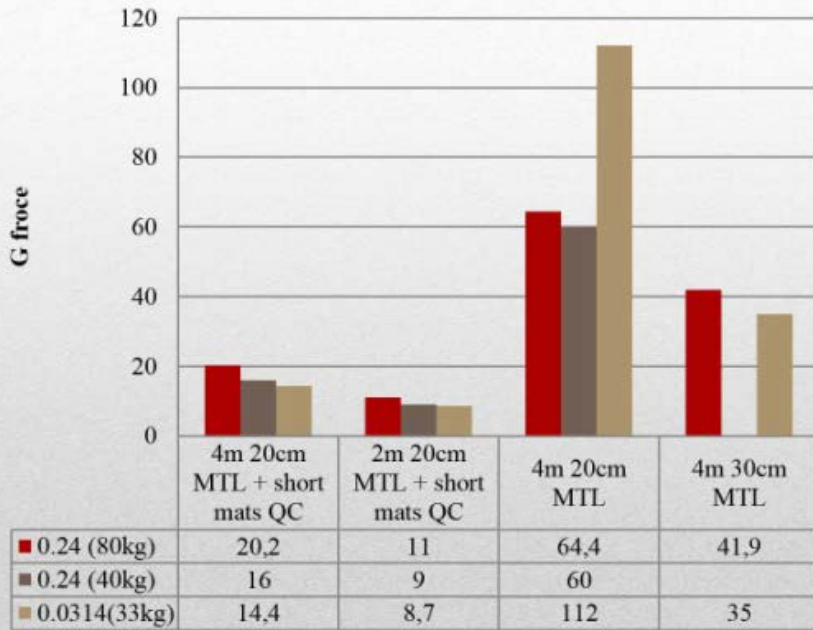


ISU protocol at 4m on 1 mats (20cm+haft size mats)



Mats attach to each other

Test with different weight and surface



At 4.73m:

