

2023-06-21 Making Ice in Arena Settings Notes

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Below are notes and a summary of questions and answers from the June 21st Ice Education Session on Making Ice in Arena settings. These notes are intended to supplement the recorded material and are not a complete transcript of the discussions that took place. For more details, please review the recorded presentation. Thank you to everyone who joined us for the live session. It was a great turnout with about 65 attendees! Hopefully, everyone came away with something valuable and we're looking forward to promoting more discussions among arena curlers.

If you have questions or comments, please don't hesitate to reach out to Lauren Rich (curling@laurenrich.rocks) or Shawn Olesen (shawn.olesen@usacurling.org).

Presentation Notes

- Flat, level, thin ice is best for curling and can be a benefit to arenas. It is cheaper for arenas to carry thinner ice, and once the ice is flat and level, it's easier to keep it that way. However, it requires consistent and dedicated effort that may not be attainable within the time constraints at many arenas.
- Curling ice isn't great for skating because it's too hard so it's not ideal for the rink to make the water extremely pure.
- Using a bigger pebble will hopefully get over some of the smaller bad spots. Bigger pebble will last a bit longer on impure water. Bigger pebble will also help give stones more to grab to try to curl.

Q&A

Q: Should an arena club invest in a scraper?

A: A scraper isn't likely to provide much benefit on arena ice before league if the ice isn't already in pretty good shape. It's a big investment of time, money, space, and maintenance that isn't likely to yield commensurate results for weekly leagues. However, if your club hosts bonspiels and allowed to do ice prep over the course of a weekend, a scraper will be a big benefit to that event.

Q: How do you determine the shape of a sheet?

A: Collect data points across the playing surface using a measuring rod and scope/theodolite, such as those used in land surveying. Processing and reviewing this data will help you understand your ice pad. *(A guide for how to do these sorts of measurements will be available when the Digital Content Platform is launched. If you have more questions about this, please contact Lauren)*

Q: When you do a single flood on a 4 sheet, how much correction do you expect to see and how long does it take before you go for another flood?

A: Lots of little floods are best. Start with 80-100 gallons per sheet to bring it back up bit by bit. Cutting high spots hard first is better than trying to fix everything with flooding. It is important to remember that wand-flooding uneven ice can be tricky since water will run to and pool in the low spots. It will take longer for those areas to freeze and may be dangerous for the person with the wand if the water runs toward them and under their feet.

A Zamboni can cut high spots more easily than it can flood low spots so, if possible, it's best to cut the high spots as much as possible to get the ice close to flat before flooding. A Zamboni can add about 1/64" with a consistent flood and a wand flood can add about 1/10" on reasonably flat ice (pooling and water movement notwithstanding).

How long between flooding depends on the power of the chiller and the rink schedule. If time allows, you may be able to do multiple floods in an evening.

Q: Can the Zamboni add more water in areas during the pre-game cut, say if your ice is dished?

A: Slowing down going around corners, then speeding up through the straight centers, and not adjusting the valve can lead to high edges/dished ice. So yes, if the Zamboni can add more water while driving down the centers, that will help them make flatter ice. Having an operator who can anticipate the slower driving in the corners and adjust the water can help prevent this issue.

Q: Ice is different every week, different problems on different sheets. And ideas or tips for best practices, when we never know what we're going to get?

A: Try to work with the rink to get their maintenance practices consistent. It's a big ask, though. Curlers rent the ice for 2-3 hours. A facility will typically run 15 minutes of ice maintenance every hour. Clubs could try to negotiate a bit more ice maintenance before leagues since there's no maintenance during the extended league rental. It might be worthwhile to work with them on problem spots with some extra cutting during prep that they would have been doing between skating sessions.

Q: What are some common issues that pop up across a number of arenas?

A: How deep are the screws in the yellow kick plate? Is the ice level across all of those? At least on the edge you can see how flat it is around the edges. Feeling the air, is there air movement? Does the ice look frosty or shiny or patchy? How does it feel under foot. Most ice problems are either caused by airflow or water.

Q: What is the optimal ice temp for arena curling ice?

A: Start with 23-24 F at the surface. Hockey and skating prefer colder ice, but colder ice is slower for curling. Warmer than that can be greasy and slippery, particularly if they're not using treated water. Note that that is the recommended surface temperature, but the ice pad and the refrigerant will be colder.

Q: Can you speak to laser level/how long will it take someone to come up to speed?

A: A laser level can help compensate for some inexperience in driving.

Offline Questions

Q: We found that a wet cut made the ice too warm, what are your thoughts on having a cold water wet cut before curling?

A: It makes great sense to try to use cooler water for pre curling cuts. That will minimize the time needed for the ice to cool back to curling temperature. However, since this is outside of normal operations for the Zamboni, be prepared to be mindful of unintended consequences of any changes.

Q: Would be really great to see some example numbers of the monetary impact of efficiency from better ice. Would love to take that to our arena managers.

A: This is a great idea. It's definitely something we can try to look into generating. Keep in mind though, it would be really tough to come up with actual numbers to give people while suggesting changes. Try to keep it general and show them things (that they have probably already heard), and how it relates to partnering with curling. If anyone in our world has access to actual numbers that have been achieved, it would benefit everyone's negotiations.

Q: If an arena has prohibitively slow ice, what are things they should consider to improve the ice speed?

A: If possible, adjust ice surface temperature. The specific ideal temperature will depend on the relative humidity and dew point of the arena, but 23-24 degrees F is a safe place to start (see the discussion above about surface temperature). Otherwise, increase the pebble size and nip amount, and water quality, if possible. Impurities in the water will make the ice softer, which leads to slower ice.

Q: What's your bonspiel plan with 24hrs to prep the surface (no paint needed)?

A: Each arena and circumstance will have different requirements for bonspiel prep, so it's hard to be specific. General recommendations would include working with the rink for the weeks/months ahead of the event to identify and cut high areas. If they are able to work on the problem areas for you, it will take time to address so make sure you have enough lead time. Once you've taken the ice, begin flooding if you are able. Several light floods will be better than one heavy one. Be mindful of water running off of the sheets/ice pad during flooding if the edges are low. For more information, contact Shawn, Lauren, or your favorite experienced arena ice technician.