

### MAINTAINING THE PLAYING SURFACE

The ice pad has been installed, which is not the subject to be dealt with here. The first playing surface has been installed on the pad, and never mind the imperfections that still remain – the curlers want to curl, and they can't wait. This file has to deal with a very serious matter that depends almost entirely on the word IF.

If the ice pad has been properly installed and is perfectly level (within 0.01mm/m along the width of the sheet), the job of maintenance will be easier. If the pebbling is even and consistent (one drop per square centimetre everywhere on the sheet), the job will be easier. If the players have utilised the entire sheet in equal measure (which they won't) the job will be a doddle. If the parameters of control are observed, say within 5% of the optimum, the variables will be minimised and all will be reasonably well.

The job of maintenance is obviously quite simple. Once a day, at least, the pebble is cut down to the pad and reapplied to install a fresh playing surface. Not difficult, arrive early, chill the blade, charge up and down about fifty times, clear the snow, pebble, maybe nip, curl again. And again, and again. This is what curling-ice technicians have to do all season, usually unseen, and usually not much appreciated. To put the challenge of this work in perspective it pays to look at the mathematics. Make a tiny mistake in the cutting pattern that causes a discrepancy of 0.01mm on the sheet, which is nothing really – make the same mistake for a week and that becomes 0.07mm, and over a month that becomes 0.3mm. Suddenly the stones won't behave and the blade is leaving marks down the length. Pebble unevenly once and cut it off, not a problem – pebble unevenly without cutting it off will soon result in a very uneven sheet and the dreaded W. And then there are the unseen attacks by curlers and granite, more in some areas than others and usually more down the centreline than the sides, which compacts the ice crystals so well that it is impossible to cut the centreline level again.

There is no doubt that the single most important item for daily maintenance is the blade. A good blade, evenly sharp and perfectly straight, will enable any technician to remove pebble down to the ice pad as often as is needed (or deemed necessary), and it is now almost the norm in a busy rink to cut the pebble off twice a day. During competitions the pebble will be removed after every game, perhaps not always down to the pad but certainly very close to it. The biggest problem is that the blades are ground in an environment of over 10°C, often even at 20°C, while the blade will be used at 0°C or even colder. The metal expands/contracts in complex ways, resulting in a slight bow with the corners digging into the ice. Technicians use a brace across the top to correct this, often overdoing it and pulling the corners up too high, bowing the other way. The best way to finetune a blade, usually when it has been newly ground, is after a finishing flood when the salts have already been removed but with no pebble yet on the surface. This will show how much bracing is needed and also reveal flaws in the grinding. For more detail see the section on *Cutting Equipment*.

The next serious consideration is the cutting pattern, and there are quite a few in use for various reasons. After considerable experimentation most of these patterns were found to be flawed, especially when used on a daily basis, and the ones we use can be found in the section on *Cutting Technique*. My personal preference is to cut well at least once a week, usually on Mondays, to get right back to the pad. I would use the eighteen-pass pattern and cut gently, seldom using larger pebbles than the XF – the reason is simply to avoid making large mistakes and caress the surface rather than demolish it. I would also regularly use corrective patterns during the remainder of the week if there is a known problem, again gently, and never really have too much of a problem. It is true that a good blade, properly adjusted with a brace, will reveal problems simply by gathering more snow on some areas than others, and more often than not this will be along the centreline. Sometimes this only becomes obvious on the last pass, in which case a note will be made and the problem can be addressed during the next cutting session. It is worth noting that it helps – and saves the blade – by warming the ice surface before cutting, and certainly warmer than – 4°C.

Uneven pebbling can be a nightmare if it is not dealt with. Fortunately, with two pebbles applied in opposite directions, the damage will be equal on both sides, which makes it much easier to deal with during a corrective pattern. The best advice to prevent this from happening is practise, practise, practise, because only practice can make it perfect. See the section on *Pebble*.

Having created the perfectly level surface for the ice pad, why mess it up. Yet it is clear that uneven pebbling, poor cutting technique and inconsistent play WILL mess it up. This is why it is imperative to master the techniques of pebbling and cutting, and correctly compensate for inconsistent play, to minimise – if not prevent and eliminate – damage to the ice pad. Keep the pad perfectly level and the work will be easy.

When things go wrong it is not always possible to tell what has gone wrong. Is the centre high or are the sides low? Are all the sheets affected in the same way? In this case it will be either from too much play down the centreline, uneven pebble distribution along the sides or incorrect cutting technique. But which is it? The motto is to change one thing at a time and learn slowly. Low sides can be improved with corrective pebbling, by pebbling sideways along the sides – of course, a few litres of pebble water down fifty metres of ice isn't much, but doing it once a day for a week does make a gradual difference in a relatively controlled manner. Trying to cut the centres down is a loser, it has been proven that the blade assembly simply bows to the shape of the affected area and the ice is so hard and compacted, it is extremely difficult to cut it down. Again, an extra pass or two down the centres every day will also make a gradual difference, if only because the sides are being cut less. A low line, such as where faulty pipework affects the ice-surface temperature, can usually be maintained with an overlap of pebble along that line.

Melting the surface by whatever method and refreezing is an imprecise practice, because there will be too many variables involved. Trying to flood your way out of trouble will help, but here too there are problems that will not become obvious until later. The fact is that a perfectly level ice pad can be maintained perfectly level for an entire season of curling and it is not difficult, but it does take a few years' learning. Fact is also that, without very good technique, even a restored surface after a flood will soon be ruined by the same faulty techniques as before.

We are well aware that many technicians fail to produce a playing surface that provides consistent draw and cannot adjust the parameters sufficiently to solve the problem. In large rinks and arenas the IST will be much lower than it should be to compensate for the sheer size of the place, and often the only solution is to attack the stones with sandpaper. This creates additional friction between stones and ice and produces the required draw, often in excess.

My own position on this is already well known: don't do it. If a serious competition requires it to be done, do your best or worst and good luck. But a day-to-day curling facility IS controllable and should have no need for sanding. My reasons are simple: sanding is not consistent and does not last very long, and curling stones are too expensive to play the fool with. A week or two after sanding the effects will wear off, unevenly across a full set, and it will be impossible to match them into sets or even pairs without a tremendous amount of work. A naturally-matured set of stones will retain its characteristics for years with no additional expense or work, and the behaviour of the stones can be controlled simply by manipulating the parameters.

The final consideration must be given to cleanliness. All the dirt on the walkways, walls and ceiling will eventually find its way onto the ice surface, not to mention the dirt introduced by curlers. Keep everything clean and it will stay clean, some areas on a daily basis, some weekly and the rest when possible. Ask my family, they all helped, and once we managed to rid the place of dirt it stayed that way – it is amazing how clean the curlers become when they enter such an obviously clean environment.

Get it level, keep it level; get it clean, keep it clean.

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