

Statement of Principles Regarding Competition Equipment

Authority and Responsibility

As the governing body for the Sport of Curling within the Winter Olympic Programme, World Curling has authority to determine the Rules of Curling, including rules for competition equipment.

Certain aspects of this authority may be delegated to World Curling Commissions or staff.

Responsibility for the groundwork on Rules and related equipment matters is assigned to World Curling's Competition & Rules Commission, in consultation with the Equipment Advisory Group, which is established as a Standing Commission under the terms of World Curling's Constitution.

The purpose of this statement is to set out the collective view of World Curling and its Member Associations, together with the framework of key principles and the policies that guide their actions.

World Curling believes that the principles stated in this document will, when carefully applied, serve the best interests of the sport of curling.

These principles and all competition equipment Rules and Standards in existence now, and in the future, shall apply to all World Curling Championships and Events.

Balancing Competitiveness and Fair Play

To avoid an over-reliance on technological advancements in equipment, which diminish the importance of years of training, practice and refinement of athletic skills, World Curling monitors new equipment to ensure it is in the best interest of the sport.

As to be expected in a competitive environment, athletes continually look for competition equipment that can enhance their skill and improve their performance. Curling equipment manufacturers are equally eager to deliver new and innovative products to the market.

World Curling supports and encourages advancements in competition equipment and accepts responsibility for ensuring technological advancements or innovations have a positive impact on the sport and its traditions.

To ensure a level playing field, competition equipment used at World Curling Championships and events must meet standards established by World Curling, be commercially available and other than aesthetic features, remain unaltered from the approved manufactured design.

In the case where advancement in competition equipment has not been foreseen or innovative use of existing equipment evolves, World Curling may take unilateral action as it deems necessary, to preserve the integrity and best interest of curling, until such time as those advancements or innovations can be properly considered against these principles.

Definition and Principles

The term “competition equipment” applies to all items of equipment used by athletes in competitive curling, including clothing and implements that serve a technical function.

Competition equipment forms a functional unit, which whether considered separately or together, must respect the following principles:

- the principle of safety
- the principle of fairness
- the principle that athletic performance and mental skill remain the dominant elements for success
- the principle that the effective use of competition equipment should fairly reflect an athlete’s physical ability, mental capacity and acquired proficiency, not unduly compensate for deficiencies in any of these areas.

Competition Equipment

Apart from curling stones, which World Curling approves for its competitions to ensure consistency and quality, there are only three pieces of competition equipment designed to be in contact with the ice surface – sweeping device, balancing device, and footwear.

Rule R.11 (a) (“No player shall cause damage to the ice surface by means of equipment, handprints or body prints”) generally covers the balancing device, footwear, accessories (clothing, gloves, health, and safety equipment) and auxiliary equipment (stopwatch) as these items aren’t designed to impact the ice surface.

Sweeping Device

Curling can be categorised as an “ice”, “target” or “throwing” sport but it is unique in this respect:

Curling is the only sport in the world where an athlete propels an object (the curling stone) towards a target (the skip’s broom) and on its way to the intended destination, the trajectory can be influenced by impacting the field of play (sweeping), rather than by touching the object itself.

The sweeping device is the only piece of equipment designed to impact the playing surface, and then only to enhance the outcome of a delivered stone within such a threshold that places the highest importance on the skill and performance of the person delivering the stone rather than an over-reliance on the effect of sweeping.

Because of this unique feature, sweeping is an integral part of the appeal of the sport to participants and enthusiasts.

Also because of this unique feature, it is of greatest importance to ensure sweeping equipment is not capable of providing excessive influence, causing undesirable deterioration of playing conditions, creating residual effects to the disadvantage of fellow competitors, or diminishing the importance of the delivery compared to the sweeping.

Typically, the most effective sweepers have been those athletes who have a high level of fitness, utilise a sound technique and are consistently able to exert a great amount of force, combined with an optimal stroke rate, to the brush head.

This principle is fundamental to curling being accepted as a genuine athletic endeavour and one which athletes and sport leaders have worked hard to achieve.

World Curling, in consultation with its members and the general curling community has determined the acceptable effects of sweeping on a curling stone are:

- To reduce the rate of deceleration of a stone (making it go further)
- To delay the curling action of a stone in the direction in which the “turn” was applied (making it go straighter)

World Curling has also determined the unacceptable effects of sweeping on a curling stone are:

- To increase the rate of deceleration of a stone (making it slow down)
- To cause a stone to move in the opposite direction in which the turn was applied (making it fall back) significantly more than existing ice conditions would have provided

- To deposit debris in the path of the stone (dumping)

To reduce the possibility of sweeping equipment detrimental to the competitive and performance integrity of the game, World Curling has established specifications for sweeping equipment, along with principles and references against which those specifications should be considered.

To ensure athleticism continues to be an important element of sweeping, the specifications also consider the desire to reduce significant variations in effectiveness between acceptable sweeping devices.

The references in each section of the specifications to “design elements and characteristics” are included to provide context, guidance, and a greater understanding of the basis for the specifications.

These references should be considered equally important as the specifications themselves.

When carefully applied in concert with the specifications, these principles and references serve to guide equipment developers, manufacturers, and athletes as they strive to innovate and produce new and improved equipment, while remaining respectful of the competitive values and traditions of curling.

Curling Brush Specifications

1. Base/Faceplate/Bracket

a. Design elements and characteristics:

- I. Incorporates a flat, level design on the side of the brush head in contact with the ice, is covered only by foam and fabric, and does not allow the force applied by the sweeper to be focused on a small part of the brush head.
- II. Prevents significant deflection of base/faceplate/bracket, which would otherwise allow excessive force to be focused immediately beneath the handle connection
- III. Design does not allow force applied by the sweeper to be focused on significantly small area of the brush head, such as the side or the edge of the brush head

b. Dimensions:

DIMENSIONS	MINIMUM	MAXIMUM
Length ¹	17.78 cm (7 in)	22.86 cm (9 in)
Width ²	6.35 cm (2.5 in)	7.62 cm (3 in)
Length/Width Ratio	2.5/1	3.5/1
Thickness ³	no current specification	no current specification

¹ Designs which incorporate fabric wrapped over foam and stapled or fastened to the top of the base/faceplate, so long as the uncovered base/faceplate is within the dimensions shown above, a tolerance of + 0.635 cm (+ 0.25 in) is permitted to allow the foam to sufficiently cover the edges or corners of the base/faceplate.

² To allow for variations in designs which do not incorporate fabric wrapped over foam and stapled or fastened to the top of the base/faceplate, the minimum and maximum dimensions refer to the area in contact with the ice.

³ Sufficient to prevent significant deflection of base/faceplate, which could otherwise allow the force applied by the sweeper to be focused on a small area of the brush head.

c. Material:

- I. Hard Plastic which does not significantly deflect while sweeping.
- II. May be constructed from recycled materials but bases/faceplates which incorporate fabric attached by stapling may not be reused.

2. Foam

- a. Design elements and characteristics:
 - I. Cushions the force applied by the sweeper
 - II. Does not allow force applied by the sweeper to be concentrated on the top of the pebble.
 - III. Foam nearest the ice is generally flat, with a uniform density and thickness.
 - IV. For brush head and pad designs which incorporate fabric wrapped over foam and stapled to the top of the base/faceplate, the foam must extend beyond the edges/corners of the base/faceplate to ensure the corners, or the edges of the base/faceplate are covered by foam.
 - V. When fully compressed, does not allow any part of the base or faceplate other than the fabric to be in contact with the ice surface.
- b. Dimensions/Specifications:
 - I. Thickness of Foam
 - 1. Minimum of 1.27 cm (0.5 in)
 - 2. Sufficient to ensure that when compressed by 95% of its original thickness, the foam is at least 0.5mm higher than the base/faceplate or lip of the brush head.
 - II. Compression Threshold
 - 1. Foam does not compress more than 86% and less than 75% (+/-2%) of its original thickness when 779 N (79.4 kg/175 lbs.) of force is applied.
 - III. Durometer Readings
 - 1. The assembled brush head is within a range of 60-80 duros (+/- 2) when measured on a Shore 00 durometer with a 1kg weight
 - a) Brush head must be dry
 - b) Assembled brush head must rest with the fabric on the ice for a minimum of 10 seconds immediately prior to taking durometer measurements
- c. Material:
 - I. Foam which meets World Curling specifications may be manufactured from recycled materials but foam which has previously been used in a brush head which incorporates fabric wrapped over foam and stapled or fastened to the top of the base/faceplate may not be reused.
 - II. Given the variability of foam by its nature, manufacturers must allow for manufacturing tolerances when choosing the foam they use.
 - III. Foam requires a marking to identify the batch that it was created in.

3. Fabric

- a. Design elements and characteristics:
 - I. Is woven in such a way to avoid any scratching effect on the ice which could serve to provide a directional influence on a swept stone.
 - II. No Polyurethane (PU), Polyvinyl Chloride (PVC) or similar coatings applied to the side of the fabric in contact with the ice.
 - III. No treatments or processes applied to the side of the fabric in contact with the ice, which could serve to provide a directional influence on a swept stone.
 - IV. No stencil, logo, marking, embroidery or any other feature is permitted on the fabric in contact with the ice while sweeping.
- b. Specifications:
 - I. Description: Oxford 55 Sport Yellow
 - II. Backing Content: 100% Polyurethane
 - III. Construction: 0420 Denier
 - IV. Content: 100% Nylon
 - V. Description: High Density Nylon, Piece Dyed, PU Coated
 - VI. Hydrostatic Resistance: AATCC 127 (Suter) – Average 800 mm.
 - VII. Protective Finish: DWR Durable Water Repellent
- c. Orientation:
 - I. Fabric must be cut and oriented on base/faceplate/cover in accordance with Schedule A – Fabric Cutting Diagram.
 - II. Fabric must be attached to the base/faceplate/cover with the uncoated (darker) side exposed to the ice and the Polyurethane coated side (lighter) in contact with the foam (see Schedule B – Fabric Attachment Photos).
- d. Approved Fabric Supplier(s):
 - I. J Ennis Fabrics – Canada (contact information available from World Curling office)
- e. Fabric Specification and Quality Control Verification:
 - I. The Approved Fabric Supplier verifies each production run of approved fabric meets its specifications, within established tolerances.
 - II. Once a production run of fabric has been verified to conform to the established specification, the fabric may be supplied to curling equipment manufacturers for use on curling brushes.
 - III. The Approved Fabric Supplier maintains records of the Lot Number and Piece Number for fabric supplied to each curling equipment manufacturer.
 - IV. Upon receipt of approved fabric, manufacturers are responsible for inspecting a sample of each Lot Number to ensure there is no evidence of “bleed-through” of Polyurethane coating on the side of the fabric exposed to the ice. If evidence of “bleed-through” is discovered, the

fabric should be rejected and not used for the construction of curling brush heads, pads or covers.

- V. Effective Manufacturers must submit a fabric purchase report to World Curling, following which World Curling will provide a Product Code to be placed on the applicable equipment.

4. Handle:

- a. Design elements and characteristics:
 - I. The design of the handle is a straight shaft, recognizing the strength required to hold a curling broom while applying maximum force and frequency is a point of performance differential between athletes.
 - II. Any conforming handle can be used on another manufacturer's conforming head if no modifications are made to the handle or connection
 - III. The design of connection between the handle and the base/faceplate ensures the brush head or pad remains flat against the ice when sweeping.
 - IV. The connection between the handle and the base/faceplate does not allow the brush head or pad to be pivoted in such a way to allow the sweeper to focus excessive force on a small area below the handle or on the edge or side of the brush head.
- b. Dimensions:
 - I. Straight shaft
 - II. It is acceptable to shorten the length of commercially available handles
 - III. No current specification
- c. Material:
 - I. No current specification
 - II. Must not be capable of violating Rule R.11 (a) if handle comes in contact with the ice.

5. Markings and Statements

- a. World Curling Member Association and Team Markings:
 - I. Country name (or three letter country code) country flag.
 - II. Player's full name or the name as on the back of their upper garments. *
 - III. One Team sponsor identification mark or team name is permitted per one handle with a maximum size of 100 cm² (16 square inches). *
- b. Commercial Markings:
 - I. Each brush/broom/delivery stick may carry the identification of the manufacturer as generally used on products sold through the retail trade.
- c. Manufacturers statements, labelling or packaging for conforming Brush Heads, Pads or Covers
 - I. World Curling is responsible for ensuring submitted designs and constructions meet World Curling specifications, and when these products are found to conform, for assigning a World Curling Product Code to the manufacturer.
 - II. Because World Curling does not inspect and approve each brush head, pad or cover, World Curling does not authorise the use of any term or

- statement which may leave an impression with the consumer that a World Curling inspection of each piece of equipment has occurred.
- III. The responsibility for ensuring each brush head, pad or cover displaying a World Curling Product Code meets World Curling specifications rests with the manufacturer. Therefore, manufacturers may use the following terms for advertising or Point of Purchase material for brush heads, pads or covers which have been assigned a World Curling Product Code:
- i. "World Curling Approved Design"
 - ii. "Certified to meet World Curling Specifications"
 - iii. "Conforms to World Curling Specifications"
 - iv. "Certified for use in World Curling Championships and Events"
 - v. Other – subject to prior written approval of World Curling

** These markings are not allowed at the Olympic, Paralympic, Universiade, and Youth Olympic Games.*

6. Conforming Brush Heads, Pads and Covers

- a. For brush heads, pads and covers to be conforming, the following conditions must be met:
- I. Design and construction submitted for approval to World Curling and found to conform to World Curling Specifications for Curling Brushes
 - II. Displays a valid World Curling Product Code listed on the World Curling website. If inspected before, during or after use at a World Curling Championship or event, must be found to conform to World Curling Specifications for Sweeping Devices

7. Non-Conforming Brush Heads, Pads and Covers

- a. Brush heads, pads and covers are considered non-conforming if any of the following conditions exist:
- I. Any modification to the design, materials or construction of a conforming brush head, pad or cover.
 - II. If a brush head, pad or cover displaying a valid World Curling Product Code appears to have been modified other than through normal wear, it will be deemed to be "non-conforming" and will not be permitted for use at World Curling Championships or Events.
 - i. Indication that modification may have occurred include empty staple holes, unusual foam firmness or evidence of foreign substances on the fabric.
- b. An assigned World Curling Product Code may be invalidated if brush heads, pads or covers do not conform to World Curling specifications or vary from the

- information provided to World Curling by the manufacturer when the device was presented for inspection and a World Curling Product Code was assigned.
- c. If a World Curling Product Code becomes unreadable or cannot be located, the brush head, pad or cover is deemed to be “non-conforming” and will not be permitted for use at World Curling Championships or Events. Care should be taken to ensure that the World Curling Product Code is affixed to brush heads in such a manner that it is durable and not easily removed.
 - d. A conforming brush head, pad or cover may become “non-conforming” through normal use if it’s found the brush head, pad or cover no longer conforms to World Curling specifications.
 - I. Examples of conditions which would make brush heads, pads or covers “non-conforming” are if the foam becomes compressed beyond durometer specifications or the fabric has become dirty or damaged and deemed to be capable of producing scratches in the ice.
 - e. If models of brush heads, pads or covers are consistently found to be “non-conforming” or if a manufacturer is found to consistently produce “non-conforming” products, World Curling, at its sole discretion, may withdraw applicable World Curling Product Codes from the list of conforming products.

8. Important Notes

- a. Purchase of approved fabric from an Approved Supplier does not guarantee sweeping devices produced using this fabric will be approved for use at World Curling Championships and events. Other requirements such as meeting specifications, being determined an “Effective Manufacturer” and meeting all conditions of the World Curling Equipment Approval process are required.
- b. Unless meeting the requirements of the specifications contained in this document, no other fabric, material or construction is approved for use on sweeping devices for use in World Curling Competitions or Events.
- c. Other materials previously allowed for use such as corn straw, hair, fabric which have external Polyurethane, Polyvinylchloride (PVC) or similar coatings or textured fabric are no longer permitted for use on equipment used for sweeping at World Curling Championships or Events.
- d. No new products will be approved after 1 January 2025 for use before the end of the 2025–2026 season by which point the new testing protocols are expected to be in place.

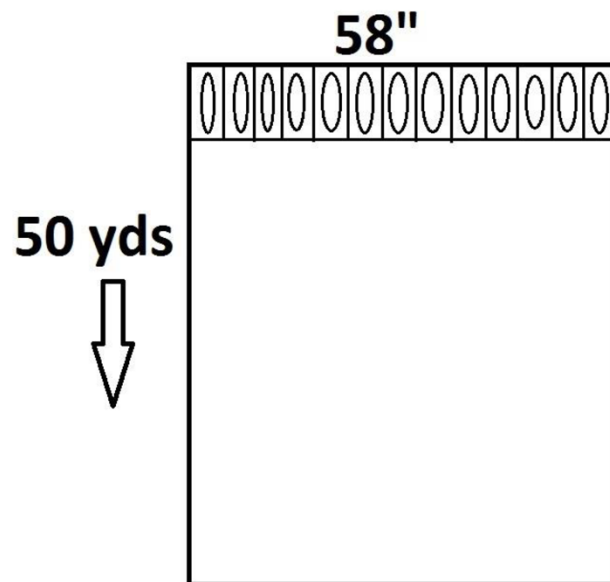
9. Definitions

- a. **Sweeping Device:** A sweeping device is a curling broom or brush which is used by athletes to sweep a curling stone. The sweeping device is comprised of a handle affixed to a brush head or pad.
- b. **Brush Head or Pad:** The brush head or pad is the part of the sweeping device which is in contact with the ice while sweeping.

- c. Cover: For brush heads which don't incorporate fabric fastened to the base, faceplate or bracket, the cover is the fabric portion which slips over the base, faceplate or bracket.
- d. Handle: The handle is a straight shaft which attaches to the base, faceplate or bracket.

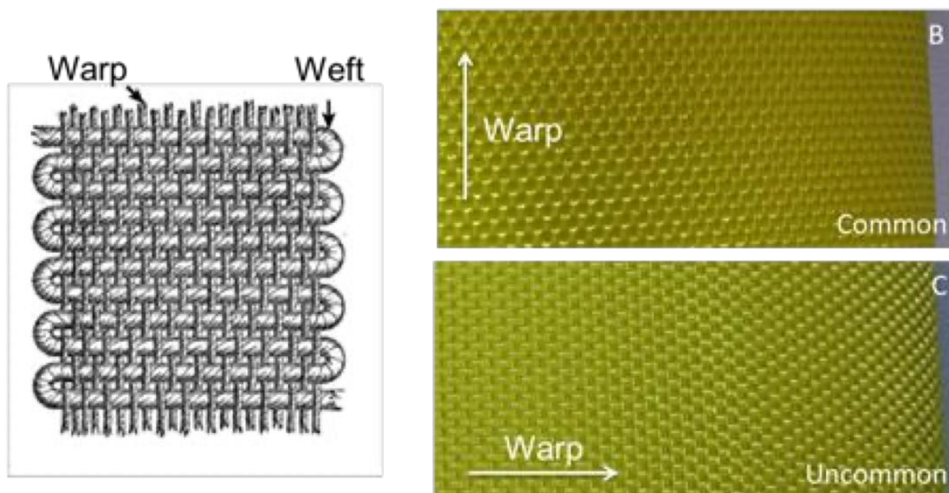
Schedule A

Fabric Cutting Diagram



Orientation of Warp and Weft

<http://commons.wikimedia.org/wiki/User:Ryj>

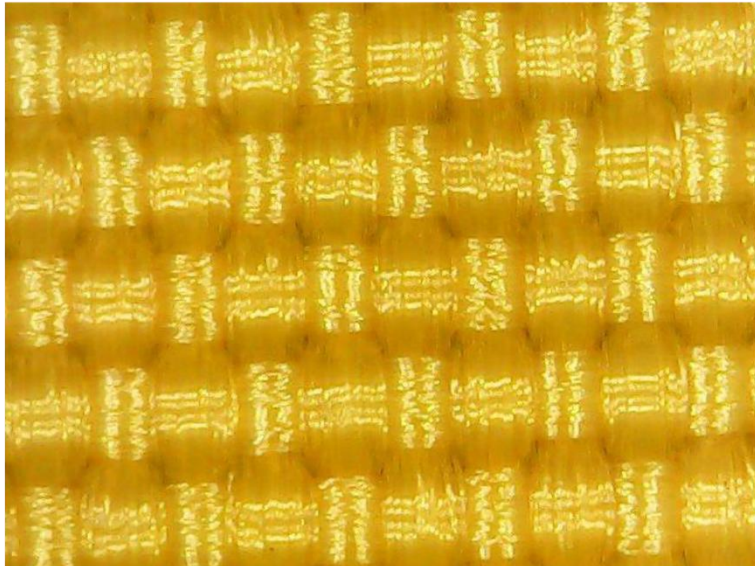


Schedule B

Fabric Attachment Photos

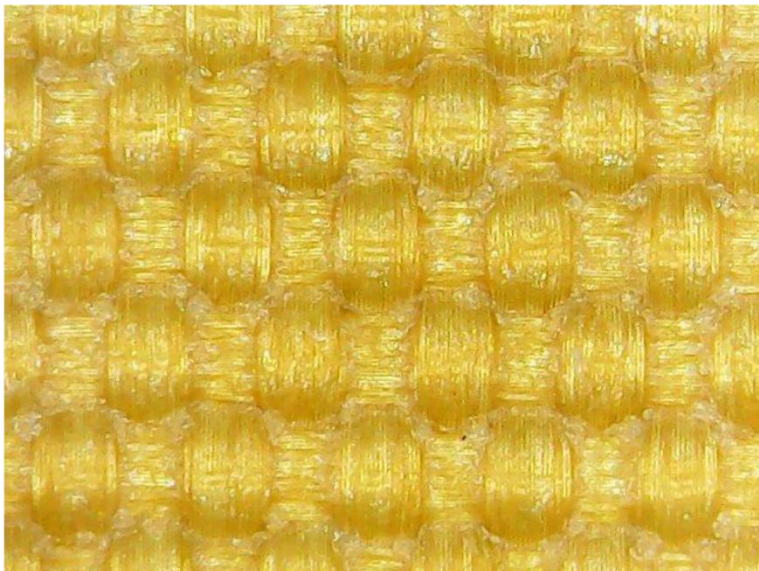
Ice Side

uncoated darker side



Foam Side

coated lighter side



Balancing Device

Sweeping devices often function as a balancing device. In the case where a separate balancing device is employed, it must not provide a significantly different stabilisation function than a sweeping device would when used for that same purpose and is connected to the athlete only by the non-throwing hand. The balancing device cannot violate Rule R.11 (a)

Footwear

See World Curling Rule R.11 (a)

TBD

Accessories

See World Curling Rule R.11 (a)

TBD

Auxiliary Equipment

See World Curling Rule R.11 (a)

TBD

Policies / Rules for Brush Heads and Brushing

It is the responsibility of each player and team official to ensure his or her sweeping brush meets World Curling's 'Standards for Competition Equipment' and is listed on the World Curling 'Conforming Equipment List'. This includes but is not limited to, ensuring a valid World Curling Product Code is displayed on the pad or fabric, ensuring there is nothing between the fabric and the foam and ensuring the side of the fabric in contact with the ice is the side intended by the manufacturer, which will be the case if the World Curling Product Code is visible on the fabric.

The penalty for sweeping with equipment in World Curling competition games that does not conform to standards for Competition Equipment established by World Curling:

- I. First team offence during a competition — the player is disqualified from the competition and the team forfeits the game.
- II. Second team offence during a competition — the team is disqualified from the competition and all players are not permitted to play in World Curling competitions for a 12-month period (365 days).

A stabilising brush, which is used only during delivery, need not be on the conforming list, but can never be used for sweeping. Rule C3 (h) — Penalty During LSD Stones and Games: If a non-conforming stabilising brush is used to sweep, the player is disqualified from the competition and the team forfeits the game. If a conforming stabilising brush, which is not the player's declared sweeping brush, is used to sweep, the stone is removed from play, or for the LSD it will be recorded as the maximum (199.6 cm).

Penalty During All Practice Sessions: If a non-conforming or conforming stabilising brush is used to sweep, the player/team official will be warned by an umpire, and if it occurs a second time during the same session, the player/team official will not be allowed to continue in the practice session or participate in the LSD stones or in the game that immediately (same day) follows the practice session.

If a player is using a non-conforming brush for delivery, he/she must be aware that the brush head can never be used for sweeping. Lightly 'cleaning' the ice on the path of the stone to be delivered is permitted, as this is not considered to be sweeping. If a player has used the non-conforming brush to sweep the ice instead of lightly cleaning it when going down the ice or sweeps in the house (pre- or post-delivery), the player is disqualified from the competition and the team forfeits the game.

For all practices and games, a maximum of one conforming sweeping device per person can be taken into the field of play. Brush pads must be installed on the head assembly for which they are designed, with the exception being the oval heads, which can be installed

on any assembly designed for oval heads. All sweeping devices will be marked with different coloured tape to identify which device belongs to which player or coach(s). For pre-competition / evening / special play- off / pre-game practices only these conforming brushes may be used to sweep, however a player or coach can sweep with any one of those brushes, their sweeping device need not be the one that is identified (taped) for their personal use during LSD stones and games.

Each player must declare an approved sweeping device at the start of a game, and only that player can use that device for sweeping during the LSD and the game. The officials will keep a register of these brushes. Penalty is applied as per rule C3 (d).

Players may not change their brush heads during a game unless the Chief Umpire grants special permission. Permission will not be granted if the pad, handle or head are damaged due to brush abuse. Penalty is applied as per rule C3 (e).

If a team must change a player after the pre-game practice or during a game, the alternate player will have to use the brush head from the player he/she is replacing. If the brush head does not fit onto the alternate's brush handle, the alternate must play with the brush of the player who is being replaced. Penalty: If a new sweeping device is brought into the game without permission of the Chief Umpire, the team will forfeit the game.

The umpires will conduct random checks of brush heads during all competitions. World Curling reserves the right to undertake testing of approved equipment collected at World Curling Championships and Events. The Chief Umpire may collect approved equipment from the participants, and any equipment collected for testing becomes the property of World Curling.