

M.T.B.A. Equipment Specifications

Bowling Lanes

Bowling Lanes - Composition

A regulation bowling lane, including flat gutters, kick-backs and approach must be constructed of wood or other approved material. The edge of the pin deck, tail plank, kick-backs, flat gutters and the gutter mouldings, however, may be reinforced with fibre or other synthetic material. The approach may be constructed of other material in accordance with provisions as defined below.

Bowling Lanes - Approach

Extending back from and exclusive of the foul line, there shall be a clear and level approach not less than fifteen feet in length. A tolerance of a quarter of an inch is permitted in depth of depressions or grooves.

Bowling Lanes - Foul Line

The foul line shall not be less than three quarters nor more than one inch in width and must be clearly and distinctly marked or embedded in the lane. It shall extend from the lane to and upon any walls or posts adjoining or within reach of the bowler.

Bowling Lanes - Foul Detecting Device

Each certified bowling establishment must have a foul detecting device in operation or a foul judge stand conveniently located directly on a line with or immediately beyond the foul line so that the foul judge may have an unobstructed view of all foul lines.

Bowling Lanes - Length

The over-all length of a regulation lane is sixty two feet, ten and three-sixteenths inches measuring from the foul line to the pit (not including the tail plank), with a half inch tolerance permitted as set forth below:

It must be sixty feet from the foul line to the centre of the No.1 pin spot with a tolerance of half an inch permitted. It must be thirty four and three-sixteenths inches from the centre of the No.1 pin spot to the pit (not including the tail plank).

Bowling Lanes - Width

The lane must not be less than forty one inches nor more than forty two inches in width. The lane plus the gutters shall not be less than sixty inches nor more than sixty and one-quarter inches. Example: On lanes which are forty two inches wide, the gutters shall not be less than nine inches nor more than nine and one-eighth inches wide.

Bowling Lanes - Surface

The surface between the foul line and the tail plank shall be free from any depressions, grooves, or high spots measuring in excess of 40/1000ths of an inch. In addition, there shall be no crosswise tilt in excess of 40/1000ths of an inch. At the pin deck, the surface lengthwise shall not have a tilt to front or back of more than 0.187 (3/16) inch within a span of forty two inches.

Bowling Lanes - Gutters

Gutters shall be placed on each side of the lane and shall begin at the foul line and extend parallel with lane to the pit.

Width of gutters:

The gutters shall not be less than nine inches nor more than nine and one-half inches wide. The gutters plus the lane shall not be less than sixty inches nor more than sixty and one-quarter inches wide.

Depth of gutters:

From a point opposite or within fifteen inches ahead of the No.1 pin spot, the gutters must have square bottoms. The square section of the gutters must gradually decline and be firmly fastened, so that where they enter the pit they shall not at the shallowest point be less than three and a half inches, nor at the deepest point more than three and three-quarter inches below the surface of the lane. The remainder of each gutter shall be concave in shape and shall be constructed of wood or of a synthetic material. At time of manufacture this gutter section shall at its centre measure at least one and seven-eighths inches in depth.

Bowling Lanes - Tail Plank

A tail plank, not to exceed two inches in thickness may be attached to the rear of the lane. At no time may there be more than five inches of flat playing surface, including the tail plank, back of the centres of the 7, 8, 9, and 10 pin spots.

Bowling Lanes - Pin Deck

The pin deck shall be constructed entirely of hardwood or other approved materials as outlined herein. A fibre strip, measuring not more than a quarter of an inch in thickness and not less than one and one-half inches in width, at the time of installation of the fibre strip itself, may be attached to the side of the pin deck nearest to the gutters and shall extend form a point opposite the headpin to the pit. Such fibre strip must be installed vertically so that the width of the fibre exposed on the pin deck surface is not in excess of a quarter of an inch. Pin deck edge boards must be rounded on a radius of not more than 5/32 inch. When the 5/32 inch radius is removed by resurfacing, such radius must be restored.

Bowling Lanes - Pin Spots

The pin spots, upon which the pins must be spotted, shall be clearly and distinctly described on (stamped or printed) or embedded in the lane and shall be two and a quarter inches in diameter and spaced twelve inches apart from the centre to centre, and the pins and spots shall be known by numbers as follows:

7 8 9 10
4 5 6
2 3
1

It must be three inches from the centres of the 7, 8, 9 and 10 pin spots to the pit (not including the tail plank). It shall not be less than two and a half inches nor more than three inches from the centre of the No.7 and 10 pin spots to the adjacent side of the pin deck. The distance between the centre of the corner pin spot and the edge of the lane, plus the width of the adjacent gutter shall measure not less than twelve nor more than twelve and one-eighth to the wood partitions. At no time shall it be less than thirty inches from the centre of the No.1 pin spot to the face of either wood partition. It shall be thirty one and three-sixteenths inches from the centre of the No.1 pin spot to a line drawn through the centres of the back row of pin spots and thirty four and three-sixteenths inches to the pit (not including the tail plank).

Bowling Lanes - Pin setting Devices

In establishments using pin setting devices, such devices must be checked annually. Where a discrepancy is found they shall not recommend approval until corrected.

Bowling Lanes - Moulding

A strip of moulding not exceeding seven-eighths of an inch high by three-quarters of an inch wide at a point opposite or within fifteen inches ahead of the No.1 pin spot and gradually increasing to one and a half inches high by three-quarters of an inch wide opposite the No.7 and 10 pin spots shall be securely fastened to each lower corner of the gutters.

Bowling Lanes - Kick-Backs

The kick-backs or side partitions shall not be less than seventeen inches nor more than twenty four inches in height above the lanes and shall extend from a point opposite or within fifteen inches ahead of the No.1 pin spot to the rear cushion wall.

The kick-backs shall be placed parallel to the lane.

The distance between the wood faces of the two kick-backs shall not be less than sixty inches nor more than sixty and one-quarter inches.

Bowling Lanes - Fibre Plates

The kick-backs may be covered with one layer of hard vulcanised fibre not to exceed three-sixteenths of an inch in thickness.

Bowling Lanes - Pit

On lanes without automatic pin setting devices, it shall not be less than ten inches from the pit floor to the top of the lane and it shall not be less than nine and a half inches from the top of the pit mat to the top of the lane.

The pit shall not be less than thirty inches in width from the rear edge of the lane (including the width of the tail plank as a portion of the measurement) to the face of the rear cushion.

Specifications in the pit area for automatic pin setting equipment are developed for each pin setter at the time approval is granted.

Bowling Lanes - Rear Cushion

The rear cushion must in all cases be covered with material of a dark colour and shall be so constructed as to prevent the pins from rebounding onto the lane.

Bowling Lanes - Markings or Design

Markings or designs on the lanes and approaches shall be permitted in accordance with the following specifications:

At a distance of 12 and 15 feet (3658 and 4572 mm) from the foul line respectively, there shall be embedded in or stamped on the lane a reference marking placed on each side of the approach. Each of the targets shall be uniform and may consist of one or more dowels, darts, diamonds, triangles or rectangular designs. The over-all surface covered by each target shall not be more than one and one-quarter of an inch in width and six inches in length. Each target must be equidistant from one another and set in a uniform pattern.

At a point six to eight feet beyond the foul line and parallel thereto there may be embedded in or stamped on the lane a maximum of ten guides. Each guide shall be uniform circular in shape and shall not exceed three-quarters of an inch in diameter. A maximum of seven guides may be embedded or stamped on the approach at each of the following points: 2 to 6 inches, 9 to 10 feet, 11 to 12 feet, and 14 to 15 feet. Each series of guides shall be parallel to the foul line, and each guide shall be uniform and circular in shape, and shall not exceed three-quarters of an inch in diameter. Embedded markings

or designs shall be of wood, fibre, or plastic, and shall be flush and level with the surface of the lane approaches. When the markings are stamped on, they shall be applied to the bare wood and then covered with lacquer or similar transparent material generally used in resurfacing. All such installations in any one establishment shall be uniform as to design and measurement and at least on natural pairs of lanes.

BOWLING PINS

Bowling Pins - Material

Approved pins shall be made of sound, hard maple. Each pin may be constructed of one or laminated of two or more pieces provided the pins meet with the specifications herein. All laminations shall run parallel to the vertical axis of the pin. New and used wood will be permitted provided all such new and /or rebuilt pins are produced in accordance with the established specifications.

Bowling Pins - Weight

Each plastic coated pin must weigh not less than three pounds and six ounces (1531 grams), nor more than three pounds and ten ounces (1645 grams).

Pins in each set must be uniform in appearance including construction, material, finish labels and neck markings; reasonable wear excepted.

Bowling Pins - Balance

The centre of gravity of any tenpin shall be measured from the bottom of the pin and shall not be higher than five and sixty-fourths inches, nor lower than five and forty-fourths inches.

Bowling Pins - Moisture Content

Moisture content of all tenpins shall not be less than six percent, nor more than twelve percent. In laminated pins, the individual pieces should not vary more than two percent in moisture content, at the time of gluing.

Bowling Pins - Finish

Single piece or laminated tenpins shall be finished with regularly accepted wood finishes and this coating shall be transparent (clear) and/or white pigmented with the exception of neck markings, identifying symbols or names. Regular wood finishes of four-thousandths (0.004) inch film thickness are acceptable.

Bowling Pins - Design and Measurements

The height of each pin shall be fifteen inches with a tolerance of 2/64 inch either way being permitted. All pins must be equipped with an approved plastic base attachment or with a plastic or fibre insert having a minimum outside diameter measurement of not less than two inches.

FIQ TENPIN SPECIFICATIONS

STATION	DIAMETER	TOLERANCE	
		MAXIMUM	MINIMUM

13-1/2" Above Base	2.547"	2.578"	2.516"
12-5/8" Above Base	2.406"	2.437"	2.375"
11-3/4" Above Base	2.094"	2.125"	2.063"
10-7/8" Above Base	1.870"	1.901"	1.839"
10" Above Base	1.797"	1.828"	1.766"
9-3/8" Above Base	1.965"	1.996"	1.934"
8-5/8" Above Base	2.472"	2.503"	2.441"
7-1/4" Above Base	3.703"	3.734"	3.672"
5-7/8" Above Base	4.563"	4.594"	4.532"
4-1/2" Above Base	4.766"	4.797"	4.735"
3-3/8" Above Base	4.510"	4.541"	4.479"
2-1/4" Above Base	3.906"	3.937"	3.875"
3/4" Above Base	2.828"	2.859"	2.797"
Base-with 5/32 radius-Flat diameter	2.031"	2.062"	2.000"
Base-with no radius-Flat diameter	2.250"	2.281"	2.219"

The top of the pin shall have a uniform arc with a radius of 1.273". Plus or minus tolerance of 2/64 (0.031) inch shall be permitted.

The diameter tolerance shall not be more than 2/64 (0.031) inch over, nor more than 2/64 (0.031) inch under. The taper from station to station shall be gradual so that all lines shall have a graceful curve.

No part of the base shall protrude beyond the base attachment, but the portion of the base within the base attachment may be recessed as much as 0.025 inch.

All pins shall be rounded at the outer edge of the base by the manufacturer on a 5/32 (0.156) inch radius with a plus or minus tolerance of 2/64 (0.031) inch. The diameter of the base exclusive of the round edge shall no be less than two inches.

BOWLING BALLS

Bowling Balls - Approval

Bowling balls used in sanctioned competition shall:

1. Meet ABC/WIBC equipment specifications at time of manufacture.
2. Be ABC/WIBC approved at least 90 days prior to start of the Championship.
3. Meet the following ABC/WIBC specifications.

Bowling Balls - Material

A bowling ball shall be constructed without voids in its interior, be of a non-metallic composition material and conform to the specifications for weight, size and balance.

The use of minute reflective particles or flakes for decorative purposes shall be permitted in a bowling ball provided such particles are evenly distributed in a uniform pattern under a transparent shell at least a quarter of an inch beneath the surface of the ball so as to have no effect on the balance, and the total amount of such material does not exceed half an ounce per ball.

Bowling Balls - Weight, Size, Markings and Holes

The circumference of a ball shall not be more than twenty seven inches, nor shall it weigh more than sixteen pounds. The diameter of the ball must be constant.

The surface of a ball must be free of all depressions, additions or grooves of specific pattern, except for holes or indentations used for gripping the ball, identification letters and numbers and incidental chipping or marring caused by wear.

The following limitations govern drilling holes in a ball:

1. Holes or indentations, not to exceed five, for gripping purposes.
2. One hole for balance purposes, not to exceed one and a quarter of an inch in diameter.
3. One (1) vent hole to each finger and/or thumb hole, not to exceed a quarter of an inch in diameter.
4. One mill hole for inspection purposes, not to exceed five-eighths of an inch in diameter and one eighth in depth.

Bowling Balls - Balance

Bowling balls shall be so constructed and drilled that no less than six sides shall be in proper balance.

After drilling, the following tolerances are allowed in the balance of the ball:

1. For a ball weighing ten pounds or more:
 - a. Not more than three ounces difference between the top of ball (finger hole side) and the bottom (solid side opposite finger holes).
 - b. Not more than one ounce difference between the sides to the right and left of the finger holes or between the sides in front and back of the finger holes.
2. For a ball weighing more than eight pounds but less than ten pounds:
 - a. Not more than two ounces difference between the top of the ball and the bottom.
 - b. Not more than three quarters of an ounce difference between the sides to the right and left or between the front and back of the finger holes.
3. For a ball weighing less than eight pounds:
 - a. Not more than three quarters of an ounce between the top of the ball and the bottom.
 - b. Not more than three quarters of an ounce difference between the sides to the right and left of finger holes or between the front and back of the finger holes.

Movable devices are not permitted in a ball except that a device for changing the finger span or the size of finger and thumb holes may be inserted, providing the device is locked in position during delivery and cannot be removed from the ball without destroying the device.

The introduction of metal or any other substance not comparable to the original material used in the manufacture of the ball is prohibited. Also, altering a ball in any way to increase its weight or cause it to be out of balance beyond the tolerances is prohibited.

Plugs may be inserted for the purpose of re-drilling a ball. Designs may be embedded in a ball as guides, or observation or identification purposes, provided the designs are flush with the other surface of the ball. There shall be no interior voids and the plugs or designs must be of material similar to, although not exactly the same as, the original materials out of which the ball was made; and shall otherwise comply with all bowling ball specifications. No foreign material may be placed on the outer surface of the ball.

These prohibitions apply both at the time of the manufacturing of the ball and/or the remodelling of the ball in any manner, providing this shall not apply to any overweight in a ball deliberately imparted at the time of manufacture, plugging or repairing under good manufacturing principles.

Bowling Balls - Surface Hardness

The surface hardness of a ball shall be not less than seventy two Durometer "D" at room temperature. The use of chemicals, solvents or other methods to change the surface hardness of the ball after it is manufactured is prohibited.

LANE CONDITIONING

The general goal for all MTBA conducted and sanctioned leagues and tournaments shall be to achieve a fair and equitable scoring condition which places a premium on bowler accuracy and consistency. This should attempt to ensure a procedure which provides consistent ball reaction characteristics. For this purpose, it is strongly recommended that for competitive play, the specific dressing procedures should meet the following requirement:

- * following any application in the dressed portion of the lane (including any buffed portion), there shall be a minimum of five units of dressing at all points on the lane surface
- * the minimum and maximum dressing distances, including any buffed portion, shall not be less than twenty eight feet nor more than forty five feet. This should not be interpreted to mean that twenty eight feet is recommended. Any distance between twenty eight feet and forty five feet may be used to dress the lanes
- * it would be expected that prior to a tournament the lanes would be stripped dry before the first application
- * additionally, if the event is sanctioned or under the control of the WTBA: the full length of the lane shall be stripped (dry) and oiled before every squad of each event during the tournament. The lanes shall be stripped and oiled before the start of the Ladies' Masters Grand Finals, while no re-oiling shall be done between the Ladies and Men's Masters Grand Finals. In the event the Tournament Technical Committee decides there is a need of oiling more than once a day, the full length of the lanes shall again be stripped before doing so. Graphs shall be taken on a daily basis before bowling and made available for inspection upon request.