

## C. THROWING EVENTS

### RULE 187

#### General Conditions

##### *Official Implements*

1. In all International Competitions, the implements used shall comply with IAAF specifications. Only implements which hold a current valid IAAF certificate of approval may be used. The following table shows the implement to be used by each age group:

Implement	Women Youth/Junior/Senior	Men Youth	Men Junior	Men Senior
Shot	4.000kg	5.000kg	6.000kg	7.260kg
Discus	1.000kg	1.500kg	1.750kg	2.000kg
Hammer	4.000kg	5.000kg	6.000kg	7.260kg
Javelin	600g	700g	800g	800g

*Note: A standard form of Implement Certification Application is available, on request, from the IAAF Office, or may be downloaded from the IAAF website.*

2. Except as provided below, all such implements shall be provided by the Organising Committee. The Technical Delegate(s) may, based on the relevant Technical Regulations of each competition, allow athletes to use their own implements or those provided by a supplier, provided that such implements are IAAF certified, checked and marked as approved by the Organising Committee before the competition and made available to all athletes. Such implements will not be accepted if the same model is already on the list of those provided by the Organising Committee.
3. No modification shall be made to any implements during the competition.

##### *Personal Safeguards*

4. (a) An athlete shall not use any device of any kind - e.g. the taping of two or more fingers together or using weights attached to the body - which in any way provides assistance when making

an attempt. An athlete shall not use tape on the hand except when tape is needed to cover an open cut or wound. However an athlete in the Hammer Throw may tape individual fingers. The taping should be shown to the Chief Judge before the event starts.

- (b) An athlete shall not use gloves except in the Hammer Throw. In this case, the gloves shall be smooth on the back and on the front and the tips of the glove fingers, other than the thumb, shall be open.
- (c) In order to obtain a better grip, an athlete may use a suitable substance on his hands only. In addition, hammer throwers may use such substances on their gloves, and shot putters may use such substances on their neck.
- (d) In order to protect the spine from injury, an athlete may wear a belt of leather or other suitable material.
- (e) In the Shot Put an athlete may wear a bandage at the wrist in order to protect it from injury.
- (f) In the Javelin Throw, an athlete may wear an elbow protection.
- (g) An athlete may wear other protection e.g. knee support, provided the athlete has IAAF approval on medical advice for its use in competition.

#### ***Throwing Circle***

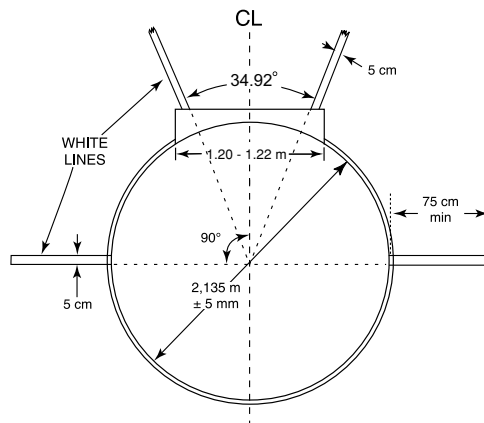
5. The rim of the circles shall be made of band iron, steel or other suitable material, the top of which shall be flush with the ground outside. The ground may be a concrete, synthetic, asphalt, wood or any other suitable material surrounding to the circle.

The interior of the circle may be constructed of concrete, asphalt or some other firm but not slippery material. The surface of this interior shall be level and 1.4 - 2.6cm lower than the upper edge of the rim of the circle.

In the Shot Put, a portable circle meeting these specifications is permissible.

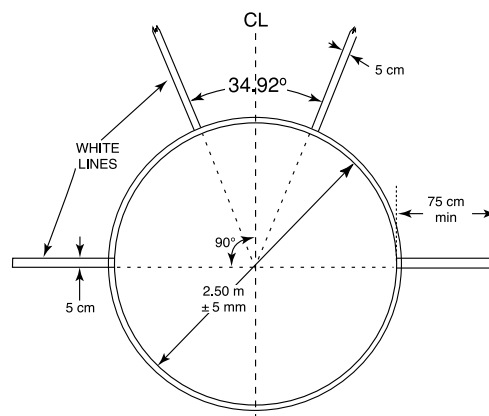
6. The inside diameter of the circle shall be 2.135m ( $\pm 5$ mm) in the Shot Put and the Hammer Throw and 2.50m ( $\pm 5$ mm) in the Discus Throw.

The rim of the circle shall be at least 6mm thick and shall be white. The hammer may be thrown from the discus circle provided the diameter of this circle is reduced from 2.50m to 2.135m by placing a circular ring inside.

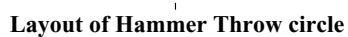


**Layout of Shot Put circle**

7. A white line 5cm wide shall be drawn from the top of the metal rim extending for at least 75cm on either side of the circle. The white line may be painted or made of wood or other suitable material. The rear edge of the white line shall form a prolongation of a theoretical line through the centre of the circle at right angles to the centre line of the landing sector.



**Layout of Discus Throw circle**



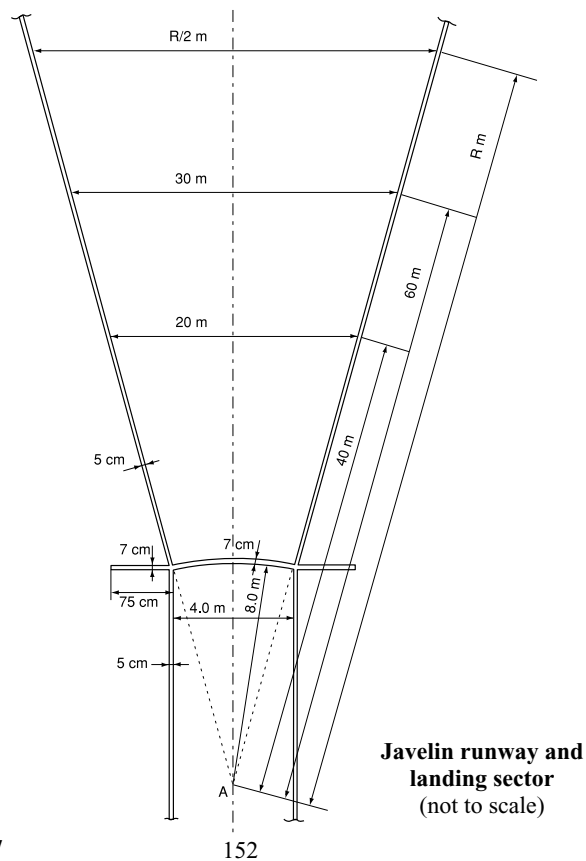
8. An athlete may not spray nor spread any substance in the circle or on his shoes nor roughen the surface of the circle. II

### *Javelin Runway*

9. In the Javelin Throw the minimum length of the runway shall be 30m and the maximum 36.5m. Where conditions permit, the

minimum length shall be 33.5m. It shall be marked by two parallel white lines 5cm wide and 4m apart. The throw shall be made from behind an arc of a circle drawn with a radius of 8m. The arc shall consist of a strip painted or made of wood 7cm wide. It shall be white and be flush with the ground. Lines shall be drawn from the extremities of the arc at right angles to the parallel lines marking the runway. These lines shall be white, 75cm long and 7cm wide. The maximum lateral inclination of the runway shall be 1:100 and the overall inclination in the running direction 1:1000.

*Note: It is a failure if an athlete begins his run more than 36.5 metres from the inner edge of the arc.*



#### ***Landing sector***

10. The landing sector shall consist of cinders or grass or other suitable material on which the implement makes an imprint.
11. The maximum overall downward inclination of the landing sector, in the throwing direction, shall not exceed 1:1000.
12. (a) Except for the Javelin Throw, the landing sector shall be marked with white lines 5cm wide at an angle of 34.92 such that the inner edge of lines, if extended, would pass through the centre of the circle.

*Note: The 34.92° sector may be laid out accurately by making the distance between the two points on the sector lines 20m from the centre of the circle 12m (20x0.60) apart. Thus for every 1m from the centre of the circle, the distance across shall be increased by 60 cm*

- (b) In the Javelin Throw, the landing sector shall be marked with white lines 5cm wide such that the inner edge of the lines, if extended, would pass through the two intersections of the inner edges of the arc, and the parallel lines marking the runway and intersect at the centre of the circle of which the arc is part (see diagram). The sector is thus about 29°.

#### ***Trials***

13. In the Shot Put, Discus Throw and Hammer Throw, implements shall be thrown from a circle, and in the Javelin Throw from a runway. In the case of attempts made from a circle, an athlete shall commence his attempt from a stationary position inside the circle. An athlete is allowed to touch the inside of the iron band. In the Shot Put he is also allowed to touch the inside of the stop board described in Rule 188.2.
14. It shall be a failure if an athlete in the course of an attempt:
  - (a) improperly releases the shot or the javelin,
  - (b) after he has stepped into the circle and begun to make a throw, touches with any part of his body the top of the iron ring or the ground outside the circle,
  - (c) in the Shot Put, touches with any part of his body the top of the stop board,
  - (d) in the Javelin Throw, touches with any part of his body the lines which mark the boundaries of the throwing area or the ground outside.

*Note: It will not be considered a failure if the discus or any part of the hammer strikes the cage after release provided that no other rule is infringed.*

15. Provided that, in the course of a trial, the Rules relative to each throwing event have not been infringed, an athlete may interrupt a trial once started, may lay the implement down inside or outside the circle or runway and may leave it.

When leaving the circle or runway he shall step out as required in paragraph 17 before returning to the circle or runway to begin a fresh trial.

*Note: All the moves permitted by this paragraph shall be included in the maximum time for a trial given in Rule 180.17.*

16. It shall be a failure if the shot, the discus, the hammer head or the tip of the javelin on its first contact with the ground touches the sector line or the ground outside the sector line.
17. An athlete shall not leave the circle or runway until the implement has touched the ground.  
For throws made from a circle, when leaving the circle, an athlete's first contact with the top of the iron band or the ground outside the circle shall be completely behind the white line which is drawn outside the circle running, theoretically, through the centre of the circle.  
In the case of the Javelin Throw, when an athlete leaves the runway the first contact with the parallel lines or the ground outside the runway shall be completely behind the white line of the arc at right angles to the parallel lines.
18. After each throw, implements shall be carried back to the area next to the circle or runway and never thrown back.

#### **Measurements**

19. In all throwing events, distances shall be recorded to the nearest 0.01m below the distance measured if the distance measured is not a whole centimetre.
20. The measurement of each throw shall be made immediately after the attempt:
- (a) from the nearest mark made by the fall of the shot, discus and hammer head, to the inside of the circumference of the circle along a line to the centre of the circle;
  - (b) in Javelin Throw, from where the tip of the javelin first struck the ground to the inside edge of the arc, along a line to the centre of the circle of which the arc is part.

### Markers

21. A distinctive flag or marker may be provided to mark the best throw of each athlete, in which case it shall be placed along, and outside, the sector lines.

A distinctive flag or marker may also be provided to mark the existing World Record and, when appropriate, the existing Continental, National or Event Record.

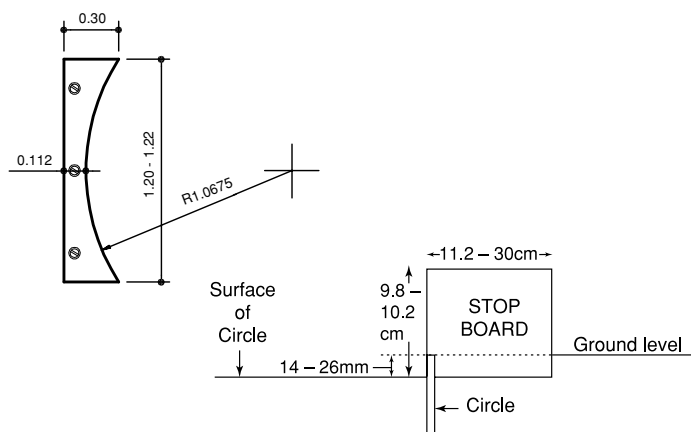
## RULE 188 Putting the Shot

### The Competition

1. The shot shall be put from the shoulder with one hand only. At the time an athlete takes a stance in the circle to commence a put, the shot shall touch or be in close proximity to the neck or the chin and the hand shall not be dropped below this position during the action of putting. The shot shall not be taken behind the line of the shoulders.

### The Stop Board

2. Construction. The board shall be white and made of wood or other suitable material in the shape of an arc so that the inner edge coincides with the inner edge of the rim of the circle. It shall be placed mid-way between the sector lines, and be so made that it can be firmly fixed to the ground.



Shot Put stop board (top and side view)



3. Measurements. The board shall measure 11.2cm to 30cm wide, with a chord of 1.21m  $\pm$ 0.01m for an arc of the same radius as the circle and 10cm  $\pm$ 0.2cm high in relation to the level of the inside of the circle.

***The Shot***

4. Construction. The shot shall be of solid iron, brass or any metal not softer than brass, or a shell of such metal filled with lead or other material. It shall be spherical in shape and its surface shall have no roughness and the finish shall be smooth. To be smooth, the surface average height must be less than 1.6 $\mu$ m, i.e. a roughness number N7 or less.
5. It shall conform to the following specifications:

Shot				
Minimum weight for admission to competition and acceptance of a record:	4.000kg	5.000kg	6.000kg	7.260kg
<u>Information for manufacturers:</u>				
Range for supply of implement for competition	4.005kg	5.005kg	6.005kg	7.265kg
	4.025kg	5.025kg	6.025kg	7.285kg
Minimum Diameter	95mm	100mm	105mm	110mm
Maximum Diameter	110mm	120mm	125mm	130mm

**RULE 189**

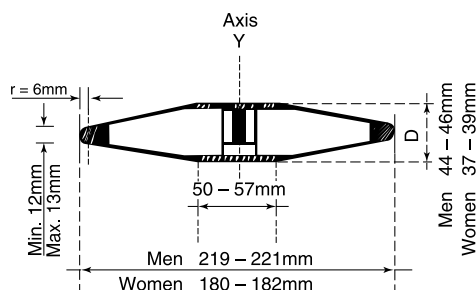
**Throwing the Discus**

***The Discus***

1. Construction. The body of the discus may be solid or hollow and shall be made of wood, or other suitable material, with a metal rim, the edge of which shall be circular. The cross section of the edge shall be rounded in a true circle having a radius of approximately 6mm. There may be circular plates set flush into the centre of the sides. Alternatively, the discus may be made without metal plates, provided that the equivalent area is flat and the measurements and total weight of the implement correspond to the specifications.  
Each side of the discus shall be identical and shall be made without indentations, projections or sharp edges. The sides shall taper in a straight line from the beginning of the curve of the rim to a circle of a radius of 25mm to 28.5mm from the centre of the discus.  
The profile of the discus shall be designed as follows. From the beginning of the curve of the rim the thickness of the discus

increases regularly up to the maximum thickness D. This maximum value is achieved at a distance of 25 mm to 28.5mm from the axis of the discus Y. From this point up to the axis Y the thickness of the discus is constant. Upper and lower side of the discus must be identical, also the discus has to be symmetrical concerning rotation around the axis Y.

The discus, including the surface of the rim shall have no roughness and the finish shall be smooth (see Rule 188.4) and uniform throughout.



**Discus**

2. It shall conform to the following specifications:

Discus				
Minimum weight for admission to competition and acceptance of a record :	1.000kg	1.500kg	1.750kg	2.000kg
Information for manufacturers: Range for supply of implement for competition	1.005kg 1.025kg	1.505kg 1.525kg	1.755kg 1.775kg	2.005kg 2.025kg
Outside diameter of metal rim				
Min.	180mm	200mm	210mm	219mm
Max.	182mm	202mm	212mm	221mm
Diameter of metal plate or flat centre area				
Min.	50mm	50mm	50mm	50mm
Max.	57mm	57mm	57mm	57mm
Thickness of metal plate or flat centre area				
Min.	37mm	38mm	41mm	44mm
Max.	39mm	40mm	43mm	46mm
Thickness of rim (6mm from edge)				
Min.	12mm	12mm	12mm	12mm
Max.	13mm	13mm	13mm	13mm

RULE 190  
**Discus Cage**

---

1. All discus throws shall be made from an enclosure or cage to ensure the safety of spectators, officials and athletes. The cage specified in this Rule is intended for use when the event takes place in the arena with other events taking place at the same time or when the event takes place outside the arena with spectators present. Where this does not apply, and especially in training areas, a much simpler construction may be satisfactory. Advice is available, on request, from national organisations or from the IAAF Office.

*Note: The hammer cage specified in Rule 192 may also be used for Discus Throw, either by installing 2.135/2.50m concentric circles, or by using the extension of the gates of that cage with a separate discus circle installed in front of the hammer circle.*

2. The cage should be designed, manufactured and maintained so as to be capable of stopping a 2kg discus moving at a speed of up to 25 metres per second. The arrangement should be such that there is no danger of ricocheting or rebounding back towards the athlete or over the top of the cage. Provided that it satisfies all the requirements of this Rule, any form of cage design and construction can be used.

3. The cage should be U-shaped in plan as shown in the diagram. The width of the mouth should be 6m, positioned 7m in front of the centre of the throwing circle. The end points of the 6m wide mouth shall be the inner edge of the cage netting. The height of the netting panels or draped netting at their lowest point should be at least 4m. Provision should be made in the design and construction of the cage to prevent a discus forcing its way through any joints in the cage or the netting or underneath the netting panels or draped netting.

*Note (i): The arrangement of the rear panels/netting is not important provided the netting is a minimum of 3.00 metres away from the centre of the circle.*

*Note (ii): Innovative designs that provide the same degree of protection and do not increase the danger zone compared with conventional designs may be IAAF Certified.*

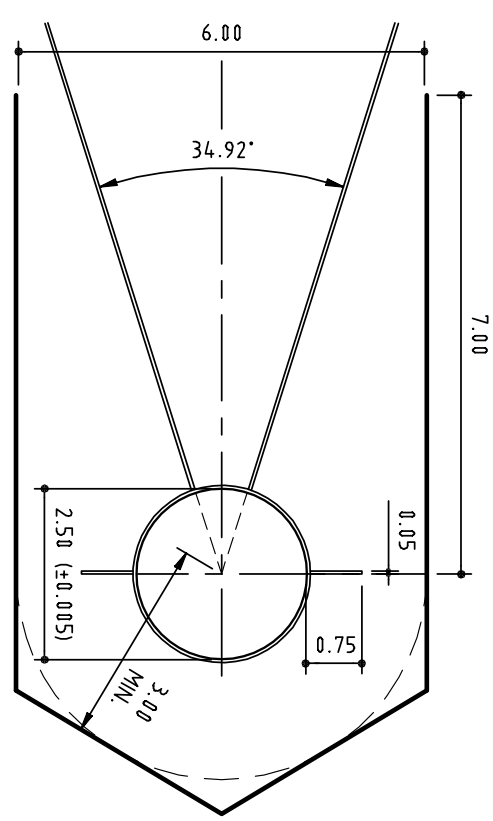
*Note (iii) The cage side particularly alongside the track may be lengthened and/or increased in height so as to provide greater protection to athletes competing on the adjoining track during a discus competition.*

4. The netting for the cage can be made from suitable natural or synthetic fibre cord or, alternatively, from mild or high tensile steel

wire. The maximum mesh size shall be 44mm for cord netting and 50mm for steel wire.

*Note: Further specifications for the netting and safety inspection procedures are set out in the IAAF Track and Field Facilities Manual.*

5. The maximum danger sector for discus throws from this cage is approximately  $69^\circ$ , when used by both right and left handed throwers in the same competition. The position and alignment of the cage in the arena is, therefore, critical for its safe use.



**Cage for Discus Throw only** (dimensions in m)

RULE 191  
**Throwing the Hammer**

---

***The Competition***

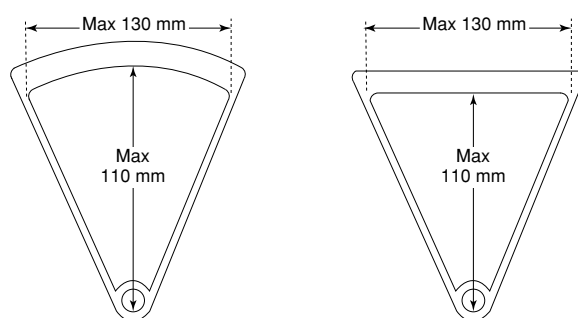
1. An athlete, in his starting position prior to the preliminary swings or turns, is allowed to put the head of the hammer on the ground inside or outside the circle.
2. It shall not be considered a failure if the head of the hammer touches the ground inside or outside the circle, or the top of the iron band. The athlete may stop and begin the throw again, provided no other rule has been breached.
3. If the hammer breaks during a throw or while in the air, it shall not count as a failure, provided the attempt was otherwise made in accordance with this Rule. Nor shall it count as a failure if an athlete thereby loses his balance and as a result contravenes any part of this Rule. In both cases the athlete shall be awarded a new trial.

***The Hammer***

4. Construction. The hammer shall consist of three main parts: a metal head, a wire and a handle.
5. Head. The head shall be of solid iron or other metal not softer than brass or a shell of such metal, filled with lead or other solid material.  
If a filling is used, this shall be inserted in such manner that it is immovable and that the centre of gravity shall not be more than 6mm from the centre of the sphere.
6. Wire. The wire shall be a single unbroken and straight length of spring steel wire not less than 3mm in diameter and shall be such that it cannot stretch appreciably while the hammer is being thrown. The wire may be looped at one or both ends as a means of attachment.
7. Handle. The handle may be either of single or double loop construction, but shall be rigid and without hinging joints of any kind. It shall not stretch appreciably while being thrown. It shall be attached to the wire in such a manner that it cannot be turned within the loop of the wire to increase the overall length of the hammer.  
The handle may have a curved or straight grip with a maximum width inside of 130mm and a maximum length inside of 110mm.  
The minimum handle breaking strength shall be 8kN (800kgf). The sides of the handle may be straight or slightly curved where the

sides attach meet the grip so as to provide greater room for the thrower's hands.

*Note: The strength of a handle shall be determined in accordance with the procedures given in the IAAF Calibration Handbook.*



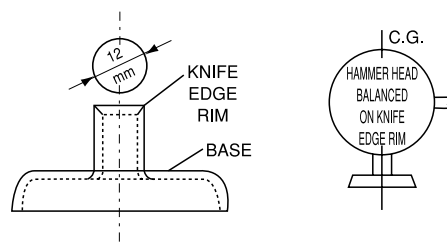
**Examples of hammer handle**

8. Connections for wire. The wire shall be connected to the head by means of a swivel, which may be either plain or ball bearing. The handle shall be connected to the wire by means of a loop. A swivel may not be used.
9. The hammer shall conform to the following specifications:

Hammer				
Minimum weight for admission to competition and for acceptance of a record	4.000kg	5.000kg	6.000kg	7.260kg
Information for manufacturers: Range for supply of implement for competition	4.005kg	5.005kg	6.005kg	7.265kg
	4.025kg	5.025kg	6.025kg	7.285kg
Length of Hammer measured from inside of handle				
Min.	1160mm	1165mm	1175mm	1175mm
Max.	1195mm	1200mm	1215mm	1215mm
Diameter of head				
Min.	95mm	100mm	105mm	110mm
Max.	110mm	120mm	125mm	130mm

***Centre of gravity of head***

Not more than 6mm from the centre of the sphere, i.e. - it must be possible to balance the head, less handle and wire, on a horizontal sharp-edged circular orifice 12mm in diameter (see diagram).



**Suggested apparatus for testing centre of gravity of hammer head**

#### **RULE 192 Hammer Cage**

1. All hammer throws shall be made from an enclosure or cage to ensure the safety of spectators, officials and athletes. The cage specified in this Rule is intended for use when the event takes place in the arena with other events taking place at the same time or when the event takes place outside the arena with spectators present. Where this does not apply, and especially in training areas, a much simpler construction may be satisfactory. Advice is available on request from national organisations or from the IAAF Office.
2. The cage should be designed, manufactured and maintained so as to be capable of stopping a 7.260kg hammer head moving at a speed of up to 32 metres per second. The arrangement should be such that there is no danger of ricocheting or rebounding back towards the athlete or over the top of the cage. Provided that it satisfies all the requirements of this Rule, any form of cage design and construction can be used.
3. The cage should be U-shaped in plan as shown on the diagram. The width of the mouth should be 6m, positioned 7m in front of the centre of the throwing circle. The end points of the 6m wide mouth shall be the inner edge of the pivoted netting. The height of the netting panels or draped netting at their lowest point shall be at least 7m for the panels/netting at the rear of the cage and at least 10m for the last 2.80m panels to the gate pivot points.  
Provisions should be made in the design and construction of the cage to prevent a hammer forcing its way through any joints in the cage or the netting or underneath the netting panels or draped netting.

*Note: The arrangement of the rear panels/netting is not important provided the netting is a minimum of 3.50 metres away from the centre of the circle.*

4. Two movable netting panels 2m wide shall be provided at the front of the cage, only one of which will be operative at a time. The minimum height of the panels shall be 10m.

*Note (i): The left hand panel is used for throwers turning anti clockwise, and the right hand panel for throwers turning clockwise. In view of the possible need to change over from one panel to the other during the competition, when both left and right-handed throwers are present, it is essential that this changeover should require little labour and be carried out in the minimum of time.*

*Note (ii): The end position of both panels is shown in the plan even though in competition only one panel will be closed at any one time during competition.*

*Note (iii): When in operation, the movable panel shall be exactly in the position shown. Provision shall therefore, be made in the design of the movable panels to lock them in the operative position.*

*Note (iv): The construction of these panels and their operation depends on the overall design of the cage and can be sliding, hinging on a vertical or horizontal axis or dismounting. The only firm requirements are that the panel in operation shall be fully able to stop any hammer striking it and there shall be no danger of a hammer being able to force its way between the fixed and movable panels.*

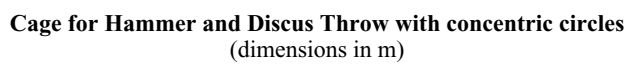
*Note (v): Innovative designs that provide the same degree of protection and do not increase the danger zone compared with conventional designs may be IAAF Certified.*

5. The netting for the cage can be made from suitable natural or synthetic fibre cord or, alternatively, from mild or high tensile steel wire. The maximum mesh size shall be 44mm for cord netting and 50mm for steel wire.

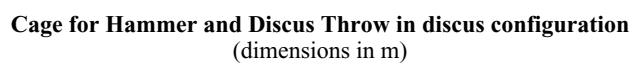
*Note: Further specifications for the netting and safety inspection procedures are set out in the IAAF Track and Field Facilities Manual.*

6. Where it is desired to use the same cage for Discus Throw, the installation can be adapted in two alternative ways. Most simply, a 2.135/2.500m concentric circle may be fitted, but this involves using the same surface in the circle for Hammer Throw and Discus Throw. The hammer cage shall be used for Discus Throw by fixing the movable netting panels clear of the cage opening.









For separate circles for Hammer Throw and Discus Throw in the same cage, the two circles shall be placed one behind the other with the centres 2.37m apart on the centre line of the landing sector and with the discus circle at the front. In that case, the movable netting panels shall be used for Discus Throw.

*Note: The arrangement of the rear panels/draped netting is not important provided the netting is a minimum of 3.50 metres away from the centre of concentric circles or a minimum of 3.00 metres away from the centre of the discus circle in case of separate circles (see also Rule 192.4).*

7. The maximum danger sector for hammer throws from this cage is approximately 53°, when used by both right and left-handed throwers in the same competition. The position and alignment of the cage in the arena is, therefore, critical for its safe use.

#### RULE 193 **Throwing the Javelin**

---

##### ***The Competition***

1. (a) The javelin shall be held at the grip. It shall be thrown over the shoulder or upper part of the throwing arm and shall not be slung or hurled. Non-orthodox styles are not permitted.  
(b) A throw shall be valid only if the tip of the metal head strikes the ground before any other part of the javelin.  
(c) Until the javelin has been thrown, an athlete shall not at any time turn completely around, so that his back is towards the throwing arc.
2. If the javelin breaks during a throw or while in the air, it shall not count as a failure, provided the attempt was otherwise made in accordance with this Rule. Nor shall it count as a failure if an athlete thereby loses his balance and as a result contravenes any part of this Rule. In both cases the athlete shall be awarded a new trial.

##### ***The Javelin***

3. Construction. The javelin shall consist of three main parts: a head, a shaft and a cord grip. The shaft may be solid or hollow and shall be constructed of metal or other suitable material so as to constitute a fixed and integrated whole. The shaft shall have fixed to it a metal head terminating in a sharp point.

The surface of the shaft shall have no dimples or pimples, grooves or ridges, holes or roughness, and the finish shall be smooth (see Rule 188.4) and uniform throughout.

The head shall be constructed completely of metal. It may contain a reinforced tip of other metal alloy welded on to the front end of the head provided that the completed head is smooth (see Rule 188.4) and uniform along the whole of its surface.

4. The grip, which shall cover the centre of gravity, shall not exceed the diameter of the shaft by more than 8mm. It may have a regular non-slip pattern surface but without thongs, notches or indentations of any kind. The grip shall be of uniform thickness.
5. The cross-section shall be regularly circular throughout (see Note (i)). The maximum diameter of the shaft shall be immediately in front of the grip. The central portion of the shaft, including the part under the grip, may be cylindrical or slightly tapered towards the rear but in no case may the reduction in diameter, from immediately in front of the grip to immediately behind, exceed 0.25mm. From the grip, the javelin shall taper regularly to the tip at the front and the tail at the rear. The longitudinal profile from the grip to the front tip and to the tail shall be straight or slightly convex (see Note (ii)), and there shall be no abrupt alteration in the overall diameter, except immediately behind the head and at the front and rear of the grip, throughout the length of the javelin. At the rear of the head, the reduction in the diameter may not exceed 2.5mm and this departure from the longitudinal profile requirement may not extend more than 300mm behind the head.

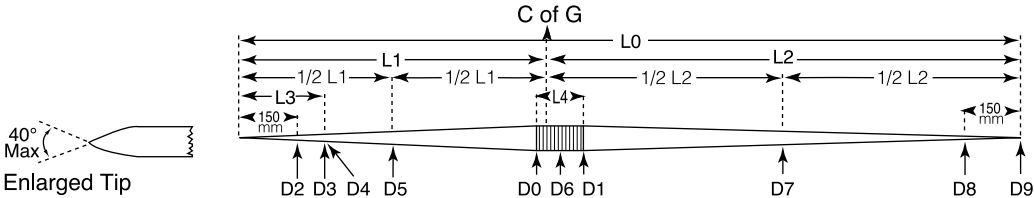
*Note (i): Whilst the cross section should be circular, a maximum difference between the largest and the smallest diameter of 2% is permitted. The mean value of these two diameters shall correspond to the specifications of a circular javelin.*

*Note (ii): The shape of the longitudinal profile may be quickly and easily checked using a metal straight edge at least 500mm long and two feeler gauges 0.20mm and 1.25mm thick. For slightly convex sections of the profile, the straight edge will rock while being in firm contact with a short section of the javelin. For straight sections of the profile, with the straight edge held firmly against it, it must be impossible to insert the 0.20mm gauge between the javelin and the straight edge anywhere over the length of contact. This shall not apply immediately behind the joint between the head and the shaft. At this point it must be impossible to insert the 1.25mm gauge.*

6. The javelin shall conform to the following specifications:

Javelin				
Minimum weight for admission to competition and for acceptance of a record (inclusive of the cord grip)		600g	700g	800g
<u>Information for manufacturers:</u> Range for supply of implement for competition		605g 625g	705g 725g	805g 825g
Overall length	Min.	2.20m	2.30m	2.60m
	Max.	2.30m	2.40m	2.70m
Length of metal head	Min.	250mm	250mm	250mm
	Max.	330mm	330mm	330mm
Distance from tip of metal head to centre of gravity				
	Min.	0.80m	0.86m	0.90m
	Max.	0.92m	1.00m	1.06m
Diameter of shaft at thickest point				
	Min.	20mm	23mm	25mm
	Max.	25mm	28mm	30mm
Width of cord grip	Min.	140mm	150mm	150mm
	Max.	150mm	160mm	160mm

7. The javelin shall have no mobile parts or other apparatus, which during the throw could change its centre of gravity or throwing characteristics.
8. The tapering of the javelin to the tip of the metal head shall be such that the angle of the point shall be not more than 40°. The diameter, at a point 150mm from the tip, shall not exceed 80% of the maximum diameter of the shaft. At the midpoint between the centre of gravity and the tip of the metal head, the diameter shall not exceed 90% of the maximum diameter of the shaft.
9. The tapering of the shaft to the tail at the rear shall be such that the diameter, at the midpoint between the centre of gravity and the tail, shall not be less than 90% of the maximum diameter of the shaft. At a point 150mm from the tail, the diameter shall be not less than 40% of the maximum diameter of the shaft. The diameter of the shaft at the end of the tail shall not be less than 3.5mm.



International Javelin											
Lengths (all dimensions mm)						Diameters (all dimensions mm)					
		Men		Women				Men		Women	
Serial	Detail	Max	Min	Max	Min	Serial	Detail	Max	Min	Max	Min
L0	Overall	2700	2600	2300	2200	D0	In front of grip	30	25	25	20
L1	Tip to C of G	1060	900	920	800	D1	At rear of grip	–	DO-0.25	–	DO-0.25
1/2L1	Half L1	530	450	460	400	D2	150mm from tip	0.8 DO	–	0.8 DO	–
L2	Tail to C of G	1800	1540	1500	1280	D3	At rear of head	–	–	–	–
1/2L2	Half L2	900	770	750	640	D4	Immediately behind head	–	D3-2.5	–	D3-2.5
L3	Head	330	250	330	250	D5	Half way tip to C of G	0.9- DO	–	0.9 DO	–
L4	Grip	160	150	150	140	D6	Over grip	DO + 8	–	DO + 8	–
						D7	Half way tail to C of G	–	0.9 DO	–	0.9 DO
						D8	150mm from tail	–	0.4 DO	–	0.4 DO
						D9	At tail	–	3.5	–	3.5