

Speedway Safety Guidelines

Introduction

Mr Sid Brodie of the Health Department of WA, Environmental Health Service, has inspected all operating speedways in WA. All safety barriers now either comply or have been deemed to comply with the guideline specifications. These guidelines allowed for various track grades and matched track facilities with vehicle standards.

Barriers are only one aspect to consider in relation to protecting the health and safety of spectators, competitors and officials. These new guidelines have been devised through extensive research and collaboration with the Health Department, WA Speedway Commission and the Western Australian Municipal Association.

They specify construction and operational requirements required ensuring that events are conducted in the safest environments. However, it is recognised that even with the best provisions in place, motor sports are dangerous and safety cannot be guaranteed.

The Guidelines are intended to be flexible to allow for the varying conditions throughout the State. Like the Sport of Speedway the Guidelines are a living document and will require amendment from time to time as the sport develops.

Although all speedways have been “approved” many have utilised equipment and materials that are approaching the end of their useful life. These parts must be monitored and replaced as necessary. There must be a continuing system in place to monitor the adequacy of the installed barriers and Guidelines.

It should be noted that there are various Health Regulations that are applicable to speedways. The safety requirements have been addressed under the Health Act Part VI. This identifies them as “public buildings” and requires them to comply with the Health (Public Buildings) Regulations 1992 and be approved by local government. Other Health requirements have not been addressed as part of the safety barrier programme because these aspects are the responsibility of local government and are best addressed as local issues.

If venues are having difficulty or have not been approved as public buildings then they should contact either their local government Principal Environmental Health Officer or Sid Brodie by phone on 9388 4962.

The Western Australian Speedway Commission is responsible to coordinate the Health Department of WA’s grading, the local government inspection criteria and the acquisition of public liability insurance and to recognise these processes through the issuance of an annual Track Licence and Event Permits.

As far as these Guidelines are concerned the Western Australian Speedway Commission is responsible for endorsing and grading vehicle specifications, licencing scrutineers and race officials to ensure that they have the appropriate expertise.

Speedway Track Grades September 2003

	Name	Grade	Date Inspected	Notes	Capacity
1	Albany	1	October 02		2000
2	Bibra Lake	2	February 03		500
3	Boulder	1	January 03		2000
4	Broome	2	September 00		800
5	Bunbury	1	October 01	Work order to be completed prior to 03/04 season – May downgrade to 2	2000
6	Carnarvon	1	May 01		1000
7	Collie	1	June 03		1000
8	Darkan	3	June 03	Confined spectator area	200
9	Derby	3	September 02		200
10	Ellen Brook	1	August 98		2000
11	Esperance	1	January 03		1000
12	Geraldton	1	September 02		1500
13	Kambalda	1	January 03		1000
14	Katanning	2	October 02	Works required prior to next meeting – club in recess	200
15	Kellerberrin	1	June 02	Confined spectator area	200
16	Kununurra	3	May 98		500
17	Kwinana	1	December 02	2001/2002 season Grade 1 approval subject to spectator safety issues being addressed	10000
18	Manjimup	1	July 03	Debris fence to be extended prior to next meeting	1000
19	Margaret River	2	May 02		750
20	Meekatharra	1	March 02	Confined spectator area	200
21	Moorabool	1	September 02	Confined spectator area	200
22	Morawa	3	September 02		300
	Mt Barker	1	October 02		
23	Narrogin	1	August 02		1000
24	Newman	1	April 02		1000
25	Nickol Bay	1	April 01		1000
26	Northam	1	July 03	Confined spectator area	1000
27	Pannawonica	3	May 98	Confined spectator area	100
28	Pithara	1	May 02	Confined spectator area	500
29	Port Hedland	1	April 02		1000
30	Quairading	2	July 98	Confined spectator area	200
31	Shark Bay	1	May 03	Confined spectator area	300
32	Southern Cross	2	1999	Confined spectator area	300
33	Tom Price	1	April 02	Confined spectator area	500

NOTES: Capacity is estimated with facilities current at the time of inspection. Toilets are usually the limiting factor. Capacities could be easily increase with additional toilets.

Spectator areas. All areas are defined; confined means that it is a reasonably restricted area usually less than half the track. Areas outside confined spectator areas may not have vehicle protection barriers.

Guidelines Intent

The intent is to identify basic requirements to make speedway as safe as possible for competitors, officials and patrons and to assist both approving authorities and operators to provide adequate facilities and conditions.

The guidelines are limited to subjects that have a direct relationship with health and safety issues that are not adequately documented by legislation. It is not always possible to define in finite terms exact requirements. These are guidelines and intended to be relatively flexible.

Legislative Requirements

The Health Act 1911 Part VI Public Buildings, Section 173 captures speedways as public buildings.

The intent of this Part of the Act is to protect public health and safety at places of assembly; administratively it requires local government to approve public buildings. Section 179 provides the power for either local government or Police to close unsafe speedways (public buildings).

For traditional buildings, compliance with the Building Code of Australia and the Health (Public Buildings) Regulations 1992 is mandatory. However, these have only limited application to most WA speedways. These guidelines assist local government to approve speedways initially and then to ensure that they continue to operate safely.

Other health related legislation applicable to speedways is the Health (Food Hygiene) Regulations and the Noise Regulations. These have a clear application to speedway and are not considered in these guidelines. Speedways should refer to their local government Environmental Health Officer if they require information about these issues.

Approval Process

To explain the approval process and local government's ongoing relationship with speedways we will assume that a new speedway is to be established and it is assumed that local government has given approval for the speedway to be established.

1. Before any construction work commences an application accompanied by plans must be submitted to local government for approval.
2. Local government issue an approval together with any conditions they consider necessary. Conditions may include operational procedures.
3. The venue is constructed.
4. Prior to using the venue, local government must be advised that it is complete and request that a Certificate of Approval be issued.
5. If local government is satisfied then a Certificate of Approval is issued and the speedway is ready for use. A certificate of Approval designates a type of use and a maximum capacity. For speedways, capacities are generally determined by toilet facilities. If a capacity increase is required for a special event, local government may allow increases subject to additional temporary toilets being provided.
6. Track Licences and Event Permits issued by the Western Australian Speedway Commission (WASC) must be obtained.

It is strongly recommended that local government inspect speedways at least annually, usually before the start of a season and also during at least one event to ensure that operational procedures are carried out correctly.

Health Department of Western Australia Involvement.

Because most local governments have limited expertise to assess and resolve complex issues at speedways and other unusual types of events, officers from the Health Department assist local government in their approval and surveillance programs.

Usually departmental officers inspect facilities and make appropriate recommendations to local government. This works well as it maintains uniform standards, keeps the approval process as a local issue and allows innovative techniques to be introduced.

If a speedway wants to change or alter the track design in any way an application must be made to local government for approval prior to any work commencing. When work is complete then a final approval must be obtained prior to the track being used again.

Vehicle Requirements

All vehicles must be constructed and maintained to standards approved by the WA Speedway Commission. The Commission through a panel of industry experts scrutinises vehicle specifications to ensure that they are constructed to a standard that will ensure the integrity of the vehicle and allocate a grade. Track specifications are also graded to ensure that vehicle and track safety is coordinated.

The following vehicles are endorsed for competition in Western Australia. These vehicles comply with specifications and rules established by recognised National Body.

Grade 1	Open Sprintcars Late Models 360 Sprint cars Speed cars 320, 260 & V6 Sprint cars Super Sedans V8 Dirt Modified Rods	Litre Sprints Limited Sprint cars Formula 500 600 Sprints Lightning Sprints (1000cc)
Grade 2	Super Modified Super Six Sedans AMCA Nationals Modified Sedans	
Grade 3	Street Stock Production Sedans Bomber Sedans Junior Sedans	Stock Production Demolition Derby Quarter Midgets Rally Cross/Buggies Go Karts

NOTE: Demolition derby vehicles must comply with the scrutineering guidelines issued by the WA Speedway Commission. It is not mandatory for vehicles/competitors to be formally affiliated with State or National organisations if it can be demonstrated that all the vehicles comply with the relevant vehicle safety standards. In addition to the controlling bodies requirements vehicles must comply with the following conditions.

- All vehicles must be registered with a club or other organisation endorsed by the WA Speedway Commission to control that class of vehicle.
- Every vehicle must have a logbook to record all inspections, repairs and modifications. Only one logbook per vehicle.

- All vehicles must be examined annually, or more often if required by the rules governing that class of vehicle, by a vehicle examiner endorsed by the WA Speedway Commission to examine that type of vehicle.
- Prior to each meeting all vehicles must be examined by an authorised scrutineer in accordance with the class rules or the minimum requirements of the WA Speedway Commission Scrutineering Guidelines at Appendix 1.

The scrutineer must provide a record of the inspection showing the condition of the vehicle and any remedial works required. Inspection details should be recorded in the vehicle logbook and club register, in addition to any other statutory notification required by other class rules.

Track Classification

Track grades were initially determined by applying a points system. Although this system is not generally applied details have been included to assist track operators to ascertain how to improve their facilities. A track licence, qualified by the Department of Health inspection and grading is to be issued by the WA Speedway Commission prior to the commencement of a season.

Barriers

The following safety barriers provide minimum standards of safety at speedways. It is recognised that absolute safety can not be guaranteed because motor sports are inherently dangerous and engineering solutions can not be designed to account for every situation that may occur.

Primary Barrier

The barrier defines the outer edge of the track and is intended to arrest vehicles at track level. They must be substantial to withstand the impact of fast moving vehicles. Combinations of soft traps and fixed barriers are also acceptable. For grades 1, 2 and 3 a vertical barrier is required. The minimum width of a soft trap is 10 metres.

The primary barrier must have a minimum working height of 1200 mm above the track surface. It must be of solid construction and present a uniform vertical surface. The preferred barriers are concrete with an earth backing. Other types may be approved on application to the Executive Director, Department of Health. If drums or tyres are used then it is strongly recommended that they be lined to present a uniform surface. Old conveyor belts are ideal for this purpose although they tend to prevent colliding vehicles from rebounding back to the circuit.

The preferred primary barrier is a 1200mm high concrete wall. They are robust and maintenance free and unlikely to deteriorate over a long time. This type of barrier receives the maximum points. If an alternative barrier that is equally effective and maintenance free is used then this should also be able to receive the maximum number of points.

Concrete barriers less than the minimum height will still be allowed but will not receive the same amount of points. Other barriers may be acceptable but as their reliability is dependent upon regular maintenance they therefore receive fewer points.

Vertical barriers less than 900mm high are not regarded as adequate. However, lower barriers in conjunction with a soft trap may be acceptable, depending upon the grade of vehicles using the track. Soft traps are very effective when correctly maintained. However because of their high maintenance they only receive a minimum score.

Catch Fence

This is the most important barrier and is designed to arrest air borne vehicles that will not be restrained by the primary barrier. The height is determined by the category of the track but in all cases must consist of a series of posts and steel wire cables.

Posts

Posts shall be equivalent to 75mm diameter pipe or 100mm cross section railway line, at no more than 5 or 7 metre spacings respectively. Alternatives may be used subject to approval by the Executive Director, Department of Health. If railway lines are used then the top or rounded section should face the track.

Cables

Cables should be clamped at each post and consist of 13mm diameter steel cables at 900mm centres shall extend around all grade 1, 2 and 3 tracks. Cables less than 12mm diameters are not acceptable. Cables shall be terminated and joined in accordance with recognised safe practices as shown in appendix 1. Cables joins shall be entwined loops. Parallel joints are not acceptable.

The lowest catch cable must be installed no more than 250mm above the primary barrier. Unless approved otherwise by the Executive Director, Department of Health.

Grade 1 tracks must have the top 450mm turned towards the track at approximately 45 degrees. A minimum of 1 catch cable must be provided at the extremity of the turn out.

Minimum heights of catch fences above the track.

Grade 1 - 4500mm (must have 450 mm turn out)

Grade 2 - 4500mm

Grade 3 - 3500mm

NOTE: For all grades catch cables must be 2000mm above the spectator viewing level unless otherwise approved by the Executive Director, Department of Health.

Debris Fence

This is a mesh fence designed to prevent debris from vehicles leaving the track area. Debris fences must extend to at least 2 metres above the ground level at the spectator fence.

A debris barrier must extend 3000mm above a grade 1 or 2 spectator viewing area and 2000mm above a grade 3, spectator viewing area unless otherwise approved by the Executive Director, Department of Health. Debris barriers must have a maximum mesh size of 120mm x 120mm. Ring Lock type fencing is adequate provided that the mesh size is suitable. Preferred mesh is 50mm chain wire. The mesh must be secured on the trackside of the support posts with robust wire ties equivalent to 2mm-diameter wire.

Crowd Fence

This is a physical barrier to keep spectators away from the debris barrier. It identifies the area that the spectators can occupy. It should be at least 2 metres outside the debris barrier. The minimum height is 750mm.

A crowd fence must be erected no closer than 2 metres to the debris barrier. It shall consist of a 750mm high barrier to define the extent of the spectator area in relation to the track. The organising body must not permit spectators to occupy the area between the crowd fence and debris barriers. On application to the Executive Director, Department of Health crowd fences may be allowed within 2 metres of the debris fence.

Note: There are varying ways that the basic safety requirements may be met, if a track has alternative methods to achieve the same result then application to have the alternative methods adopted may be made through Local Government to the Executive Director, Department of Health.

The above requirements apply to all spectator-viewing areas including pit areas where viewing takes place.

Department of Health Assessment - Points Allocation

It is easy to assess new facilities constructed to specific specifications; but existing facilities are difficult to assess.

The following point system was devised to enable venues to be allocated an appropriate grade. This system allows a great deal of flexibility and enables tracks to be easily graded. It also provides assistance to show what improvements are necessary for tracks to receive a higher grade.

Notes on the Points system:

1. All barriers must receive a score.
2. Catch fence heights refer to distances above the track.
3. Debris fence heights refer to distances above the spectator standing level.
4. The points only apply to barriers applicable to spectator areas.
5. Viewing areas within pits must also be included in the assessment.
6. If the barriers vary the points can only be awarded to the lowest type of grade.
7. All barriers must comply with the basic specification.
8. The Executive Director, Department of Health may on application vary or alter the points awarded for approved alternatives to the published specifications.
9. The Executive Director, Department of Health reserves the right to alter or amend the points system at any time.

The points required for each grade are;

- Grade 1 - 40 points
- Grade 2 - 30 points
- Grade 3 - 20 points

Barrier	Parameters	Points/ Unit
Primary	Concrete Wall 1200 mm	6
	Concrete wall 900 to 1200 mm high	4
	Alternative barrier higher than 900 mm	2
	Soft trap minimum 10 metres wide	1
Catch Fence	Each cable max 900 mm apart up, to 2.5 metres	1
	Every cable above 2.5 metres	2
	Each cable between 2.5 and 5 metres angled over the track. (Bonus points in addition to points allocated above)	2
	Support posts at specified spacing	2
Debris Fence	50 mm chain wire or equivalent mesh to 2 metres	4
	Alternative approved type fence to 2 metres	2
	Approved debris mesh above 2 metres	2

Crowd Fence	Fence 3 metres from debris barriers	4
	Fence 2 metres from debris barriers	1
	Bonus point per metre between crowd and primary barriers.	

Notes on the application of the points system

Catch Fence

This barrier depends upon a series of cables to arrest airborne vehicles or parts of vehicles that are not arrested by the primary barrier. The more cables there are the more effective the barrier will be given that the supporting posts or structures are also adequate. There must be cables to 2.5 metres above the track, ideally for the better tracks they must extend higher; therefore to encourage this, higher cables receive more points.

The maximum distance between cables is 900mm. Some existing tracks have cables further apart. In most cases they should be able to continue to operate but the distance between cables will need to be rectified in the future.

Grade 1 tracks are required to have cables over the track to deflect highflying vehicles back onto the track. This is an extremely effective method for containing vehicles within the track area; it is to be encouraged therefore this configuration is well rewarded. Tracks that have safely raced this grade of vehicle in the past should be allowed to continue in the short term with a requirement to upgrade in the foreseeable future.

Adequate support posts are essential for the effectiveness of the catch fence but supports less than the preferred options may still be viable therefore the preferred option is given 2 points which allows other options to be approved but given 1 point.

Debris Fence

The critical aspects of debris fences are the height and mesh size. The best option is considered to be a 2-metre high 50mm chain wire fence. Other types are also acceptable and therefore points will be allocated according to the mesh size. For Grade 1, 2 & 3 tracks, higher mesh is required therefore additional points are allocated to encourage additional mesh.

Crowd Fence

The preferred minimum distance between crowd and debris fences is 3 metres, they therefore are credited with the maximum point's allocation; but in some circumstances 2 metres can be tolerated. The distance between the track and spectators is important. Some tracks do have considerable separation between the tracks and spectators and therefore they should be rewarded for this aspect.

NOTE:

Track approval is not solely dependent upon a points score. For example a track may only accrue 15 points yet it may still be approved as a Grade 1 track.

Track Gates

Track Gates shall:

- Be solidly constructed and present a dead front to the track. Wooden gates must have a thick sheet metal face.
- Have positive crash resistant locking mechanisms. Chains are not acceptable.
- Have catch fences and debris barriers equal to the remainder of the track unless otherwise approved.

Electrical

All electrical installations must comply with AS 3000 and the requirements of the Health (Public Buildings) Regulations 1992. When any electrical work is undertaken a Certificate of Electrical Compliance must be submitted to the local government Principal Environmental Health Officer in addition to completing normal electrical supply authority requirements. Bare aerial conductors shall not be installed above or in close proximity to the track. All aerial conductors must have residual current device protection.

Any electrical leads or other equipment including portable generators and equipment used by competitors must be tested and tagged by an electrical contractor in accordance with clause 13 of AS 3012 within the past six months. (These are similar to the Worksafe construction sites).

Lighting

Spectator areas and public amenities must be adequately lit if tracks operate at night. Tracks should be provided with even lighting to an average of no less than 200 lux. No point on the track should be less than 150 lux.

Spectator Facilities

Spectator accommodation must be adequately designed and constructed and will usually be assessed and approved separately by the local government. It must be structurally sound and not present a safety hazard. Specific requirements for spectator stands are attached as Appendix 2.

Toilets

The Building Code of Australia specifies requirements for toilet facilities within buildings. However, these requirements are generally not applicable to speedways.

Appendix 3 outlines basic toilet facility requirements that may be used as a basis for establishing how many facilities are required at your speedway.

Personal Requirements

Competitors

Licencing

Grade 1	Suitable for any vehicle (open wheels)
Grade 2	All sedan type vehicles and formula 500/600 (No other open wheel division)
Grade 3	Restricted to street stock, bombers, fender benders, demolition derby.
Junior Licence	Restricted to junior divisions

Protective clothing

As defined in specific Class specifications.

Minimum Standards

- In the absence of specific class specifications the following minimum standards apply.
- Fire resistant underwear
- Fire resistant clothing Nomex or equal approved
- Robust boots with woollen socks
- Horse collar
- Full face Helmet to AS XXXXX
- Balaclava

Medical Fitness

Drivers must have an annual medical examination by a qualified Medical Practitioner to ascertain that there are no conditions that should preclude the driver from competing.

Officials

Minimum Dress Standards

- Covered footwear
- Distinctive approved uniform (white overalls preferred)

Training and Qualifications

All officials must be endorsed by the WA Speedway Commission and have attended an approved training course within the past 2 years.

Intoxicating Liquor

A competitor, pit crew or Official at a race meeting shall not partake of any intoxicating liquor for at least 24 hours prior to the commencement of the first official event.

Prohibited Substances

A prohibited substance is defined as any substance prohibited by laws of the Commonwealth of Australia or the state or territory in which the race meeting is being conducted.

No competitor, pit crew or official shall use, be in possession of or under the influence of any prohibited substance at a speedway complex. Any licenced person suspected of being in breach of this rule may be served with an infringement notice and the person may be removed from the pit area.

Safety Equipment - All Speedway Tracks

Every track must have basic safety and first aid equipment available. Basic equipment should include but not be limited to the following.

Vehicle Related Safety Equipment

Fire Safety Standards

The following equipment must be available in the pits and track areas for the duration of organised events including practice sessions.

- Fire blanket
- Bolt cutters
- Seat Belt Cutter
- Vehicle capable of lifting approximately 1.5 tonnes
- 4 x 7.7 kg dry powder extinguishers (2 in pit area, 2 infield)
- 4 x 7.7 kg alcohol resistant foam fire extinguishers (2 in pit area, 2 infield)
- Access to water in the Pit Area (e.g. drums, buckets).

Two fire safety officers in fire resistant suits on standby ready for an immediate response to an emergency, or a FESA fully manned and operational fire fighting facility.

In addition to the above prior to the start of any practice session or event the person responsible for fire emergencies must be advised of the fuel types of competing vehicles and check all extinguishers are full and in working order. This is particularly important where FESA crews or crews who may not be fully conversant with speedway are utilised.

Additional facilities are required within canteens and clubrooms.

First Aid/Medical Standards

All equipment must be available in the pits and track areas for the duration of organised events including practice sessions specifically to attend to competitors, race crews or officials. For large events additional resources to treat patrons may be required.

An ambulance and first aid crew with medical facilities and equipment must be on standby for all events with **GRADE 1 and 2** vehicles. Bikes must conform to MAWA rulings.

A Safety Officer should be in attendance with the knowledge on how to operate the vehicle safety systems and seat belts to enable an injured competitor to be removed quickly from a vehicle. This officer may also be a Fire Safety Officer.

Please refer to the attached Book 'WASC First Aid/Medical Standards for Speedway Tracks in WA' for further details on equipment and staff requirements.

Operational Requirements

All events must be conducted in compliance with the rules prescribed by the WA Speedway Commission Stewards Control Board. A person must be nominated as the controlling steward and have the ultimate authority to abandon or stop races if safety to any person can or may be placed at risk. All facilities and events are subject to audit at any time by auditors approved by the WA Speedway Commission in addition to the statutory requirements of all relevant legislation.

Auditors are required to notify the relevant speedway and local government of the results of all audits.

Track Signals

The following flags must be available at all events

Flag Dimensions

Quantity	Colour
One	Green
One	White
One	Black & White check
Four	Yellow
Four	Red
One	Black
One	Black with White stripe
One	Blue with Yellow ball
One	Yellow with Red stripe
One	Yellow with Black stripe

- Flags must be rectangular 750 mm long and 600 mm deep
- Stripes must be 100 mm wide and on both sides of the flag.
- Checks must be no less than 100 mm and no more than 150 mm
- A ball must be 300 mm diameter and on both sides of the flag.

Signal Lights

For night events in addition to the flags, signal lights controlled by the chief steward are required.

Mandatory locations are: -

- Entering Turn One
- Exiting Turn Two
- Entering Turn Three
- Exiting Turn Four

Colours Required

Red	Flashing
Red	Solid
Amber	Flashing
Amber	Solid
Green	Solid
Lights out	

Insurance

It is mandatory for adequate public liability and accident insurance to be secured prior to any event. The minimum recommended cover in 2001 was \$10 million.

Incident Reporting

Every incident involving vehicle collisions and or any injuries to any person at a speedway event including practice must be entered in a robust logbook. Where an injury involves transportation to a hospital the incident should be reported to the WA Speedway Commission on the next working day following the event.

All incident details shall be forward to the Western Australian Speedway Commission at the conclusion of each season.

Emergency Planning

Every speedway must have an emergency plan that effectively identifies emergency situations and applicable responses. The plans must be submitted to the local authority for approval and be readily available to club members. It is recommended that a copy be lodged with the WA Speedway Commission. Plans must be reviewed and amended appropriately prior to the start of each season.

Pits

Pits should be enclosed and restricted to competitors, crews and officials whilst vehicles are moving around. Public access should be permitted only if they are covered by a suitable insurance policy and only during periods where there are no vehicle movements. No smoking or intoxicating substances are permitted at any time within pits. Appropriate signs declaring the limitations on pits access must be posted at all pit entry points.

Scrutineering Guidelines

See attached book 'WASC Minimum Standards Scrutineering Guidelines' for Scrutineers State-wide, competitors and their equipment.

Chief Steward Location

1. Must have a clear unobstructed view of the whole track;
2. Behind the catch fence and debris barriers (or equivalent protection);
3. Located near the start / finish line;
4. The area must not be accessible to the public;
5. The area must be large enough to accommodate at least two other stewards (three in total);
6. The control lights must be operated from this location; and
7. The Chief Steward should not be responsible for the operation of the flags.

Appendix 1

Information on Cables

The properties of wire rope are derived from its size, construction, quality, lay and type of core.

Size

Ropes are referred to by diameter size. The correct way to measure wire rope is shown below.

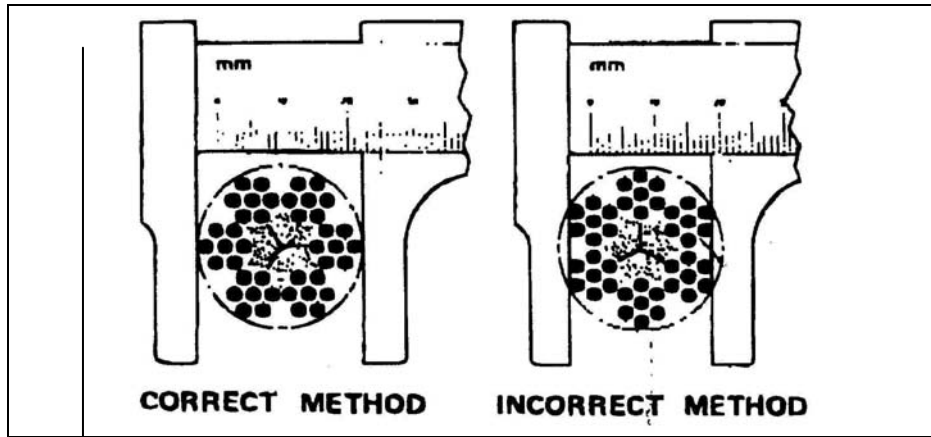


Figure 1. Cable Measurement

Joints and Terminations

When wire rope grips are used they must be fitted as shown in figure 2 and not as shown in figure 3. The bridge of the grip should invariably be fitted on the working part of the rope and the U bolt on the tail or dead end. Grips should not alternate in position on the rope.

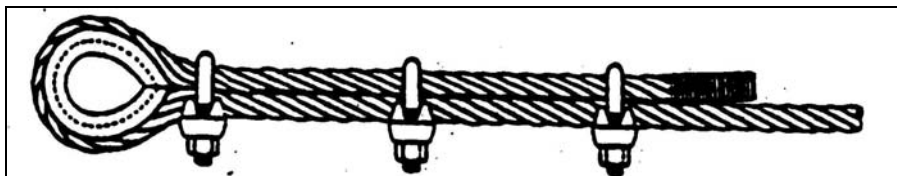


Figure 2. Correct method of fitting wire rope grips

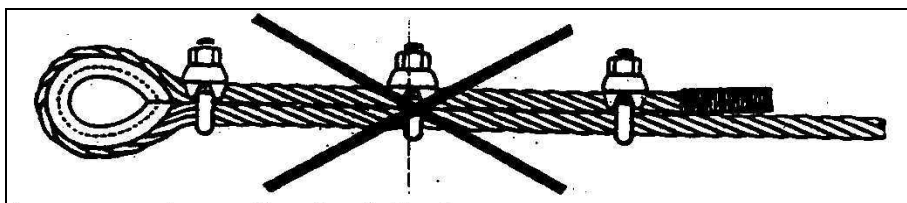


Figure 3. Incorrect method of fitting wire rope grips

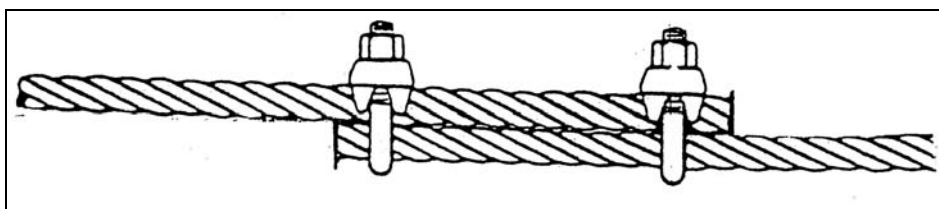


Figure 4. Dangerous catch fence cable joint

Appendix 2

Temporary structures at public events Safety guidelines

There are no specific regulatory requirements for these stands. When they are erected at entertainment and sporting venues they require approval as part of a public building. Set out below are guidelines for seating and other temporary structures that may be erected at public building venues.

When they are not subject to a building licence, they must be approved in accordance with the Health Act. Section 176(2)(b) authorises the local authority to request anything that it may require to ensure that the venue, in this cases the stand, is 'safe'.

1. Application

An application to erect a stand must be made to the local authority. The application must be accompanied by:

- Full structural details, including size and spacing of all materials, method of jointing, sole plate dimensions, etc;
- A block plan showing the position of the stand in relation to surrounding structures, toilets, etc;
- Seating layout showing the relationship between seats and aisles and the total number of seats.

2. Structural

Certification from a practising structural engineer should be provided to certify that the structure is suitable for the proposed use. It should be constructed in accordance with industry standards and methods.

3. Footings

Most temporary structures do not have deep footings and merely sit on the ground. In these cases they should bear on a substantial hardwood base, recommended size 300mm x 200mm by 40mm thick. Smaller and/or soft wood types or bricks are not acceptable.

4. Stairs

Steps:

- Going should be between 280mm and 355mm
- Risers should be between 115mm and 190mm.

Steps within aisles must:

- be the full width of the aisle;
- be uniform in size (both the riser and going).

There shall be no more than 18 risers in a flight and no more than two flights without a change in direction of at least 30 degrees.

In some instances, because of sight lines it may be necessary to increase aisle risers to 200mm. If this occurs additional guardrails will be required. Risers in stairways or transverse aisles must never exceed 190mm.

Treads must be of solid construction (not mesh or perforated) and have a non-skid finish.

5. Guard Rails and Balusters

Every raised area of seating and any change in level, which may present a hazard (usually drops of one metre or more but may be affected by crowd dynamics), shall be provided with a balustrade. Where aisle risers are more than 190mm high, handrails are required at each row of seats.

Balustrades and /or handrails must be:

- 950mm above flood level (FFL);
- installed on both sides of stairways;
- installed on raised areas and landings which are 1000mm above the surrounding floor or ground;

Balusters must not present hand or toe holds between 150mm and 760mm above FFL or permits a 125mm-diameter sphere to pass through.

6. Aisles

Minimum width of an aisle shall be 1000mm.

Aisles are required on both sides of every row of seats that is more than nine seats long. No seat shall be more than six metres from an aisle.

7. Seating

The clearance between rows of seats shall be:

- 300mm if the distance to an aisle is less than nine seats.
- 500mm if the distance to an aisle is more than nine seats.

All seats shall be securely fixed to the floor unless fastened together in lengths of no less than six seats.

8. Lighting

Aisles and the tread of each step shall be illuminated whenever the venue is open to the public after sunset. Generally this will only apply to indoor stands used for theatrical applications.

9. Width of plats

The minimum width of a plat for seated patrons is 950mm.

The minimum width of a plat for standing patrons is 600mm.

10. Kick boards

Kick boards and infills are required for stair risers and between levels of plats.

11. Fire hazards

Flammable material should not be installed on any stand.

Flammable materials must not be stored under any stand.

Stage curtains or fabric screens must be non-flammable. Materials that have a spread of flame index of no more than six and a smoke developed index of no more than five are regarded as being suitable.

12. Exit widths

Exits shall be designed to allow the stand to be evacuated within 2.5 minutes in an emergency.

There must be alternate means of egress from each stand e.g. in large stands at least two exits from the front and two towards to rear. The rear exit must be at least mid-way from the front of the stand and the stairs should discharge toward the rear.

EXIT REQUIREMENTS FOR STANDS

NO. OF PEOPLE	NO OF EXITS	AGGREGATE WIDTH
0 - 1000	2	2000 mm
1001 - 1500	3	3000 mm
1501 - 2000	3	4000 mm
2001 - 2500	4	5000 mm
2501 - 3000	4	6000 mm
3001 - 3500	5	7000 mm
3501 - 4000	5	8000 mm

Number of exits increase at the rate of 1/1000 or part thereof.

Aggregate width of exits increases at the rate of 1000mm/500 people.

Appendix 3

Toilets for Temporary Events Based on USA and UK Recommendations

Total Attendance	Male Facilities			Female Facilities WC's	Hand Basins	
	WC's	Urinal Metres	Urinals		Male	Female
1000	2	1.5	3	5	1	1
1000 – 2000	3	3	6	10	2	2
2000 – 3000	4	4.5	9	15	3	3
3000 – 4000	5	6	12	20	4	4
4000 – 5000	6	7.5	15	25	5	5
5000 – 6000	7	9	18	30	5	6
6000 – 7000	8	10.5	21	35	6	7
7000 – 8000	9	12	24	40	7	8
8000 – 9000	10	13.5	27	45	8	9
9000 – 10000	11	15	30	50	9	10
10000 - 11000	12	16.5	33	55	9	11
11000 - 12000	13	18	36	60	10	12
12000 - 13000	14	19.5	39	65	11	13
13000 - 14000	15	21	42	70	12	14
14000 - 15000	16	22.5	45	75	13	15
15000 - 16000	17	24	48	80	13	16
16000 - 17000	18	25.5	51	85	14	17
17000 - 18000	19	27	54	90	15	18
18000 - 19000	20	28.5	57	95	16	19
19000 - 20000	21	30	60	100	17	20
2000 – 21000	22	31.5	63	105	17	21
21000 - 22000	23	33	66	110	18	22
22000 - 23000	24	34.5	69	115	19	23
23000 - 24000	25	36	72	120	20	24
24000 - 25000	26	37.5	75	125	21	25
25000 - 26000	27	39	78	130	21	26
26000 - 27000	28	40.5	81	135	22	27
27000 - 28000	29	42	84	140	23	28
28000 - 29000	30	43.5	87	145	24	29
29000 - 30000	31	45	90	150	25	30

- Females increase at the rate of 1 WC per 100 Females. Males increase at the rate of 1 WC per 500 males plus 1.5 metres urinal or 3 urinals Per 500 males. (This table uses 500mm as 1 urinal space – BCA uses 600 mm).
- Hand washbasins 1 per 5 WC's or urinals.
- These figures are for events where alcohol is available.

Duration of event

More than 8 hours

6 hours but less than 8 hours

4 hours but less than 6 hours

Less than 4 hours

If no alcohol then reduce the above table by

Percentage of the table values

100%

80%

75%

70%

50%

- Be flexible – Utilise experience to ascertain the relevance of this table to your events.

Speedway Inspection Reports

The following sheets have been prepared to assist organisations assess their own facilities. All tracks are different; please modify the sheets to suit your track.

Speedway

Date

	Turn 4 to 1	1 to 2	2 to 3	3 to 4
1	Type and width of primary barrier			
2	Distance between track and primary barrier			
3	Height of primary barrier			
4	Minimum distance between primary barrier and catch fence			
5	Distance between top of primary barrier and lowest catch wire			
6	Catch wire diameters			
7	Distances between catch wires			
8	Are catch cables anchored and joined correctly			
9	Type and cross section of catch fence posts			
10	Spacing between catch fence posts			
11	Debris barrier type and mesh size			
12	Debris barrier height above spectator standing level			
13	Distance between debris barrier and crowd fence			
14	Height, type and description of crowd fence			
15	Pit Gate - Describe construction			
16	Pit Gate - Height			
17	Pit gates – Location			



CREATING A HEALTHIER STATE FOR EVERYBODY.

Typical Form 4 – Certificate of Approval for speedways

FORM 4
[Reg. 6]
HEALTH ACT 1911

HEALTH (PUBLIC BUILDINGS) REGULATIONS 1992

CERTIFICATE OF APPROVAL

This certificate is issued in accordance with Section 178 (1) of the *Health Act* in respect to the public building located at:

South Pole

Known as: **Southern Speedway**

Purpose for which the public building is used.

Grade 1 Speedway

Maximum no. of persons permitted for each purpose.

420 Persons

Public Building Area **Grade 1 Speedway** **420 Persons**

SIGNED BY: J Bloggs

FOR THE SHIRE/TOWN/CITY OF:
