



# Fédération Internationale de Bobsleigh et de Tobogganing

# **INTERNATIONAL RULES - BOBSLEIGH**

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# 1 F.I.B.T. COMPETITIONS

The F.I.B.T. competitions consist of the following events:

- 1.1 Olympic Winter Games
- 1.2 Championships
  - 1.2.1 Senior World Championships
  - 1.2.2 Junior World Championships
  - 1.2.3 Continental Championships
- 1.3 Official F.I.B.T. Competitions
  - 1.3.1 World Cup Competitions
  - 1.3.2 Intercontinental Cup Competitions
  - 1.3.3 Europa Cup and America's Cup Competitions
  - 1.3.4 International Competitions
- 1.4 Test Competitions and Training Week

The Organisers of the Olympic Winter Games and of F.I.B.T. competitions to be staged on newly constructed tracks shall offer all Members an international competition and a training week in advance, within the same season.

The criteria for participation are determined by the F.I.B.T.

The Organizers of the World Championships must offer an International Training Week, to prepare for the championships and it must take place during the same competitive season in which the World Championships are organized. They are exempt from doing this if during the preceding competitive season a World Cup competition had been organized on the same track

During the training week, the Organizer shall offer training runs upon payment of the following amounts: a maximum of €15 for each 2-man bobsleigh training run and a maximum of €25 for each 4-man bobsleigh training run. At least 6 training runs in 2-man bobsleigh and 6 training runs in 4-man bobsleigh shall be offered.

If the training week is to be staged as a test competition, the Organizer must offer the runs free of charge.

However, the Organizer may require payment of the entry fee.

The Congress assigns the World Championships to the respective Member Federations a maximum of four years in advance upon written application.

The remaining official F.I.B.T. competitions are assigned yearly by the F.I.B.T. Executive Committee, and must be listed on the F.I.B.T. International Calendar.

If the F.I.B.T. International Rules do not explicitly indicate the gender, they apply to both men's and women's bobsleigh.

# 2 DISCIPLINES

The following disciplines are contested:

- 2.1 Men's Bobsleigh
  - 2.1.1 2-man Bobsleigh
  - 2.1.2 4-man Bobsleigh
- 2.2 Women's Bobsleigh
  - 2.2.1 2-man Bobsleigh
- 2.3 Team Competition
  - 2.3.1 Men: One 2-man Bobsleigh and one Skeleton
  - 2.3.2 Women: One 2-man Bobsleigh and one Skeleton

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## 2.4 Other Disciplines

- 2.4.1 Combined Event
- 2.4.2 Knockout System.

# 3 ADMISSION

The right to participate in championships and official F.I.B.T. competitions is reserved only for teams registered by Members, i.e. teams from

- MEMBERS or
- ASSOCIATE MEMBERS.

The athletes must fulfil one of the following conditions:

- a) They must hold citizenship of the nation of the Member or Associate Member concerned, and may not have taken part in international F.I.B.T. competitions on behalf of another Member /Associate Member, or
- b) They must have their official residence in the Member/Associate Member concerned, and may not have taken part in international F.I.B.T. competitions on behalf of another Member/Associate Member, or
- c) They must have changed their citizenship or their official residence, and have been released by their former Member/Associate Member and accepted by their member. In this case, the athlete may represent one of the two members, but not both.

An athlete may represent only one nation during any competition season, which lasts from October 1 to September 30 of the following year.

Applications to change Member may only be submitted between March 31 and September 30 of each year.

When athletes switch Nations, they keep their Scores/Ranking in the F.I.B.T. Ranking List, as well as the number of competitions in which they have participated; however, they do not keep the right to the previous quotas for participation, which remains tied to the nation of origin.

## 4 RIGHT TO PARTICIPATE IN COMPETITIONS

#### 4.1 Olympic Winter Games

The criteria for the right to participate in the Olympic Winter Games are determined by the I.O.C. The qualification rules are determined by the I.O.C. in collaboration with the F.I.B.T. The qualification rules are communicated directly by the I.O.C. to all National Olympic Committees.

#### 4.2 Senior World Championships

The Senior World Championships take place annually, with the exception of the Olympic year. Quotas are based on the current F.I.B.T. Discipline Ranking List.

The guotas for participation in the Senior World Championships are as follows:

	4 nations with 3 teams
Men:	6 nations with 2 teams
	All remaining nations with 1 team
	4 nations with 3 teams
Women:	4 nations with 2 teams
	All remaining nations with 1 team

4.2.1 Requirements for participation in the Senior World Championships:

Participation is allowed only for pilots who have taken part in, and been ranked in, a minimum of 5 F.I.B.T. competitions on a minimum of 3 different tracks in the course of the previous 24 months. Participation in 2-man bobsleigh competitions counts only for 2-man bobsleigh, while participation in

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4-man bobsleigh competitions counts only for 4-man bobsleigh. The defending Junior World Champion team is also entitled to participate.

#### 4.3 Junior World Championships

The Junior World Championships take place annually. Only athletes from the Junior category may participate. The quotas for participation are determined according to the same method as for the Seniors.

# 4.3.1 Requirements for participation in the Junior World Championships:

Participation is allowed only for pilots who have taken part in, and been ranked in, a minimum of 3 F.I.B.T. competitions on a minimum of 2 different tracks in the course of the previous 24 months. Participation in 2-man bobsleigh competitions counts only for 2-man bobsleigh, while participation in 4-man bobsleigh competitions counts only for 4-man bobsleigh.

Juniors are athletes who have not yet reached the age of 26 years on the date of the Junior race. Furthermore, Juniors are all those athletes who reach the age of 26 years in the period of October 1 to March 31 of the current season.

## 4.4 Continental Championships

The quotas for participation in the Continental Championships are identical to those of the World Cup if the Championships are held within the course of a World Cup competition. Nations of the respective continent that are not qualified to participate in the World Cup have the right to participate with one team. These teams are ranked only in the Continental Championships and shall receive no World Cup points. They are drawn separately at the end of the field of competitors. In the second race heat, they start according to their ranking after the first heat.

## 4.4.1 Requirements for participation in the Continental Championships:

Participation is allowed only for pilots who have taken part in, and been ranked in, a minimum of 5 F.I.B.T. competitions on a minimum of 3 different tracks in the course of the previous 24 months. Participation in 2-man bobsleigh competitions counts only for 2-man bobsleigh, while participation in 4-man bobsleigh competitions counts only for 4-man bobsleigh.

#### 4.5 World Cup and Intercontinental Cup

Quotas for the new season are based on the final results of the previous year's F.I.B.T. Ranking List.

#### 4.5.1 World Cup

The quotas for participation are determined as follows:

	4 nations with 3 teams
Men:	6 nations with 2 teams
	6 nations with 1 team
Women:	4 nations with 3 teams
	4 nations with 2 teams
	5 nations with 1 team

#### 4.5.2 Intercontinental Cup

The quotas for participation are determined as follows:

	4 nations with 3 teams
Men:	6 nations with 2 teams
	All remaining nations with 1 team
Women:	Competitions not held

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4.5.3 Requirements for participation in the World Cups and Intercontinental Cups:

Participation is allowed only for pilots who have taken part in, and been ranked in, a minimum of 5 F.I.B.T. competitions on a minimum of 3 different tracks in the course of the previous 24 months. Participation in 2-man bobsleigh competitions counts only for 2-man bobsleigh, while participation in 4-man bobsleigh competitions counts only for 4-man bobsleigh.

4.6 Europa Cup and America's Cup

All nations may participate and score points with a maximum of 4 teams.

4.7 International Competitions

The Organizer establishes the right to participate in the event announcement.

# 5 EVENT

5.1 General

Only the F.I.B.T., as well as its Members and Associate Members, have the right to organise international competitions.

All official international F.I.B.T. competitions shall be organised under the supervision of the F.I.B.T. The F.I.B.T. shall award the competition to a Member or Associate Member that is able to undertake the organisation of the competition, or is able to pass it on to an association (Club) or an Organizing Committee. The Member or Associate Member remains responsible for the orderly execution of the event.

5.2 Costs

The Organiser to whom the organization of the event has been awarded assumes the entire organization and its costs.

5.3 Track

The Organiser shall make the track available in the best possible condition for the official training and the race. The usage of the track during the official training and the race is free of charge.

5.4 Event Announcements and Invitations

The Organiser of the competition shall be responsible for the event announcements and invitations.

The Organiser must present the official event announcement with the program schedule to the F.I.B.T. Executive Committee for approval by August 15.

The Organiser must send the program schedule to the Member Federations and the appointed Jury Members within two weeks of receiving the approval of the F.I.B.T.

The event announcement must include:

- The name of the competition
- The location and date of the competition
- A schedule for the official training and the race
- A short description of the track, including a sketch of the track
- The entry deadline
- The address of the Organizing Committee with exact office times, telephone number, fax number and e-mail address
- The name of the Chief of Organization
- The name of the Race Director
- The names of the Jury Members and the Technical Delegate, if any
- Information about facilities, benefits and hotel accommodations
- Any conditions of entry
- The location and time of the first team captains' meeting

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## 5.5 Organizing Committee and Race Director

An Organizing Committee and a Race Management Office shall be formed in order to guarantee the orderly execution of the event.

The Race Director must possess an F.I.B.T. International Jury License. He is responsible for ensuring that the entire event is carried out in accordance with the F.I.B.T. International Rules. He shall ensure that skilled and responsible people hold all the important positions in order to assure the smooth progression of the event. Furthermore, he is obligated to ensure that the track is in perfect condition and that the safety of the athletes, coaches and spectators is guaranteed.

#### 5.6 Technical Equipment

- Voice communication among the start, the finish and the timekeepers
- Voice communication between the Race Director and the Jury
- Numerous loudspeakers
- At least two calibrated instruments for measuring runner temperature
- An electronic timing system
- A room for team captains' meetings
- Sufficient changing rooms and sanitary facilities
- A weigh scale, calibrated every year,
- Sufficient transport vehicles
- A first aid room
- Medical service
- A doping control room
- Video surveillance on the track
- A room suitable for technical inspections of sleds and runners
- An Internet connection for the Jury
- Sufficient computers and photocopiers
- A scoreboard
- Optical and acoustic devices to authorize the start

## 5.7 Liability Insurance

The Organiser is obligated to obtain sufficient public liability insurance.

## 5.8 Further Obligations of the Organiser

The obligations of the Organiser of F.I.B.T. competitions are specified in writing within the framework of a contract that is negotiated between the F.I.B.T. and the Organiser's National Federation.

Race results must be forwarded to the media and the F.I.B.T. immediately after the conclusion of the event. Training and race results must be distributed to the team captains as quickly as possible. If possible, the results should also be accessible online.

# **6 JURY AND TECHNICAL DELEGATES**

## 6.1 Jury License

The Jury Members and Technical Delegates, appointed by the F.I.B.T. Executive Committee, must possess an F.I.B.T. International Jury License in order to officiate. Each National Federation has the right to recommend people suitable for obtaining an F.I.B.T. International Jury License.

This License can be acquired after taking an examination on the F.I.B.T. International Rules for Bobsleigh and Skeleton. In principle, the examinations take place two times per year, on the occasion of the Senior World

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Championships and of a World Cup competition on a different continent. The respective National Federations must register potential candidates with the F.I.B.T. General Secretary in sufficient time, at least one-month prior.

#### 6.2 Nomination

The F.I.B.T. Executive Committee nominates the Juries. The National Federations have the right to make recommendations.

- 6.2.1 Olympic Winter Games
  - One or two Technical Delegates
  - A Jury President
  - Two Jury Members
  - Two Jury Assistants, if required
- 6.2.2 Senior World Championships
  - A Jury President
  - Two Jury Members
- 6.2.3 Junior World Championships, Continental Championships, World Cup and Intercontinental Cup
  - A Jury President
  - Two Jury members
- 6.2.4 Europa Cup and America's Cup
  - A Jury President
  - One or two Jury members
- 6.2.5 International Competitions
  - A Jury President or a Technical Delegate who represents the F.I.B.T., with the task of controlling and supervising the event

# 6.3 Authority

## 6.3.1 Jury

The Jury is the highest authority of the competition in question and exercises control with the right to make final judgments within the scope of the F.I.B.T. International Rules.

The decision of the Jury is final, incontestable and takes effect immediately.

Furthermore, the Jury is responsible for:

- Potential changes of the ice temperature
- Any change of sleds
- Any change of runners
- Any repetition of a heat
- Any reduction in the number of training runs
- Any interruption or cessation of the race, after consultation with the Race Director and the Chief of Track
- Any reduction in the number of participants
- Any penalties for rule violations
- The length of the start grooves
- The number of pilot sleds
- The temperature and weight checks
- Decisions regarding protests
- Any suspension of athletes
- Closing the track in case of danger

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## 6.3.2 Technical Delegates

With the exception of the Olympic Winter Games, the Jury President is automatically also the Technical Delegate. For the Olympic Winter Games, one Technical Delegate for Bobsleigh and one Technical Delegate for Skeleton are intended. A Technical Delegate may also be appointed for events on new tracks. The power to make decisions regarding the event lies exclusively with the Jury.

6.3.3 Attendance

The Jury President must be available from the first team captains' meeting onward. The Jury is responsible for the compliance with the F.I.B.T. International Rules from the start of the official training to the end of the awards ceremony. In cases of absence of a Jury Member, the F.I.B.T. appoints a substitute.

6.3.4 Expenses

The F.I.B.T. Executive Management Committee determines annually the reimbursement of allowable expenses of the Jury and the Technical Delegate, and informs all concerned by circular letter.

6.3.5 Authority to Inspect

During the training and the race, the Technical Delegate and each Jury Member shall have access without prior notification to all technical equipment and facilities necessary to hold the competition.

6.3.6 Special Decisions

The Jury is also responsible for all decisions pertaining to the competition that are not specified in these Rules.

# 7 RACE DIRECTOR

7.1 Appointment

The Race Director, appointed by the Organiser, must possess an F.I.B.T. International Jury License for all official F.I.B.T. competitions.

7.2 Duties

The Race Director is responsible for ensuring that, under the direction of the Jury, all measures are taken that are necessary for the orderly progression of the competition according to the F.I.B.T. International Rules. This includes the progression of the team captains' meetings, the training and the race.

Potential necessary changes taken on short notice must first be arranged with the Jury and the Sport Director. The Race Director decides upon the use of sunshades during rain, snowfall, or sunshine. He shall inform the Jury President immediately about all decisions.

# **8 GENERAL REGULATIONS**

8.1 Sporting Year

The sporting year of the F.I.B.T. runs from October 1 to September 30 of the following year.

8.2 Liability

The F.I.B.T. assumes no liability for accidents, damages, or other claims that should result from the allocation of the competition or from its proceedings.

8.3 Amateurism Rules

The rules of the I.O.C. are adopted here.

8.4 Licenses

All athletes must be electronically registered by their National Federation for an F.I.B.T. International License prior to participating in the sport of bobsleigh. The licenses shall be controlled by the Race Director prior to the start of the official training at all F.I.B.T. competitions. The minimum age for obtaining an F.I.B.T. International License is 18 years. Athletes under the age of 18 require the permission of their parents or legal guardian in

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order to exercise the sport of bobsleigh. The parents or legal guardian must sign the letter of permission and the signature must be officially notarized.

The F.I.B.T. Electronic License must be filled out in all details and certified by the President or a duly authorized Officer of the National Federation and submitted with a digital photograph.

By registering for a license, the National Federation verifies that the athlete:

- 1. has had a medical check and has met the medical requirements for bobsleigh;
- 2. is covered by insurance against accidents deriving from the practice of bobsleigh training or racing;
- 3. is covered by insurance against liability;
- 4. has been issued the FIBT International and Anti-Doping Rules and
- 5. has signed a form in which the athlete declares to comply with the FIBT International and Anti–Doping Rules. The License has a validity of one season (October 1 to September 30).

#### 8.5 Insurance

The Member Federations of the F.I.B.T. are responsible for ensuring that each of their athletes is sufficiently covered by accident and disability insurance, as well as public and third party liability insurance. All risks that may arise from an accident must be completely covered by the insurance.

#### 8.6 Entries

Prior to the deadline specified in the event announcement, the Members shall inform the Organiser of the competition in writing of the teams to be entered in the competition. The Members are obligated to inform the F.I.B.T. General Secretary of the names of those people who are authorized to submit entries.

The name of the team captain shall be given to the Jury at the first team captains' meeting.

The Members have the right to select the teams that shall participate.

The entry fees belong to the Organiser and amount to the value of €20 per athlete.

If the entry deadline specified in the event announcement is not observed, the entry can be accepted for double the entry fee.

Entries may be withdrawn at any time. Entry fees already paid are not refunded.

# 8.7 Acceptance of the International Rules

With the submission of the entry, the participants (athletes, team captains, coaches and support staff) accept these Rules as binding.

#### 8.8 Track Records and Start Records

Track records and start records are only recognized when set during race heats. After a record, the team must be weighed and the sled must undergo a technical inspection. The record cannot be recognized until it has been established that there have been no violations of the F.I.B.T. International Rules.

## 8.9 Doping Controls

Doping is prohibited.

The F.I.B.T. Executive Committee can arrange for doping controls at all F.I.B.T. competitions and at any time outside of the competitions.

The doping controls are carried out according to the F.I.B.T. Anti-Doping Regulations.

The F.I.B.T. Executive Committee can authorize international specialized facilities to carry out these controls.

By signing the F.I.B.T. International License, the athlete is obligated to accept the F.I.B.T. Anti-Doping Regulations and to submit to the controls determined by the F.I.B.T. Executive Committee.

By signing the Acknowledgement and Agreement, the athletes, team captains, technicians, coaches and support staff recognize the new F.I.B.T. Anti-Doping Regulations.

#### 8.10 Rule Violations

The Jury is responsible for the compliance with the F.I.B.T. International Rules from the first Team Captains' Meeting to the end of the awards ceremony.

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The Jury determines the penalties for violations against the provisions of the International Rules according to the gravity of the offence:

A warning

A fine

Disqualification from the competition

Cancellation of the F.I.B.T. International License

The athlete concerned or his National Federation has the right to defend himself before a final decision is made regarding the cancellation of the International License.

The fine is collected by the Jury, which forwards it to the F.I.B.T.

8.11 Sponsorship and Advertising

The F.I.B.T. and its Member Federations can negotiate contracts with commercial firms or organizations.

8.12 Trademarks on Equipment

8.12.1 F.I.B.T. Properties

The F.I.B.T. property areas for advertising with sponsors or similar entities are governed by the F.I.B.T. Advertising Guidelines. The specifications established therein shall be followed. Violations result in penalties.

8.12.2 Freely Available Advertising Areas

With the exception of the areas entitled to the F.I.B.T. in accordance with the F.I.B.T. Advertising Guidelines, unlimited advertising may be placed on the sled, the equipment and the athlete.

# 9 MEDICAL SERVICE AT THE TRACK

9.1 Race Doctor

The following must be available at the track during the training runs and the race heats:

- One medical specialist with knowledge of emergency medical aid
- Two ambulances

The Organiser shall be attentive to this regulation, as the Organiser is responsible for compliance with these requirements.

The F.I.B.T. Medical Committee decides on any possible exceptions to the above. The Jury President must be informed of these exceptions prior to the start of the official training.

Tasks of the Race Doctor:

- He is responsible for the first medical aid for injuries and illnesses of the athlete
- He directs the transport of injured or ill athletes for further medical treatment

The Race Doctor must complete an Injury Registration Document after every examination of an athlete. At the end of the competition, all of these documents must be sealed in an envelope and given to the Jury President, who shall immediately forward the envelope by mail to the Chairman of the F.I.B.T. Medical Committee.

After every crash, the athlete must present himself to the Race Doctor for an examination in order to obtain the authorization to participate further in training or in the race. If the Race Doctor suspects a head injury, he is entitled to prohibit the athlete concerned from further participation. In these cases, the Race Doctor must immediately inform the Jury President of the athlete's inability to continue to participate in the competition, and the athlete is accordingly officially removed from the competition.

If an athlete is removed from the competition due to an injury, the Race Doctor must complete the List of Athletes Removed from the Competition Due to Serious Injury and give it to the Jury President, who must immediately forward the document to the Chairman of the F.I.B.T. Medical Committee.

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#### 9.2 Team Doctor

In cases of head injury, the team doctor decides on the exclusion of the athlete concerned from the competition. If a nation does not have its own team doctor, the Race Doctor shall decide.

# 10 THE COMPETITION

# 10.1 Official Training

Participation in the official training is only permitted for teams registered for the competition.

During a competition (the official training and the race), athletes are not permitted to make runs on the track outside of the official program schedule. Only the F.I.B.T. Executive Committee can authorize exceptions.

10.1.1 Olympic Winter Games and Senior World Championships

Directly prior to the race, 6 official training runs in each of 2-man bobsleigh and 4-man bobsleigh shall be offered.

10.1.2 Continental Championships, World Cup and Intercontinental Cup

Directly prior to the race, 3 days of official training with a maximum total of 6 official training runs (2-man bobsleigh and 4-man bobsleigh combined) shall be offered. Each pilot may freely choose the program by which he makes his training runs. However, he may only take a maximum of 4 training runs in any discipline. A minimum of two training runs per discipline must be completed without accident in order to be allowed to participate in the race. For women, a maximum of 6 official training runs shall be offered. A Nation can sign up different pilots for the two-man and four-man bobsleigh competitions. However, the total number of training runs each country is entitled to remains the same.

10.1.3 Junior World Championships, Europa Cup and America's Cup

If a pilot participates in both disciplines, 6 official training runs in 2-man bobsleigh and 4 official training runs in 4-man bobsleigh shall be offered. If a pilot participates in only one discipline (2-man bobsleigh or 4-man bobsleigh), 6 official training runs shall be offered.

# 10.1.4 International Competitions

The Organiser determines the number of official training runs. A minimum of 3 official training runs must be offered.

The F.I.B.T. Executive Committee can modify the number of official training days and / or training runs in official F.I.B.T. competitions. However, the change in the number of official training days and / or training runs must be declared in the event announcement.

At all official F.I.B.T. competitions, each pilot must complete two training runs without accident to be allowed to participate in the race.

#### 10.1.5 Starting Order During Training

The starting order of the participating nations shall be drawn at the first team captains' meeting. If possible, the training is run according to "nation groups".

The following starting order applies for events in which the official training takes place for 2 or 3 days:

1st day:	From nation 1 to the end
2nd day:	From the end to nation 1
3rd day:	New draw – from nation 1 to the end

#### 10.1.6 Track Conditions During Training

If possible, the final day of official training should take place at the same time as the race and the track preparation should correspond to the conditions of the race. No alterations to the track profile should be made after the final training session.

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#### 10.1.7 Start Grooves

The start grooves are determined by the Jury on the first day of training and can only be modified upon their command. Both grooves shall be prepared appropriately for skeleton runners (16 mm diameter).

## 10.1.8 Replacement of Athletes

It is possible to replace an athlete with another athlete from the same National Federation at any time during training. However, a pilot may only be replaced if the replacement pilot is still able to achieve the minimum number of accident-free training runs without a change in the program schedule.

A pilot who carries out runs beyond the official training (for example, as a forerunner or in the "guests" class) cannot take part in the competition later on. The jury can make an "exception" to allow such pilot's participation in the "Team Competition"; however, this exception must be declared during the first meeting with the team captains.

#### **Double Competition**

During double competitions on the same track, the National Federations can sign up different pilots for the second competition from those participating in the first competition.

The National Federations that plan to do so have only the number of training runs they are entitled to available to them and, therefore, must be the ones to divide the training runs among their pilots.

The replacement athlete must hold a valid F.I.B.T. International License.

## 10.2 The Race

#### 10.2.1 Race Heats

An F.I.B.T. race can be held over 2 or 4 heats.

#### 10.2.1.1 4-Heat Races

In principle, the Olympic Winter Games and the Senior World Championships are held over 4 race heats. A reduction in the number of heats is possible in cases of force majeure. A minimum of two runs shall be required to award the title.

#### 10.2.1.2 2-Heat Races

The Continental Championships, the Junior World Championships and all other official F.I.B.T. races are held over 2 heats. All teams entered in the draw must conduct at least one race heat for the race to be officially valid.

# 10.2.2 Starting Order

# 10.2.2.1 Starting order for 2-heat races:

1st race heat:	From 1 to the end
2nd race heat:	From 20 to 1, according to the ranking of the first race heat

#### 10.2.2.2 Starting order for 4-heat races:

1st race heat:	From 1 to the end
2nd race heat:	From 20 to 1 and from 21 to the end, according to the ranking of the first race heat
3rd race heat:	From 1 to the end, according to the ranking after two race heats
4th race heat:	From 20 to 1, according to the ranking after three race heats

# 10.2.3 Starting Order System

To hold a race, a minimum of 6 teams from a minimum of 3 nations must participate.

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- 10.2.3.1 Olympic Winter Games, Senior World Championships and Junior World Championships The pilots start according to their current ranking in the F.I.B.T. Discipline Ranking List. The leader in the F.I.B.T. Ranking List will have start number 1, the next-ranked will have start number 2, etc.
- 10.2.3.2 Continental Championships, World Cup, Intercontinental Cup, Europa Cup and America's Cup. The season starts on the basis of the F.I.B.T. Discipline Ranking List from the previous season. The 10 best-placed pilots in the current F.I.B.T. Ranking List who are present are drawn. All other pilots start according to the ranking in the current F.I.B.T. Ranking List. Teams without points are drawn at the end of the field.

The Jury holds the draw in public. An electronic draw by computer is possible. The pilots keep their start numbers for the duration of the competition.

#### 10.2.4 Start Number

The Organiser supplies the teams with the start numbers. The size of the number should be approximately 40 cm2.

The start numbers must be affixed according to the instructions of the Jury on the left side next to the pilot's push bar. They cannot be modified.

#### 10.2.5 Teams and Manner of Driving

All race heats must be run with the same team.

In cases of injury or illness and with the permission of the Jury, an athlete may be replaced with an athlete from the same National Federation, with the exception of the pilot. The request for replacement shall be made in writing by the team captain. A medical certificate from the team doctor or the Race Doctor shall be enclosed or shall be given subsequently as soon as possible, as the case may be.

The Race Doctor and the Jury are authorized to prohibit athletes in inadequate mental or physical condition from competing.

Only driving from the sitting position is allowed.

After a crash, the entire team must cross the finish line together with the sled. If the sled should come to a stop before the finish line, the team is disqualified. The help of outside people is not permitted.

# 10.2.6 Track Conditions During the Race

The track is prepared after agreement among the Jury, the Race Director and the Chief of Track. In case of snowfall, it shall be made certain that a regularly scheduled race is possible. Particular attention shall be paid to the ice surface at the start up to the start time measurement (50 m), which shall be swept after every sled. The track should be swept at regular intervals.

#### 10.2.7 Track Walks

The times for the track walks are determined after agreement between the Race Director and the Jury, and are disclosed at the first team captains' meeting. Track walks are not allowed outside of these times. Entering the track during a run is absolutely prohibited.

There are no track walks on race days.

#### 10.2.8 Start

The start block may be stepped upon during the start procedure, but the rear edge may not be crossed. The start line (the first timing point) must be clearly visible.

The entire team shall be present after the call to the start.

The starter clears the track by means of acoustic and optical signals. The team at the start must activate the timing device within 60 seconds.

The athletes can accelerate the sled by pushing it.

The help of outside people during the start procedure is prohibited.

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#### 10.2.9 Reduction

If the number of registered teams exceeds the capacity of the track, the Jury, in agreement with the Race Director, can reduce the number of participants.

All registered teams must be allowed to compete in the first heat.

The number of teams can be reduced before each subsequent race heat.

The starting order does not change in such a case.

#### 10.2.10 Interruption or Cessation

The Jury, in consultation with the Race Director and the Chief of Track, can interrupt or stop the race for the following reasons, among others:

- Damage to the track
- Weather conditions
- Failure of the timing system or other technical equipment

After an interruption, the team at the start shall be granted a suitable amount of preparation time.

# 10.2.11 Repetition of a Heat

After a malfunction not caused by the team, the heat may be repeated with the authorization of the Jury. The run may be repeated as soon as the team is ready to start.

## 10.2.12 Replacement Races

If a race is cancelled, the F.I.B.T. Executive Management Committee can decide to hold a replacement race at a later date on the same or a different track.

The following teams may participate in the replacement race:

- a) All teams eligible to participate, if the race concerned was cancelled prior to issuing the start numbers, or
- b) Only those teams which have received a start number for the cancelled race. Another drawing of the start numbers is carried out.

#### 10.2.13 Pilot Sleds

The Jury determines the number of pilot sleds. The Organiser is obligated to provide a minimum of three pilot sleds. Before 2-man bobsleigh races, only 2-man bobsleighs should be used. Before 4-man bobsleigh races, only 4-man bobsleighs should be used.

If the Jury decides there are an insufficient number of pilot sleds available, the Jury can appoint teams that are last in the starting order. These teams start immediately after the pilot sleds, and their pilot run is also scored as a race heat.

#### 10.2.14 Time Measurement

The run time can be measured electrically or electronically. Two independently functioning timing systems must be in use. The times must be measured to 1/100th of a second.

Times equal to 1/100th of a second are given the same rank.

There must be five interval times shown.

The first interval time corresponds to the start time (50 m).

The next four interval times must be evenly distributed among the remainder of the track.

The Organiser shall print out all times recorded during the training and the race and shall hand them out to the participating nations.

If two or more teams achieve the same time in the first, second or third heats, the starting order for these teams in the second, third and fourth heats respectively shall be determined according to the start number. In such a case, the team with the highest start number is the first to start.

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If the number of participants is reduced prior to the final race heat, the eliminated teams remain in the results with their final ranking. If in the final heat a team crashes, does not start or is disqualified, they do not receive a final ranking. The remaining teams move up in the ranking list.

#### 10.3 Parc Fermé

A parc fermé may be utilized if required.

## 10.4 Material and Equipment

#### 10.4.1 Sled

In principle, all race heats must be contested with the same sled. If the sled has been damaged beyond immediate repair, a replacement sled may be allowed with the authorization of the Jury.

#### 10.4.2 Runners

It is prohibited to heat the runners or to treat them with solid, liquid or gaseous substances for the purpose of improving their sliding capabilities. The use of any means of propulsion is also prohibited. Changing runners is only permitted after damage and with the authorization of the Jury.

In all men's and women's bobsleigh races (OWG, World Championships, Junior World Championships, Continental Championships, WC, IC, EC, AC) each pilot is allowed to use a maximum of three sets of F.I.B.T. Standard runners (standard material) per discipline (2-man bobsleigh and 4-man bobsleigh) in a single season:

Each runner is unequivocally associated with a pilot by applying a label upon the runner containing his full name. Both a man and a woman within the same nation may use the same set of runners. In such a case, the label that is applied to the runner must contain both names.

Three additional sets of 2-man bobsleigh runners and three additional sets of 4-man bobsleigh runners are allowed for use by the nation. These sets of runners belonging to the nation are marked with a nation label and may only be used by qualified pilots from that nation who don't have any runners available to them that are labelled with their name. These runners may only be used in races in which no certification of runners will take place. The right to use these nation runners ends at the next race at which runners are certified. If a pilot should use them beyond this time, they must be labelled with his name. The nation then automatically has only two more sets of replacement runners available.

At the start of the season, at the first competition or at a later competition as decided by the F.I.B.T. Executive Committee, a comprehensive inspection of the runners (with spectrometer, hardness tester and microscope) takes place.

After this inspection, the three sets of runners per 2-man bobsleigh pilot, the three sets of runners per 4-man bobsleigh pilot, and the three sets of 2-man bobsleigh runners and three sets of 4-man bobsleigh runners for each nation, all of which conform to the F.I.B.T. International Rules, are marked with an electronic stamp or with an F.I.B.T. stamp, which is designed in such a way that it does not withstand heat treating or chemical treatment.

## 10.5 Technical Inspections

The sleds participating in the race must be in the start area, positioned in the spaces assigned to them.

All preparatory work performed on the sleds, including mounting the runners, must be completed 45 minutes

before the start of the race.

The sleds must be turned upside down and uncovered so that the runners face upwards.

After this time point, no work may be performed on either the sleds or the runners. Changing runners and replacing sled parts is also prohibited.

The runners may be polished between the race heats. Only the athletes belonging to the team from the sled concerned may perform the work.

After the last sled has been brought back to the start, there must be a break of a minimum of 5 minutes before the next race heat begins.

The runners can only be polished using abrasives provided by the F.I.B.T.

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The runners must remain mounted on the sled. The use of any other materials and / or products is prohibited. Violation of this rule is penalized with immediate disqualification from the race.

The Jury can at any time confiscate the abrasives provided by the F.I.B.T., regardless of whether they have been used or not.

Only the Jury, in agreement with the F.I.B.T. Materials Committee, can give authorization for repair work to be performed on sleds with technical problems.

Between the individual race heats, no further work may be performed without the authorization of the Jury. If a set of runners is so damaged during a race that immediate repair is not possible, the team has the possibility to use a new set of runners, after receiving the authorization of the Jury. The new set of runners is subject to the provisions of the F.I.B.T. International Rules.

All sleds and runners participating in the race can be subjected to technical inspections. The Jury decides which sleds and runners are to be inspected and when the inspection is to take place. Inspections of the other equipment can also be conducted. The Jury can assign the members of the F.I.B.T. Materials Committee to carry out these inspections.

In cases of suspicion, components of the sled can be confiscated and subjected to technical inspections. The inspections can be conducted at a mobile laboratory on the competition site. In this case, the Jury evaluates the laboratory results immediately and takes the appropriate action.

If the technical inspections are conducted following the race at a laboratory not on the competition site, the inspection results are forwarded to the F.I.B.T. Executive Management Committee. The laboratory in question must be approved by the F.I.B.T. The procedures used must be in accordance with the Appendix attached to these Rules.

In case the results show proof of a violation against the F.I.B.T. International Rules, the F.I.B.T. Executive Committee takes the appropriate action. In this case, the National Federation concerned shall bear the costs of the inspection and appraisal. The decisions of the Executive Committee are incontestable.

If it is determined that the F.I.B.T. International Rules have been violated, then it automatically results in disqualification from the competition concerned.

#### 10.6 Runner Radius

The Jury or the F.I.B.T. Materials Committee checks the radius of the runners with official F.I.B.T. gauges. The radius of the runners may not be less than that of the gauge.

#### 10.7 Measurement of Runner Temperatures

The runner temperatures are checked before the start according to the instructions of the Jury. All four runners are checked with an electronic measuring device equipped with a temperature measuring sensor and a display device for temperatures between at least +30° C and -20° C.

The Organiser must provide two electronic measuring devices, one for the Jury and one for the teams participating in the race.

The temperature of the runners is measured on the side of the runner in the region of the middle-supporting bracket. The measuring sensor shall remain in contact with the runner until the display on the temperature-measuring device is stable.

The temperature of the runners that are mounted on the sled being used in the race may exceed the temperature of the reference runner by a maximum of 4° C. If the temperature of the reference runner is less than -14° C, the runners on the sled may have a maximum temperature of -10° C. If a team's runner temperature exceeds the limit, another measurement of the temperature of the reference runner and of the runner on the sled shall be made immediately following the first measurement. If the second measurement also shows a temperature that exceeds the limit, it leads to immediate disqualification. This is then entered into the Temperature Measurement Protocol.

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The sled must be moved from its assigned place in the start area to the runner temperature measurement station by carrying it or by pushing it on its side on the bumpers. Cooling down the runners by touching them with snow or ice is not allowed.

#### 10.8 Reference Runner

The temperature of the reference runner is measured according to the following procedure.

- a) The reference runner must be hung or otherwise positioned in the open air one hour before the start of the race, in the same climactic weather conditions as the sleds included in the race. When the reference runner is positioned in the open air, it must show a temperature of between +18° C and +22° C.
- b) The exact temperature of the reference runner at the time it was positioned in the open air must be written on a clearly visible board in the start area. The board must also show the air and ice temperatures.
- c) The temperature of the reference runner is measured on the side of the runner in the region of the middle-supporting bracket.
- d) The temperatures shown on the temperature display board are updated as follows:
  - The first time, 45 minutes before the start of the race;
  - Minutes before the start of the race and before the start of the second heat
  - Afterwards, every 15 minutes after the start of the race and after the start of the second heat

In the case of extraordinary climactic conditions (high temperatures), after measuring the runner temperatures the Jury can instruct the teams to place their sleds on the snow or ice immediately before the start.

# 10.9 Runner Cleaning

The runners are cleaned before the start of the race heats with a special cleaning solution provided by the F.I.B.T.

In every race in which the F.I.B.T. standard material is required, all runners are sanded with sandpaper in the same manner. It must be obvious that a characteristic amount of material has been removed. If this is not the case, it is clear that the F.I.B.T. standard material has been modified or coated. In this case, the team will not be permitted to participate in the race.

The sandpaper grade is determined by the F.I.B.T. before the start of the season.

#### 10.10 Weight

The weight is checked using a scale

Weights can be checked at any time upon decision of the Jury.

The sled and the crew shall be weighed immediately after the conclusion of the race heat, upon request of the Jury. No modifications to the sled or the other equipment may be made. The team shall be inside the sled during the weighing procedure. The first weight test is then made. Each team may request a second weight test, if necessary. For the second test, they have a maximum of 5 minutes to remove snow and ice from the sled. This occurs under the supervision of the Jury.

The observed weight must be registered in the Weight Protocol.

Minimum Weight:		
Sled including the runners and without ballast or the crew:		
2-man bobsleigh:	170 Kg	
4-man bobsleigh:	210 Kg	

Maximum Weight:		
Sled including the crew, the runners and the other equipment:		
Men's 2-man bobsleigh:	390 Kg	

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Men's 4-man bobsleigh:	630 Kg
Women's bobsleigh:	340 Kg

The maximum allowable weight can be reached by attaching ballast weights. The ballast weights must be firmly bolted or clamped to the sled.

# 10.11 Electronic Measuring Devices and Equipment

In the time during which the track is subject to the control of the F.I.B.T. (official training and races), no electronic or electrical measuring devices or equipment may used on the sled, on the team or on the track.

TV cameras belonging to the official producer are not subject to this article.

In cases of exception, the F.I.B.T. or the Jury concerned can allow specific measurements. In these cases, all the participants must be made aware of the results of the measurements.

# 10.12 Other Equipment

#### 10.12.1 Helmet

During training runs and race runs, all athletes must wear a full-face helmet that conforms to ECE, OKM or DOT safety standards, and is commercially available in specialty shops. No aerodynamic elements may be additionally attached to the helmet.

It is the duty and the responsibility of the National Federations to comply with the safety standards.

#### 10.12.2 Shoes

The use of spikes on the shoes of the athletes is allowed for pushing the sled, as long as the spikes are arranged in brush form.

The upper part of the spikes may not be thicker than 1 mm, the spikes may not be longer than 4 mm and they may not be more than 3 mm apart from one another.

#### 10.12.3 Clothing

Training and race suits with short pants and short sleeves are not allowed.

No aerodynamic elements whatsoever may be attached either outside or under the race suit.

Race suits may not be plasticized either outside or inside.

#### 10.13 Awards

## 10.13.1 F.I.B.T. Championships

At official F.I.B.T. Championships, the F.I.B.T. awards gold, silver and bronze medals to the athletes of the first, second and third placed teams. The athletes of the fourth, fifth and sixth placed teams receive commemorative medals. The Organiser awards additional honorary prizes to the teams.

## 10.13.2 Official F.I.B.T. Competitions

The Organiser awards honorary prizes to the athletes of the first though sixth placed teams.

#### 10.14 Awards Ceremony

The awards ceremony should take place as soon as possible after the deadline for submitting protests.

The doping controls and technical inspections may also take place after the awards ceremony.

At all F.I.B.T. Championships and official F.I.B.T. competitions, the national flags of the first three placed teams must be hoisted. The national anthem of the winning team must also be played.

## 10.15 Protests

In principle, protests must be submitted verbally to the Jury immediately after the incident concerned, or no more than 5 minutes after the conclusion of the race. Additionally, the grounds for the protest must be submitted in writing to the Jury no more than 20 minutes after the conclusion of the race.

If no verbal declaration of protest is made, no written protest may be subsequently submitted.

Only the team captain may submit verbal and written protests. <u>Collective protests are not allowed</u>.

No protests are accepted after the submission deadline passes.

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A fee in the value of €100 shall be paid with the submission of the written protest. If the protest is rejected, the fee is forfeited in favour of the F.I.B.T. Otherwise, the protest fee is returned.

The decision regarding a protest submitted during a race shall be made in a timely manner to allow the team affected by the protest to potentially continue to participate in the race.

In cases of protests submitted after the conclusion of the race, the Jury will announce its decision no more than one hour after the submission of the protest, if possible.

The decision of the Jury is determined by a simple majority of votes. If the votes are equal, the Jury President casts the deciding vote. Jury Assistants do not have the right to vote.

The decision of the Jury is final, incontestable and takes effect immediately.

# 11 RANKING LISTS

# 11.1 Ranking List of the Race Series

For the World Cup, Intercontinental Cup, America's Cup and Europa Cup races, there are overall ranking lists issued at the end of the season and the first, second and third placed teams of each series receive awards. In men's bobsleigh; the first 3 pilots in the combination ranking of each respective series also receive awards.

## 11.2 F.I.B.T. Ranking List

During the current season, the best results of each pilot are totalled by name for the F.I.B.T. Ranking List, regardless of the race series in which the results were scored. It is consulted as an adjusted ranking list to determine the various quotas. The "juniors" are highlighted. For men's bobsleigh, there is an F.I.B.T. Ranking List for the 2-man competition, another for the 4-man competition, and an F.I.B.T. Combination Ranking List. For the "women" there is only the Ranking List for the two-man bobsleigh competition.

The number of races scored is equal to the number of World Cup races carried out up to that specific date during the current season.

The F.I.B.T. Ranking List is updated weekly, at the latest on Tuesday of each week.

The F.I.B.T. Discipline Ranking List (2-man bobsleigh and 4-man bobsleigh) serves to determine the starting order for the World Cup, Intercontinental Cup, America's Cup and Europa Cup races of the current season as well as for the first competition for each Series of the following competition season.

The F.I.B.T. Discipline Ranking List serves to determine the nation quotas and the starting order for the Olympic Winter Games and the World Championships.

The Combined. F.I.B.T. Ranking List is meant to determine the Quota per Nation for the World Cup and the InterContinental Cup of the following competition season.

If the InterContinental Cup is not played, the assignment of the points for the America Cup and Europa Cup competitions would be done by adopting the "B" Points Table.

#### Men:

The top-ranked teams of a nation determine the nation quotas for the World Cup competitions, and the next-ranked teams determine the quotas for the Intercontinental Cup competitions. The quota positions for the first 4 nations are determined by the ranking of the third best team of a nation. For the next 6 nations, the quota positions are determined by the ranking of the second best team. The remaining 6 quota positions go to the 6 best nations whose best-classified pilot has not yet been considered.

#### Women:

The best placed of one nation contribute in determining the Quota positions for the World Cup. The quota positions of the first 4 nations are determined by the placement of the third team of a nation. For the next 4 nations, the quota positions are determined by the placement of the second team. The 5 remaining quota positions are given to the 5 best nations, whose best-placed pilots have not yet been considered.

For the Intercontinental Cup, the nation quotas are awarded using the same principles as for the World Cup. However, all further nations may participate with one team.

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If a pilot sits out for a season, he is scored with 50% of his points achieved on the F.I.B.T. Ranking List for the first race of the following season.

In cases of equal points, the following decision criteria apply for all Ranking Lists:

- a) First, the highest single point score;
- b) Next, the better scores at the race immediately previous.

# 12 FINAL CLAUSES

12.1 Coming into Force

This edition comes into force on October 1, 2008

12.2 Modifications

The F.I.B.T. Executive Committee determines modifications to the F.I.B.T. International Rules, upon proposals from the F.I.B.T. Committees.

12.3 Interpretation

If an article in these Rules should be ambiguously defined so that multiple interpretations are possible, the interpretation should be used that matches the underlying meaning for which the article was written.

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# 13 APPENDIX 1: F.I.B.T. RANKING LISTS

13.1 List 'A'

# POINTS F.I.B.T. - RANKING LIST PUNKTE F.I.B.T. - RANGLISTE SCORE LISTE CLASSEMENT du F.I.B.T.

World Cup Welt Cup Coupe du Monde		Interkon	Intercontinental Cup Interkontinentalcup Coupe Intercontinental		America- European Cup Amerika- Europa Cup C. d'Europe C. d'Amérique	
Rank	Points	Rank	Points	Rank	Points	
1	225	1	150	1	75	
2	210	2	135	2	65	
3	200	3	125	3	55	
4	192	4	120	4	50	
5	184	5	115	5	45	
6	176	6	110	6	40	
7	168	7	105	7	38	
8	160	8	100	8	36	
9	152	9	95	9	34	
10	144	10	90	10	32	
11	136	11	85	11	30	
12	128	12	80	12	28	
13	120	13	75	13	26	
14	112	14	70	14	24	
15	104	15	65	15	22	
16	96	16	60	16	20	
17	88	17	55	17	18	
18	80	18	50	18	16	
19	74	19	45	19	14	
20	68	20	40	20	12	
21	62	21	36	21	10	
22	56	22	32	22	9	
23	50	23	28	23	8	
24	45	24	24	24	7	
25	40	25	20	25	6	
26	36	26	18	26	5	
27	32	27	16	27	4	
28	28	28	14	28	3	
29	24	29	12	29	2	
30	20	30	10	30	1	

AC / EC with max. 10 Competitors		
Rank	Points	
1	35	
2	25	
3	20	
4	16	
5	12	
6	9	
7	7	
8	5	
9	3	
10	1	

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13.2 List 'B'

F.I.B.T. Points Punkte F.I.B.T. Points F.I.B.T.

Ranking	World Cup	Europa/America Cup more than 10 teams	Europa/America Cup up to 10 teams
	_		
1	225	120	60
2	210	110	50
3	200	100	40
4	192	92	32
5	184	84	24
6	176	76	18
7	168	70	12
8	160	64	8
9	152	58	5
10	144	52	2
11	136	48	
12	128	44	
13	120	40	
14	112	36	
15	104	33	
16	96	30	
17	88	27	
18	80	24	
19	74	21	
20	68	19	
21	62	17	
22	56	15	
23	50	13	
24	45	11	
25	40	9	
26	36	7	
27	32	5	
28	28	3	
29	24	2	

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# 14 APPENDIX 2: BOBSLEIGHS WITH DRAWINGS

#### 14.1 General

The contents of the text are binding; the dimensions indicated in the drawings, diagrams and figures are compulsory.

## 14.2 Principles

Bobs have four runners (one pair of front runners and one pair of rear runners) and are used in competitions that are carried out on iced tracks. To propel the bob, only the pushing force of the team, when starting, and the force of gravity are allowed.

Two types of bobs are recognized:

- Two-man bob
- Four-man bob

Bobs must be cowled within the guidelines specified by these rules. For building bobs, it is forbidden to use transparent material, or any material that may shatter as a result of an impact. The rear part of the bobs must be open. From the start (green light signal), no specifications of the bobs may be changed (damages excluded). The driver's and side push bars must be fully retracted. Non-compliance may be punished. It must be possible for the Jury or F.I.B.T. Materials Committee to check the specifications of all constructive elements (axles, runner carrier, steering mechanism, articulation mechanism, etc.) without great technical effort. During the course of F.I.B.T. events, the Jury may order checks on bobs and sports equipment.

The bob manufacturers are responsible for the construction of sleds that can withstand, without damage, the stress of repeated runs on the bob tracks.

For the purpose of the F.I.B.T., the term "steel" means an alloy of iron and carbon with an iron (Fe) content of more than 50%, or an alloy that reacts positively to the F.I.B.T. chemical test.

No electronic, electric, electronically activated or wave activated components are allowed on the bob or the crew during official training or competition.

The exceptions are those components approved by the F.I.B.T. and the relevant Jury.

#### **Suspension (Resilience)**

There must be no resilient, rubber, rubber-like or energy absorbing materials in the runner carriers, frame and / or all other parts of the bob shown in Figures 8 through 19, apart from those specifically allowed by the F.I.B.T. rules.

#### 14.3 Weights

Minimum weight and maximum weight of the bobs are limited.

The following is allowed:

Minimum weight (including runners, excluding any ballast):

Two-man bob: 170 KgFour-man bob: 210 Kg

To achieve minimum weight, additional steel may be firmly welded to the frame.

Maximum weight (including crew members and equipment required):

Two-man bob: 390 Kg
 Four-man bob: 630 Kg
 Women's bob: 340 Kg

Maximum weight may be achieved by means of ballast. Hollow steel profiles filled with lead buckshot are allowed. The size of the hollow profile will be limited to a cross-section of 50 x 50 mm and a length of 400 mm. Ballast must be firmly bolted or clamped to the bob.

Tape or Nylon straps are not allowed.

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#### 14.4 Dimensions and Construction

Figure 1 is a side view and Figure 2 is a top view of a bob resting on a horizontal surface. Figures 3 A, B, C and D define the planes with which the "concave shape" rules will be controlled. Figure 4 clarifies the flange required at the front of the pilot's cut-out. Figure 5 shows the controlled dimensions of the front bumper cross-section. Figure 6 defines the shape of the front and rear bumpers from a top view and at the point of contact to the wall. Figure 7 clarifies dimensions and tolerances of the side push bar stanchion. Figures 8 and 9 depict the essential constructive elements top view and (partly sectional) side view, respectively, with dimensions corresponding to a two-man bob. Figure 10 is a (partly sectional) front view of the frame and front axle region of a two-man bob. Figure 11 depicts the top and side views of the runner carriers of a two-man bob. Figure 12 depicts the front view and bottom view of the front axle of a two-man bob. Figure 13 depicts the rear axle of a two-man bob. Figures 14 and 15 depict the essential constructive elements top view and (partly sectional) side view, respectively, with dimensions corresponding to a four-man bob. Figure 16 is a (partly sectional) front view of the frame and front axle region of a four-man bob. Figure 17 depicts the top and side views of the runner carriers of a four-man bob. Figure 18 depicts the front and bottom view of the front axle of a four-man bob. Figure 19 depicts the rear axle of a four-man bob. Figure 20 depicts the construction of the brake (two and four-man bob). Figure 21 shows the essential dimensions of the runners (two and four-man bob).

The following main dimensions and constructive elements of the bobs are fixed. All dimensions refer to bobs without any load on a flat surface, if not specified to the contrary.

#### Gauge (centre to centre of opposite runners):

• The gauge is the same for the front and rear runners, 670 mm  $\pm$  5 mm

# Distance from the centre of the front axle to the centre of the rear axle (referred to the plane of symmetry of the bob):

- 1690 mm ± 30 mm (two-man bob)
- 2130 mm ± 30 mm (four-man bob)

#### Every bob frame must be divided transversally between front axle and rear axle.

The front portion and the rear portion of the bob are pivotally connected, the longitudinal pivot axis (2) being essentially parallel to the horizontal standing surface (1). The angle between said longitudinal pivot axis (2) and the horizontal standing surface is must not exceed 5°. The longitudinal pivot axis (2) is embodied by a longitudinal pivot bolt (3) of steel, having a middle circular cross-section with a minimum diameter of 30 mm (two-man bob) and 35 mm (four-man bob) that may taper to the ends to a minimum diameter of 21 mm (two-man bob) and 31 mm (four-man bob). By means of said bolt (3), both bob portions are pivotally connected. The pivot bolt (3) may have means of rotational elastic stabilization. These stabilizing elements must not contribute to any vertical movement. No hydraulic or pneumatic damping system is allowed. If the pivot bolt (3) ahead or behind the division is enclosed by a box, each box must have a 20 mm diameter inspection hole accessible from the

At the dividing line, the longitudinal centreline of the longitudinal pivot axis (2) must be arranged at least 80 mm (two and four man bobs, without crew and supported on runner carriers) above the standing surface. The dividing line must be at a distance of 520 mm  $\pm$  50 mm (two and four man bobs) behind the centre of the front axle. The cowling must also be divided transversally.

## 14.5 Frame and Running Gear

#### Frame

The front portion of the bob must be constructed with a continuous (welded) supporting frame (4) made of steel and extending from the longitudinal bolt (3) at the transversal division line to the bearing housing of the steering bolt (5).

Similarly, the rear bob portion must be constructed with a continuous (welded) supporting frame (31), made of steel and extending from the longitudinal pivot bolt (3) at the transversal division line to the fastening means for the rear axle. In this area from the division line to the rear axle, the longitudinal frame members must be made of closed profile steel with a minimum section area of 703 mm<sup>2</sup>, a minimum section height of 37 mm and a

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minimum section width of 19 mm. If the longitudinal members are made of tubing, they must remain open with no filling and have at least one inspection hole with a minimum diameter of 8 mm. The minimum distance between the two longitudinal members of the rear frame will be 320 mm. Where the axle is fastened to the rear frame, there will be a defined contact area between the axle mounts and the axle. Full contact between the axle and the axle mounts will exist for a distance of 15 mm on either side of the fastening bolts.

The minimum distance between the outermost points of full contact between the axle and the axle mount will be 165 mm.

The front (4) and rear (31) frame must not be adjustable in geometry or stiffness. All joints in the frame must be rigid. In the mounts between the cowling and the frame, rubber or rubber-like material may be used.

#### Steering system and front axle

A rotating steel steering bolt (5) is fitted to the front frame (4) and rotates by means of a steering mechanism. The said steering bolt must not exceed 5° from vertical. **The bearing housing of the steering bolt must be completely welded to the frame, on all sides.** The lower end of the steering bolt is completely welded perpendicular to a steel steering plate (6) with a minimum thickness of 7.5 mm throughout the surface of the plate and a minimum width of 69 mm over half its length (two and four-man bobs). A central welding access hole is allowed. On this steering plate (6), at a bolt (7) lying in front of the axle (9) and at a bolt (8) lying behind the axle (9), steel flanges (11a and 11b) are pivoted on a pivot axis (10) that is perpendicular to the front axle (9) and perpendicular to the steering bolt (5). The minimum diameter of the bolts (7 and 8) must be 20 mm. There must be no vertical motion between the fixed bearing and the rotating support. A continuous, one-piece steel bottom plate (14) is mounted below the axle (9) with a minimum thickness of 7.5 mm (two and four-man bobs) throughout the surface of the plate and a minimum width of 69 mm (two and four-man bobs). On each end of the plate for a length of 20 mm a chamfer or rounding is allowed. The bottom plate (14) is firmly bolted (15), with no free play, to both steel flanges (11a, 11b).

An intermediate layer (20) of rubber or rubber-like material, a maximum of 3 mm thick, may be placed between the respective flanges (11a, 11b) and the bottom plate. The rubber or rubber-like material is to be measured after having been removed from the sled. For any further compensation, only steel and / or aluminium shims may be used. The free length of the bottom plate (14) between the two flanges (11a and 11b) in the longitudinal direction of the bob is 220 mm  $\pm$  40 mm (two and four-man bobs). The flanges (11a and 11b) can be provided with U-shaped guiding elements.

The front axle (9) consists of a continuous, straight, circular steel tube manufactured from a single piece of steel having an outer diameter that is a minimum of 44 mm (two and four-man bobs), which reduces to a minimum of 32 mm (two and four-man bobs) to fit the bearing of the front runner carrier (17). The 44 mm diameter portion of the axle must have a minimum wall thickness of 9 mm and a minimal length of 450 mm. In its middle portion, the front axle (9) has a steel fastening plate (18) of no less than 7.5 mm in thickness that must be strongly welded (not screwed) to it and firmly bolted to the bottom plate (14).

Steel spacers are allowed between the axle fastening plate and the bottom plate.

The fastening plate (18) may be recessed flush to the circumference of the front axle (9). A steel plug may be welded or pressed into each end of the axle (9) to provide attachment for the runner carrier retainer. If a steel plug is used in the end of the axle, it must have a 6.5 mm through-hole. The front axle (9) must not be clad, cased or streamlined.

**Between** the steering plate (6) and the front axle (9) there is a continuous steel leaf spring (19) with a minimum thickness throughout of 6 mm. The points at which the leaf spring (19) rests on the front axle (9) must be symmetrically at least 330 mm from each other (two and four-man bobs). The leaf spring can be made of three pieces. The brackets must have an axial width of min. 12 mm. The brackets must be screwed with a minimum number of two M8 screws. The radius of the brackets will not be limited. No additional spacers are allowed. Brackets must be made of steel.

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When the axle is in a neutral position, there must be no free play between the leaf spring (19) and the steering plate (6) or between the leaf spring (19) and the axle (9). No spacers are allowed between the leaf spring (19) and the steering plate (6) or between the leaf spring (19) and the axle (9).

# The swivel angle of the front axle (9) (two and four-man bobs) in the vertical plane (referred to the standing surface) may be:

Max ± 12°

#### Distance from the centre of the front axle (9) to the front tip of the bob:

- Min 600 mm (two and four-man bobs)
- Max 750 mm (two and four-man bobs)

#### Distance from the standing surface of the runner carriers to the axle centre:

- Front max 100 mm (two and four-man bobs)
- Rear max 110 mm (two and four-man bobs)

#### Front-runner carriers

Each front-runner carrier consists of a straight steel spring leaf (17) with a thickness of no less than 7.5 mm throughout (two and four-man bobs). A bearing housing (16) for the front axle (9) must be welded to the upper side of the spring leaf (17). On the lower part of the spring leaf (17) there will be a guiding bracket (21) welded in the centre. On either end of the spring leaf (17) there will be holding brackets (22 and 23) welded in position. The bearing housing (16) has a minimum outside diameter of 50 mm (two and four-man bobs) and a maximum outside diameter of 55 mm (two and four-man bobs). The length of the bearing housing (16) is no less than 94 mm (two and four-man bobs). The hole in the bearing housing (16) must be concentric with respect to a horizontal diameter.

The distance from the outer end of the bearing housing (16) to the straight outer edge of the front-runner carrier (17) must not exceed 6 mm. As seen in the top view, the outer side of the front-runner carrier (17) must be straight and perpendicular to the axle (9); the outer side of the spring leaf and guiding bracket must essentially fall above one another. (No offset is allowed.) The length of the front-runner carrier (17) is 655 mm ± 3 mm (two-man bob), 735 mm  $\pm$  3 mm (four-man bob). The width of the front-runner carrier (17) must be no less than 35 mm (two and four-man bobs) at the front and rear ends and must increase towards the centre to its maximum width, which must be no less than 69 mm (two-man bob) and no less than 89 mm (four-man bob). In a top view, the inside edge of the front-runner carrier (17) facing the cowling must not be concave. The front and rear holding brackets (22 and 23) have a U-shaped cross section, where the "bridge" of the U is welded to the runner carrier (17) and has a minimum thickness of 7.5 mm. The two U legs extend vertically downward with a height of 50 mm  $\pm$  2 mm. The outside dimensions of the U legs are 30 mm  $\pm$  2 mm. The length of the holding brackets (22 and 23) is 70 mm ± 2 mm. The holding brackets (22 and 23) are provided with runner mounting holes, the centre of which is 31 mm ± 1 mm from the lower side of the runner carrier (17). Only the holes (24 and 25) for the head of the bolts may be countersunk. The hole centres of the front and rear holding brackets (22 and 23) have a centre distance of 585 mm ± 2 mm (two-man bob) and 665 mm ± 2 mm (four-man bob). The middle quiding bracket (21) has the same dimensions as the holding brackets (22 and 23), with the exception that the U legs are connected by welded metal straps, front and rear, to hold a layer of rubber or rubber-like material at the bottom of the U (26). The middle guiding bracket (21) may be additionally supported to the spring leaf. The centre of the bearing housing (16) may be a maximum of 5 mm out of symmetry between the runner mounting holes (two and four-man bobs). The runner carriers (17) must have a means of rotational elastic stabilization. If the rotational stabilization is mounted from the bottom of the runner carrier, the opening in the spring leaf may not exceed a length of 35 mm and must be within the welds of the bushing to the spring leaf.

The front-runner carriers (17) must not be cased, clad, faired or streamlined. All edges of the spring leaf, guiding brackets (21) and holding brackets (22 and 23) may be radiused or chamfered to a maximum of 8 mm.

#### Rear axle

The rear axle (27) consists of a continuous, straight, circular steel tube manufactured from a single piece of steel having an outer diameter that is a minimum of 44 mm (two and four-man bobs), which reduces to a minimum of

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32 mm (two-man bob) and 34 mm (four-man bob) to fit the bearing (28) of the rear runner carrier (29). The 44 mm diameter portion of the axle must have a minimum wall thickness of 9 mm and a minimum length of 450 mm. The rear axle (27) must be firmly bolted to the rear frame (31) without any resilient or shock absorbing material in between. Steel spacers are allowed.

The rear axle (27) can be bolted either above or below the rear frame (31) (two and four-man bobs). A steel plug may be welded or pressed into each end of the axle to provide attachment for the runner carrier retainer. If a steel plug is used in the end of the axle, it must have a 6.5 mm through-hole. The rear axle (27) must not be clad, cased or streamlined.

#### Rear runner carriers

Each rear runner carrier consists of an upper and lower straight steel spring leaf (32 and 33) with a thickness of no less than 7.5 mm throughout (two and four-man bobs). A bearing housing (28) for the rear axle must be welded to the upper side of the upper spring leaf (32). On the lower side of the lower spring leaf (33) there will be a guiding bracket (34) welded in the centre. On either end of the lower spring leaf (33) there will be holding brackets (35 and 36) welded in position. The bearing housing (28) has a minimum outside diameter of 50 mm (two and four-man bobs) and a maximum outside diameter of 55 mm (two-man bob) and 57mm (four-man bob). The length of the bearing housing (28) is no less than 94 mm (two and four-man bobs). The hole in the bearing housing (28) must be concentric with respect to a horizontal diameter.

The distance from the outer end of the bearing housing (28) to the straight outer edge of the upper spring leaf (32) must not exceed 6 mm. As seen in the top view, the outer side of the lower spring leaf (33) must be straight and is essentially perpendicular to the axle (27); at the centre of the runner carrier, the outer side of the upper spring leaf (32), lower spring leaf (33) and guiding bracket must essentially fall above one another. (No offset is allowed.)

The length of the lower spring leaf (33) is 813 mm ± 3mm (two-man bob) and 940 mm ± 3 mm (four-man bob). The width of the lower spring leaf (33) must be no less than 35 mm (two and four-man bobs) at the front and rear ends and must increase towards the centre to its maximum width, which must be no less than 79 mm (two-man bob) and no less than 89 mm (four-man bob). In a top view, the inside edge of the lower spring leaf (33) facing the cowling must not be concave. The front and rear holding brackets (35 and 36) have a U-shaped cross section, where the bridge of the U is welded to the lower spring leaf (33) and has a minimum thickness of 7.5 mm. The two U legs extend vertically downward with a height of 50 mm ± 2 mm. The outside dimensions of the U legs are 30 mm ± 2 mm. The length of the holding brackets (35 and 36) is 70 mm ± 2 mm. The holding brackets (35 and 36) are provided with runner mounting holes, the centre of which is 31 mm ± 1 mm from the lower side of the spring leaf (33). Only the holes (35 and 36) for the head of the bolts may be countersunk. The hole centres of the front and rear holding brackets (35 and 36) have a centre distance of 743 mm ± 2 mm (two-man bob) and 870 mm ± 2 mm (four-man bob). The middle guiding bracket (34) has the same dimensions as the holding brackets (35 and 36), with the exception that the U legs are connected by welded metal straps, front and rear, to hold a layer of rubber or rubber-like material at the bottom of the U (34). The middle guiding bracket (34) may be additionally supported to the spring leaf (33). The centre of the bearing housing (28) may be a maximum of 5 mm out of symmetry between the runner mounting holes (two and four-man bobs). The upper spring leaf (32) is shorter than the lower spring leaf (33) and has a length of 480 mm ± 3 mm (two-man bob) and 590 mm ± 3 mm (four-man bob). The minimum width at the front and rear ends of the upper spring leaf (32) is 40 mm and must increase towards the centre to its maximum width, which must be no less than 79 mm (two-man bob) and 89 mm (four-man bob). In the top view, the upper spring leaf must have no concave edges. The upper (32) and lower (33) spring leafs lie flat on one another and are bolted together by no less than 6 and no more then 8 bolts with hexagonal nuts. There must be the same number of bolts on either side of the bearing housing (28). Only the holes for the head of the bolts may be countersunk. The minimum diameter of the bolts must be 12 mm (two-man bob) and 14 mm (four-man bob). The minimum height of the hexagonal nuts must be 10 mm (two-man bob) and 11 mm (four-man bob). The runner carriers (29) must have a means of rotational elastic stabilization.

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If the rotational stabilization is mounted from the bottom of the runner carrier, the opening in the spring leaf may not exceed a length of 35 mm and must be within the welds of the bushing to the spring leaf.

The runner carrier (29) must not be cased, clad, faired or streamlined. All edges of the spring leafs (32 and 33), guiding brackets (34) and holding brackets (35 and 36) may be radiused or chamfered to a maximum of 8 mm.

#### **Brakes**

All bobs must be equipped with a functioning braking system (Figure 20). Only harrow type brakes are allowed. The brake cut-out must be open. No attempt may be made to reduce the area of the cut-out with any material. The brake is actuated with two separately activated handles. In a four-man bob, the handles must be located either side of the brakeman. The geometry of the brake must be designed in such a way that when applied by a single handle, with a full team complement, none of the brake components are permanently deformed (Figure 20).

The length of the handle, measured from the centre of the pivot, must be minimum 220 mm (two-man bob) or 350 mm (four-man bob). The length of the braking arm measured from the centre of the pivot to the top of the harrow must be minimum 150 mm (two and four-man bobs). The height of the harrow must be minimum 35 mm (two and four-man bobs). The height of the teeth of the harrow must be minimum 20 mm (two and four-man bobs). There will be a minimum of 5 teeth over a total minimum length of 230 mm (two-man bob) and a minimum of 6 teeth over a total minimum length of 280 mm (four-man bob). The teeth must be able to reach and cut the ice for a minimum of 50 mm below the runner standing surface.

#### **Runners**

All runners must be produced in a solid piece of standard material according to F.I.B.T specifications. The material specifications, selected by the F.I.B.T., will guarantee that all pre-machined pieces of steel are the same. The standard material is produced and distributed by a factory designated by the F.I.B.T. The material is supplied in the form of a pre-machined section, i.e. a section that has been ground on both sides, one of which is marked. The marking must always be present on the runners without being changed in any way.

All types of treatment are forbidden, including those that even cause only a local variation of the physical characteristics<sup>1</sup> and / or the composition and / or the structure of the material. No plating and / or coating is allowed.

The height of the steel body, between the front and rear fastening brackets, must be a minimum of 35 mm (two-man bob) and a minimum of 40 mm (four-man bob). The forward portion of the runner from 50 mm behind the tip to the front of the front fastening bracket must be no less than 30 mm high (two and four-man bobs). The front tip of the runner, in the side view, must have a minimum radius of 10 mm (two and four man bobs). The top of the front-runner tip must be a minimum of 60 mm above the standing surface. The rear lower tip of the runner must have a minimum radius of 50 mm (two and four man bobs). At a distance of 10 mm from the rear tip of the runner, the lower surface must be a minimum of 25 mm above the standing surface (two and four-man bobs). The distance from the front tip of a front runner to the centre of the middle supporting bracket must be 500 mm  $\pm$ 30 mm (two-man bob) and 540 mm ± 30 mm (four-man bob). The overall length of the rear runners must not exceed 1200 mm (two-man bob) and 1300 mm (four-man bob). The top surface of the middle supporting bracket must be flat and horizontal and must form a rectangle, minimum width 13 mm, minimum length 60 mm. The 60 mm dimension must be maintained down to the top of the runner. The top of the middle supporting bracket must be a minimum of 15 mm above the top of the runner. At the intersections of the middle supporting bracket with the top surface of the runner, there must be a minimum radius of 2 mm. The runner must have a thickness of 14 mm ± 1 mm (two and four-man bobs). This thickness must be maintained for a minimum distance of 10 mm from the top of the runner. The cross-sectional radius of the runner, at the running surface, must be a minimum of 4 mm (two-man bob) and 6 mm (four-man bob). This radius will be measured over 120° and will correspond to an arc height of 2 mm (two-man bob) and 3 mm (four-man bob). The fastening brackets

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<sup>&</sup>lt;sup>1</sup> The term "physical" is to be understood as a global term that comprises all specific terms like, for example, "mechanical", "tribological", "electromagnetic", etc



must have a minimum length of 60 mm (two and four-man bobs) measured at a height even with the upper edge of the runner. The area surrounding the mounting hole must maintain a minimum thickness of 10 mm to the periphery of the fastening bracket. The transition region, tangent to the radius, and extending to the full width portion of the runner, must not be concave. The mounting holes are at a minimum distance of 33 mm and a maximum of 60 mm (two-man bob) and a minimum of 38 mm and a maximum of 65 mm (four-man bob) from the bottom surface of the runner. The runner is shown in Figure 21. Any aerodynamic covering of the runners is prohibited.

The runners must be attached to the runner carriers using 14 mm thread (two-man bob) and 16 mm thread (four-man bob) bolts with hexagonal nuts.

If there is a cylindrical portion of the bolt without thread, it may not be smaller in diameter than the outside diameter of the threaded area.

The minimum height of the hexagonal nuts must be 11 mm (two-man bob) and 13 mm (four-man bob). The nuts must not be welded to the holding brackets of the runner carriers and they must not be cased, clad or streamlined.

#### 14.6 Cowling

#### Cowling width, two-man bob

Distance from the farthest point to the opposite farthest point (measured on the horizontal plane according to Figure 2 of the drawings):

#### At a distance of 1200 mm in front of the centre line of the rear axle:

Min - 680 mm (two-man bob)

#### At a distance of 600 mm from the centre line of the rear axle:

Min - 640 mm (two-man bob)

#### At the centre line of the rear axle:

Min - 540 mm (two-man bob)

#### Cowling width, four-man bob

From the centreline of the rear axle up to a distance of 1600 mm in front of the centreline of the rear axle, a constant minimum width of 700 mm must be maintained.

## **Cowling height**

The measurement is taken from whatever the driver is sitting on. The driver's seat is defined as a flat horizontal area with a minimum radius of 90 mm. The vertical distance from the 90 mm radius-seating surface to the centre top of the cowling cut-out must be:

• Min - 650 mm (two and four-man bobs)

## **Cowling width (inside)**

Measured at a height of 400 mm from the bottom of the bob, at the beginning of the cowling cut-out:

Min - 550 mm

It is not allowed to use any additional material on the cowling cut-out.

# Side cowling region

The side cowling, from the region of the driver's shoulders to the centre of the rear axle, must not be higher than 650 mm as measured from the bob bottom and must have a minimum height of 580 mm. The cowling must be open – starting from the region of the driver's shoulders, through to the back. The width of the opening, starting 500 mm behind the beginning of the opening to the rear axle centre, must be:

Min – 450 mm down to a depth of 300 mm (two and four man bobs)

From the centre of the rear axle to the hindmost point of the bob, the width of the opening must be:

Min – 400 mm measured down to a point 300 mm above the lowest point of the bottom of the bob (two and four man bobs)

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From the highest part of the driver's cut-out, there must be a vertical flange as shown in Figure 4. The vertical flange must be a minimum height of 30 mm in the centre of the driver's cut-out. The flange may taper down to the thickness of the cowl over a distance of 100 mm on either side of centre.

The rectangular, symmetrical inspection hole situated beneath the front axle must be at least 440 mm long and at least 160 mm wide.

## **Cowling shapes**

The cowling shape must be convex with the following exceptions:

- The bumpers (front and back)
- The brake cut-out
- The impression for the driver's push handle
- The articulation joint
- The holes for the front and back axles
- The area around the side push handles
- The brakeman's push handles

The following four specific areas will be controlled:

- a) From the front of the bob to the driver cut-out, every intersection line between a rotating cutting plane and the cowling, refer to Figure 3A;
- b) From the front of the bob to the rear of the bob, every intersection line between the vertical cutting planes and the cowling above the widest point or at least above the bumpers, refer to Figure 3B;
- From the beginning of the driver's cut-out to the rear of the bob, the intersection line between a horizontal
  cutting plane and the cowling, at a height of 350 mm above the standing surface of the runner carriers, refer
  to Figure 3C;
- d) On the bottom of the bob, every intersection line between a longitudinal vertical cutting plane as well as every intersection line between a perpendicular vertical cutting plane and a 240 mm wide symmetric band centred on the bottom of the bob. Outside of the 240 mm band, the only exceptions would be the impressions created for the runner and the runner carrier clearance, refer to Figure 3D.

Any unusual additions to the shape that are clearly vortex generators are not allowed. Additional holes that may give an improved aerodynamic effect are also not allowed.

## **Bumpers**

Distance from the standing surface of the runner carriers to the lower edge of the bumpers:

• Front: max - 190 mm (two-man bob)

max - 200 mm (four-man bob)

Rear: max - 200 mm (two and four-man bobs)

The rear bumpers must have a minimum height of 50 mm (measurement taken vertically with regard to the standing surface) over a length of minimum 200 mm. The upper and lower edges of the bumpers must have a radius of between 5 and 8 mm.

The lower edge of the front bumpers (Figure 5) must have a radius of no less than 10 mm for a minimum length of 300 mm. In an upward direction they must be straight for a minimum length of 35 mm, subsequently passing into the upper edge with a minimum radius of 35 mm.

The connecting elements between the front bumpers and the bob cowling must have a height of a minimum of 80 mm over the minimal length of the front bumpers. The connecting elements between the rear bumpers and the cowling must have a height of a minimum of 50 mm over the minimal length of the rear bumpers.

The centre of the front bumpers, referring to a length of 300 mm, must be at least 300 mm from the centre of the front axle (two and four-man bobs).

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Above the front bumper 300 mm forward from the centre of the front axle, the distance from the outside of the bumper to the cowling, measured horizontally and perpendicular to the centre line of the bob, must not exceed 195 mm (two-man bob) and 160 mm (four-man bob), refer to Figure 2. In a top view and in a side view the front of the connecting elements of the front bumpers must form a continuous, not concave line with the tip of the cowling.

The point at which the bumper contacts the wall must be within the defined minimum length of the bumper. In a top view, the bumpers must be arc-shaped with a minimum radius of 200 mm for a distance of 100 mm ahead and behind the widest part of the bumper area (Figure 6).

It is the responsibility of the bob manufacturers to produce the bumpers with sufficient strength to withstand repeated contact with the walls.

Distance from the farthest point of one bumper to the farthest point of the opposite bumper:

• Front:  $860 \text{ mm} \pm 10 \text{ mm} \text{ (two-man bob)}$ 

870 mm ± 10 mm (four-man bob)

Rear: Min - 800 mm (two-man bob)

Min - 830 mm (four-man bob)

The front tips of the front-runners must be covered by the cowling in any position of the runners.

Distance from the centre of the rear axle (27) to the hindmost point of the rear bumper:

- Min 300 mm (two and four-man bobs)
- Max 760 mm (two and four-man bobs)

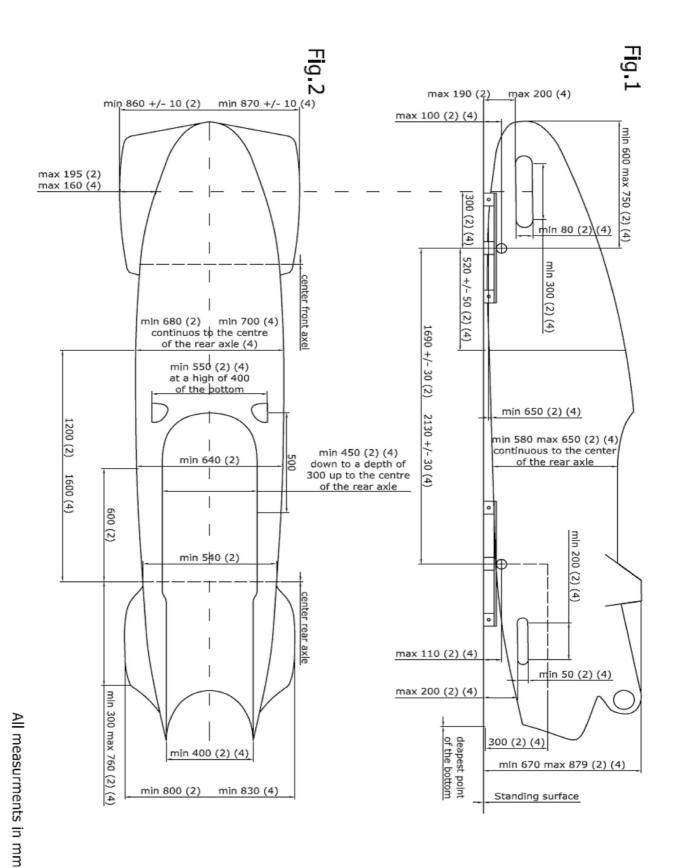
## Push bars

Both the driver's side push bar and the side push bars must be retractable. The height of the side push bar for the second or third team member (four-man bob) must be the same in the extended and retracted positions. When retracted, the side push bars must be essentially flush with the surface of the cowling. The brakeman's handles must be immovable. The brakeman's push handles (two and four-man bobs) as well as the side push bars (four-man bob) must have a minimum height of 670 mm and a maximum height of 870 mm, measured from the standing surface of the runner carriers. The total width of the side push bars (four-man bob) for the second and third members must not exceed 750 mm. When the four-man bob side push bars have a vertical rotating axis, the push bar stanchion must be at least two-thirds the width of the push bar, for at least two-thirds of the push bar length with a maximum gap of 3 mm. The front of the push bar stanchion tapers down to the cowling at a point not more than 450 mm ahead of the axis of the push bar (Figure 7).

## 14.7 Drawings

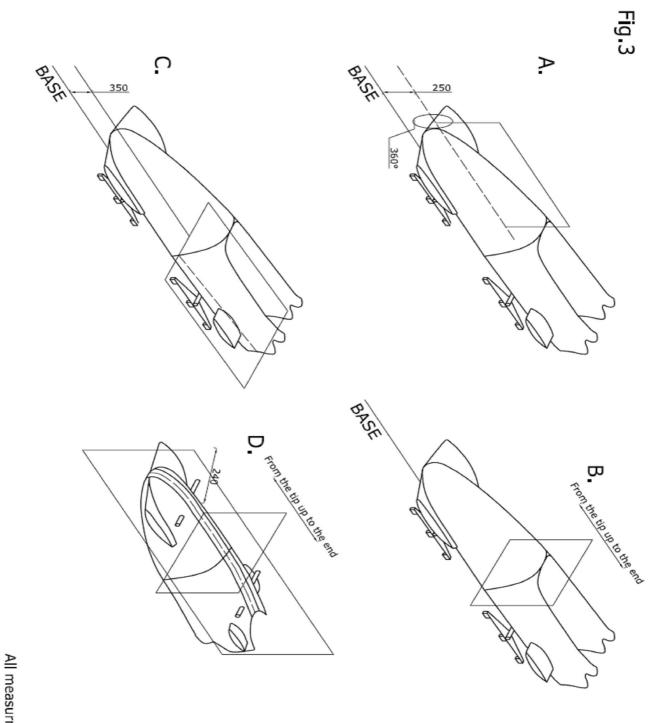
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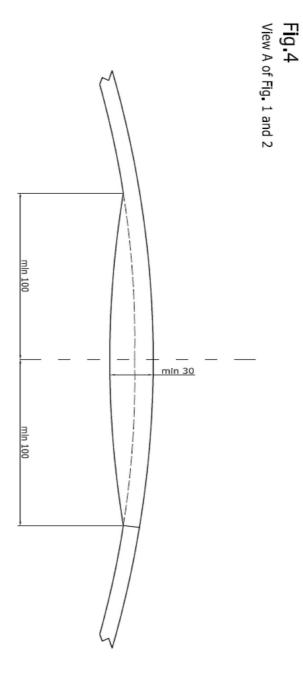


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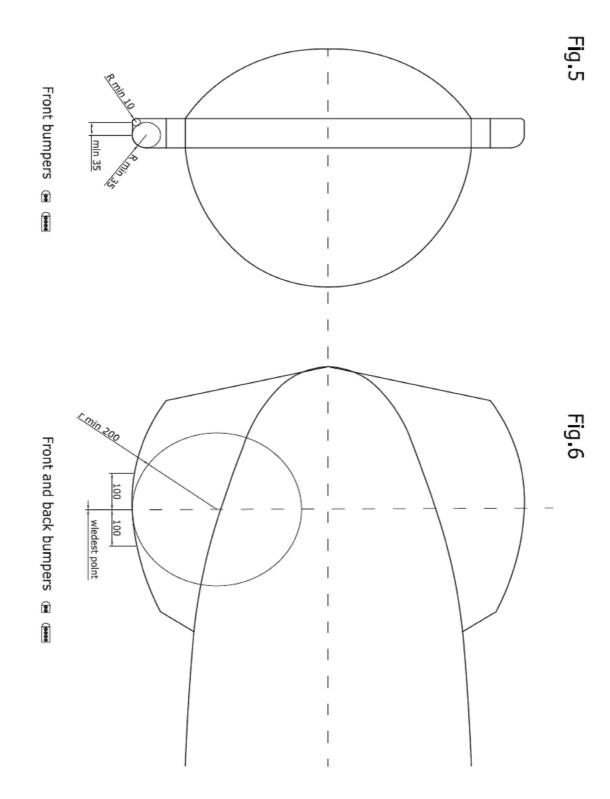






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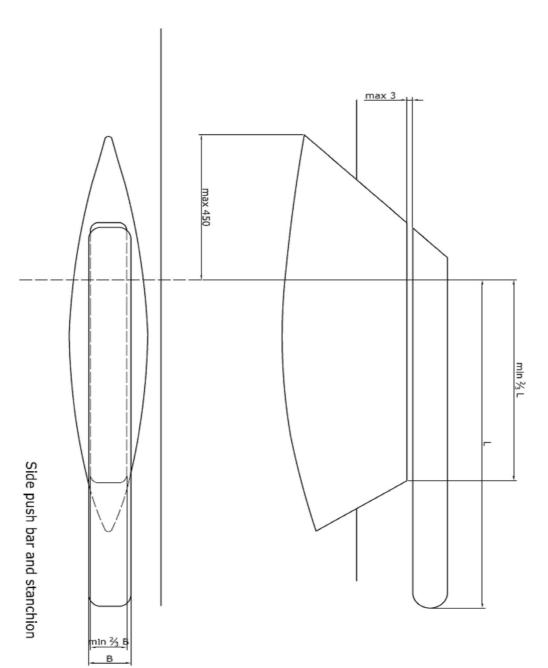


All measurments in mm

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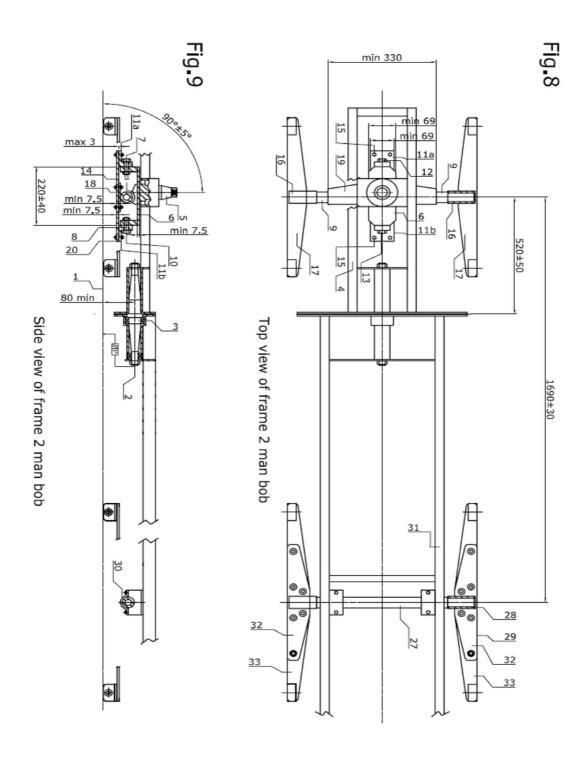






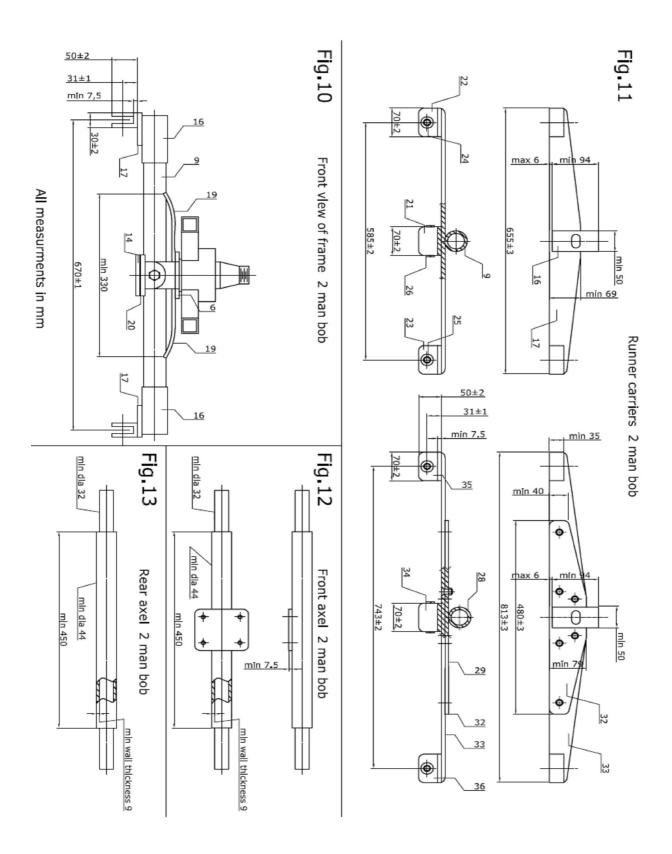
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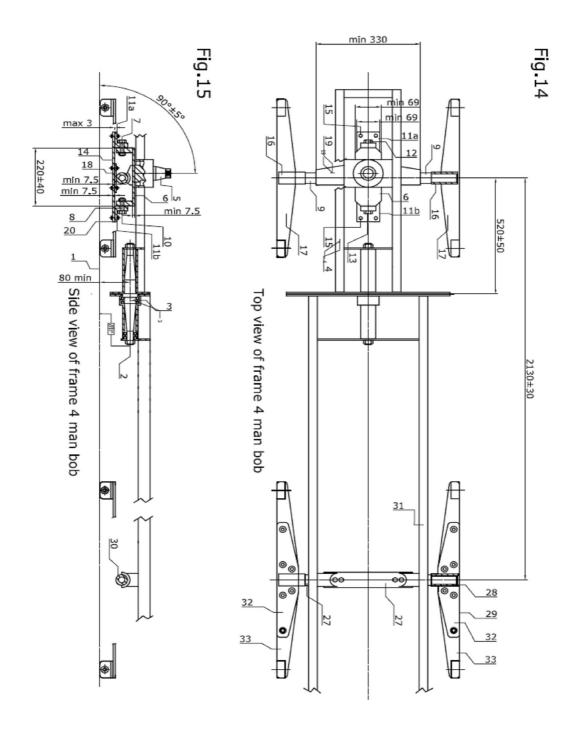




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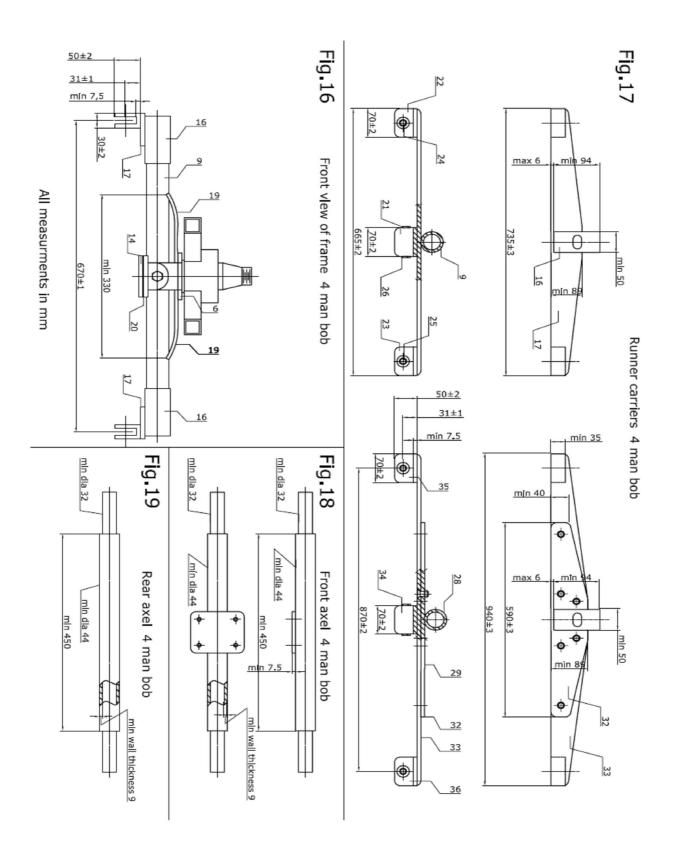






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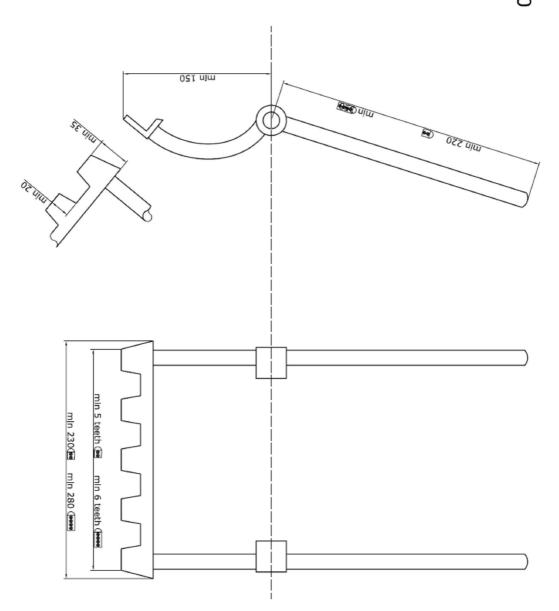




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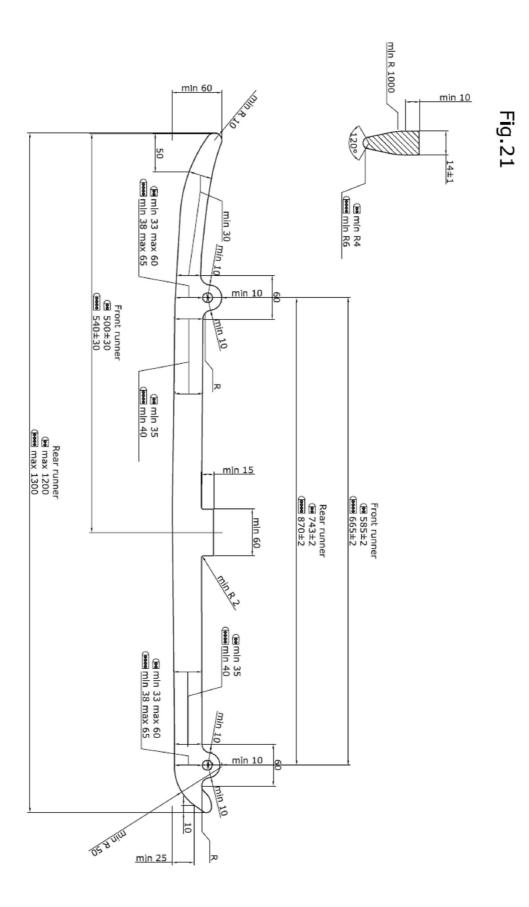
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All measurments in mm

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All measurments in mm

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# 15 APPENDIX 3: MATERIAL SEIZURE

15.1 Procedure for the seizure of sled components for conformity tests.

Empowered by the Jury and in the presence of at least one of its members, the F.I.B.T. Materials Committee responsible directs the official representative of the Federation to which the sled belongs to remove or disassemble the component(s) to be tested.

15.2 The Form

Upon collecting the component(s), the F.I.B.T. Materials Committee will fill in a form drawn up in six copies, stating:

- General data of the team / athlete whose sled is being tested
- The name of the competition and the venue
- The date and time
- A description of the component(s) taken
- The type of test(s) the laboratory is required to perform
- A blank space for entering the laboratory analysis results

The following people will sign the form:

- The Jury President
- The representative of the F.I.B.T. Materials Committee
- The team captain or official representative of the Federation to whom the sled belongs

The six copies of the form will be sent to the following:

- One copy to the Jury President
- One copy to the F.I.B.T. President (via the General Secretary)
- One copy to the Chairman of the F.I.B.T. Materials Committee
- One copy to the team captain or official representative of the Federation to whom the sled belongs
- Two copies to the laboratory, together with the container holding the component(s) to be tested

By returning one of the two copies of the form to the F.I.B.T. General Secretary, the laboratory confirms that it has received the container undamaged.

15.3 The Container

The seized components will be sealed in a container.

15.4 Remarks

The F.I.B.T. bears the costs of the laboratory analysis. In case of positive analysis results, the F.I.B.T. can order the costs to be reimbursed by the Federation to whom the sled belongs.

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# PROTOCOL FOR SEIZURE OF SLED COMPONENTS FOR CONFORMITY TESTS

Place:	Date:	Time:	Competition:
Event:		Nation:	
Description of component/s taken:			
Test/s required:			
Name of Laboratory:			
Laboratory result:			
President of Jury	Materials Com	mission	National Federation
Name:	Name:	N	ame:
Signature:	Signature:	S	ignature:
The Laboratory In the person of:  Acknowledges receipt of the official container bearing unbroken seals, from.			
On (date)	At	(time)	
Stamp:			
Signature			

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# 16 APPENDIX 4: THE TRACK

Combined Bobsleigh, Skeleton and Luge Tracks

## 16.1 Scope

New combined bob, skeleton and luge tracks shall be constructed in such a way that they are suitable for the practice of bob, luge and skeleton racing with no limitations.

For the purpose of designing, constructing and using the tracks, the greatest attention shall be paid to the environment and its protection.

The directives, which track constructors must observe, shall be designed in such a way as to keep the costs of the tracks as low as possible and to guarantee satisfactory use of the installations after the Olympic Winter Games.

## 16.2 Environmental Protection

The environmental manual, 'FIBT and the Environment' is an integral part of these rules. It must be considered in the preparatory phase, in the design, and during operation of the track. [See Section 19 Appendix 7]

#### 16.3 Technical Commission

The F.I.B.T. and the F.I.L. each constitute a commission that will supervise jointly the preparatory phase of the design, the design itself, the construction and the commissioning of each track.

The F.I.B.T. and F.I.L. Technical Commissions are at the disposal of bob, skeleton and luge track constructors and managers to provide consultancy free of charge.

## 16.4 Preparatory Phase of Design

The F.I.B.T. and F.I.L. Technical Commissions shall be called upon to effect an inspection and to provide consultancy before a decision is made regarding the terrain on which the track will be constructed.

The Commissions shall present a written report on the terrains, specifying the documents to be submitted to them for further consideration.

## 16.5 Design in General

The F.I.B.T. and F.I.L. Technical Commissions shall be periodically called upon during the track design phase.

The Commissions shall approve the chosen terrain and the basic project.

The same rule applies in case of changes regarding the choice of the terrain and the basic project.

#### 16.6 Location of the Track

If possible, the track shall be located on the north side of the slope and be easily accessible via normal channels of communication. Its trajectory shall - as far as possible - follow the natural development of the terrain.

In order to guarantee optimal use of the track (after the Olympic Winter Games), it is of the utmost importance that the track be located close to a city or to a densely populated area.

## 16.7 Length of the Track

New Artificial combined bob, luge and skeleton tracks shall be 1200 - 1650 meters long, 1200 meters of which shall be sloping downhill. The last approx. 100 – 150 meters may consist, depending on speed, of an uphill stretch that shall have bends.

The maximum gradient of this stretch must not exceed 12%.

Speed at the finish shall be higher than 80 Km/hr.

After time keeping at the finish, the stopping stretch shall be straight and not have any further bends.

## 16.8 Track Characteristics

The track shall include elements of varying technical difficulty.

Particularly demanding elements in terms of driving technique shall be located in the first stretch, which accounts for two thirds of the track.

At design level, it is to be foreseen to be able to reach a speed of between 80 and 100 Km/hr after the first 250 meters.

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Bends, combinations of bends and straight stretches of a suitable length shall be inserted into the track.

## 16.9 Starting Area: Bobsleigh and Skeleton

#### 16.9.1 Push-Off Stretch

The push-off stretch means the part of the track between the start block (wooden board) and the first photoelectric cell.

This stretch shall be 15 meters long and have a gradient of 2%.

The rearmost part of this stretch must consist of a block (wooden board) fixed to the ground, which must not be removed, nor passed.

#### 16.9.2 Start Block (Wooden Board)

The start block must be at least 150 cm long, 20 cm wide and 5 cm high from the surface of the ice.

# 16.9.3 Starting Area

After the first photoelectric cell (start- line), the track must follow a straight path so that bobsleds starting off may reach a speed of 35 Km/hr. The track must be sufficiently wide in order not to obstruct teams. The gradient of a 60 m stretch must be equal to 12%.

The stretch between the first photoelectric station must be 50 m long (starting time).

### 16.9.4 Preparation

Behind the start block (wooden board), there must be a preparation area with a frozen base, of such a size that it can accommodate two bobsleds on the ice without obstructing the team about to start off.

#### 16.9.5 Start Procedure Time Limit

If the start does not take place within 60 seconds (bobsleigh) or 30 seconds (skeleton), the light must be switched to red. When the light is switched to red, an acoustic signal must be sounded.

## 16.10 Luge Start

## 16.10.1 General Aspects

For descents in men's, women's, junior and double luge events, the track must be equipped with all the necessary starting structures for guaranteeing the normal execution of trials in all specialties.

During competitions it must be possible to delimit the starting zone.

## 16.10.2 Starting Zone

The following structures are part of the starting zone:

- A horizontally frozen surface which enables the athlete to assume a sitting position on the luge.
- The length of this horizontally frozen surface measured in the direction of push-off grips must be at least 2000 mm.
- The length of the horizontally frozen surface between push-off grips and the beginning of the sloping stretch is 500 mm.

## 16.10.3 Push-Off Grips

Two 'push-off' grips are fixed to the side of the track and they are adjustable vertically and horizontally, and can be used by the athlete to increase the initial speed.

Distance between the surface of the ice and the upper edge of the 'grips' at the same height: 230-250 mm.

Space between the two 'grips': 700 mm.

Width of 'grips' for hands: each grip at least 150 mm wide, 27 mm in diameter. Surface of the grip must be knurled in its whole width.

The 'grips' must be constructed in such a way that they cannot be distorted when subjected to traction by the athlete.

The 'grips' must be adjustable both horizontally and vertically, to ensure compliance with the above-mentioned measurements.

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## 16.10.4 Starting Stretch

The starting zone must be sufficiently curved in both its upper and lower parts (radius of the upper part at least 2 m, radius of the lower part at least 10 m), to allow the luge to enter the track without changing its trajectory.

The distance between the start grip and the first photoelectric cell must be approx. 7 m. The distance between the first photoelectric cell and the first intermediate time-keeping station must be approx. 3 - 6 seconds (start time).

The starting ramp and the track itself must meet at an angle of no more than 8°.

## 16.11 Bends

The bends must be constructed in such a way as to allow sleds to move not only along a single trajectory, but to provide a band of possible trajectories from which to choose.

In the central part of the bend, the trajectory should extend along the upper half of the bend.

Entries and exits from bends must be rounded so that the sleds can take them smoothly with no risk of capsizing, if no mistake is made in driving.

#### 16.12 Guardrails in Bends

Guardrails in bends (bumpers) must be constructed in such a way that they return the sleds on to the track. They must be sufficiently long and wide.

## 16.13 Centrifugal Force

The maximum time for which centrifugal force of '4G' may occur is 3 seconds.

The maximum centrifugal force allowed is '5G'; this centrifugal force must not last for more than 2 seconds. No centrifugal force in excess of '5G' is allowed.

# 16.14 Straights

In the iced construction, maximum width is 140 cm. The external part of the sidewalls of the straight stretches should not be higher than 80 - 100 cm, including any raised section.

In the iced state, the inside part of the sidewalls must be at least 50 cm high.

The sidewall of straight stretches must be at a right angle to the track base.

The transition between the sidewall and the base of the track must be provided with a channel. In the iced state its radius must be 10 cm.

In transitions linking a bend to a straight, the raised part of the bend must run into the sidewall of the straight gradually in a sufficiently long section.

## 16.15 Deceleration Stretch

The deceleration stretch must be constructed in such a way that the bobsled, the skeleton and the luge can stop even without applying the brakes. The gradient of the deceleration stretch must not be in excess of 20%.

At the end of the iced stretch, sleds must be able to continue without any obstacle. If considered necessary, at speeds less than 30 Km/hr, special cushioning devices may be installed, in order to avoid any injury to people and to restrict damage to sleds to a minimum.

For skeleton, sufficient foam rubber mats have to be made available. If possible water-repellent (approx. 100 x 150 cm, maximal thickness 6 cm.).

## 16.16 Lighting

In the event lighting should be required for training and competitions, the following conditions must be complied with:

- a) Uniform lighting intensity, without shadows and reflection.
- b) The lighting system must be powered by two independent systems, one of which must also be independent of the mains power supply.

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c) If one of the two circuits breaks down, 50% of the planned lighting capacity must be nevertheless guaranteed.

#### 16.17 Solar and Weather Protection Devices

The stretches of the track exposed to the sun and/or to adverse weather conditions must be protected by means of proper devices.

On bends, protection may be provided by fixed roofs combined with the coverings of the bends.

On straight stretches, a removable type of covering, open on one side of the track, must be adopted. It is forbidden to install roofs with fixed coverings on straight stretches. Any pillars and fixture systems shall be at a distance of 50 cm from the inside of the track wall.

Coverings shall not interfere significantly with television filming or the view of spectators. They should possibly be of the removable type.

Local climate conditions must be duly considered.

## 16.18 Water Supply

A plumbing system must be installed along the track, protected from freezing and provided with a sufficient number of properly protected hydrants.

Access to the hydrants from the track must be guaranteed.

## 16.19 Catwalks

Catwalks must be installed along the track, along which members of the Jury, the Technical Delegate and trainers may stand. Access by spectators to these catwalks must be prevented.

The position of these catwalks is established by the Technical Commissions on approval of the project.

## 16.20 Infrastructures - Ancillary Facilities

The spaces for the warming up section, shelters to store bobsleds, the building at the starting zone and for weighing, must be sufficiently large.

In particular sufficiently large areas for warming up of athletes shall be foreseen in the open air.

A medical first-aid room, an anti-doping room, a room for controlling material and a press centre shall be foreseen.

Ancillary facilities may also be of a temporary type.

Their construction is established jointly by the author of the project and the Technical Commissions.

## 16.21 Buildings at the Start and Finish

Two buildings must be constructed at the Start, one of which must be situated near the upper starting zone, namely for bobsleigh, skeleton and single luge (men). The other shall be located near the lower starting zone for the single luge (women), double luge (men) and Juniors. There is only one building at the finish for all specialties.

## 16.22 Partitioning of Costs

The budget and the costs for building a combined bob and luge track are to be presented as follows:

- a) Costs of the track and infrastructures resulting from the compliance with these rules and with the directives of the F.I.B.T. and F.I.L.
- b) Remaining costs, e.g. longer track, improved infrastructures, approach roads, developments, etc.

The exact partitioning is determined between the constructor and the Technical Commissions of the F.I.B.T. and the F.I.L.

## 16.23 Exceptions

Exceptions may be made in certain cases. The Vice Presidents of the F.I.L. and the F.I.B.T must authorize these exceptions in writing.

However, these decisions shall not affect safety, nor imply any significant reduction in sporting value and shall not interfere with television filming.

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# 16.24 Homologation

Before F.I.B.T. competitions take place, recently the F.I.B.T. Technical Commission must homologate constructed or restructured bob, skeleton and luge tracks.

For this homologation, the F.I.B.T. assumes no responsibility for the accuracy of calculations or for the execution of works for constructing or restructuring the track. (This responsibility shall be assumed by the architect/engineer who designed the track and by the construction company).

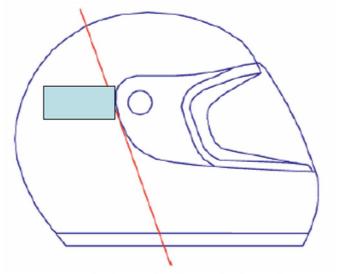
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# 17 APPENDIX 5: ADVERTISING GUIDELINES AND DRAWINGS

# Appendix 5 to 8.12.1 FIBT International Rules

Bob / Skeleton helmet



FIBT properties: helmet (bob & skeleton)

Left and right side of the helmet, as close as possible to the visor

Size: 50 cm<sup>2</sup>

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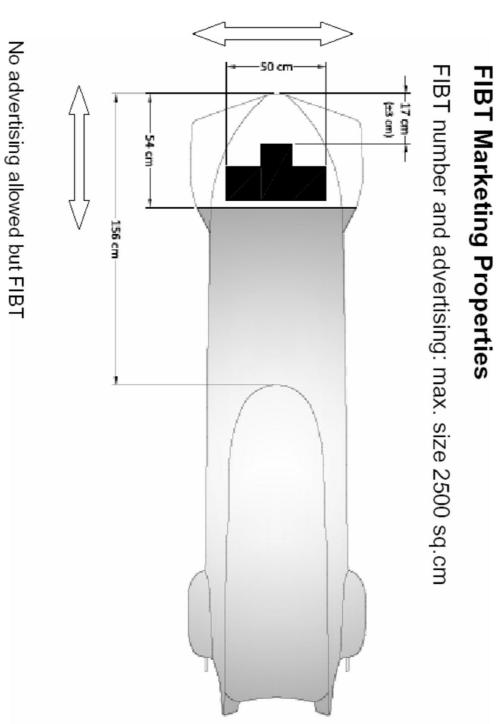
FIBT Marketing Properties

# No advertising allowed but FIBT FIBT number and advertising: max. size 2500 sq.cm

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No advertising allowed but FIBT



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# 18 APPENDIX 6: PARC FERMÉ RULES

- 1. The parc fermé is bordered by barricade fences and tape.
- 2. There is only one parc fermé for all participating teams.
- 3. The sleds are lined up according to their start number, not according to nations. The sleds must use the spots reserved for them.
- 4. The teams (athletes and support staff) may enter the parc fermé up to 30 minutes before the start of the race to mount the runners and for the final work needed on the sleds. After that, all teams (athletes and support staff) must leave the parc fermé.
- 5. 30 minutes before the start of the race, only the Jury and the members of the F.I.B.T. Materials Committee may enter the parc fermé.
- 6. When a team is called to the start, a maximum of four people may enter the parc fermé to move the sled to the start. A maximum of 2 support staff per team are allowed in the start box (the preparation zone).
- 7. After the first race heat, the sleds qualified for the second heat are brought back to their specified spots (four people) and are set upside down once again. Athletes and support staff must then immediately leave the parc fermé.
- 8. As soon as the last sled has returned to the start, the parc fermé is opened for all teams, for example for 15 minutes.
- 9. Variation: The parc fermé is opened, for example, after the first start group, i.e. after 10 sleds. During the time the parc fermé is open, only athletes of those participating teams are allowed to enter.
- 10. For the second race heat, use the same procedure as for item 7 above.
- 11. It is also possible to use the parc fermé before the first race heat only.

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# 19 APPENDIX 7: THE FIBT and the ENVIRONMENT

## 19.1 Our Events

In recent years, event organisers have become more aware of the potential impact of major sporting events on the environment – in terms of pollution, ecosystems, and waste. As a result, environmental protection has become an increasingly important issue. "FIBT and the Environment" has been prepared for track managers and event organisers to host environmentally responsible sports events. Every sport and every occasion has its own characteristics and it would be impossible to cover all eventualities, but whether the event is large or small, one-



off or recurrent, it will have many basic attributes in common with others.

The FIBT through its membership of the Olympic Movement is a supporter of the IOC's Agenda 21 programme that sets out the principles and guidelines for Sport for sustainable development.

The facilities used in the exercise of our sporting disciplines can have a major impact on the environment, both the act of construction and subsequently in their operation over the lifetime of the facility. It is therefore important that all venue owners, mangers and users accept that protection of the environment must remain an important element of our planning and event delivery.

# 19.2 Seven steps to greening your event

## 19.2.1 Adopt a green policy

The first step is to adopt an environmental policy, and determine what you want to achieve, set targets, and adopt measures to evaluate your success. Normally there will be at least two principal parties: the Race Organisers and the race venue. All main partners should approve the policy in order to establish a solid commitment to the programme.

19.2.2 Carry out an 'Environmental Scoping Review' of venues and operations

For each event, it is essential to establish base line information on current environmental performance, and to identify specific opportunities for 'greening' the event. Where venues are used repeatedly, the previous occasion will provide a benchmark for subsequent events.

## 19.2.3 Establish environmental teams

The role of the Event Director will be pivotal in implementing the environmental programme. He/she should assemble and coordinate a core team to carry this through – e.g. Site/Venue Manager, Head of Staff, Environmental Consultant and other technical specialists. Other experts or interest groups may be included if appropriate, e.g. a representative from the local authority, or from relevant statutory agencies.

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## 19.2.4 Define programmes and set appropriate targets

Targets need to be bold enough to be credible, but must also be attainable. It will be important to communicate the environmental policy and details of the programme to staff, suppliers, contractors, sponsors and officials, so that everyone can play their part.

## 19.2.5 Implement programmes

Venue-related measures will normally be in operation for as long as possible preceding the event. The event-related measures are likely to be temporary, covering the immediate build-up to, and duration of, the event.

# 19.2.6 Monitor implementation and adjust programme accordingly

The ability to measure and record basic environmental parameters is the first real test of performance and the effectiveness of the programme.

## 19.2.7 Evaluate and publicise results

The major gain from this process is raising awareness, both among the sports community and the general public. The green message can be emphasised during the lead-up, at the event itself, and as part of the post-event legacy. As far as possible it should be integrated within the normal event communications.

## 19.3 Action Plan

# 19.3.1 The impact of our sport

Climate change causes warmer winters and makes ice-making harder and more energy-intensive From the moment an athlete begins to use equipment, apparel or facilities, there is an "ecological footprint" - an impact on the natural environment. On an even greater scale bobsleigh tracks will contribute to global and local environmental concerns. Building and managing a bobsleigh track and running an event can contribute to energy consumption, air pollution, greenhouse gas emissions and waste creation, as well as to ozone layer depletion, habitat and biodiversity loss, soil erosion and water pollution.

Bobsleigh and Skeleton tracks can affect the environment in the following ways

- Development of fragile or scarce land types [most tracks are located in vulnerable mountain areas]
- Pollution from liquid spills [refrigerant, fuels, cleaners, solvents]
- Noise and light pollution
- Consumption of non-renewable resources (fuel, metals)
- Consumption of natural resources (water, wood, paper)
- Creation of greenhouse gases by consuming electricity and fuel
- Ozone layer depletion (from refrigerants)
- Soil and water pollution from refrigerant use
- Soil erosion and compaction during construction and from spectators
- Paper consumption by media and officials

## 19.3.2 The Facility

Bobsled, Skeleton and Luge tracks are costly, single-purpose facilities that require considerable terrain and construction materials and which can use potentially harmful refrigerants. There are, however, ways to minimize their environmental impact.

#### Design

Tracks should follow the existing terrain and be partially underground wherever possible for reasons of energy efficiency, aesthetics and reducing demand for building materials. Where feasible, the use of all-natural ice tracks should be considered.

Coolants

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Cooling systems must be carefully designed to prevent any possible leak into the atmosphere of either ammonia or synthetic coolants. Ammonia poses a health risk and synthetic coolants harm the ozone layer when leaked.

Energy efficiency

Tracks should be kept cooled only when demand is sufficient. Screens shading the track from the sun should be used wherever a demonstrable energy savings will result.

Impacts on the Environment

Tracks can require bulldozing of slopes and cutting of trees
Impacts of facility maintenance activities [noise, pollution, disruption of the natural environment]
Waste generated from signs, food services, banners, temporary booths, etc

#### 19.4 Areas of action

Managing a Bobsleigh and Skeleton event involves a wide range of actions related to the concentration of infrastructures and people. Environmental measures can be included in several areas of action.

## 19.4.1 Location and landscaping

Location is the critical point of a facility or event. It determines not only its environmental impact but also its accessibility, proximity to users and visual impact. The choice of location can either reduce or intensify the negative influence of the facility or event. An environmentally sound site is usually financially sound as well.

The site selection occurs during the planning of new facilities or of national/international championships. Selection criteria have to be applied during the decision process.

The objectives are to:

- Minimize environmental impacts by choosing the most convenient site
- Conserve and protect special landscapes

19.4.2 Environmental elements to consider when choosing a location for sports venues are:

- Legal and physical boundaries, private holdings and public easements
- Buildings, bridges and other structures, including those of historical and archaeological significance
- Roads, paths and sidewalks
- Availability of public transport
- Electric lines, water, sewer and gas mains
- Solid waste: disposal sites, treatment plants, management and transportation
- Wastewaters: sewers, treatment plants
- Land use: residential, commercial, industrial and other applicable ordinances

#### 19.4.3 Natural resources:

- Protected sites
- Forests
- Water resources
- Air quality

#### 19.4.4 Natural elements:

- Climate conditions
- Local morphology

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## 19.4.5 Perceptual elements:

- Landscapes
- Special elements
- Aesthetic values
- Cultural values

## 19.4.6 Detailed planning, once the site location has been selected:

- Plan the integration of the event or facility into the landscape
- Foresee protection measures
- Foresee restoration measures
- Foresee compensation measures

## 19.5 Sport facilities

Our tracks and associated facilities constitute the most visible part of our sports events or organisation. Their location, construction, materials and operation processes are potentially sources of high nuisance and damage. This may include land waste, landscape harm, high-energy consumption, pollution and waste of financial resources when such sports events or organisations are not adequately planned or seriously managed.

Our objectives are to:

- Avoid venues and locations with little or no post event usage
- Reduce location-related impacts (landscape, land use)
- Minimise energy consumption
- Reduce pollution

## 19.5.1 Planning phase

First of all, the advisability of the project has to be justified in order to avoid unnecessary and over-sized facilities.

When carrying out detailed planning, environmental criteria should be part of the decision-making process. During this phase, the project management team is responsible for establishing a detailed project aiming at detecting and minimising all foreseeable impacts. Architectural studies are realised, building materials selected and maintenance processes determined. Thinking of the environment at this stage can help you as an organiser and event planner avoid subsequent problems.

- Advisability of the project
- Real need for a new facility
- Opportunity to use or restore existing facilities
- Sizing of the facility
- Future use and needs after the event
- Use of temporary installations for support facilities when there is no future need
- Financing plan including construction, maintenance and operation costs

## 19.5.2 Detailed planning

- Avoid illegal building
- Include energy concerns in architectural plans, and especially thermal considerations, in order to minimize the energy required to cool or/and heat the building
- Promote environmentally sound technologies like solar energy, heat pumps
- Plan an environmentally sound operation phase
- Plan compensation and restoration measures if necessary
- Select building material as follows:

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- Select materials for thermal performance
- Seek maximum recycled content and recyclable materials
- Choose durable, easily reparable or interchangeable items
- Select materials free of hazardous or toxic products
- Choose products which will not need to be disposed of as hazardous waste
- Use materials that are available in the region
- Plan an architectural integration into the landscape

## 19.5.3 Construction phase

During this phase, accidents and disruption can occur [accidental release of toxic substances, increased traffic, soil packing or noise]. The sound and rigorous planning of construction can protect not only the environment, but also the workers and the people living nearby.

- Build at a time of the year when animal life and humans will be least disturbed
- Install acoustic isolation if necessary
- Plan soil management
- Use appropriate engines
- Avoid where possible the use of toxic substances
- Plan the management of all substances being used in the work place (storing, use, evacuation and treatment)
- Ensure that the project is in conformity with building plans
- Use environmentally sound construction techniques and materials

## 19.5.4 Operational phase

The operational phase is almost always the longest in a facility's life. The facility is supplied with water, energy and other goods, the equipment is maintained and the waste removed. The facility hosts training and competition activities. It is possible to adopt a "green step" approach for all these activities.

- Prevent erosion by avoiding fragile areas and reinforcing critical passages
- Avoid wildlife habitats
- Build roads without asphalt
- Promote ecological behaviour among athletes by informing them on issues such as waste collection and protection of fauna and flora
- Saving energy with:
  - Heating, refrigeration and ventilating systems
  - Lighting systems
  - Hot water systems
  - Equipment
- Reducing risks caused by chemicals:
  - Avoid or replace dangerous chemicals
  - Store them carefully
  - Follow instructions for use and local health and safety regulations
  - Ensure that they are disposed of and treated in an environmentally sound manner
  - Ensure ecological planning and management of adjacent surfaces (avoid pesticides and chemical fertilisers, introduce several plant species, etc.)
- Reduce noise and disturbance

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## 19.5.5 Sports equipment

The development of new technologies in sports equipment has led to the use of new substances in the manufacturing processes.

Some of those substances are potentially toxic and can be damaging during the manufacturing, use or disposal of the equipment. A point to keep in mind is the shorter life span of some equipment, which becomes obsolete before being out of order, and generates waste as a result.

The FIBT's objectives are to:

- Reduce pollution due to sports equipment
- Reuse and recycle articles where possible
- Promote environmentally sound equipment and local manufacturing knowledge

We will work closely with sponsors and suppliers to ensure that their products and services are environmentally friendly. We will achieve this by establishing a standard contracting process. Sponsors and suppliers will be encouraged to follow environmental requirements and comply with them. They have to assume their own role in the quest for environment-friendly sport. Requirements for the manufacturers of our sports equipment and our sponsors include the provision of information on their production processes, their waste management systems, the use of reduced packaging, the reusability and non-toxicity of their products, etc.

We will also encourage companies manufacturing our sports equipment to obtain ISO 9,000 and 14,000 certificates for Quality Assurance and Environmental Management.

With regard to the issue of sports equipment, our member federations and athletes have an opportunity to act at their own level and we will encourage these parties to:

- Choose environmentally sound articles (cotton, natural fibres, etc.)
- Promote the use of locally and ecologically made products instead of imported ones that saves energy, transportation, money and contributes to promoting local knowledge and employment
- Arrange a trading market/day for equipment that is no longer suitable/no longer in use

## 19.5.6 Transportation

Transportation is required to get to the sports facility and much of it usually takes place in private cars. Transportation contributes to many environmental hazards, particularly air pollution (greenhouse effect, ozone formation at ground level) and related health problems. A reduction in the distances travelled with private cars, incentives to promote public transportation and non-polluting transport together with sound transportation planning could greatly minimise air pollution, noise and disturbance, in sensitive mountain environments well as the extent of land use.

The FIBT's objectives are to

- Minimize transportation
- Promote collective and or public transportation
- Encourage environmentally friendly transportation

This can be achieved by:

- Selecting specific transportation systems which minimise energy use and reduce pollution
- Encourage public transportation systems over private transportation
- Issue tickets for the event that entitle their holders to free public transit rides
- Encourage access to the tracks on foot wherever possible
- Encourage the use of collective transportation for trips to meetings and events
- Organise collective transportation where motor transport is necessary

## 19.5.7 Energy

Most of the energy used around the world is currently unsustainable. It is largely produced by non-renewable sources such as fossil fuels, which cause a great deal of pollution and are the biggest

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contributor to global warming and localised air pollution. Many forms of energy production, like nuclear plants or fossil fuel burning, involve some degree of risk to human health or to the environment.

In sports events, energy is required to produce goods that are consumed, to run the event and related facilities, and to transport people and products to the event. As in other human activities, the energy used is mainly produced with non-renewable resources.

The FIBT's objectives are to:

- Reduce energy consumption
- Promote renewable energy and new technologies
- Promote equipment and facilities with smaller energy demand

This can be achieved by:

- Promoting awareness through education at all levels
- Being energy-wise; not only at the facility level but also by such action as switching off electrical appliances when they are not in use
- Checking the lights; and keeping facility lighting to a minimum
- Insulate tracks, buildings and support facilities in order to keep them cool or warm, as the case may be
- Explore alternatives energy sources, try to use solar energy to heat water, provide electricity, or both; if available, use small hydraulic plants
- Promote energy conservation measures, select equipment and materials accordingly
- Hold meetings with local energy supply companies to get tips on further energy saving measures

## 19.5.8 Accommodation and catering

Our events, whether championships or local competitions, attract a large number of persons, i.e. athletes, coaches, organisers, journalists, staff members, sponsors, spectators, who require catering and accommodation for several days.

The FIBT's objectives are to:

- Minimise waste
- Avoid useless construction

This can be achieved by:

- Respecting sanitary conditions
- Reducing packaging
- Recycling goods used
- Using existing facilities (to cook and wash)
- Replacing disposable dishes with reusable ones where possible
- Building temporary facilities and hotels if there is no guaranteed need for them after the event

## 19.5.9 Water management and sanitation

Freshwater resources are finite and exist in a closed system. Water supply depends on full rivers, lakes, and accessible aquifers and the need for drinking water and irrigation and, increasingly, the need of power for our industries. In most parts of the world, freshwater resources are being subjected to intense pressure. Industrial wastes, sewage and agricultural runoff overload rivers and lakes with chemicals, wastes and nutrients, poisoning water supplies as a result. When practising our sports water is needed to satisfy track building, track maintenance, drinking, washing and maintenance needs. Water is part of our sports facilities.

The FIBT's objectives are to:

- Satisfy the needs generated by the sports event without endangering the water supply of the region
- Protect water resources

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Treat wastewater

This can be achieved by:

- Ensuring that the water provided to the track is of good quality; if not, take measures to purify it:
  - Filter your water
  - Boil the water for at least five minutes
  - Use iodine (two drops per litre) or tablets; only use chlorine if absolutely necessary
- Using water efficiently; turning off the tap when you are not using water is the simplest and most
  effective way to save water, whether washing your hands, brushing your teeth or shaving; turn on
  the water only when needed.
- Reducing the use of water required to maintain the track, e.g. the watering water
- Encouraging sound sustainable water resource management programmes including:
  - Water conservation and recycling practices
  - Recycling of treated storm water and sewage effluents
  - Landscape design that decreases water requirements
  - Building and infrastructure design to collect wastewater for recycling
- Waste water management:
  - Ensure the treatment of all wastewater
  - Verify the quality of treated wastewater
  - If no wastewater treatment plant is available in your region, build your own sanitary system (possible at limited costs)
  - Reuse treated water for field irrigation, bathrooms services, etc.
- Watch out for toxins that may remain in your facility

# 19.5.10 Waste management

Our facilities and events can generate considerable waste, some of which cause little more than dirt or minor disturbances, while others have a harmful and lasting effect on the environment and human health. Waste is unavoidable, but sound management ensures that waste quantities are kept to a strict minimum.

The FIBT's objectives are to:

- Minimise waste to be disposed of and treated
- Minimise pollution due to waste

This can be achieved by:

- Reducing the amount of materials handled
- Avoiding useless packaging through discussions with your suppliers
- Using as few disposable products as possible at your events
- Choosing carefully the goods and materials handled, in particular:
  - Avoid goods containing toxic substances
  - Choose reusable or recyclable goods
  - Choose goods whose waste can be appropriately treated in the treatment plants located in your region
- Implementing sorting at source (sufficient and separate rubbish bins)
- Dispatching the materials to recycling markets
- Separating hazardous waste from domestic waste
- Treating all waste properly
- Implementing a waste management programme if necessary

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## 19.6 Large-scale Sports Events: Specific Recommendations

Large-scale sports events attract high numbers of people and necessitate the handling of large quantities of goods. This concentration of people in time and place represents a potential danger for the environment. Some measures have to be taken in order to limit the impact.

## 19.6.1 Sports facilities

- Use provisional installations for the facilities not needed in the long term such as spectator stands and bleachers; encourage improvement of existing facilities
- Use provisional and module equipment which is easy to transform and reuse
- Guarantee to restore provisional facilities and encourage the restoration of damaged sites

## 19.6.2 Transportation and air quality

- Implement transport strategies to ensure the efficient movement of people (athletes, equipment, coaches, journalists, officials and spectators)
- Establish a transportation concept promoting transport on foot and public transportation
- Establish an air quality plan for the area
  - Monitor emissions
- Encourage major air polluters, including public utilities to take permanent steps to
  - Reduce their emissions prior to the event
  - Establish energy management strategies
  - Encourage transportation fleet operators to take steps to reduce emissions
  - Work with municipal officials to reduce traffic

## 19.6.3 Energy

 Establish an energy management programme for the area taking into account the transportation system and track facilities

## 19.6.4 Waste management

- Host tracks have the capacity to adopt waste disposal procedures throughout the area in accordance with the event, using techniques that may in turn be applicable to future arrangements; it is advisable to:
  - Reduce the amount of materials handled
  - Establish environmental requirements for the event's suppliers and donors
  - Separate recyclable materials at the source by the waste generator,
- And separate collection
  - Separate household and manufacturing waste at the source
  - Dispatch materials to recycling markets
  - Deal with all waste in a safe and cost-effective manner
  - Implement a comprehensive strategy for materials and waste management
  - Emphasize communication with education
  - Choose products according to cost/performance over their entire life-span

## 19.6.5 Environmental message to the public

- Internal environmental awareness: all the members of the organisation, senior managers and volunteers alike, should be informed of the broader rationale for their duties.
- External environmental awareness: people of the region must understand the environmental
  policies and objectives that are being established. Education and communication are essential
  to the success of sustainable development.

#### 19.6.6 Finances

Include environmental costs in the budget from the outset

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