

भारतीय मानक

IS 15475 (Part 4) : 2022

Indian Standard

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संहिता

भाग 4 चयन, प्रशिक्षण और प्रचालकों का पर्यवेक्षण

(पहला पुनरीक्षण)

**Code of Recommended Practice for
Amusement Rides Safety**

**Part 4 Selection, Training and
Supervision of Operators**

(*First Revision*)

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

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FOREWORD

This Indian Standard (Part 4) was adopted by the Bureau of Indian Standards, after the draft finalized by the Continuous Bulk Conveying, Elevating, Hoisting, Aerial Ropeways and Related Equipment Sectional Committee had been approved by the Mechanical Engineering Division Council.

Amusement parks in India are becoming quite common and people visit these parks quite often. In order to ensure their safety in amusement parks or while enjoying the rides, an attempt has been made to stipulate safety in the form of a National Code. It is hoped that organizers of amusement parks, manufacturers of rides would make use of these codes to ensure the overall safety of human beings and equipment at such places.

This revision has been taken up to keep pace with the latest technological developments and international practices. This revision incorporates the following major changes:

- a) More safety provisions were added in clauses **4, 5, 6**.

The code of recommended practice for amusement rides safety is in six parts. This standard covers the essential requirements relating to the selection, training, and supervision of operators. The other parts in this series under the general title are as follows:

- Part 1 General information
- Part 2 Safety requirements
- Part 3 Design, manufacture and erection
- Part 5 Operation and maintenance procedures
- Part 6 Performance tests

The composition of the committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values' (*second revision*). The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

**CODE OF RECOMMENDED PRACTICE FOR AMUSEMENT RIDES
SAFETY**

PART 4 SELECTION, TRAINING AND SUPERVISION OF OPERATORS

(First Revision)

1 SCOPE

This standard (Part 4) covers specific requirements relating to the selection, training, and supervision of operators for the safe and proper operation of amusement rides and devices.

General information and safety requirements for amusement rides are given in IS 15475 (Part 1) and IS 15475 (Part 2) respectively and a reference to these standards may be useful during the selection of operators, their training and supervision of operators/attendants.

This standard is not intended to contravene any provision of any of the existing Government regulations. It is the responsibility of the user of this code to establish appropriate safety and health practices and comply with regulatory and statutory requirements prior to the use of the ride or device for carrying a passenger for amusement.

2 REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
15475(Part 1) : 2022	Code of recommended practice for amusement rides safety — Part 1 General information
15475 (Part 2) : 2022	Code of recommended practice for amusement rides safety — Part 2 Safety requirements

3 SELECTION

While selecting operators for amusement/joy rides, due regard shall be given to the physical fitness and maturity of the applicants and their aptitude for the work to be done in line with the following aspects:

3.1 Ride Operators handle mechanical riding vehicles. Key responsibilities for this job include:

- a) Inspecting devices;
- b) Providing instructions to riders;
- c) Making sure patrons are installed safely;
- d) And implementing safety procedures.

Ride Operators should demonstrate attention to safety, device maintenance expertise, customer service orientation, communication abilities, and teamwork.

3.2 Ride Operators are trained in a number of rides. They are therefore likely to operate different rides at different times and should always have knowledge of the ride they are operating. To become a Ride Operator, one needs to have the following characteristics:

- a) A very responsible attitude;
- b) Quick reactions;
- c) Clear communication skills;
- d) Commitment, and flexibility;
- e) Ability to respond in emergency situations.

3.3 Ride Operator will be responsible for the safety of the people, using the ride. Before the ride is used each day, they need to carry out the following:

- a) Safety checks to make sure the ride is in good working order;
- b) Make sure that the area is clean, tidy, and free of hazards;
- c) When allowing people onto the ride, make sure that height, weight, or age restrictions are followed;
- d) Ensure that safety belts or restraints are securely fastened;
- e) If relevant, riders to be reminded to keep their arms and legs inside the ride;
- f) On some rides, they may need to give announcements or remind riders of rules

regarding pregnant women or people with heart conditions.

3.4 Ride Operators do not leave the ride while it is operating. They need to watch the ride and riders at all times. If there is a problem, rides need to be stopped and only start again when the problem has been sorted out. Any serious safety concerns are reported to a Supervisor.

3.5 Operators are sometimes responsible for basic ride maintenance. At theme parks, they are often required to do things like pick up litter, assist customers with directions and generally be a 'friendly face' of the park.

4 TRAINING OF OPERATORS AND ATTENDANTS

All employers have a duty and a responsibility to ensure that workers are trained before starting a job. Supervisors have an identical duty and responsibility. The employer supervisor or another competent person may provide training. The employer should retain the proof of training in order to reduce the company's liability. At the very least, training should be documented and include performance testing.

Admittedly, the leading cause of amusement park injuries today is rider misconduct. It should also be noted that major accidents happen on roller coasters and whirling rides on a more consistent basis than with any other ride. Many riders are not properly buckled in, and in most cases, they are not following the rules. For example, they may lean or stand up when it is ill-advised. If these instances are taken out, however, it is noted that there are still plenty of incidents that happen due to mechanical failure where a question of proper training comes to play.

It is to be noted that improper training for ride operators can lead to improper supervision.

4.1 The owner/operator shall provide training for each ride or device operator and attendant of an amusement ride or device. The training shall include but not be limited to the following:

- a) Instruction on ride or device operating procedures;
- b) Instructions on specific duties of the assigned position;
- c) Instructions on general safety procedures;
- d) Instructions on emergency procedures;
- e) Physical demonstration of the ride or device operation;
- f) Physical operation of the ride or device;
- g) Supervised operation of the ride or device;
- h) Additional instructions deemed necessary by the owner or operator; and
- j) Maintenance procedures.

4.2 During the training particular care shall be taken to ensure that each operator understands the following:

4.2.1 The dangers and hazards which are known to arise in the course of normal working.

4.2.2 The purpose of the safety guards and safety devices provided for the protection of operators, maintenance personnel, passengers, and equipment.

4.2.3 The dangers and hazards liable to arise from bad practices, negligence, and misuse.

4.2.4 Preventive maintenance and lubrication schedule recommended by the manufacturer/designer.

4.2.5 The necessity for contacting the person in charge if any fault(s) or defect(s) arise and danger to the operator/attendant in attempting to correct the fault.

4.2.6 Duties of operator and attendant at a specific position and stage of operation.

4.2.7 Awareness of specific emergency and safety devices to be operated or used in the event of abnormal condition or on interruption of service.

4.2.8 Recommended and established reporting system.

4.3 Clear instructions shall be given that guards or safety devices (Electrical and mechanical) shall not be tampered with, removed, or altered in any way and that adjustable guards shall be readjusted only by an authorized technical person.

4.4 The operator's knowledge on the use of amusement rides and the safety precautions to be taken shall be periodically checked and necessary instructions be issued to operator and attendant regarding important and emergency requirements to be taken care of while operating the ride and use of its devices.

4.5 Where a worker is exposed to falling from heights, they shall be adequately protected by one of the following methods of fall protection:

- a) A travel restraint system;
- b) A fall arrest system.

The travel restraint system allows for the use of a full-body harness, or, a safety belt attached by a lifeline or lanyard to a fixed support. The full-body harness could be attached to a self-retracting device that is itself attached to a fixed support.

The fall arrest system consists of a full-body harness attached to a lanyard equipped with a shock

absorber. The system shall be attached to a fixed support. A shock absorber should not be used if, wearing or using one could cause a worker to hit the ground or an object or level below the work surface.

An employer shall ensure that a worker who may use a fall protection system is adequately trained in its use and given both oral and written instructions by a competent person. A record of training shall be kept by the employer.

4.6 Personal Protective Equipment (PPE)

PPE required by workers during set-up and take-down is governed by the applicable jurisdiction. In general, safety footwear and hard hats are required where there is a danger of injury to the head or feet. Selection of PPE must meet national or international standards for manufacture and performance. Other PPE that may be required includes hand, eye, and face protection, fall arrest equipment, and protective clothing. Supervisors must ensure that training in the use and care of PPE is provided to a worker.

5 SUPERVISION

5.1 A ride operator shall be closely supervised by a person with thorough knowledge including the related regulations and statutory requirements relating to amusement/joy rides. The duties of the operator shall be closely monitored till he is found fully conversant with the work assigned.

5.2 Regular supervision of ride operators and attendants is essential to ensure that safe practices are being followed and the ride is working in a safe and proper manner.

5.3 Safety Alert

This alert is to advise on the matter of appropriate supervision of individuals who are accompanied by support staff on recreational outings to amusement parks, fairs, and carnivals. It is to be ensured that:

- a) All support staff are familiar with and adhere to specific individual supervision guidelines;
- b) Individuals who use amusement rides are aware of safe behavior while on the rides;
- c) All support staff supervises as appropriate, individuals entering a ride car or seat, paying particular attention to the appropriate use of the ride's safety restraint feature.

5.4 Inadequate Ride Supervision

At amusement parks, waterparks, and carnivals, it is the responsibility of the staff to supervise rides and make sure that they are running smoothly. Inadequate supervision of rides can lead to issues

such as accidents and injuries. Following are the issues where ride operators are responsible for, and how inadequate supervision can lead to accidents.

a) *Focus*

Ride operators are hired to make sure that rides are properly run. Unfortunately, there are many things that might distract a ride operator and cause issues with the ride. First, the ride operator might be exhausted from working long hours. If a ride operator is too tired, they might begin to lose focus on what they are supposed to be doing. This could cause them to push the wrong buttons and levers and cause an issue with the ride. Or, it can distract them from making sure that all riders meet the size and weight requirements and are safely strapped into the rides.

Ride operators can also be distracted by other things, such as cell phones, other employees, or things happening elsewhere in the park. To avoid these issues, ride operators should be hired carefully, given shifts that are not too long, and properly trained.

Ride operators must be physically and mentally fit to operate the rides. They should maintain weight and general fitness, in case need to climb the ride structures for inspection or emergency evacuation. Their fitness must be checked by the management on regular basis. It should be part of their general terms of employment.

b) *Improper Height/Weight*

Many rides have the height or weight requirements. Ride operators should not let a person under the height or weight requirements onto the ride under any circumstances.

c) *Too Many Riders*

Another issue with ride supervision is letting too many riders onto a ride. Again, this might happen because the ride operator is trying to be cool and purposefully breaking the rules. Or, the ride operator may not be paying attention and may accidentally let too many people onto the ride or overlook the total number of people who are getting on the ride.

6 SAFE OPERATING PROCEDURES

In addition to statutory and other requirements relating to the safety of ride in general, specific

attention of the operators shall be drawn to observe the following relating to creation/installation where the operator observes any deficiency in these, he shall submit the fact report to the appropriate/competent authority for immediate remedial action:

- a) All stopping and starting controls shall be clearly marked. The area around these devices shall be kept free of obstruction to ensure free access to them and a clear view of them at all times;
- b) The area around all loading and unloading points on the amusement ride shall be kept clear of obstructions at all times;
- c) Use of ride shall be permitted after a satisfactory trial run;
- d) No maintenance or repair work shall be carried out while a ride is in operation. While undertaking the maintenance or repairs work, power shall be disconnected and the starting control shall be positively locked. Shutdown permission shall be taken prior to commencing any repair or maintenance work;
- e) In case the ride has stopped due to the overloading of passengers, the reason for

stopping shall be ascertained. The starting control shall be locked out before excess passenger(s) are un-loaded and the stoppage is cleared before re-starting;

- f) No overload and safety control shall be removed from the ride and overload and safety devices shall be checked on a regular basis. Precaution shall be taken to prevent anyone excepting a competent authorized person from adjusting or tampering with the adjustment of such control;
- g) The operational staff deployed on a ride or device shall be conversant with the location and operation of stopping control/device;
- h) At no time should a ride to be used for a purpose other than one for which it was designed and neither shall it be loaded in excess of its safe working load;
- j) Good housekeeping shall be maintained at all times;
- k) Operators and attendants shall not wear loose clothing which may cause a trapping hazard;
- m) Operation of Inflatable should be stopped during the storm.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Continuous Bulk Conveying, Elevating, Hoisting Aerial Ropeways and Related Equipment Sectional Committee, MED 06

<i>Organization(s)</i>	<i>Representative(s)</i>
RITES Limited, Gurugram	SHRI SANDEEP MEHRA (<i>Chairman</i>)
CSIR — Central Institute for Mining and Fuel Research, Dhanbad	SHRI DEBASHISH BASAK SHRI GIRENDRA M. PRASAD (<i>Alternate</i>)
Conveyor and Ropeway Services Private Limited, Kolkata	SHRI S. SHEKHAR CHKRAVARTY SHRI KAMAL KUMAR BOSE (<i>Alternate</i>)
Desein Private Limited, New Delhi	SHRI H. K. GUPTA SHRI ARVINDER SINGH (<i>Alternate</i>)
Directorate General Factory Advice Service and Labour Institutes, Mumbai	SHRI G. P. NIJALINGAPPA SHRI H M BHANDARI (<i>Alternate</i>)
Directorate General of Mines Safety, Dhanba	SHRI D. B. NAYAK SHRI VIJAY YADAORAO BARAPATRE (<i>Alternate</i>)
Durgapur Steel Plant, Sail Durgapur	SHRI SANJAY KUMAR SHRI DEEPAK BISWAL (<i>Alternate</i>)
Elecon Engineering Company Limited, Gujarat	SHRI C S SHAH SHRI. K.S. KODIA (<i>Alternate</i>)
Indian Association of Amusement Parks and Industries, Mumbai	SHRI PRADEEP SHARMA SHRI ANIL PADWAL (<i>Alternate</i>)
Lepton Projects Private Limited, Ghaziabad	SHRI SANJAY KUMAR SHRI PIYUSH RATHI (<i>Alternate</i>)
MECON Limited, Ranchi	SHRI SANJOY BHATTACHAR SHRI AMIT PAL (<i>Alternate</i>)
Mcnally Bharat Engineering Company Limited, Kolkata	SHRI SANJOY MAITI SHRI SANDIPAN DAW (<i>Alternate</i>)
Ministry of Ports, Shipping and Waterways, New Delhi	SHRI ANIL PRUTHI SHRI RAMJI SINGH (<i>Alternate</i>)
NTPC Limited, New Delhi	SHRI O. P. KALIA
National Mineral Development Corporation, Hyderabad	SHRI ALOK KUMAR MEHTA SHRI S. SURENDER (<i>Alternate</i>)
Phoenix Conveyor Belt India Private Limited, Kolkata	SHRI RAJEEV SHARMA SHRI ASOKE KUM. GHOSH (<i>Alternate</i>)

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Project and Development India Limited, Noida	SHRI NARENDRA SINGH
RITES Limited, Gurugram	SHRI DINESH KUMAR
Ropeway and Resorts Private Limited, Kolkata	SHRI A.K. KINRA
TRF Limited (A Tata Enterprise), Jamshedpur	SHRI N. K. SINGH SHRI SUBHASH SHARMA (<i>Alternate</i>)
Tata Consulting Engineers Limited, Navi Mumbai	SHRI SUJOY MAITI SHRI SHIREESH S. SWAMI (<i>Alternate</i>)
Usha Breco Limited, Ghaziabad	SHRI MANOJ PANWAR SHRI SANJEEV DHARIWAL (<i>Alternate</i>)
Usha Martin Limited, Ranchi	SHRI SUBRATA DUTTA SHRI SANDEEP JAISWAL (<i>Alternate</i>)
In personal capacity (<i>145/4A, South Sinthi Road, Kolkata – 700050</i>)	SHRI C. K. KARMAKAR
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BIS Directorate General	SHRI RAJNEESH KHOSLA, SCIENTIST ‘E’ AND HEAD (MED) [REPRESENTING DIRECTOR GENERAL (<i>Ex-Officio</i>)]

Member Secretary
SHRI AMAN DHANAWAT
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