



Government of India
भारत सरकार
Ministry of Labour and Employment
श्रम एवं रोजगार मंत्रालय
Directorate General of Mines Safety
खान सुरक्षा महानिदेशालय



No. DGMS (Legis.) Circular No. 01 of 2018 Dhanbad, Dated 22-03-2018

सेवा में,

The Owner, Agent, Managers of all Oil Mines & the Manufacturers.

विषय: Standard for emergency escape device used in oil mines.

Your attention is drawn to the provision of Regulation 38(1) of Oil Mines Regulations, 2017, which requires that the owner, agent and manager of a mine shall ensure that an escape device with escape line and slide of adequate strength, as per the standard specified for the purpose by the Chief Inspector of Mines by a general or special order, is installed and maintained on every monkey board in such a manner that persons may come down safely from the monkey board to ground level in an emergency.

In this regard, a committee was constituted in which experts from Government test house, Oil industry, manufacturers and officers of DGMS were participated. After detailed discussion and deliberations by the committee members in the meetings, the draft standard for emergency escape device specified for the purpose used in oil mines was framed and is given below.

1.0 The Manufacturer shall:

- 1.1 have adequate knowledge, facility for proper manufacturing and testing of every part of the unit and shall have good workmanship. The product shall be reliable and free from any defects.
- 1.2 use the material in the emergency escape device shall be of good construction, suitable material of adequate strength and free from visible defect and shall be properly maintained. An every emergency escape device or any part thereof fitted in the device shall not be made of alloy and material likely to give incensive frictional sparks. The components/material used in the device shall conform to relevant BIS/ISO/OISD/Internationally accepted standards wherever applicable.
- 1.3 be fully responsible for quality and reliability of the emergency escape device.
- 1.4 furnish all the design, calculations, detailed drawings, set of working tools ,test reports/certificates or any other information of pertinent to their product(s) to the user(s), along with each consignment.

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2.0 Testing and Examination:

- 2.1 The emergency escape device shall be tested for its accuracy, safe working, and reliability conform to BIS/API/OISD/ISO when formulated or equivalent internationally accepted standards at any test house prescribed under Para 6.0 of Approval Policy, 2015 (Second Revision) of DGMS or its revised version.
- 2.2 Any component in which defect is noticed shall be marked defective and shall not be supplied to any mine.
- 2.3 Non destructive test shall be conducted for vital components used in the emergency escape device, for its material composition, grade and other mechanical properties conform to relevant BIS/API/ISO/OISD/Internationally accepted standards at any test house prescribed under Para 6.0 of Approval Policy, 2015 (Second Revision) of DGMS or its revised version.

3.0 Marking:

The manufacturer shall ensure that each emergency escape device legibly marked on the body mentioning the following:

- (a) The manufacturer's name,
- (b) Serial and Batch number,
- (c) The month and year of manufacture,
- (d) Any other marking required by the applicable Oil industrial safety standards.

4.0 General requirements:

- 4.1 On every monkey board in rig there shall be installed and maintained an escape line, escape device with a slide of adequate strength in such a manner that persons can come down safely from the monkey board to ground level in an emergency.
- 4.2 Escape line shall be securely fastened to the girt immediately above the monkey board and it shall be securely anchored to ground at a distance, from centre of cellar pit, not less than the height of the monkey board from the ground.
- 4.3 The track rope shall conform to IS 2266:2002 or its revised version /API/ISO/OISD/any Internationally accepted standards with minimum size of 12mm diameter, construction of stranded 6x19, galvanized or ungalvanized, non-lubricated and fiber core or steel core.
- 4.4 The track rope of the emergency escape device shall have sufficient sag to avoid straining due to pre-tensioning. The track rope or any part thereof shall have no damage or kink.
- 4.5 The haulage rope shall conform to IS 3459:2009 or its revised version/API/ISO/OISD/any Internationally accepted standards with minimum size of 6mm diameter, construction of stranded 6x19, galvanized or un galvanized, non lubricated and fiber or steel core.
- 4.6 The minimum breaking load of wire rope shall conform to relevant BIS/API/OISD/any international accepted standards.
- 4.7 Care shall be taken to avoid any twisting or kinking of the wire rope while un-reeling of rope during installation.

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- 4.8 The life of rope shall be fixed by the manager in consultation with competent person with following additional conditions:
- a. Reduction in diameter of the rope is 10% of the original diameter when new, anywhere along the length of the rope.
 - b. Broken wires with in any one strand exceed 15% of the total numbers of wires in that strand.
- 4.9 A suitable speed control system shall be provided in the emergency escape device. In addition to the speed control system a suitable hand brake shall be provided in the chair unit which is easily approachable to the person sliding down.
- 4.10 The pulleys of braking unit of the emergency escape device shall be checked for free rotation prior to each installation and they shall be checked for any wear and make it free from slippage.
- 4.11 The chair(s) shall be ergonomically designed and provided with a cushioning seat and safety belt to give maximum comfort to the person throughout the travel period.
- 4.12 Ensure safe & easy access of the chair to the Topman at monkey board at all the time.
- 4.13 The swing of the chair unit while embarking and during riding shall be avoided. An additional lifeline may be provided under the chair unit to prevent hard landing with controlled speed.
- 4.14 An every landing shall be provided with suitable shock absorber of adequate strength for cushioning to prevent hard landing.
- 4.15 The landing area on the ground shall be provided with adequate amount of loose sand for smooth landing.
- 4.16 The speed of the chair shall be fixed by the manager in consultation with competent person/Installation manager and original equipment manufacturer and in any case it shall not exceed 2.2 m/s.

5.0 Responsibilities of Owner ,Agent and Manager(User):


- 5.1 The user(s) industry shall also be responsible to ensure correct quality and conformity to the prescribed specifications by the manufacturer and also take proper care during the installation of emergency escape device and also while in use. When emergency escape devices supplied to the mine, the mine shall ensure that the system has been adequately designed for the particular rig.
- 5.2 The user(s) shall visit the manufacturer's works to ensure the adequate manufacturing and testing facilities are available with the manufacture.
- 5.3 A competent person / installation manager, shall inspect the emergency escape device in accordance with regulation 38 of Oil Mines Regulation, 2017 for installation, testing and maintenance in accordance with clause 4.0 of this standard and its performance shall be recorded in a soft/hard copy with signature and counter signed by the manager or person authorized by the manager of the mine and kept available at the mine office. Any defects observed shall be rectified immediately.

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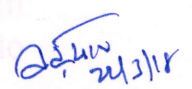
- 5.4 The user shall ensure/observe the performance of emergency escape device for a period of three months for field trial of fresh consignment in consultation with the manufacturer and the results of joint field observations particularly in respect of malfunctioning of any unit/part and also point out any shortcoming in the installation likely to adversely affect the safety shall be rectified and recorded in a soft/hard copy and signed by an installation manager and counter signed by the manager or person authorized by the manager and kept available at the mine office.
- 5.5 The user shall also have the responsibility to get the valid test reports/certificates from the manufacturer while purchasing and using the emergency escape device in the Oil mines.
- 5.6 In-situ examination of emergency escape device & it's vital components and wire rope for non destructive test conform to relevant BIS/API/ISO/OISD/Internationally accepted standards shall be conducted once in a year by any test house prescribed under Para 6.0 of Approval Policy, 2015(Second Revision) of DGMS or its revised version.

6.0 Miscellaneous

- 6.1 The Chief Inspector of Mines or an Inspector of Mines may inspect, check and examine the manufacturing facilities at any time and get samples tested during the course of inspection or send such samples for testing at any prescribed test houses/ laboratories at the cost of the manufacturer.
- 6.2 The Chief Inspector of Mines or an Inspector of Mines may inspect, check and examine the emergency escape device at any time in the mine and get samples tested during the course of inspection or send such samples for testing at any prescribed test houses/ laboratories at the cost of the Owner, Agent and Manager of the mine.
- 6.3 All user(s), manufacturers and test houses shall adhere to the above mentioned standard while testing, before supplying and using of an emergency escape device. If any deviation or defects found in the product supplied or used in the mine, shall be brought to the notice of this Directorate.
- 6.4 The above standard for an emergency escape device specified for the purpose by the Chief Inspector of Mines by a general order under regulation 38(1) of Oil Mines Regulations, 2017.
- 6.5 All circulars/ approvals issued by DGMS from time to time, relevant to the equipment shall be complied with.
- 6.6 The Chief Inspector of Mines may by an order in writing and subject to such condition as may be specified therein require any modifications or additional requirements to be included in this standard on merit of the case.


(Prasanta Kumar Sarkar)
Director General of Mines Safety

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