



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.)/ Tech. Circular No 02 of

Dhanbad, Dated 10-10-2018

सेवा में,

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

विषय: Standard for Design, construction, installation and testing of lifting appliance, gear and rope used in Oil Mines.

Design, construction and installation of lifting appliance, gear and rope used in Oil Mines shall be in accordance with the standard specified by the Chief Inspector of Mines by a General or Special Order in writing as required under Regulation 105(2)(a) of Oil Mines Regulations, 2017.

A committee of experts from Government test house, Oil industry, Manufacturers and DGMS was constituted and after detailed discussion and deliberations by the committee, standard for design, construction and installation of lifting appliance, gear and rope used in Oil Mines was framed. The standard is prescribed below:

1.0 General requirements:

1.1 Lifting appliances and gears: -

- 1.1.1 The design, construction and installation of lifting appliance and gear shall conform to relevant BIS / ISO / OISD / Internationally accepted standards like API 4F, API 9A, API 8C etc. wherever applicable.
- 1.1.2 Operation, maintenance & inspection of lifting appliances and gears shall conform to OISD – GDN -203 of 2003 or its revised version / BIS when formulated or equivalent internationally accepted standards.

1.2 Ropes:-

- 1.2.1 The minimum size of wire rope shall be of 12mm diameter and shall conform to IS 2266:2002 / IS 4521:2001 (or its revised versions) / OISD / API /any other equivalent internationally accepted standards.
- 1.2.2 The minimum breaking load of wire rope shall not be less than eight times the maximum lifting load on the rope.
- 1.2.3 Care shall be taken to avoid any twisting or kinking of the rope while un-reeling the rope during installation / Handling.
- 1.2.4 Rope life and discarding factors: The life of rope shall be fixed by Manager of the Mine in consultation with competent person and in no case it shall exceed the life specified by the Manufacturer and shall be discarded on following additional conditions:
- When reduction in diameter of the rope is 10% of the original diameter when new, anywhere along the length of the rope.
 - When broken wires within any one strand exceed 15% of the total numbers of wires in that strand.

2.0 Testing and Examination:

- 2.1 The lifting appliances, gears and ropes shall be tested for its Quality, safe working and reliability conforming to OISD – GDN -203 of 2003 or its revised version /BIS 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.

3.0 Marking: The manufacturer shall ensure that each lifting appliance, gear and rope (Sling etc) are legibly and permanently marked on unwearable portion with the following:

- (a) The manufacturer's name;
 - (b) Serial and Batch number;
 - (c) The month and year of manufacture;
 - (d) Safe Working Load;
 - (e) Identification mark bearing with certificates of Test and Examination;
- and
- (e) Any other marking required by the applicable OISD.

4.0 The Manufacturer shall-

- 4.1 have adequate knowledge, facilities 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.
- 4.2 ensure that the materials used in the lifting appliances, gears and ropes are of good design, construction, suitable material of adequate strength and free from visible defects. Alloys or materials likely to give incendive frictional sparks shall not be part of lifting appliance, gears and ropes.
- 4.3 be fully responsible for design, quality and reliability of every lifting appliances, gears and ropes.
- 4.4 furnish design calculations, detailed drawings or any other information pertinent to their product(s) to the user(s), along with each consignment.
- 4.5 provide certificate of test and examination along with Operation and Maintenance Instruction manual to the User(s), along with each consignment.


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

- 5.1 The user(s) shall ensure that the lifting appliances, gears and ropes have been adequately designed for the particular rig and proper care is taken during installation and use of lifting appliances, gears and ropes.
- 5.2 The user(s) shall visit the manufacturer's facilities to ensure availability of adequate manufacturing and testing facilities.
- 5.3 In case of fresh consignment, the user shall observe the performance of lifting appliances, gears and ropes for a period of three months of field trial in consultation with the manufacturer. Malfunctioning of any unit / part and shortcoming(s) in the installation which are likely to have adverse effect on safety shall be immediately stopped and attended to and recorded in soft / hard copy with signature of competent person / Installation Manager and counter signed by the Manager or person authorized by the Manager of the mine. This record shall be kept available at the mine office.

- 5.4 Competent person / Installation Manager shall ensure that installation, testing and maintenance of the lifting appliances, gears and ropes are in accordance with clause 1.0 and 2.0 of this General Approval. Their performance shall be observed and recorded in a soft / hard copy, signed by competent person / Installation Manager and counter signed by the Manager or person authorized by the Manager of the mine. The record shall be kept available at the mine office. Any defects observed shall be rectified immediately.
- 5.5 The user shall also have the responsibility to obtain valid test reports / certificates, instruction manuals, etc, from the manufacturer during procurement.
- 5.6 In-situ Non Destructive testing of vital components of lifting appliances, gears and ropes shall be conducted once in a year conforming to relevant BIS / ISO / OISD / Internationally accepted standards 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 lifting appliances, gears and ropes at any time in the mine and get their samples tested during the course of inspection or send such samples for testing at any prescribed test houses/ laboratories at the cost of User(s).
- 6.3 All user(s), manufacturers and test houses shall adhere to above mentioned standards and parameters while testing and before supplying the lifting appliances, gears and rope. 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 lifting appliances, gears and ropes conforming to the standards, parameters and testing as mentioned above, shall be considered as approved by the Chief Inspector of Mines by a General Order under Regulation 105(2)(a) of the Oil Mines Regulation, 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 by an order in writing and subject to such conditions 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)

10.10.18
Director General of Mines Safety

