Stairs, Ladders, Walkways, Platforms and Handrails

1. Stairs, ladders, walkways, platforms shall be provided to give safe access to structures and equipment for operation and maintenance.

2. Handrails shall be used on all stairs, walkways, platforms and places where there is a level difference of 500mm or more. Chains are not allowed as handrail. Handrail posts shall be at maximum 1.5 m centres. Minimum 100 mm high kick plates and knee rails shall be provided. (See web forge attachment)

3. Handrails and posts shall be solid bar or hollow tube. Handrail diameter shall be 25-50mm.

4. Floor gratings and tread gratings shall be hot dipped galvanised

5. Walkways and stair treads shall have gratings. The stair treads shall be delivered with serrated and slip resistant front edge.

6. Each grating part shall be minimum secured by four fasteners. Welded or nailed studs are not allowed due to the risk of weakening from corrosion.

7. Kick plates shall be fitted around the edges of the floor areas and around all cut outs and shall have a minimum upstand of 100 mm.

8. Open grid flooring shall be sized to resist penetration by a 50 mm diameter sphere.

9. The normal gradient of a stair shall be 35° to 40°, with a maximum gradient of 42°. The height of one flight shall not exceed 3.5 m.

10. Self closing gates or railing bars shall be provided at the top of permanent ladders at all walkways and platforms except at rest platforms.

General safety requirements concerning material and dimensions

1. The material and dimensions of constituent elements and construction mode used shall meet the safety objectives of this standard.

2. Any parts liable to be in contact with the users shall be designed so as not hurt or hinder (sharp corners, welds with burrs, rough edges, etc.).

3. Steps and landings shall offer satisfactory slip resistance to avoid any risk of slipping.

4. Opening or closing of moving parts (gates) shall not cause further hazards (for example by shearing or by falling) to users and other persons in the vicinity.

5. Fittings, hinges, anchorage points, supports and mountings shall provide sufficient rigidity and stability to the assembly to ensure safety.

6. The structure and the steps shall be designed to satisfactory resist the intended imposed loads.

7. The removal of any stairway and walkway of the machine shall, as far as practicable, be possible without removing guard-rails, pieces of flooring or other permanent barriers

8. All parts likely to be in contact with operators shall be designed and built in such a way that the operator is safe-guarded against injuries.

9. Handrails and other supports shall be designed, built and laid out in such a way that they are used instinctively.

10. The minimum height of the guard-rail shall be 1100mm.

11. The guard-rail shall include at least one intermediate kneerail or any other equivalent protection. The clear space between the handrail and the kneerail, as well as between the kneerail and the toe plate, shall not exceed 500mm.