

BIS IS 2506 : 2022

TMI Assignment on Bureau of Indian Standards (BIS) Standards

1. Title and Scope of the Allotted Standard

- **Title:** General requirements for concrete vibrators, screed board type
- **Scope:** This standard lays down the requirements for materials, sizes, construction, assembly and performance of the screed board concrete vibrators.

2. Historical Background:

- The first Indian Standard for concrete vibrators was published in 1952 as IS 2506:1952, as the use of concrete in construction increased rapidly.
- The revision of the standard in 2022 is a significant step forward, as it incorporates the latest international standards and best practices.
- The revised standard is expected to play a major role in ensuring the quality and safety of concrete vibrators manufactured in India.

3. Applicability and Industries Affected

- IS 2506:2022 applies to concrete vibrators of the screed board type.
- The standard covers vibrators that are used to consolidate concrete in slabs, beams, columns, and other similar structures.
- IS 2506:2022 is applicable to concrete vibrators used in the construction of Buildings, bridges, dams, tunnels, roads, AirFields, marine structures, etc.
- There are many industries affected by IS 2506:2022, those are
 - i. Construction industry.
 - ii. Precast concrete industry.
 - iii. Concrete products industry.
 - iv. Civil engineering industry.
 - v. Infrastructure development industry.

4. Key Requirements of the Standard:

- **Materials and construction:** Material must withstand stresses and vibrations during use

- **Performance requirements:** Vibration frequency of at least 3000 vibrations per minute and vibrations amplitude of at least 0.5mm.
- **Testing and inspection:** Endurance test, vibration frequency test, vibration amplitude test, and noise level test .
- **Marking and packing:** Manufacturer's name or trademark, type of vibrator, serial number, date of manufacture, mass.

5. Benefits and Significance:

- **Benefits of IS 2506:2022 are:**
 - i. **Improved concrete quality :**Concrete vibrators help to remove air bubbles from concrete, which results in a denser and more durable concrete.
 - ii. Increased concrete strength and durability.
 - iii. **Reduced concrete porosity:** Porous concrete is more susceptible to damage from water and other elements. Concrete vibrators can help to reduce the porosity of concrete, making it more durable.
 - iv. **Reduced construction time:** Concrete vibrators can help to reduce the time it takes for concrete to set. This can lead to shorter construction times and lower costs.
 - v. **Improved worker safety:** Concrete vibrators can help to reduce the risk of injury to workers by eliminating the need for manual vibration.
- **Significance of IS 2506:2022:** It is a mandatory standard for the manufacture and sale of concrete vibrators in India. The standard helps to ensure that concrete vibrators are manufactured to a high quality and that they meet the performance requirements necessary to achieve the benefits listed above. The standard also helps to protect workers from the risks associated with manual vibration.

6. Challenges and Limitations:

- **Challenges:**Over-vibration, damage to formwork, Noise pollution, cost of purchasing and maintenance.
- **Limitations:** This standard does not address the issue of over-vibration, damage to formwork, noise pollution, cost.

7. Compliance and Certification:

- **Compliance** with IS 2506:2022 is mandatory for the manufacture and sale of concrete vibrators in India. Manufacturers must

ensure that their products meet all the requirements of the standard.

- **Certification** from a recognized testing laboratory can demonstrate compliance and provide a competitive advantage. BIS certification is a mark of quality that is recognized throughout India.

8. Impact on Society and Environment:

- Improved infrastructure quality and durability.
- Reduced environmental impact
- Enhanced worker safety
- Improved economic development.

9. Case Studies:

- **Construction of delhi metro:** Concrete vibrators were used to ensure that the concrete was properly consolidated and that air bubbles were removed.
- **Construction of the Sardar Sarovar Dam:** Concrete vibrators were used to ensure that the concrete was properly consolidated and that air bubbles were removed. The use of concrete vibrators helped to ensure the high quality and durability of the Sardar Sarovar Dam.
- **Construction of the Bandra-Worli Sea Link:** The use of concrete vibrators helped to ensure the high quality and durability of the concrete used in the construction of the Bandra-Worli Sea Link.

10. Conclusion:

- IS 2506:2022 is a comprehensive standard that provides guidance on the design, manufacture, testing, and marking of concrete vibrators of the screed board type.
- This is a comprehensive standard that provides guidance on the design, manufacture, testing, and marking of concrete vibrators of the screed board type.

11. References:

- <https://standards.bsb.co.in/SearchList.aspx>
- <https://www.google.com/>

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