

Product Verification (Certification)

Product verification (certification) is a result of social and economic development to a certain stage. When goods are traded in the market, the buyer needs to confirm whether the seller's goods satisfy his needs, so the original mode of product testing (certification) emerged. Products are self-evaluated by the supplier and inspected by the person who needs the product. When the ability and objectivity of the product supplier to carry out self-assessment is questioned by those who demand for the product, an impartial third party with the product assessment ability and not subject to the economic interests of the supply and demand sides will be asked to carry out impartial, scientific and objective product assessment, supervision (the so-called third-party verification (certification), which is to ensure the quality of the product. Internationally, in order to protect the safety and health of their people, animals and plants, governments or regional economic markets usually establish and operate the relevant commodity conformity assessment mechanism under the principle conforming to the WTO TBT norms, so as to manage the compliance of commodities produced in certain countries or regions and the commodities imported for sale and use with the requirements of safety and health standards of the laws and regulations. Some governments or regional economic markets often utilize their advantages in technology, management and international trade to set up technical barriers for the purpose of protecting local industries. Most governments or regional economic markets have announced product categories with mandatory or voluntary testing (certification) requirements for the entry of products into their markets in order to ensure the safety of use. These notified goods are not allowed to enter the countries or regional economic markets unless they have been qualified by mandatory or voluntary product verification (certification), have received a product verification (certification) certificate and/or have a qualified product verification (certification) mark or label affixed to them.

Under the principles of the WTO TBT Agreement, product certification is defined as a method of providing assurance that a product (including processes or services) conforms to prescribed standards and other regulatory documents. Under the specific requirements of WTO TBT, organizations that can perform

product verification (certification) should meet the competence of the ISO/IEC Guide 65 for product verification (certification) and should be accredited by the authorities of the economic markets or the countries, which aims to ensure that third-party verification (certification) can be performed by the organizations in the economic markets or the countries in a consistent and reliable manner and be accepted internationally. Product certification organizations recognized by the governments or regional economic markets shall provide product certification services in a consistent and reliable manner, and establish product certification scheme and conformity assessment procedure according to the product certification requirements announced by the governments or regional economic markets. Manufacturers apply for product verification (certification) in accordance with the program that the product complies with, and have the products evaluated by an accredited organization in accordance with the conformity assessment procedure. Those who pass the requirements can be registered at the organization and receive certificates, or certification tags or allowed to use the certification mark.

Products Under Compulsory Certification in India

India is a developing economy with the world's largest population of approximately 1.4 billion people. In 2021, the country reported a total GDP of

approximately US\$3.1 trillion, the sixth largest in the world. With a relatively low per capita income of around US\$2,200, the country has a large domestic market with high growth potential and is arguably the most important emerging market in the world. India's future growth will be based on several factors including demographic dividend, development of digital economy, promotion of manufacturing sector and increasing connectivity with other countries. The promotion of manufacturing is also an important aspect of India's future development. The Indian government has introduced the "Make in India" policy with the aim of transforming India into a global manufacturing center, creating more job opportunities and increasing the competitiveness of the Indian manufacturing sector. Therefore, one of the strategies of the Indian government is to utilize technical barriers in order to protect the Indian domestic industry. India's Department for Promotion of Industry and Internal Trade (DPIIT) has announced on January 30, 2024 that it has made more products under Quality Control Orders (QCOs), which will enable Indian products to gain a greater share of the global manufacturing market. OCOs will enable Indian products to gain a greater share in the global manufacturing market and strengthen product quality standards to prevent the circulation of poor quality products in the Indian market, thereby attracting investment and preventing loss of life or any accidents. According to the BIS Act, 2016, after the implementation of QCOs, the manufacture, storage and sale of products not certified by the Bureau of Indian Standards (BIS) is prohibited, and offenders are liable to imprisonment of up to 2 years or a fine. The penalty for the first offense is Rs. 200,000 and for the second offense the fine increases to Rs. 500,000 or 10 times the value of the goods. The Central Government of India, through the issuance of QCOs, has made it mandatory for such products to obtain a BIS license or Certificate of Conformity. The mandatory inspection of products includes the ISI Mark Scheme, Grant of Certificate of Conformity and Registration Scheme.

BIS is specifically responsible for product certification, and is the only product certification body in India, with 5 regional branches and 19 offices. 8 laboratories under the BIS and external independent laboratories accredited by the BIS are all in compliance with ISO/IEC 17025, and are responsible for sampling and inspection in the product certification process. BIS product certification is mainly voluntary, but products that are subject to QCOs announced by DPIIT are included in the mandatory product verification (certification).

The products listed in the DPIIT announcement of QCOs for mandatory verification (certification) are classified into the following 18 categories:

- 1. Textile products
- 2. Chemical products and pesticides
- 3. Rubber and plastic products
- 4. Cement and concrete products
- 5. Building materials
- 6. Water pumping, irrigation, drainage and sewage treatment installations
- 7. Water supply system pipes and fixtures
- 8. Base metals and processed metal products
- 9. Machinery and equipment
- 10. Electronic/electrical appliances and optical equipment
- 11. Automobile parts and components
- 12. Agricultural products, food and tobacco
- 13. Tea and beverages
- 14. Packaged drinking water and natural mineral water
- 15. Leather Products
- 16. Wood products
- 17. Pulp products
- 18. Test equipment

The marking of Licence or Certificate of Conformity (CoC) issued by BIS is based on the mandatory marking of standards as per QCOs issued by DPIIT. In accordance with the Quality Control Orders (QCOs), the Bureau of Indian Standards (BIS) requires products subject to mandatory verification (certification) to undergo a conformity assessment procedure. Mandatory verification (certification) products are divided into five Product Certification Schemes and five Conformity Assessment Procedures, which are as follows:

- 1. Scheme I: known as the ISI Mark Scheme. Fasteners involved in ISI marking verification (certification) and standards, according to India's (Quality Control) Order, 2023 S.O. 3267(E) and (Quality Control) Order, 2024 S.O. 2771(E), are listed in Table 1.
- 2. Scheme of Inspection and Testing Made Optional for Micro and Small Scale Manufacturers of Consumer Footwear and Footwear Components. For products involved and standards, please refer to https://www.bis.gov.in/wpcontent/uploads/2023/09/notification-for-footwear-SIT-relaxation-merged.pdf.
- 3. Scheme IV: known as Certificate Of Conformity. Products involved are stamping parts/laminations/cores of transformers (with or without windings) and bicycle mirror reflectors. For more info, please refer to https:// www.bis.gov.in/index.php/product-certification/products-under-compulsorycertification/scheme-4/.
- 4. Scheme II: Known as Registration Scheme. Mainly electronics and IT goods. For more info, please refer to https://www.bis.gov.in/?page_id=1703.
- 5. Scheme X: Known as Certification. Products involved are low-voltage switchgear and control cabinets, machinery and electrical equipment covered by comprehensive technical regulations. For more info, please refer to https:// www.bis.gov.in/products-under-compulsory-certification-scheme-x/

Table 1. Fasteners Announced by Indian QCOs to be Included in the ISI Mark Verification (Certification) Framework

Bolts, Nuts and Fasteners					
Products	Standards	Referenced Indian Government Announcement Documents			
IS 1363 (Part 1) :2019	Hexagon Head Bolts, Screws and Nuts of Product Grade C Hexagon Head Bolts (Size Range M 5 to M 64)	117. Bolts, Nuts and Fasteners (Quality Control) Order, 2023 S.O. 3267(E), dated 21st July 2023 Bolts, Nuts and Fasteners (Quality Control) Order, 2024 S.O. 2771(E), dated 12th July 2024			
IS 1363 (Part 2) :2018	Hexagon Head Screw (Size Ranges from M 5 to 64)				
IS 1363 (Part 3) :2018	Hexagon Head Bolts, Screws and Nuts of Product Grade C – Hexagon Nuts (Size Range M5 to M64)				
IS 1364 (Part 1) :2018	Hexagon Head Bolts, Screws and Nuts of Product Grades A and B – Hexagon Head Bolts (Size Range M 1.6 To M 64)				
IS 1364 (Part 2) :2018	Hexagon Head Bolts, Screws and Nuts of Product Grades A and B – Hexagon Head Screws (Size Range M 1.6 to M 64)				
IS 4621:1975	Indicating Bolts for Use in Public Baths and Lavatories				
IS 5187: 1972	Flush Bolts				
IS 10238:2001	Fasteners – Threaded Steel Fastener – Step Bolts for Steel Structures				
IS 12427 : 2001	Fasteners – Threaded Steel Fasteners – Hexagon Head Transmission Tower Bolts				
IS 3757 : 1985	High Strength Structural Bolts				
IS 204 (Part 2): 1992	Tower Bolts- Non-ferrous Metal				
IS 204 (Part 1): 1991	Tower Bolts- Ferrous Metals				
IS 15834 : 2022	Stainless Steel Sliding Door Bolts (Aldrops) for Use with Padlocks				
IS 2681 : 1993	Non-ferrous Metal Sliding Door Bolts (Aldrops) for Use with Padlocks				
IS 281 : 2009	Mild Steel Sliding Door Bolts for Use with Padlocks				
IS 7534: 1985	Sliding Locking Bolts for Use with Padlocks				
IS 1284 : 1975	Wrought Aluminium Alloy Bolt and Screw Stock for General Engineering Purposes				
IS 15833 : 2009	Stainless Steel Tower Bolts				
IS 6623 : 2004	High Strength Structural Nuts				

- 1. https://www.bis.gov.in/?page_id=1697,
- 2. (Quality Control) Order, 2023 S.O. 3267(E), dated 21st July 2023
- 3. (Quality Control) Order, 2024 S.O. 2771(E), dated 12th July 2024



Table 2. Fasteners Included in the Indian QCOs for Mandatory Verification (Certification) in 2025

Indian Government Department	Products	Standards	Effective Date
Department for Promotion of Industry and Internal Trade	Fasteners – Cross Recessed Drilling Screws with Tapping Screw Thread Part 2 Countersunk Head	IS 18471 (Part 2) :2023/ ISO 15482:1999	20 March 2025
Department for Promotion of Industry and Internal Trade	Fasteners – Cross Recessed Drilling Screws with Tapping Screw Thread Part 3 Raised Countersunk Head	IS 18471 (Part 3) :2023/ ISO 15483:1999	20 March 2025
Department for Promotion of Industry and Internal Trade	Fasteners – Hexagon Washer Head Drilling Screws with Tapping Screw Thread	IS 18476 : 2023/ ISO 15480:2019	20 March 2025
Department for Promotion of Industry and Internal Trade	Cross Recessed Tapping Screws: Part 1 Pan Head	IS 18480 (Part 1) :2023/ ISO 7049 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Cross Recessed Tapping Screws Part 2 Countersunk Flat Head	IS 18480 (Part 2) :2023/ ISO 7050 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Cross Recessed Tapping Screw Part 3 Raised Countersunk Oval Head	IS 18480 (Part 3) :2023/ ISO 7051 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Pan Head Screws with Type H or Type Z Cross Recess – Product Grade A	IS 7483 : 2018/ ISO 7045 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Countersunk Flat Head Screws (Common Head Style) with Type H or Type Z Cross Recess – Product Grade A Part 1 Steel Screws of Property Class 4.8	IS 7485 (Part 1) : 2018/ ISO 7046 -1 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Countersunk Flat Head Screws (Common Head Style) with Type H or Type Z Cross Recess – Product Grade A Part 2 Steel Screws of Property Class 8.8, Stainless Steel Screws and Non– Ferrous Metal Screws	IS 7485 (Part 2) : 2018/ISO 7046-2 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Raised Countersunk Head Screws (Common Head Style) with Type H or Type Z Cross Recess – Product Grade A	IS 7486 : 2018/ ISO 7047 : 2011	20 March 2025
Department for Promotion of Industry and Internal Trade	Drywall Screws – Specification	IS 18507 : 2024	20 March 2025
Department for Promotion of Industry and Internal Trade	Chipboard Screws – Specification	IS 18508 : 2024	20 March 2025
Department for Promotion of Industry and Internal Trade	Cross-recessed Countersunk Head Wood Screws – Specification	IS 18509 : 2023	20 March 2025

Sources:

- 1. https://www.bis.gov.in/upcoming-qcos-notified-and-due-for-implementation/
- 2. DPIIT Order S.O. 4099(E) dated 17th September 2024

References

- 1. 2013.08, Exploring the Development Trend of Product Certification Framework and Market Supervision from the Viewpoint of EU Construction Product Regulations, Standards and Inspection, vol.176, p.1-15
- 2010.07, Accreditation/Certification for Fasteners: Challenge and Opportunity, Fastener-World Magazine No. 123, Fastener World Inc., p.96~p.103
- 3. https://www.bis.gov.in/?page_id=1697
- 4. https://www.bis.gov.in/upcoming-qcos-notified-and-due-for-implementation/
- 5. (Quality Control) Order, 2023 S.O. 3267(E), dated 21st July 2023, India.
- $6.\ (Quality\ Control)\ Order,\ 2024\ S.O.\ 2771(E),\ dated\ 12th\ July\ 2024,\ India.$
- 7. DPIIT Order S.O. 4099(E) dated 17 th September 2024, India.

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