



# SAFETY FIRST

While the new Safety Regulation for Machinery is expected to benefit the industry, meeting the three levels of machine safety within a one-year timeframe may pose a challenge for MSMEs.

**Divya Shetty** outlines strategies for the industry and stakeholders to comply with the order, emphasising the long-term advantages for companies.

**T**he Ministry of Heavy Industry introduced the 'Machinery and Electrical Equipment Safety Order, 2024,' to bring Indian safety practices in line with international standards. Scheduled to come into effect on August 28, 2025, this regulation sets strict safety requirements for machinery and electrical equipment, whether manufactured domestically or imported into India.

The new regulation will impact more than 50,000 types of machinery, including industrial equipment like pumps, compressors, cranes, and transformers. These machines are categorized under 463 tariff lines, requiring manufacturers to comply with rigorous safety standards set by the Bureau of Indian Standards (BIS).

As per the updated safety standards, all manufacturers must register with the BIS and obtain either a BIS standard mark or a certificate of conformity. Compliance will be assessed based on three specific safety standards: Type A, B, and C.

**Type A Standards:** These general safety guidelines apply to all machinery, emphasizing safe design, hazard identification, and risk assessment. Firms must comply with IS 16819:2018/ISO 12100:2010, which outlines general safety principles. Compliance is estimated to cost between ₹50,000 and ₹5,00,000, covering safety measures like risk assessments, employee training, and the installation of basic safety systems.

**Type B Standards:** These are generic safety standards that cover features like emergency stop functions or electrical safety, applicable across different types of machinery. Implementing these features, including control systems and emergency stop functions, is projected to cost between ₹1,00,000 and ₹10,00,000.

**Type C Standards:** These are machine-specific safety standards. If there is any conflict between Type A or B standards, Type C standards take precedence as they address the specific safety needs of the machinery. Meeting these machine-specific standards may range from ₹2,00,000 to ₹20,00,000 or more per machine, depending on the complexity and the extent of retrofitting needed.

The regulation is encompassing not only machinery, but also parts and subassemblies. Although machinery produced solely for export is exempted from this order,



this offers limited relief, as most companies manufacture products for both domestic and export markets. They will still need to secure full BIS certification for their entire product line-up.

Additionally, the need for prior BIS approval for both manufacturing and imports could lead to delays in the availability of crucial machinery and equipment, potentially causing production bottlenecks. The textile industry is also affected by this order, with specific segments required to comply with these standards.



**ND Mhatre, Director General (Technical), ITAMMA,** demystifies why this order has been put in place by saying, "In the weaving industry, for example, different levels of automation carry varying degrees of safety. Handlooms, controlled entirely by the worker, are generally safer,

while powerlooms and automatic shuttlelooms operate with partial automation and carry more risks. The latest technology, such as shuttleless looms, is highly automated, but lacks certain safety features like automatic stops when humans approach. Implementing these new safety standards will require significant investment, especially for older machines and equipment. Conventional machines will need modifications to meet the standards, while new machinery manufacturers will need to invest more in safety features during production.

The government may offer subsidies to support these upgrades, and insurance companies could also play a role in promoting a culture of zero harm.”



**Ajay Srivastava, Founder, Global Trade Research Initiative**, adds,

“This regulation is expected to significantly impact India’s textile sector, particularly small firms that depend on weaving and embroidery machines. These businesses will now need prior approval from the Bureau

of Indian Standards (BIS) and will be required to comply with three levels of safety standards.”

The guidelines and process for the BIS certification shall be discussed with all the stakeholders including industry, government, academia and industry associations in the coming 2-4 months

of period. **Sachin Arora, Executive Director, TMMMA**, opines that this is a good opportunity as he tells, “TMMMA considers it a good opportunity for Indian Machinery manufacturers to establish their manufacturing capabilities, seek joint ventures and acquire technologies from overseas. Also foreign manufacturers should consider opening their manufacturing lines in India, if they wish to partner for ‘Make in India’.” Arora also mentions on who all are eligible under this order;



- The current QCO is on three types of textile machinery coming under HS Codes 8446 – Weaving Preparatory & Weaving, 8447 – Embroidery, and 8448 – Textile Components, Parts, and Accessories of HS Codes 8446 – Weaving, and 8447 – Embroidery etc (see Table 1).
- This QCO is not applicable for other textile machinery such as spinning, processing, testing equipment and garmenting.
- The QCO is also going to be implemented upon other important Capital Goods such as 8413 - Pumps, 8414 - Compressors, 8456 - Metal Cutting Tools etc. and various other important capital goods under chapters 84 & 85.

The certification will require BIS experts visiting applicant’s premise for audit and examination, wherever the company is located i.e. India or any foreign country. Besides, Indian companies, foreign manufacturers selling their machines/ equipment will be required to take this certification before they can sell their products in India. The QCO shall come into effect on 27 August 2025. There is a 12 months’ time for guideline preparation, roll out of application process and actual implementation.

**B Sankar, GM-Technical and Development, Perfect Engineering Corporation**, shows enthusiasm for the new machinery and electrical equipment safety order as he



states, “It’s a good initiative, and I believe there’s a target date set, which we must adhere to. Indian machine manufacturers should adapt to these obligations so that our products are recognised in international markets, particularly from a safety standpoint. Even when

we buy electrical or electronic items, meeting these standards is essential.” He further adds, “For over 25 years, our policy has been very clear on using top-quality components, even down to small items like labels, gears, and bearings. We’ve always relied on state-of-the-art, reliable products, often sourced from European or other advanced countries through joint ventures in India. About 50 per cent of our machinery’s components are imported or come from highly recognised manufacturers. This focus on quality has ensured that our machines are reliable, satisfying customers, and contributing to our market share of 75-85 per cent in the yarn manufacturing sector. We take pride in this, and it’s a major reason for our success.”

## Impediments to compliance

The new machinery safety standards are well-intentioned, aiming to ensure safer and globally compliant equipment. However, they are expected to have a huge impact on Indian manufacturers, particularly the micro, small, and medium enterprises (MSMEs) that constitute 90 per cent of the industry.

The MSMEs are not adequately prepared to meet these new requirements within the short timeframe provided. Consequently, the one-year deadline has raised significant concerns among businesses that already face resource constraints. Srivastava shows greater concern for the MSMEs as he lists down the challenges that the sector may face while adhering to this order.

**High compliance costs:** Compliance with the new standards will involve significant costs, ranging from ₹1,00,000 to ₹50,00,000, depending on the complexity of the machinery and the type of safety standards required (Type A, B, or C). For firms already struggling with operational expenses, these additional costs can be burdensome.

**Technological barriers:** MSMEs may not have access to advanced machinery that meets the new safety regulations. Retrofitting existing equipment or purchasing new machinery will require significant investment, which could be unaffordable for smaller firms.

**Regulatory complexity:** The regulation’s technical nature and the lack of detailed guidelines make compliance difficult. Smaller firms, with limited administrative resources, may struggle to navigate the complex safety requirements.

**Table 1: Trade data of some of the textile products covered under the Order**

India's trade data of products covered under the Order (FY 2024, US\$ million)				
Tariff code	Product description	Global Exports	Global Imports	Import from China
84461011	Cotn Weavng Machines Automatic,Powerloom	0.08	0.72	0.47
84461019	Other Cotton Weaving Machines	0.35	1.22	0.27
84462190	Others	0.69	5.17	1.24
84463011	Cotn Weaving Machines Automatic,Powerloom	0.24	18.58	1.44
84463019	Other1Cotton Weaving Machines	0.61	23.47	6.36
84463090	Others	2.51	607.71	292.95
84479020	Machines For Making Embroidery	0.26	261.42	226.18
84481110	Jacquards And Harness Linner Cards For Cotton Textile Machinery	0.33	2.34	0.17
84481190	Other(E.G.Card Reducing,Copying,Punching Or Assembling Machines Fr Use	0.97	4.88	2.21
84481900	Others	5.99	67.99	49.52
84484220	Healds,Wire	4.77	0.92	0.16
84484290	Healds And Heald Lifters, N.E.S.	0.96	9.43	3.63
84484910	Parts Of Cotton Weaving Machinery	0.1	3.75	1.44
84484950	Other Parts Of Other Txtl Fibrs Machinery	0.38	4.76	2.47
84484990	Other Parts And Accssrs Of Other Weaving Machines	15.37	48.49	23.92

Source: Global Trade Research Initiative

For the textile sector, this could result in production delays, disrupted imports, and potential business closures, particularly for firms unprepared to meet these stringent new regulations. The ripple effect could also extend to exports, as machinery plays a critical role in maintaining production efficiency.

**Implementation strategy:** To minimise the negative impact on small textile firms, a coordinated implementation strategy involving government support, industry associations, and businesses is essential.

**Phased compliance:** The one-year timeframe for MSMEs to comply with the new regulations is too short. A phased approach similar to the EU's Machinery

Directive could give firms more time to adapt. Allowing three years for compliance with Type A standards, followed by five additional years for Type B and C, would give businesses breathing room to upgrade their equipment.

**Financial support:** The government should offer financial support in the form of subsidies or low-interest loans to help small firms meet compliance costs. This will be critical to ensuring that MSMEs can afford to upgrade their machinery or invest in new equipment.

**Training and certification:** To assist with compliance, a certification system for technical professionals should be established. These professionals could help small firms

understand the regulations and implement necessary changes.

**Industry support:** Industry associations should play a key role in spreading awareness and providing training to MSMEs. They could also help negotiate bulk certification agreements, which would lower compliance costs for smaller firms. In other industries, similar bulk agreements have proven effective in easing the regulatory burden on small businesses.

Without these strategic measures, many MSMEs may struggle to comply with the new regulation, leading to closures and broader negative consequences for domestic production and exports. While larger corporations may adapt more easily, India's textile sector, driven largely by small firms, needs support to ensure it can thrive under these new safety regulations.

Arora also adds to Srivastava's concern by saying, "there may be challenges for obtaining BIS Certifications for those critical components or equipment which are currently not made in India and are in imported low volumes. These OEMs may not be willing to get this certifications. Those Indian companies who are involved in trading or dealing of complete machines or parts, and or, assembling of textile machines after importing the machines in Completely-Knocked Down or in Semi-Knocked Down condition; will have real tough time ahead, as their principals will have to acquire BIS certification before they could sell their machines in India after 27 August 2024."

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### Pathways to success

Although the move has faced strong criticism from MSMEs, proper adherence could offer long-term advantages, allowing companies to compete effectively with foreign manufacturers. The order needs to be strategically designed to benefit both the government and the industry. The one-year deadline for MSMEs to comply with all three safety standards is too tight. A more realistic timeline of 3-5 years would allow companies to make the necessary adjustments.

The industry should remain optimistic about this order, as it will enhance worker safety and promote a healthier working environment. Mhatre also adds, "Historically, safety was not prioritised in the textile industry, and many workers suffered from hazardous conditions. With advancements like Industry 4.0 and now Industry 5.0, there is a renewed focus on human well-being. MSMEs, in particular, have focused on product quality rather than human or machine safety, leading to unsafe practices in older facilities. These issues must be addressed through internal audits, reverse engineering, and small modifications to improve safety without replacing entire setups. Industry 5.0 aims to bridge the gap between automation and human-centric manufacturing, ensuring that future technologies benefit both workers and production efficiency. The focus on machine safety has been more about protecting the product, ensuring that defects don't pass through, but the same level of concern hasn't been extended to operator safety. As we shift to high-tech machines, we need to give equal importance to human safety. This is a big challenge, and raising awareness in at least 20-40 per cent of the industry would be a significant step forward."

Sankar has consistently adhered to the safety standards and actively encourages his peers to do the



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same, saying, “While it may seem difficult for smaller businesses, it is achievable with a positive mindset. The Bureau of Indian Standards (BIS) is very supportive in helping companies obtain certifications, and the fees are affordable, making certification accessible.”

Srivastava, on the other hand, suggests MSMEs to ensure that their machinery meets new safety standards whether they are purchasing from local manufacturers or

importing. Both local and foreign suppliers must also comply.

The government should consider offering financial support, such as subsidies or low-interest loans, to assist MSMEs in upgrading their machinery and meeting the new safety requirements. Establishing a certification mechanism for qualified technical professionals is crucial to aid industries in implementing these standards. Industry associations should play a key role in raising awareness and organizing training sessions for MSMEs, as well as negotiating bulk certification agreements to lower compliance costs. Arora, urges the industry to discuss and assess internally with its technical, purchase, marketing teams and decision makers to find areas of opportunities and challenges that should be tabled openly with the concerned government officials during these interactions.

The New Machinery and Electrical Equipment Safety Order is a key step toward safer standards for Indian manufacturers. However, MSMEs face challenges like financial strain, skill gaps, and regulatory complexity. Targeted government support, a phased compliance timeline, and assistance from industry associations are crucial to realising the benefits without overwhelming smaller businesses.

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