

Howden Risk engineering

Property Newsletter April'26

A yellow forklift is positioned in the center of a long, brightly lit warehouse aisle. It is carrying a wooden pallet loaded with several stacked cardboard boxes. The aisle is flanked by tall, industrial metal shelving units on both sides, which are also filled with boxes. The floor is a smooth, light-colored concrete. The ceiling features a series of long, parallel metal beams and several large, industrial-style pendant lights that illuminate the space. The overall atmosphere is one of a busy, organized industrial environment.

HOWDEN

Introduction & Executive Summary:

Warehousing plays a pivotal role in today's rapidly evolving supply chain ecosystem. With the continued rise of e-commerce, third party logistics (3PL), manufacturing expansion, and global trade integration, warehouses have transformed far beyond their traditional function as mere storage facilities. They now operate as sophisticated logistics hubs that enable efficient inventory flow, faster fulfilment, and seamless customer service.

Modern warehouses handle a diverse portfolio of goods, including raw materials, finished products, high value electronics, pharmaceuticals, chemicals, and temperature sensitive commodities. This growing complexity and volume bring significant challenges. The concentration of large quantities of goods at a single location means that any disruptive event such as fire, flooding, or structural failure can lead to severe and sometimes catastrophic financial losses.

India's warehousing sector in 2026 has evolved into a technology-enabled, Grade A driven, investment heavy logistics ecosystem, valued at ₹2.2–2.5 trillion, backed by strong e-commerce penetration, manufacturing expansion, policy support, and automation adoption. Total stock has surpassed 450–470 million sq ft, with supply projected to reach 516 million sq ft by 2026 across major cities. Hence, warehousing has become a critical turning point for

India's consumption and production economy, attracting institutional capital, transforming supply chains, and reshaping logistics hubs across Tier I, II and III markets

From an insurance standpoint, the warehousing sector demands meticulous risk assessment, robust loss prevention practices, and comprehensive insurance solutions. Well-designed coverage is essential to safeguard assets, ensure business continuity, and protect organizations against the wide range of operational, environmental, and financial risks inherent to warehouse operations.



Building Construction Codes in Warehousing:

Today’s warehouse construction landscape is shaped by a robust combination of national regulations, fire safety requirements, and industry aligned best practices. In India, the National Building Code (NBC) serves as the primary framework, complemented by local municipal by laws and mandated fire department standards. Together, these guidelines ensure structural stability, operational safety, and effective risk mitigation for modern warehousing facilities.

Modern Warehousing construction focuses on:

Structural Stability	Design must account for load-bearing capacity, seismic zones, and wind resistance.
Fire Protection Systems	Mandatory installation of hydrants, sprinklers, fire exits, smoke detectors, and fire-rated walls depending on occupancy and storage type.
Material Specifications	Use of non-combustible or fire-retardant materials, especially for roofing and insulation.
Electrical Safety	Compliance with safe wiring practices to reduce ignition risks.
Ventilation & Accessibility	Adequate airflow, emergency access routes, and compliance with evacuation norms.



Evolution of construction in warehousing:

Warehouse construction has significantly evolved over the past two decades, driven by rapid logistics modernization, the exponential rise of e commerce, and deeper integration with global supply chains.

Earlier Warehousing	Modern Warehousing
Conventional Sheds	Grade A / Institutional Facilities
Typically small-scale, fragmented structures	Pre-Engineered Buildings (PEB) with high structural precision
Basic steel or tin sheds with limited fire protection	Increased clear heights (10–15 meters) to enable vertical storage
Poor floor quality and low height, restricting storage efficiency	Reinforced concrete floors with high load-bearing capacity
Minimal compliance with formal building codes	Advanced fire protection systems aligned with global standards
Missing automation integration	Integration of automation, docking bays, and temperature control



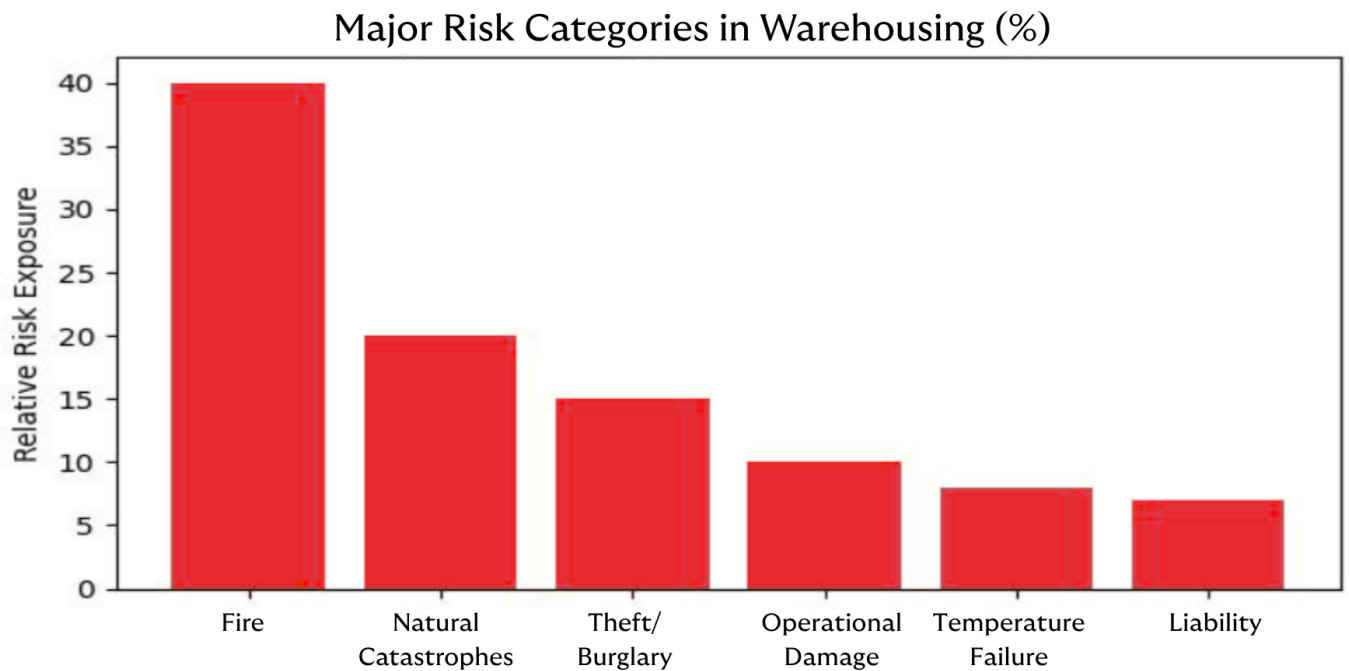
Grading in warehousing:

Warehouses are commonly classified into grades based on construction quality, infrastructure, compliance, and operational capabilities.

Below is the elaborated table for understanding.

Grade A	Grade B	Grade C
Built as per high standards (aligned with NBC and global practices)	Moderate construction quality	Basic or temporary structures
Clear height - typically 10–15 meters	Lower clear height (6–9 meters)	Poor compliance with safety and fire norms
Modern PEB structures with FM-approved or equivalent fire systems	Limited or basic fire protection systems	Limited infrastructure and accessibility
Large floor plates with efficient layouts	Often converted industrial units or older facilities	
Dock levelers, wide internal roads, and truck accessibility	May not fully comply with latest codes	
Located in organized logistics parks		

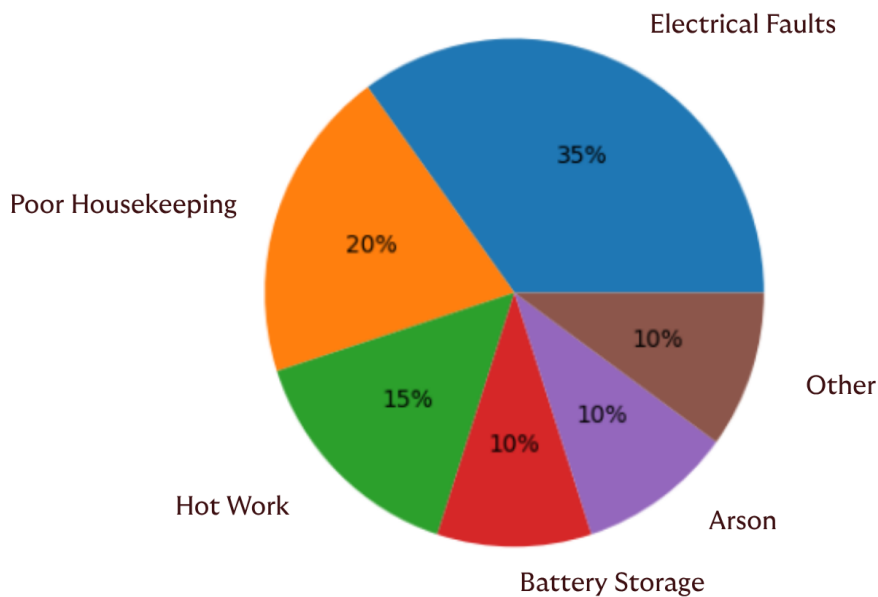
Risks involved in Warehousing Operations



1 Fire Risk:

Fire continues to be the most significant threat to warehouse operations, primarily due to the presence of highly combustible materials such as packaging supplies, plastics, wooden pallets, and concentrated volumes of stored goods. The combination of dense inventory and flammable components significantly increases the potential for rapid fire spread and extensive damage.

Common causes of warehouse fires



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2 Key Natural & Catastrophic Risk:

Flood, Cyclone, Earthquake, Land Slides, Lightning, etc. Flooding is a major concern in coastal cities and low-lying industrial zones.

Other key concerns include:

- Warehouses built in flood-prone areas
 - Poor drainage infrastructure
 - Roof vulnerability to high winds
 - Seismic vulnerability in earthquake zones
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3 Theft & Burglary Risks

Warehouses storing high-value goods such as electronics, pharmaceuticals, liquor, or luxury products face significant theft risk.

Below listed are typical theft scenarios:

- Organized burglary
- Insider theft
- Cargo pilferage
- Inventory manipulation

4 Goods Handling and Operational Risks

Warehouse operations involve constant movement of goods using forklifts, pallet jacks, conveyors, and cranes. This increases the chances of damage of goods.

Listed below are few common risks:

- Damage during loading and unloading due to improper handling
 - Forklift collisions
 - Improper stacking of goods
 - Collapse of racking systems
 - Mechanical equipment failure
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5 Temperature and Environmental Risks

Certain goods like pharmaceutical products, food products, chemicals, cosmetic products, etc. If temperature control systems fail, the entire inventory can become unusable. Humidity and moisture can also damage products such as paper goods, grains, and electronics.



6 Liability Risks

In an unforeseen event of damage to customer goods, warehouse operators may face legal liability.

A few of them are stated below:

- Bailee's liability
 - Third-party injury
 - Property damage
 - Environmental contamination
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Warehouse Risk Management Best Practices

Effective warehouse risk management is built on a strong foundation of infrastructure safety, operational discipline, and proactive preventive controls. By integrating these elements into daily operations, organizations can significantly reduce the likelihood of incidents and strengthen overall resilience.

Adopting industry best practices not only minimizes exposure to physical and operational risks but also enhances the warehouse's insurability. Insurers often reward robust risk-management standards with more favourable terms, improved coverage options, and competitive pricing creating a win-win for both operational safety and financial performance.

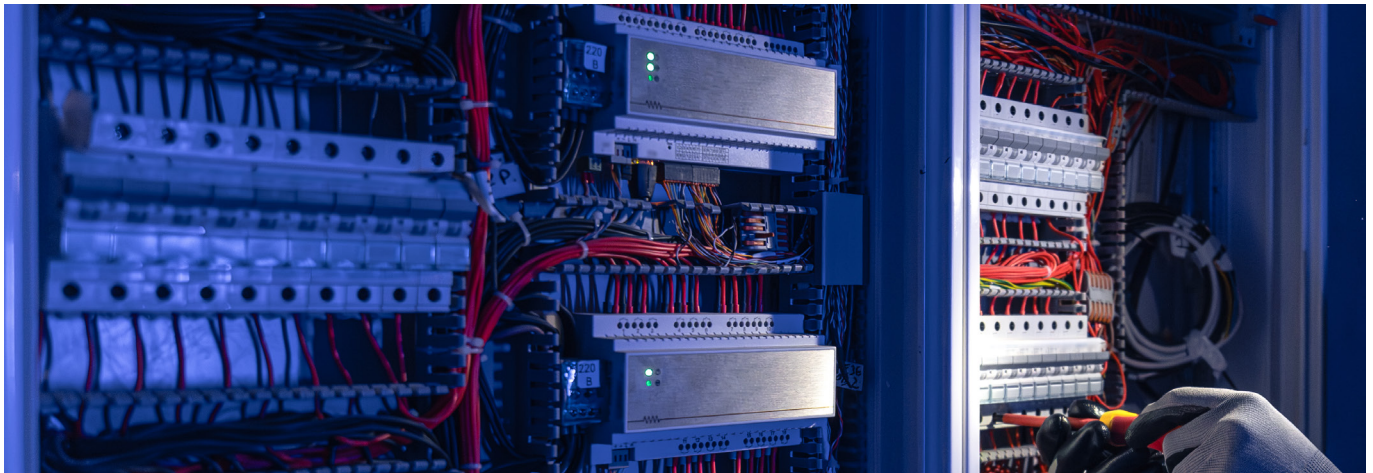
Industry Best Practices

1. Fire Prevention & Protection

- Installation of automatic sprinkler systems
 - Fire hydrant systems with adequate water storage
 - Smoke and heat detection systems
 - Adequate number of fire extinguishers
 - Fire alarm and monitoring systems
 - Clearly marked emergency exits
 - Regular fire drills and staff training
 - Routine inspection and maintenance of fire protection systems is equally important to ensure readiness in the event of an emergency.
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2. Electrical Safety

- Periodic electrical safety audits
- Thermographic scanning of electrical panels
- Proper load management and circuit protection
- Use of high-quality wiring and switchgear
- Avoidance of temporary wiring arrangements
- Installation of surge protection systems



3. Safe Storage and Stacking Practices

- Following safe stacking heights
- Proper palletization of goods
- Maintaining adequate aisle space
- Using certified storage racks
- Securing loads on racks

4. Flood and Water Damage Practices

- Elevated flooring or raised storage platforms
- Proper site drainage systems
- Flood barriers and water diversion channels
- Installation of water pumps
- Storage of sensitive goods on racks rather than floor level
- Above measures are especially important in coastal cities and low-lying industrial areas



5. Theft Prevention

- 24/7 security personnel
- CCTV surveillance systems
- Access control systems
- Perimeter fencing and lighting
- Visitor entry logs
- Inventory monitoring systems

6. Machinery and Handling Equipment Safety

- Forklifts
- Pallet jacks
- Conveyor systems
- Cranes
- Automated storage systems



Insurances in Warehousing:

Insurance plays a vital role in effective risk management by transferring potential financial losses to an insurance provider. For warehousing operations, well structured insurance policies are essential to safeguard stored goods, protect warehouse infrastructure, and mitigate a wide range of operational risks.

Conclusion:

Warehouses play an essential role in global and local supply chains but carry significant risk exposures due to the accumulation of goods, operational complexity, and environmental hazards.

Effective warehouse risk management requires a proactive approach combining operational discipline, safety systems, and comprehensive insurance coverage.

Organizations that adopt robust risk management practices not only protect their assets but also enhance operational efficiency, improve safety, and ensure long-term business sustainability.

Insurance solutions, when structured properly, serve as a critical financial safeguard that helps businesses recover quickly from unexpected losses.



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An Engineer by qualification, Rajesh is Head-Property & Risk Management Practice at Howden India. With over 23+ years' experience in Insurance Industry, over 16+years as he worked as Broker in Infrastructure and Power Practice. Prior to Joining Howden, he has worked in Alliance broker (Indian Broker), Marsh and UIB as Head Infrastructure and Energy. Rajesh is instrumental in handling large and complex infrastructure placement from end to end



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He has 18 years in insurance and broking, specializing in construction and infrastructure risks. He started as a Property Underwriter at ICICI Lombard and later worked with Aon India and Aditya Birla Insurance Brokers. His expertise spans complex insurance programs for large projects, with strong skills in underwriting and claims.





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