मानकः पथप्रदर्शकः

COMPENDIUM OF STANDARDS ON FINANCIAL SECURITY PRODUCTS

PREPARED BY: *MECHANICAL ENGINEERING DEPARTMENT*

BUREAU OF INDIAN STANDARDS
NEW DELHI

PREFACE

In an era of rapid technological advancement and evolving industrial standards, the role of national standardization bodies has become increasingly crucial. The Bureau of Indian Standards (BIS), established under the BIS Act of 2016, stands at the forefront of this transformation in India. As the National Standards Body, BIS is tasked with the formulation, promotion, and implementation of National Standards, collectively known as Indian Standards. These standards, along with BIS's Conformity Assessment Schemes, form the cornerstone of a robust technical framework designed to foster a thriving National Quality Ecosystem. The BIS Standard Mark on products offers consumers vital third-party assurance of quality, safety, and reliability.

In this transformative period, the focus on rigorous quality control and product compliance is paramount. Mechanical Engineering, a field with a vast scope, plays a pivotal role in shaping the future of our nation.

INDEX
TABLE OF CONTENTS

1 MED 24 : Security Equipment

Formulation of standards for safes, cash boxes, strong room doors and safe deposit locker cabinets, ventilation equipment etc. for banks including electrical & electromechanical systems like electronic lockers, remote sensing etc and ballistic security products.

Products for financial security are essential for safeguarding priceless assets in both private and business contexts. Of them, safes are among the most popular and reliable ways to protect money, valuable papers, valuables, and private information. Safes are made to physically guard against theft, fire, and unwanted entry. They also lower the chance of loss, which gives people piece of mind. Different varieties of safes are available, each designed to meet particular security requirements. Fire-resistant safes are designed to endure high temperatures and shield their contents from fire damage for a predetermined amount of time. Secured safes are strengthened to withstand efforts to break in using force or tools. Dual protection is provided by some devices that combine the two functionalities. Biometric locks, electronic keypads, and time-delay systems are examples of more sophisticated safes that further improve security.

Safes are a crucial component of risk management plans for companies, particularly in sectors like retail, banking, and hospitality that deal with large sums of money or sensitive data. Additionally, more and more homeowners are using safes to guard against theft and disaster damage to their digital backups, legal papers, and personal possessions. Safes are a fundamental component of financial security solutions, to sum up. They provide a useful and efficient defence against tragedy and theft, guaranteeing the safety of priceless items. Purchasing a high-quality safe is a wise move for long-term asset security, whether for personal or business use.

1.1 Safes Part 1 Specification- (IS 550(Part1):2022)

Indian Standard (IS 550 Part 1: 2022), provides specifications for safes. It details dimensions, general requirements, and performance criteria for these security devices, including classifications based on burglary and fire resistance. The standard covers aspects such as materials, construction details like door gap limits and bolt specifications, and requirements for locks, including both key and combination types. It also mentions testing procedures for type approval and periodic revalidation, along with marking requirements

1.2 Safe Deposit Locker Cabinets Specification (IS 5244:2024)

Indian Standard (IS 5244:2020) for Safe Deposit Locker Cabinets, providing detailed specifications for their construction, materials, and performance. It covers various types and sizes of cabinets, including design features like dual control key-locks for security and testing procedures to ensure resistance against tampering with common tools. The standard also addresses workmanship, marking requirements, and refers to other relevant Indian Standards for materials.

1.3 Vault (Strong Room) Doors (IS 11188(Part 1):2021)

It provides specifications for the construction and performance of vault (strong room) doors, covering requirements for protection against burglary and fire. The standard details aspects like dimensions, materials, classification based on resistance capabilities, and construction

elements such as locks and hinges. It also outlines testing procedures and criteria for conformity for different classes of doors, and includes information regarding marking and installation guidance.

1.4 Fire Resisting Record Protection Cabinets Specification (IS 14203:2023)

IS 14203:2023, outlines the specification for fire-resisting record protection cabinets, detailing requirements for materials, sizes, construction, and performance tests. These cabinets are crucial for safeguarding important documents like ledgers and legal papers from fire. The standard specifies two types based on fire resistance rating (60 or 120 minutes) and provides dimensions and tolerances for different nominal sizes. It also describes the locking mechanism, internal features, and finishing, along with mandatory fire endurance and fire and impact tests to ensure the usability of contents after exposure.

1.5 Fire Resisting (Insulating) Filing Cabinets Specification (IS 14561:2025)

IS 14561:2014, which provides specifications for fire resisting (insulating) filing cabinets. It details materials, dimensions, construction requirements, and performance testing methods for these cabinets, designed to protect paper documents from fire. The standard defines different types, sizes, and fire resistance ratings for the cabinets and describes tests like drawer suspension and fire endurance/impact tests to ensure the contents remain usable after exposure to fire. The document also covers marking, packing, and referenced Indian Standards relevant to the construction and testing of these cabinets.

1.6 Fire Resisting Computer Media Protection Cabinets Specification (IS 14562:2025)

IS 14562:2014 for fire resisting computer media protection cabinets, providing a specification for their design, construction, and testing. It details requirements for materials, sizes, and types of cabinets, categorizing them by their fire resistance capacity (60 or 120 minutes). Crucially, the standard includes rigorous testing procedures to ensure these cabinets adequately protect various forms of computer media, such as USB drives and SD cards, from the damaging effects of fire by limiting internal temperature and humidity. The document also covers sampling, fabrication details, surface finishing, marking, and packing requirements.

1.7 Combination Lock Specification (IS 16723:2020)

It outlines specifications for combination locks intended for use on security containers like safes and vaults, focusing on their ability to resist unauthorized opening methods other than force. The standard defines key terminology, classifies locks based on their resistance to manipulation (Class I, II, and III), details construction requirements, and provides testing procedures for operation, manipulation, endurance, corrosion resistance, polymeric material properties, and vibration. It also specifies re-testing frequency and marking requirements for compliance.

1.8 ATM Safes Specification (IS 17532:2021)

IS 17532: 2021, is an Indian Standard specification for ATM safes, developed by the Bureau of Indian Standards due to the increasing number of burglary attempts in India. It outlines physical construction, general requirements, and performance criteria for these safes. The standard classifies ATM safes into different grades based on their resistance to burglary attacks

and anchoring strength, detailing the test methods and equipment used for evaluating their security. The document also specifies requirements for materials, dimensions, construction, locks, surface finish, and marking of compliant ATM safes.

1.9 Cash Boxes Specification (IS 1046:2024)

Indian Standard (IS 1046:2014) for Cash Boxes, representing its fourth revision since 1957. Published by the Bureau of Indian Standards (BIS), it details the specifications for manufacturing, including materials, construction, dimensions, and testing procedures like a salt spray test and cross hatch test for paint adhesion. The standard also addresses requirements for locks, specifying lever type or pin tumbler mechanisms, and mandates the use of a drill-resisting plate.

1.10 Vault (Strong Room) Doors Part 2 Test for Burglary Resistance (IS 11188 (Part 2):2021

Indian Standard IS 11188 (Part 2) : 2021, which specifically focuses on the test methods for assessing the burglary resistance of vault (strong room) doors. It defines the types of tools that can be used in the tests, such as common hand tools, impact tools, and gas cutting torches, and describes the methods of attack, including attempts to defeat the lock mechanism or create openings. The standard also establishes acceptance criteria based on different resistance classes (C, B, A, AA, and AAA), specifying the minimum net working time the door must withstand a sustained attack using the defined tools and methods. Finally, it details the requirements for recording and reporting test results.

1.11 Vault (Strong Room) Doors Part 3 Tests for Fire Resistance (IS 11188 (Part 3):2023)

This standard (Part 3) outlines fire resistance testing procedures for vault or strong room doors. It specifies methods for assessing their ability to withstand fire, including fire endurance and hose stream reheat tests. The standard details the required test equipment, including thermocouples and furnace parameters, and the preparation and execution of the tests. Ultimately, the criteria for determining a door's conformity based on the test results, focusing on the usability of contents and the door's structural integrity, are provided.

1.12 Vaults Air Ventilators Specification (IS 14387:2021)

Indian Standard (IS 14387: 2021), outlines the specifications for air ventilators used in vaults and strong rooms. It represents the second revision of this standard, initially published in 1996 and revised in 2005. Key changes from previous versions include a wider scope for materials, the removal of restrictions on hardware, and updated painting requirements to align with current practices. The standard details the requirements for materials, dimensions, construction, and burglary resistance testing for these ventilators, which are categorized into four classes (B, A, AA, and AAA) with increasing levels of security and required resistance times against various attack methods and tools.1

1.13 Construction of Vault (Strong-Room) Code of Practice (IS 15369:2022)

This standard details the code of practice for constructing vaults, or strong-rooms. It provides specifications for various classes of vaults based on the level of security required, ranging from

Class C (low risk) to Class AAA (high risk). The standard covers requirements for materials, sizes, and general construction details, including the thickness and reinforcement of walls, floors, and roofs. It also addresses related aspects such as door specifications, surveillance space, ventilation, and wiring arrangements. The text includes figures illustrating vault layouts and tang bar construction, along with references to other relevant Indian Standards.

1.14 Physical Security System in Banks/Financial Institutions Code of Practice (IS 16524:2021)

This standard serves as a guideline for enhancing security measures beyond regulatory requirements. The standard addresses crucial aspects such as risk categorization of branches, essential security equipment and devices, organizational responsibilities including creating a security manual, and protocols for opening, closing, and accessing branches outside operating hours. It also emphasizes on conducting security audits, maintaining detailed records, and providing adequate training to staff. The objective is to ensure a secured environment for banking transactions, minimize crime and losses, and build customer confidence.

1.15 Modular Panel for Security of Premises Specification (IS 17541:2021)

Indian Standard (IS 17541:2021) for modular panels designed to enhance the security of premises, specifically addressing the need to strengthen existing strong rooms and currency chests, particularly older constructions that may not withstand modern burglary techniques. It establishes specifications for the construction, performance, and testing of these panels, including material requirements, different panel types, and various classifications based on their burglary resistance capacity. The standard also provides guidance on installation and marking

1.16 Key Locks for Security Equipment Specification (IS 17566:2021)

specifies the requirements for key locks used in security equipment like safes and strong room doors. It outlines classifications of key locks based on type and grade, detailing minimum active levers or pins and key control mechanisms. The standard also includes specifications for construction and materials, provides guidance on corrosion protection, and defines performance tests such as endurance, bolt forcing, salt spray, and key strength. Finally, it details marking requirements for both the locks and their keys.

1.17 Safes Part 2 Tests for Burglary Resistance (IS 550 (Part 2):2021)

This standard (Part 2) specifically addressing tests for the burglary resistance of safes. It details the methodology for assessing how well safes withstand various attack methods, including the use of common hand tools, impact tools, cutting torches, and even explosives. The standard defines specific opening sizes and establishes the concept of "net working time" to measure resistance, providing a framework for classifying safes based on their ability to withstand these simulated burglary attempts.

1.18 Safes Part 3 Tests for Fire Resistance (IS 550 (Part 3):2021)

This standard (Part 3) outlines the tests for assessing the fire resistance of safes. It details procedures including the fire endurance test and the fire and impact test, specifying the required

test equipment, preparation methods, and the criteria for conformity to determine if the contents remain usable after exposure to fire.

1.19 Book Room Doors - Specification (IS 7152:2021)

This standard lays down specification for book room doors published by the Bureau of Indian Standards (BIS). It outlines the requirements for construction, materials, dimensions, locking mechanisms, and testing procedures for these doors, which offer resistance to burglary and fire. This second revision clarifies the distinction between book room doors and vault/strong room doors, with the former prioritizing fire resistance over the latter's focus on theft protection. The standard details aspects like door frames, bolt work, lock types and testing, finishing requirements, and classification codes based on their resistance capacities.