Compendium of Indian Standards
“Automotive Passive Safety”

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INTRODUCTION

Automotive passive safety refers to the integrated design features and components of a vehicle that aim to protect occupants and mitigate injuries during accidents. These systems include seat belts, airbags, crumple zones, head restraints, child restraint systems, and energy-absorbing materials — all working without driver intervention to reduce the severity of a crash. Passive safety plays a crucial role in enhancing road safety outcomes by minimizing harm after a collision has occurred.

As road traffic increases and vehicle ownership expands, ensuring occupant protection becomes a top priority in advancing automotive safety. The integration of robust passive safety measures is fundamental to reducing fatalities and serious injuries, particularly in a country like India with diverse driving conditions and road users. In this context, the formulation and application of well-defined standards are essential to harmonize safety protocols, guide vehicle design, and protect consumers.

The primary aim of this compendium is to serve as a single, authoritative source of key Indian Standards related to automobile passive safety. Developed by the Bureau of Indian Standards (BIS), it is intended to provide a comprehensive, structured, and easily accessible reference for all stakeholders — including vehicle manufacturers, regulators, researchers, and safety advocates — thereby supporting a safer and more resilient automotive ecosystem.

The list of Indian standards pertains to Automotive Passive Safety

IS No.	Title
Indian Standards on Automotive Airbags	
IS 12097-1	Road vehicles Airbag components Part 1: Vocabulary
IS 12097-2	Road vehicles airbag components Part 2: testing of airbag modules
IS 12097-3	Road vehicles airbag components Part 3: Testing of inflator assemblies
Indian Standards on Automotive Seatbelts and Anchorages	
IS 15140	Automotive vehicles - Safety belt and restraint systems - Specification
IS 15139	Automotive vehicles - Safety belt anchorages – Specification
IS 18635 (Part 1)	Road Vehicles - Anchorages in Vehicles and Attachments to Anchorages for Child Restraint Systems Part 1: Seat Bight Anchorages and Attachments
IS 18635 (Part 2)	Road Vehicles - Anchorages in Vehicles and Attachments to Anchorages for Child Restraint Systems Part 2: Top Tether Anchorages and Attachments
Indian Standards on Underrun protective devices (UPD)	
IS 14682	Automotive vehicles - Lateral protection (Side Guards) - Technical requirements
IS 14812	Automotive vehicles rear underrun protective device - General requirements
IS 16905	Automotive Vehicles - Front underrun protective devices (FUPD) - General requirements
Indian Standards on Automotive Seats & Anchorages	
IS 15546	Automotive vehicles - Seats, their anchorages and head restraints or category M1- Specification
IS 13749	Automotive vehicles - Procedure for determining the "H" point and the torso angle for 50th percentile adult male in seating positions of motor vehicles
IS 16903	Automotive vehicles - Seats, their anchorages and head restraints for passenger vehicles of categories L7, M2, M3 and goods vehicles of category N – Specification
Indian Standards on Child Restraint system (CRS)	
IS 18619 (Part 1)	Road Vehicles — Reduction of Misuse Risk of Child Restraint Systems Part 1 Forms for Field Studies
IS 18619 (Part 2)	Road Vehicles - Reduction of Misuse Risk of Child Restraint Systems Part 2 : Requirements and Test Procedures for Correct Installation (Panel Method)
IS 18619 (Part 3)	Road Vehicles - Reduction of Misuse Risk of Child Restraint Systems Part 3 Prediction and Assessment of Misuse-by-Misuse Mode and Effect Analysis (MMEA)
IS 18623 (Part 1)	Road Vehicles — Methods and Criteria for Usability Evaluation of Child Restraint Systems and their Interface with Vehicle Anchorage Systems Part 1

	Vehicles and Child Restraint Systems Equipped with ISOFIX Anchorages and Attachments
IS 18623 (Part 3)	Road Vehicles — Methods and Criteria for Usability Evaluation of Child Restraint Systems And their Interface with Vehicle Anchorage Systems Part 3 Installation of Child Restraint Systems Using Vehicle Seat Belts
IS 18623 (Part 4)	Road Vehicles — Methods and Criteria for Usability Evaluation of Child Restraint Systems And their Interface with Vehicle Anchorage Systems Part 4 Securing of Child in Child Restraint System and Daily Handling Aspects
IS 18631 (Part 1)	Road Vehicles — Child Seat Presence and Orientation Detection System (CPOD) Part 1 Specifications and Test Method
IS 18631 (Part 2)	Road Vehicles — Child Seat Presence and Orientation Detection System (CPOD) Part 2 Resonator Specification
IS 18635 (Part 3)	Road Vehicles - Anchorages in Vehicles and Attachments to Anchorages for Child Restraint Systems Part 3: Classification of Child Restraint System and Space in Vehicle
IS 18643	Road Vehicles - Child Restraint Systems -Report Form for Accidents Involving Child Passengers
IS 18654	Road Vehicles - Child Restraint Systems - Sled Test Method to Enable the Evaluation of Side Impact Protection
IS 18713	Approval of Restraining Devices for Child Occupants of Power- Driven Vehicles Child Restraint System
Indian Standards on Collision tests in Automobiles	
IS 13391	Road vehicles - Collision classification – Terminology
IS 18748	Road Vehicles - Side Impact Testing of Child Restraint Systems - Review of Background Data and Test Methods
IS 13389	Road vehicles - Passenger cars - Moving barrier rear collision test method
IS 13390	Road vehicles - Passenger cars - Moving barrier Front collision test method
Indian Standards on Safety Glass	
IS 2553 (Part 2)	Safety Glass for Road Transport

Indian Standards on Automotive Airbags

IS 12097-1 Road vehicles Airbag components Part 1: Vocabulary

Provides vocabulary and definitions for terms related to airbag components used in road vehicles. This standard aims to ensure clear and consistent terminology is used across the industry, facilitating communication and understanding among stakeholders.

IS 12097-2 Road vehicles airbag components Part 2: testing of airbag modules

Specifies the testing requirements and procedures for airbag modules used in road vehicles. Airbag modules are integral components of vehicle safety systems, designed to deploy during a collision to protect occupants.

IS 12097-3 Road vehicles airbag components Part 3: Testing of inflator assemblies

This standard specifies the testing requirements and procedures for inflator assemblies used in airbag systems in road vehicles. Inflator assemblies are critical components that generate the gas needed to inflate airbags during a collision.

Indian Standards on Automotive Seatbelts and Anchorages

IS 15139 Automotive vehicles - Safety belt anchorages - Specification

This Indian Standard specifies the requirements for safety belt anchorages in automotive vehicles. The standard ensures that seat belt anchorages are designed and installed to provide effective restraint for occupants during collisions, thereby minimizing the risk of injury.

IS 15140 Automotive vehicles - Safety belt and restraint systems - Specification

Specifies the requirements for safety belts and restraint systems in automotive vehicles. The standard ensures that seat belts and related restraint systems are designed, manufactured, and installed to provide effective protection for vehicle occupants during collisions or sudden stops, thereby minimizing the risk of injury.

IS 18635 (Part 1) Road Vehicles - Anchorages in Vehicles and Attachments to Anchorages for Child Restraint Systems Part 1 : Seat Bight Anchorages and Attachments

This standard specifies the requirements for seat bight anchorages in vehicles and the corresponding attachments for Child Restraint Systems (CRS). This standard is part of the ISOFIX system, which provides a standardized method for securely installing CRS in vehicles.

IS 18635 (Part 2) Road Vehicles - Anchorages in Vehicles and Attachments to Anchorages for Child Restraint Systems Part 2 : Top Tether Anchorages and Attachments

This standard specifies the requirements for top tether anchorages in vehicles and the corresponding attachments for Child Restraint Systems (CRS). This standard is part of the ISOFIX system, which provides a standardized method for securely installing CRS in vehicles.

Indian Standards on Underrun protective devices (UPD)

IS 14682 Automotive vehicles - Lateral protection (Side Guards) - Technical requirements

This standard specifies the technical requirements for lateral protection devices (side guards) on automotive vehicles, particularly heavy goods vehicles (HGVs) and large commercial vehicles.

IS 14812 Automotive vehicles rear underrun protective device - General requirements

This Indian Standard specifies the general requirements for rear underrun protective devices (RUPDs) used in automotive vehicles, particularly commercial vehicles like trucks and trailers.

IS 16905 Automotive Vehicles - Front underrun protective devices (FUPD) - General requirements

This Indian Standard specifies the general requirements for front underrun protective devices (FUPDs) in automotive vehicles, particularly commercial vehicles like trucks and buses.

Indian Standards on Child Restraint system (CRS)

IS 18619 (Part 1) Road Vehicles — Reduction of Misuse Risk of Child Restraint Systems Part 1 Forms for Field Studies

This part of the standard provides standardized forms and guidelines for conducting field studies to assess and analyze the misuse of child restraint systems. It focuses on the reduction of misuse risk of child restraint systems (CRS) in road vehicles.

IS 18619 (Part 2) Road Vehicles - Reduction of Misuse Risk of Child Restraint Systems Part 2 : Requirements and Test Procedures for Correct Installation (Panel Method)

This part of the standard provides requirements and test procedures for correct installation of CRS using the panel method. It focuses on the reduction of misuse risk of child restraint systems (CRS) in road vehicles.

IS 18619 (Part 3) Road Vehicles - Reduction of Misuse Risk of Child Restraint Systems Part 3 Prediction and Assessment of Misuse-by-Misuse Mode and Effect Analysis (MMEA)

This part of the standard introduces the Misuse Mode and Effect Analysis (MMEA) methodology to predict and assess potential misuse scenarios of CRS. It focuses on the reduction of misuse risk of child restraint systems (CRS) in road vehicles.

IS 18623 (Part 1) Road Vehicles — Methods and Criteria for Usability Evaluation of Child Restraint Systems and their Interface with Vehicle Anchorage Systems Part 1 Vehicles and Child Restraint Systems Equipped with ISOFIX Anchorages and Attachments

This standard focuses on the usability evaluation of Child Restraint Systems (CRS) and their interface with vehicle anchorage systems, specifically for systems equipped with ISOFIX anchorages and attachments.

IS 18623 (Part 3) Road Vehicles — Methods and Criteria for Usability Evaluation of Child Restraint Systems And their Interface with Vehicle Anchorage Systems Part 3 Installation of Child Restraint Systems Using Vehicle Seat Belts

This standard outlines methods and criteria for evaluating the usability of Child Restraint Systems (CRS) when installed in vehicles using vehicle seat belts. It focuses on ensuring that CRS can be installed correctly, securely, and with ease using seat belts.

IS 18623 (Part 4) Road Vehicles — Methods and Criteria for Usability Evaluation of Child Restraint Systems And their Interface with Vehicle Anchorage Systems Part 4 Securing of Child in Child Restraint System and Daily Handling Aspects

This standard focuses on the usability evaluation of Child Restraint Systems (CRS) with an emphasis on securing the child in the CRS and daily handling aspects. It provides methods and criteria to assess how easily and effectively a child can be placed, secured, and removed from the CRS, as well as the overall convenience of using the CRS in everyday situations.

IS 18631 (Part 1) Road Vehicles — Child Seat Presence and Orientation Detection System (CPOD) Part 1 Specifications and Test Method

This standard specifies the requirements, specifications, and test methods for Child Seat Presence and Orientation Detection Systems (CPOD) in road vehicles. These systems are designed to detect whether a child restraint system (CRS) is present in the vehicle and to determine its orientation.

IS 18631 (Part 2) Road Vehicles — Child Seat Presence and Orientation Detection System (CPOD) Part 2 Resonator Specification

This standard focuses on the specifications for resonators used in Child Seat Presence and Orientation Detection Systems (CPOD) in road vehicles. Resonators are key components integrated into Child Restraint Systems (CRS) that enable CPOD systems to detect the presence and orientation of the CRS in the vehicle.

IS 18631 (Part 3) Road Vehicles — Child Seat Presence and Orientation Detection System (CPOD) Part 3 Labelling

This standard provides guidelines for the labelling of Child Restraint Systems (CRS) and vehicles equipped with Child Seat Presence and Orientation Detection Systems (CPOD).

IS 18635 (Part 3) Road Vehicles - Anchorages in Vehicles and Attachments to Anchorages for Child Restraint Systems Part 3: Classification of Child Restraint System and Space in Vehicle

This standard provides a classification system for Child Restraint Systems (CRS) and the space in vehicles where they are installed. This standard is part of the ISOFIX system.

IS 18643 Road Vehicles - Child Restraint Systems -Report Form for Accidents Involving Child Passengers

This standard provides a standardized report form for documenting accidents involving child passengers who are using Child Restraint Systems (CRS).

IS 18654 Road Vehicles - Child Restraint Systems - Sled Test Method to Enable the Evaluation of Side Impact Protection

This standard specifies a sled test method for evaluating the side impact protection provided by Child Restraint Systems (CRS).

IS 18713 Approval of Restraining Devices for Child Occupants of Power- Driven Vehicles Child Restraint System

This standard provides the approval standards for restraining devices for child occupants in power-driven vehicles, commonly referred to as Child Restraint Systems (CRS). It outlines the requirements and testing procedures that CRS must meet to ensure they provide adequate protection for children in vehicles.

IS 11939 Automotive vehicles - Steering control systems - Impact protection requirements and methods of measurement

This standard specifies the impact protection requirements and methods of measurement for steering control systems in automotive vehicles.

Indian Standards on Collision tests in Automobiles

IS 13391 Road vehicles - Collision classification - Terminology

This Indian Standard provides a comprehensive classification and terminology for road vehicle collisions. This standard aims to establish a uniform and standardized framework for describing and categorizing different types of vehicle collisions, which is essential for accident analysis, safety research, and regulatory purposes.

IS 18748 Road Vehicles - Side Impact Testing of Child Restraint Systems - Review of Background Data and Test Methods

This technical report provides a comprehensive review of background data and test methods related to the side impact testing of Child Restraint Systems (CRS).

IS 13389 Road vehicles - Passenger cars - Moving barrier rear collision test method

This Indian Standard specifies the test method for evaluating the safety of passenger cars during rear collisions using a moving barrier. This standard is designed to assess the structural integrity and crashworthiness of vehicles when subjected to rear-end impacts, which are common in real-world traffic scenarios.

IS 13390 Road vehicles - Passenger cars - Moving barrier Front collision test method

This Indian Standard specifies the test method for evaluating the safety of road vehicles, particularly passenger cars, in frontal collisions using a fixed barrier. This standard is designed to assess the crashworthiness of vehicles and their ability to protect occupants during head-on collisions, which are among the most severe types of road accidents.

IS 2553 (Part 2) Safety Glass for Road Transport

This Indian Standard specifies the safety glazing intended for installation as windscreens, window panes on Category M, N, A (fitted with cabin), C (fitted with cabin), Combine Harvester and L (with bodywork at least partially covering the driver)

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