

भारतीय मानक प्रारूप

ऑटोमोटिव वाहनों के ईंधन टैंक संयोजन के लिए सुरक्षा आवश्यकताओं के लिए सिफारिशें

Draft Indian Standard

RECOMMENDATIONS FOR SAFETY REQUIREMENTS FOR FUEL TANK ASSEMBLY OF
AUTOMOTIVE VEHICLES

ICS: 43.060.40

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Automotive Body, Chassis and Accessories Sectional Committee, TED 06

FOREWORD

This Indian Standard will be adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Body, Chassis and Accessories Sectional Committee had been approved by Transport Engineering Division Council.

This standard was first published in 1987 to specify safety requirements for the integrity and security of fuel tanks, fuel tank filter pipes and fuel tank connections, used on automotive vehicles to minimize fire hazard resulting from fuel spillage during and after crash/collision. In this Revision Amendment No. 1 (1988), Amendment No. 2 (1994) and Amendment No. 3 (2016) to 12056: 1987 has been incorporated in view the technological advancements that have taken place since its last Publication.

This standard is one of the series of Indian Standards on safety requirements of various automotive components.

The composition of the Committee responsible for the formulation of this standard is given at **Annex A (Will be added later)**.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of test or analysis, shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Draft Indian Standard

**RECOMMENDATIONS FOR SAFETY REQUIREMENTS FOR FUEL TANK ASSEMBLY
OF AUTOMOTIVE VEHICLES**

1 SCOPE

Covers the safety requirements for the integrity and security of fuel tanks, fuel tank filter pipes and fuel tank connections, used on automotive vehicles to minimize fire hazard resulting from fuel spillage during and after crash/collision.

1.1 This standard applies to passenger cars, quadricycles with fuel tank capacity more than 15 liters, multipurpose passenger vehicles, trucks and buses.

2 DEFINITIONS

For the purpose of this standard, the following definitions shall apply.

2.1 Fuel Tank Assembly

Any container on the automotive for storing liquid fuel to be used by the power unit of the automotive. It includes all fittings which are integral with the storage unit.

2.2 Fuel Spillage

This means the fall, flow or run of fuel except through the supply line to the prime-mover from the vehicle fuel system.

3 GENERAL REQUIREMENTS

3.1 Location

3.1.1 No part of the fuel system shall constitute the widest part of the vehicle. Rear view mirrors and side mounted lights shall be ignored in determining the points of maximum width of the vehicle.

3.1.2 No part of the fuel tank shall be in front of the vertical transverse plane passing through the centre line of the front wheels.

3.1.3 A minimum distance of 35 mm shall be maintained between any part of the fuel tank and exhaust pipe unless a heat shield is interposed.

3.2 Design Requirements

3.2.1 The design of the fuel system shall not provide for gravity or self-sustaining feed from the tank to the carburetor or fuel pump.

3.2.2 The filler pipe shall be designed and protected in such a way that overflow from a filling operation would be prevented from spilling on any part of the exhaust or electrical system.

3.2.3 At least one safety vent shaft shall be provided on the fuel tank system which is above the fuel level, when it is filled to the maximum designed capacity.

3.2.4 No safety vent shall discharge into an enclosed compartment.

4 PERFORMANCE

4.1 From a tank filled with liquid fuel, the rate of leakage from a fuel tank and fittings shall not exceed 50 g/min, when inverted for five minutes relative to its installed position on the vehicle. The fuel outlet pipe connection shall be plugged while carrying out the test.

4.2 Each fuel tank shall be fitted with a safety vent of size not less than the diameter given below:

- a) Automotive vehicles weighing up to 6000 kg — 1.6 mm
- b) Automotive vehicles weighing above 6000 kg — 2.0 mm.

4.3 Pressure Test — The fuel tank shall be capable of withstanding without leakage an internal pressure of 130 kPa (1.3 absolute) when tested for 5 minutes. Change of shape may be permitted.

ANNEX A
(Foreword)

COMMITTEE COMPOSITION

AUTOMOTIVE BODY, CHASSIS AND ACCESSORIES SECTIONAL COMMITTEE, TED
06

Will be added later