BUREAU OF INDIAN STANDARDS

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भारतीय मानक प्रारूप

सड़क वाहन संपीड़ित -प्राकृतिक गैस -जैव) संपीड़ित प्राकृतिक गैस-जैव / (सीएनजी) सीट - ईंधन प्रणाली घटक (एलपीजी) तरल पेट्रोलियम गैस / (सीएनजी, असबाब, छत और साइडलाइनिंग के लिए अग्निरोधी सामग्री

(प्रथम संशोधन)

Draft Indian Standard

ROAD VEHICLES — COMPRESSED NATURAL GAS (CNG) / BIO-COMPRESSED NATURAL GAS (BIO- CNG) / LIQUEFIED PETROLEUM GAS (LPG) FUEL SYSTEM COMPONENTS — FIRE RETARDANT MATERIAL FOR SEAT, UPHOLSTERY, ROOF AND SIDE LINING

(First Revision)

ICS: 43.060.40

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Automotive Vehicles Running on Non-Conventional Energy Sources Sectional Committee, TED 26

FOREWORD
(Formal Clause to be added later)

This standard was first published in 2006 to specify definitions, test methods and requirements of fire retardant material for seat, upholstery, roof and side lining of CNG onboard fuel system components, intended for use on motor vehicles defined in IS 14272.Later on through an amendment published in 2012, The scope of this standard was extended to LPG on board fuel system components along with some other changes. This version of the standard incorporates the content of the amendment issued to the standard in 2012. In this Revision, Bio- CNG is also added to the scope of this standard keeping in view the technological advancements that have taken place since its last Publication.

In the formulation of this standard considerable assistance has been derived from the following AIS Standards issued by the Automotive Research Association of India:

AIS 024(Rev.1) (Part A):- Safety and Procedural Requirements for Type Approval of Gaseous Fuelled Vehicles - Part A (Automotive Application).

AIS 024(Rev.1) (Part B):- Safety and Procedural Requirements for Type Approval of Gaseous Fuel Agricultural Tractors - Part B (Agricultural Tractors Application).

AIS 024(Rev.1) (Part C):- Safety and Procedural Requirements for Type Approval of Gaseous Fuel Vehicles - Part C (CEV's Application).

AIS 028(Rev.1) (Part A):-Code of Practice for Use of Gaseous Fuels in Internal Combustion Engine Vehicles - Part A (Automotive Application)

AIS 028(Rev.1) (Part B):-Code of Practice for Use of Gaseous Fuels in Internal Combustion Engine Agricultural Tractors - Part B (Agricultural Tractors Application)

AIS 028(Rev.1) (Part C):-Code of Practice for Use of Gaseous Fuels in Internal Combustion Engine Construction Equipment Vehicles (CEV's) - Part C (CEV's Application).

AIS-025 (Version 3): Safety and Procedural requirements for Type Approval of LPG Operated Vehicles

AIS 026 (Version 3): Code of Practice for use of LPG Fuel in Internal Combustion Engine to Power 4 Wheeled Vehicles

AIS 027 (Version 3): Code of Practice for use of LPG Fuel in Internal Combustion Engine to Power 2 & 3 Wheeled Vehicles.

This standard is one of the series of Indian Standards published on CNG/Bio-CNG/LPG onboard fuel system components. Other standards in the series are:

IS No.	*Title*

15710: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components – General requirements & definition.
15711: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components –Performance and general test methods
15712: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components – Automatic valve
15713: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components–Pressure regulator
15714: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components – Gas Air mixer
15715: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) / Liquefied Petroleum Gas (LPG) Fuel system components – CNG/Bio-CNG/LPG Conduit (Ventilation Hose/Pipe)
15716: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components –CNG / Bio-CNG high pressure fuel line (rigid) with end connections (having pressure exceeding 2.15 MPa)
15717: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) / Liquefied Petroleum Gas (LPG) Fuel system components – Petrol valve (Automatic/Manual)
15718: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) fuel system components – CNG/Bio-CNG high Pressure fuel line(flexible hose)with end connections (having pressure exceeding 2.15 MPa)
15719: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG)/ Liquefied Petroleum Gas (LPG) fuel system components – Electrical Wiring kit
15720: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) /Liquefied Petroleum Gas (LPG) fuel system component – Compartments sub- Compartments
15722: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) / Bio-Compressed natural gas (Bio-CNG) fuel system components - CNG /Bio-CNG flexible fuel line with or without end connections(having pressure not exceeding 2.15 MPa)

15723: XXXX[1)]	Road vehicles - Compressed natural gas (CNG) /Bio-Compressed natural gas (Bio-CNG) /Liquefied Petroleum Gas (LPG) fuel system components – Current Limiting devices

Note — Standards Marked with superscript '1)' are under the process of Revision. The year of publication of these standards will be updated at the time of printing of this draft standard.

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 Revision*)'. 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

ROAD VEHICLES — COMPRESSED NATURAL GAS (CNG) / BIO- COMPRESSED NATURAL GAS (BIO- CNG) / LIQUEFIED PETROLEUM GAS (LPG) FUEL SYSTEM COMPONENTS — FIRE-RETARDANT MATERIAL FOR SEAT, UPHOLSTERY,ROOF AND SIDE LINING

1 SCOPE

1.1 This standard specifies definitions, test methods and requirements of fire retardant material for seat, upholstery, roof and side lining of CNG / Bio- CNG/ LPG onboard fuel system components, intended for use on motor vehicles defined in IS 14272.

1.1.1 This standard is applicable to CNG / Bio- CNG/LPG fuel system components intended to be used on vehicles using compressed natural gas / Bio- compressed natural gas /Liquefied petroleum gas in accordance with IS 15320 Part 1 (mono-fuel or bi-fuel applications or dual fuel applications).

1.1.2 This standard is not applicable to the following:

a) Liquefied natural gas (LNG) fuel system components located upstream of, and including, the vaporizer;
b) Fuel containers;
c) Stationary gas engines; and
d) CNG / Bio- CNG/LPG fuel systems components for the propulsion of marine craft.
e) Hydrogen Natural Gas Blend (HCNG) Fuel system components

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
IS 14272:2011	Automotive Vehicles — Types — Terminology
15061:2002	Automotive Vehicles – Flammability requirements
15710:XXXX[2)]	Road vehicles - Compressed Natural Gas (CNG) / Bio-Compressed Natural Gas (Bio-CNG) fuel system components – General requirements and definitions

Note — Standard Marked with superscript ‘2)’ are under the process of Revision. The year of publication of these standards will be updated at the time of printing of this draft standard.

3 DEFINITIONS

For the purpose of this standard definitions given in IS 15710 shall apply.

4 TYPE TESTS (TYPE APPROVAL)

Seat, upholstery, roof and side lining shall be made up of fire-retardant material conforming to **3.2** and **4.1** of IS 15061.

5 MARKING

5.1 The fire retardant material for seat, upholstery, roof and side lining shall be permanently marked with:

a) Manufacturers name, trade-mark or symbol; and
b) Part No. or unique identification mark.

5.2 BIS Certification Marking

5.2.1 The material may also be marked with the Standard Mark.

5.2.2 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations made thereunder. The details of conditions under which the License for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 TECHNICAL INFORMATION TO BE SUBMITTED BY THE COMPONENT MANUFACTURER

Technical information to be submitted by the component manufacturer for component type approval/type test shall contain at least following technical information:

a) Name of the manufacturer,
b) Manufacturing plant address,
c) Vehicle manufacturers Part No. for which the material is intended for use,
d) Make and model of the vehicle for which the material is intended for use,
e) Manufacturing date and batch number,
f) Type and grade; and
g) Identification code number (if any allotted by the supplier/trader)

7 CHANGES IN TECHNICAL SPECIFICATIONS OF A TYPE APPROVED COMPONENT AND EXTENSION OF APPROVAL

Any modification in technical specification of already type approved component shall require re-type test / extension of approval at the discretion of certifying agency, based on the justification provided by the component manufacturer and reviewed by the certifying agency, which has granted type approval.

8 NUMBER OF SAMPLES FOR TESTING

Minimum 5 Numbers of cut pieces of the test material of size 356 mm (L) x 100 mm (W) x thickness not more than 13mm.Also specify original thickness from which the sample is cut.

ANNEX A
(*Foreword*)

COMMITTEE COMPOSITION
Automotive Vehicles Running on Non-conventional Energy Sources Sectional Committee, TED 26

Will be Added Later.