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व्यापक परिचालन में मसौदा

प्रलेख प्रेषण सूचना

Ref	Date
टीईडी 27/ टी- 2	23 02 2018

विद्युत एवं हाइब्रिड वाहन विषय समिति, टीईडी 27

क) परिवहन इंजीनियरिंग विभाग परिषद |पंडविप| के सभी सदस्यों को

ख) विद्युत एवं हाइब्रिड वाहन विषय समिति, टीईडी 27, के सभी सदस्यों को

ग) अन्य सभी रुचि रखने वाले निकाय

महोदय/ महोदया,

निम्नलिखित प्रलेख संलग्न हैं:

प्रलेख संख्या	विषय
TED 27 (12441) W	विद्युत नोदित सडक वाहन — लीथियम-ऑयन ट्रैक्शन बैटरी पैक एवं सिस्टम की परीक्षण विशिष्टि — भाग 1 उच्च-शक्ति अनुप्रयोग (ISO 12405-1:2011 का अभिन्न अभिग्रहण )

कृपया उपरोक्त मानक मसौदे का अवलोकन कर अपनी सम्मतियां यह बताते हुए भेजें, कि यदि अंततः यह मानक राष्ट्रीय मानक के रूप में स्वीकृत हो जाए, तो इस पर अमल करने में आपके व्यवसाय अथवा कारोबार में क्या कठिनाइयां आ सकती हैं ।

सम्मति की अन्तिम तिथि : 26 03 2018

सम्मति यदि कोई हो तो नीचे दिए गए प्रारूप में लिख कर, उपरिलिखित पते पर अधोहस्ताक्षरी को भेजें ।

यदि कोई सम्मति प्राप्त नहीं होती है अथवा सम्मति में केवल भाषा संबधी त्रुटि हुई तो उपरोक्त प्रलेख को यथावत अंतिम रूप दिया जायेगा । यदि कोई सम्मति तकनीकी प्रकृति की हुई तो विषय समिति के अध्यक्ष के परामर्श से अथवा उनकी इच्छा पर आगे की कार्यवाही के लिए विषय समिति को भेजे जाने के बाद प्रलेख को अंतिम रूप दे दिया जाएगा ।

यह प्रलेख भारतीय मानक ब्यूरो की वैबसाइट [www@bis.org.in](http://www@bis.org.in) पर भी उपलब्ध है ।

धन्यवाद

भवदीय

( आर आर सिंह )

वैज्ञानिक ई एवं प्रमुख  
परिवहन इंजिनियरिंग विभाग

संलग्न: उपरिलिखित

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**DRAFT IN WIDE CIRCULATION**

**DOCUMENT DESPATCH ADVICE**

Ref	Date
<b>TED 27/ T-2</b>	<b>23 02 2018</b>

**Electric and Hybrid Vehicles Sectional Committee, TED 27**

- 1) All Members of Transport Engineering Division Council, TEDC
- 2) All Members of Electric and Hybrid Vehicles Sectional Committee, TED 27
- 3) All Others Interested.

Dear Sir/ Madam,

Please find enclosed the following draft standard:

Document No.	Title
TED 27 (12441) W	Electricity propelled road vehicles — Test specification for lithium-ion traction battery packs and systems — Part 1: High-power applications (Identical adoption of ISO 12405-1:2011)

Kindly examine this draft standard and forward your views stating any difficulty which you are likely to experience in your business or profession, if this is finally adopted as National Standard.

Last date for comments : **26 03 2018**

Comments, if any, may please be made in the format given below and mailed to the undersigned at the above address.

In case no comments are received or comments received are of editorial nature, you will kindly permit us to presume your approval for the above document as finalized. However, in case of comments of technical in nature are received then it may be finalized either in consultation with the Chairman, Sectional Committee or referred to the sectional committee for further necessary action if so desired by the Chairman, Sectional Committee.

The document is also hosted on BIS website [www.bis.org.in](http://www.bis.org.in)

Thanking you,

Yours faithfully,

(R R Singh)

Scientist 'E' & Head

Transport Engineering Department

Encl: As above



For Comments only

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*Draft Indian Standard*

**Electrically propelled road vehicles — Test specification for lithium-ion traction  
battery packs and systems — Part 1: High-power applications**

ICS 43.120

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**Last date for receipt  
of comments is 26 03 2018**

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Electric and Hybrid Vehicles Sectional Committee, TED 27

## NATIONAL FOREWORD

This draft Indian Standard (Part 1) which is identical with ISO 12405-1:2011 ‘Electrically propelled road vehicles — Test specification for lithium-ion traction battery packs and systems — Part 1: High-power applications’ issued by the International Organization for Standardization (ISO) shall be adopted by the Bureau of Indian Standards on the recommendation of the Electric and Hybrid Vehicles Sectional Committee and approval of the Transport Engineering Division Council.

This standard has been brought out in three parts. Other parts in this series are:

- Part 2            High-energy applications
- Part 3            Safety performance requirements

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

The technical committee has reviewed the provisions of the following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard:

*International/  
Other Standard*

*Title*

- ISO 6469-1            Electrically propelled road vehicles — Safety specification — Part 1:  
On-board rechargeable energy storage system, (RESS)

ISO 6469-3	Electrically propelled road vehicles — Safety specification — Part 3: Protection of persons against electric shock
ISO 16750-1	Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 1: General
ISO 16750-3	Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 3: Climatic loads
ISO 16750-4	Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 4: Climatic loads
IEC 60068-2-30	Environmental testing — Part 2-30: Tests — Test Db: Damp test, cyclic (12h + 12 h cycle)
IEC 60068-2-47	Environmental testing — Part 2-47: Test — Mounting of specimens for vibration, impact and similar dynamic tests
IEC 60068-2-64:2008	Environmental testing — Part 2-64: Tests — Test Fh: Vibration, random and guidance

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. BIS shall not be held responsible for identifying any or all such patent rights.

Annex A, B and C are for information only.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

## Introduction

Lithium-ion-based battery systems are an efficient alternative energy storage system for electrically propelled vehicles. The requirements for lithium-ion based battery systems for use as a power source for the propulsion of electric road vehicles are significantly different from those batteries used for consumer electronics or stationary usage.

This part of ISO 12405 provides specific test procedures for lithium-ion battery packs and systems specially developed for propulsion of road vehicles. This part of ISO 12405 specifies such tests and related requirements to ensure that a battery pack or system is able to meet the specific needs of the automobile industry. It enables vehicle manufactures to choose test procedures to evaluate the characteristics of a battery pack or system for their specific requirements.

A coordination of test specifications for battery cells, packs and systems for automotive application is necessary for the practical usage of standards.

For specifications for battery cells, see IEC 62660-1 and IEC 62660-2.

Some tests as prescribed within this specification are based on existing specifications, i.e. *USABC*, *EUCAR*, *FreedomCAR* and other sources.

## Scope

This part of ISO 12405 specifies test procedures for lithium-ion battery packs and systems for use in electrically propelled road vehicles.

The specified test procedures enable the determination of the essential characteristics of performance, reliability and abuse of lithium-ion battery packs and systems. They assist the user of this part of ISO 12405 to compare the test results achieved for different battery packs or systems.

Therefore, this part of ISO 12405 specifies standard test procedures for basic characteristics of performance, reliability and abuse of lithium-ion battery packs and systems.

This part of ISO 12405 enables the setting up of a dedicated test plan for an individual battery pack or system subject to agreement between the customer and supplier. If required, the relevant test procedures and/or test conditions of lithium-ion battery packs and systems can be selected from the standard tests provided in this part of ISO 12405 to configure a dedicated test plan.

This part of ISO 12405 specifies tests for high-power battery packs and systems.

NOTE 1 Typical applications for high-power battery packs and systems are hybrid electric vehicles (HEVs) and fuel cell vehicles (FCVs).

NOTE 2 Testing on cell level is specified in IEC 62660-1 and IEC 62660-2.

**‘FOR COMPLETE TEXT OF THE DOCUMENT KINDLY REFER ISO 12405-1:2011 or CONTACT:**

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