

IMMA contribution

9/RESS meeting, Tue 21 May 2013 - Thu 23 May 2013

CCFA, 2, rue de Presbourg
75008 PARIS

Tests reviewed by IMMA

- 1 (8A) Vibration
- 2 (8B) Thermal shock and cycling
- 3 (8C) Mechanical shock
- 4 (8D) Mechanical integrity
- 5 (8E) Fire resistance
- 6 (8F) External short circuit protection
- 7 (8G) Overcharge protection
- 8 (8H) Over-discharge protection
- 9 (8I) Over-temperature protection

IMMA has to date only reviewed the tests, not the approval criteria.

8A Vibration

- The modifications include the increase of the level of vibration in the tests for L1-L5 vehicles.
- For L6L7 this is still to be studied by IMMA
- IMMA will provide update at 10/ReESS meeting

Value of vibration test is linked to the mass of the battery. L-cat battery mass is less than M/N cat mass, so there is need to use different dynamics. When using the same force, different acceleration levels would result.

The location where the battery is fixed to the vehicle is different on a car, in general also the shock absorber system on a two-wheeler is different.

In a hybrid application the battery is not protected from the excitation force produced by the engine.

L- vehicle mass is less of other vehicles

Generally also applicable for L

- 8B Thermal shock and cycling
- 8F External short circuit protection
- 8G Overcharge protection
- 8H Over-discharge protection
- 8I Over-temperature protection

Tests under consideration from ISO 18243

10 (8.3)	Drop Test
12 (8.6)	Water immersion
13 (8.8)	Salt spray test

Test are in advanced drafting stage.

Committee Draft expected in June 2013.

Relevance of Water Immersion and Salt Spray test are under evaluation in IMMA.

Drop Test considered relevant in context for mechanical test for batteries of L vehicles

8C Mechanical shock

- A mechanical test for L-cat is needed, but based on different concept.
- IMMMA will propose separate test for L
 - Mechanical shock based on ISO 18243 currently under consideration based on use cases for high load and shock
 - based on ISO 18243 (8.3) Drop Test for removable REESS
- New test for L to be introduced under new section

8D Mechanical integrity

- Not applicable for L vehicles
- Crashtests not applicable to L-cat.

8E Fire resistance

- L- vehicles, vehicles without passenger compartment should be excluded.
- Vehicle without passenger compartment does not need test as the rider can easily and quickly leave the vehicle.