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**Motor vehicle door locks and retention components
performance requirements and test methods**

汽车门锁及车门保持件的性能要求和试验方法

(English Translation)

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1 Scope

This standard specifies the terms and definitions, technical requirements and test methods for vehicle door locks and door retention components, including latches, hinges and other supports.

This standard applies to the door lock and door retention components of the side door (including sliding doors) or back door for the category M1 and N1 vehicles for passenger access.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1

Doors

It refers to the hinged door and sliding door used at the vehicle side or back which can be opened and closed for entry and exit of the occupant.

It does not include folding doors, roll-up doors and simple doors easy to be installed and removed.

2.2

Door system

It includes door, latch, striker (or stop), door hinge, and guide rail and sliding door assembly, as well as the other retention components which are located on the door or around the door frame. The double door system includes two doors.

2.3

Door lock

It refers to the mechanism used to lock the door, which includes latch, striker (or stop), internal and external control mechanism, and internal and external latching mechanism.

2.8

Striker (or stop)

It refers to the parts engaging with the latch in order to make the door at the secondary latched position or fully latched position

2.9

Fully latched position

It refers to the engagement position of the latch and striker (or stop) when the door is fully closed.

2.10

Secondary latched position

It refers to the engagement position of the latch and striker (or stop) when the door is not fully closed.

3.1 General requirements

3.1.1

Each articulated door system shall be fitted with at least one primary door latch system.

3.2.1.1 Load 1

When the latch and strike (or stop) assembly of each primary latch system is at secondary latched position, if applying 4500 N load perpendicular to the latch surface, it shall not be disengaged; when the latch and strike (or stop) assembly of each primary door latch system and auxiliary door latch system are at the fully latched position, if applying 11000 N load along the same direction, it shall not be disengaged.

3.2.1.3 Load 3 (only for rear door locks opened vertically)

As for the rear door lock opened vertically, at least one primary door latch system shall, in addition to complying with the requirements of 3.2.1.1 and

3.2.1.2, not be disengaged from the fully latched position if applying 9000 N load along the direction orthogonal to the direction of application of load 1 and load 2.

3.2.1.4 Inertial loads

Each primary door latch system and auxiliary door latch system shall comply with the dynamic requirements of a) and/or b) of the following inertial load requirements, OR comply with the calculation requirements of c).

Inertial load requirements.

3.2.1.5 Door hinges

3.2.1.5.1

Each door hinge system shall be capable of withstanding the performance requirements of the following door hinge systems.

a) Supports the door;

3.2.1.5.2

If the entire door hinge system is not tested and only a single hinge in a door hinge system is tested, the hinge shall be loaded in proportion to the total number of hinges in the door hinge system.

3.2.1.5.3

As for the side door with a rear-mounted hinge and which can be operated independently of other doors, it shall comply with all of the following rear-mounted hinge rear side door requirements.

3.2.2.1 Load 1

When at least one door latch system is at the fully latched position, if applying

11000 N load perpendicular to the latch surface of the latch and strike (or stop) assembly of the door latch system, it shall not be disengaged; when the latch and strike (or stop) assembly of the primary door latch system is at the secondary latched position, if applying 4500 N load along the same direction, it shall not be disengaged.

3.2.2.3 Inertial loads

The sliding door latch shall, in addition to complying with the requirements of

3.2.2.1 and 3.2.2.2, also comply with the dynamic requirements of a) or the calculation requirements of b) in the following inertial load requirements.

Inertial load requirements.

3.2.2.4 Sliding door retention components

3.2.2.4.1

As for the sliding door guide rail and sliding door assembly or other supporting method, when it is at the fully latched and closed position, respectively APPLY 9000N outwards transverse force onto the opposite sides of the door (18000 N in total), the sliding door guide rail and sliding door assembly or other supporting components shall not be disengaged from the door frame.

3.2.2.4.2

When performing the test of 3.2.2.4.1, if any one of the following conditions occurs, the sliding door retention component does not comply with the requirements.

3.2.3.2 A rear door fitted with an inside door handle or other inner lock opening control shall be provided with at least one latching device in the vehicle which, when locked, shall prevent the operation of the inner door handle and other inner lock opening controls, AND is able to open the door with independent action as well as operate the inner door handle and other inner lock opening control device.

4.1.1.1 Load tests 1, 2 and 3

The test methods of 3.2.1.1, 3.2.1.2, 3.2.1.3 are shown in Appendix B.

4.1.2 Door hinges

The test methods of 3.2.1.5 are shown in Appendix D.

4.2.1.1 Load tests 1 and 2

The test methods of 3.2.2.1 and 3.2.2.2 are shown in Appendix B.

4.2.2 Sliding door retention components

The test methods of 3.2.2.4 are shown in Appendix E.

5 Transition period for implementation

With regard to the requirements of 3.2.2.3 and 3.2.2.4.2 for the rear door lock and rear door hinges as related in this standard, and the sliding door locks and retention components, the transition period for implementation is as follows.

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