English version translated from Spanish original

DECREE 145

MINISTRY OF TRANSPORT AND TELECOMMUNICATIONS UNDERSECRETARIAT OF TRANSPORT

ESTABLISHING THE TECHNICAL, DESIGN AND SAFETY REQUIREMENTS FOR THE SPECIFIED ELECTRIC VEHICLES

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No. 145.- Santiago, December 29, 2017. ...

Article 1: For the purposes of this decree, the following terms are defined as specified below:

a. Electric Vehicle: It is the light or medium-sized motor vehicle exclusively powered by an electric motor.

b. Hybrid Vehicle: It is the light or medium-sized motor vehicle powered by a group of motors, at least by an electric motor or an electric motor-generator and an internal combustion engine.

c. Externally Chargeable Hybrid Vehicle: It is the light or medium-sized motor vehicle powered by a group of motors, at least by an electric motor or an electric motor-generator and an internal combustion engine, enabling to charge electric power from an external source.

d. Extended Range Electric Vehicle: It is the light or medium-sized motor vehicle powered exclusively by electric energy, having an internal combustion engine to provide electric energy to the storage system.

e. Fuel Cell Vehicle: It is the light or medium-sized electric motor vehicle with a fuel cell and an electric machine used as propulsion energy converters.

f. Electrical Safety: All systems, devices and/or components protecting the occupants of a vehicle from electrical shocks and electrolytic leakages.

g. Working Voltage: The highest effective value of the voltage of an electrical circuit specified by the manufacturer that may be produced between any two conductive elements in open circuit conditions, or in normal operating conditions. If the electrical circuit is divided by galvanic isolation, the working voltage is respectively defined for each divided circuit.

h. High Voltage: The classification of an electrical component or circuit, if its working voltage is greater than 60 V and lower than or equal to 1,500 V DC, or greater than 30 V and lower than or equal to 1,000 V AC root mean square (rms).

i. Rechargeable Energy Storage System: The rechargeable energy storage system that provides electric energy for the purpose of vehicle propulsion.

j. Coupling system for charging the Rechargeable Energy Storage System: The electrical circuit used to charge the energy storage system from an external electric power supply including the inlet of the electric vehicle or externally chargeable hybrid vehicle.

k. Protection against Electrical Shocks: It includes all those systems, devices and elements to protect from direct or indirect contact with a conductive part or conductive parts, through which it is intended to have electric current flowing in normal operating conditions.

l. Safety Signage: They include all those elements which warn users of live vehicle areas affected by high voltage electrical current.

m. Acoustic Vehicle Alerting System: A system for the vehicles defined in the aforementioned Letters a, b, c, d and e issuing an acoustic signal that gives a warning to pedestrians and other public road users of the presence of such vehicle when traveling at a speed of 20 km/h or less.

n. 49 CFR 571: Federal Motor Vehicle Safety Standards of the United States of America.

ñ. SRRV: Safety Regulations for Road Vehicles for Japanese Certification.

o. KMVSS: Korean Motor Vehicle Safety Standards.

Article 2: The elements and systems indicated below shall comply with the standards established in the Code of Federal Regulations of the United States of America, or in the Safety Directives of the European Economic Community, or in the Safety Standards defined by Japan or Korea, as indicated below:

1. Rechargeable Energy Storage System: UNECE Regulation 100; 49 CFR 571.305; SRRV Attachment 101 and 111; or KMVSS Arts. 2, 18-3, 91;

2. Coupling system for charging the Rechargeable Energy Storage System: SAE J1772 (Society of Automotive Engineers) Electric Vehicle and Plug-in Hybrid Electric Vehicle Conductive Charge Coupler; IEC 62196 (ISO/International Electrotechnical Commission) Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles; Japan Electric Vehicle Standard G105-1993, CHAdeMO, fast direct current charger.

3. Protection against Electrical Shocks: UNECE Regulation 100; 49 CFR 571.305; SRRV Attachment 101 and 111; or KMVSS Arts. 2, 18-3, 91;

4. Safety Signage: UNECE Regulation 100; 49 CFR 571.305; SRRV Attachment 101 and 111; or KMVSS Arts. 2, 18-3, 91; and

5. Acoustic Vehicle Alerting System: 49 CFR 571.141; Regulation (EU) 540/2014.

The standards referred to in this decree shall be permanently available to the public on the website of the Ministry of Transport and Telecommunications (www.mtt.gob.cl).

Article 3: For all vehicles referred to in Article 1 of this decree, it shall be mandatory to be provided with the elements defined in Letters i, k, l and m of the above Article 1. For the vehicles defined Letters a and c of Article 1, the element defined in Letter j of that article shall be mandatory in addition. Moreover, such vehicles shall have the following:

1. External cover, orange-colored, for the high voltage electrical circuit cables not located in the interior of envelopes, as per UNECE Regulation 100, 49 CFR 571.305, SRRV Attachment 101 and 111, or KMVSS Arts. 2, 18-3, 91.

2. Warning Label: Attached to a visible area in the interior of the engine compartment and/or the passenger compartment, with a length of 120 ± 5 millimeters and a width

of 60 ± 5 millimeters. The text shall be in helvetic font, black color, white background, edge of the signage in red color, as indicated below:

PRECAUCIONES EN VEHÍCULOS ELÉCTRICOS E HÍBRIDOS

En caso de desperfecto, daño, o incendio que afecte a un vehículo eléctrico o vehículo híbrido:

1. Siempre considere que la batería de alto voltaje, los subsistemas y componentes se encuentran energizados y totalmente cargados.

2. La batería de alto voltaje, cables y componentes eléctricos expuestos presentan potenciales riesgos de choques eléctricos.

3. Los vapores de la batería de alto voltaje ventilado y/o liberado son potencialmente tóxicos e inflamables.

4. Daño físico al vehículo o a la batería de alto voltaje puede liberar inmediatamente o retardadamente gases tóxicos y/o inflamables, y fuego.

[English translation:]

PRECAUTIONS IN ELECTRIC AND HYBRID VEHICLES

In case of any breakdown, damage or fire affecting an electric or hybrid vehicle:

1. Always take into account that the high voltage battery, the subsystems and components are energized and fully charged.

2. The high voltage battery, exposed cables and electric components imply potential hazards of electrical shocks.

3. The vapors from the high voltage battery, vented and/or released, are potentially toxic and flammable.

4. Physical damage to the vehicle or the high voltage battery may release, both immediately or with delay, toxic and/or flammable gases, and fire.

3. Safety Information: Inside the vehicle and within reach of the driver, an information panel shall be provided on a plastic sheet or similar long-lasting sheet, letter or A4 size printed on both sides, containing the wording "Informativo de Seguridad" [English translation: “Safety Information”] as well as systematic information and instructions which include at least: Vehicle Description (make, model, year of manufacture, photography, signage, components); Deactivation System; Primary and Alternative Deactivation Procedure; Deactivation Procedure Diagrams; Diagrams of Vehicle High Voltage System; Towing or transport procedure.

4. The information on the Warning Label and on the Safety Information shall be part of the vehicle’s operating instructions, included in the instruction manual and/or the technical specifications delivered together with each commercialized vehicle, or attached to said documents.

5. A round label with a diameter of 83 mm printed on a material resistent to environmental conditions, adhered to the rear window of the vehicle on its right inside surface (as seen from the observer) so as to be easily visible from outside the vehicle.

The label shall contain the expression "Vehículo Eléctrico" [English translation: "Electric Vehicle"] or "Vehículo Híbrido" [English translation: "Hybrid Vehicle"], as applicable, plus an icon identifying the type of vehicle; such wording shall be located in the upper area of the circle and the icon shall be centered below. The letters and the icon shall be white, printed on a green background (Pantone 354 C), applying a reflective material to the background color, as shown in the following figures:

Note: The figures are not to scale and only illustrative.

Diameter of the circle	83 mm
Height of the letters (upper-case letters)	7.2 mm
Line width of the letters	1.6 mm
Width and height of the icons	31x29 mm (electric vehicle) 30x30 mm (hybrid vehicle).

Article 4: The vehicles defined in Article 1 and whose first registration with the National Registry of Motor Vehicles of the Civil Registry and Identification Service is requested as from the entry into force of this decree shall only be enabled to travel within the national territory if they are mechanically fit to comply with any of the standards and requirements established in Articles 2 and 3 of this decree, except for the requirement of Number 5 of the preceding Article 2, which shall enter into force on July 1, 2022. These vehicles, as regards their technical inspections, shall be subject to the general standards.

Article 5: The accreditation of compliance with the standards and requirements established in Articles 2 and 3 of this decree shall be carried out within the type approval procedure referred to in Supreme Decree No. 54 of 1997 of this Ministry. To proceed with the type approval, manufacturers, assemblers, importers or their representatives shall provide the Ministry of Transport and Telecommunications with the technical background information and certificates confirming compliance with any of the standards established in Article 2 and the requirements stated in Article 3 of this Decree.

In any case, the persons identified in the above indent may voluntarily request the certification of the standards, elements and systems indicated in Articles 2 and 3 within the type approval procedure for the models of their represented party as from the date of publication of this Decree in the Official Journal.

Article 6: This Decree shall become effective 12 months after the date of its publication in the Official Journal.

To be communicated and duly published.- ...