Market Access to Japan for Flexible Charging Cables for Electric Vehicles (EV)

New UL-JP Mark certification for EV cables for use in Japan

Are you planning to sell flexible charging cables for electric vehicles to end-product manufacturers in Japan market? If so, UL can help you.

UL (Underwriters Laboratories) has developed a new certification program to evaluate flexible charging cables for electric vehicles in accordance with JCS 4522:2013 standard and issue UL-JP Mark. JCS 4522:2013 is the standard issued by the Japanese Electric Wire & Cable Makers' Association (JCMA) on December 03, 2013 and the UL-JP Mark is a voluntary certification mark of UL for flexible charging cables for electric vehicles intended for use in the Japanese market.

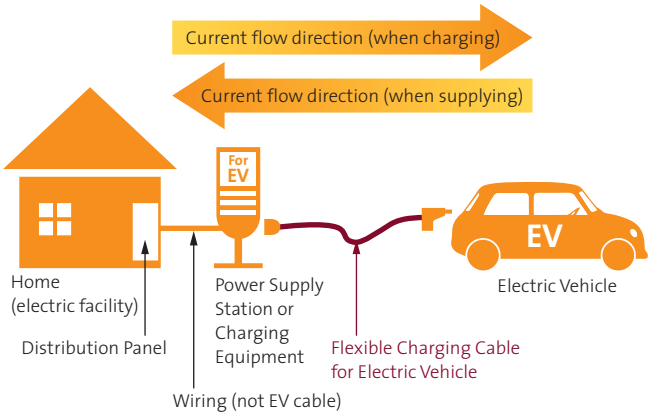

Figure 1 – Example of actual installation of EV cable

The flexible charging cables for electric vehicles specified under JCS 4522:2013 are the cables for use between electric vehicles and power supply stations or charging equipment where the power is charged from a charging equipment to an electric vehicle or where the power is supplied from an electric vehicle to a general electrical device such as a distribution panel at home through a power supply station. Please see the figure 1 for typical installation example.

The rated voltage of the flexible charging cables within the certification scope is 750 V dc or less (600 V ac or less) for power conductors and 60 V dc or less (60 V ac or less) for control conductors. The cables should be applicable to rated 450 V dc or less in actual installation in accordance with Article 199. 2 of Ministerial Order "Interpretation of technical standards for electrical equipment" issued by Japanese Ministry of Economy, Trade and Industry in June 2012, and suitable for use in -10°C thru 40°C for average weather regions or -30°C thru 40°C for cold weather regions.
The UL-JP Mark certification program evaluates the types of cables listed in the table 1 on the following page.

Table 1 – Description and type of cables

Description	Type (See Note 1, 2)
Type 2 Chloroprene Cabtyre Cable for Electric Vehicle	EV-2PNCT
Vinyl Cabtyre Cable for Electric Vehicle	EV-VCT, EV-PVCT
Flame-resistant Polyolefin Cabtyre Cable for Electric Vehicle	EV-OOCT/F, EV-OOCT
Type 2 Flame-resistant Ethylene Rubber Cabtyre Cable for Electric Vehicle	EV-2PPCT/F, EV-2PPCT

Note 1: Each alphabet/number in table 1 represents the followings.

- EV-: Flexible charging cable for electric vehicle
- P: Ethylene-Propylene rubber (insulation) or flame-resistant Ethylene rubber (sheath)
- V: Vinyl
- O: Polyolefin (insulation) or flame-resistant Polyolefin (sheath)
- N: Chloroprene rubber
- CT: Cabtyre
- /F: Non-halogen and low-smoke
- 2: "Type 2 Cabtyre" specified in JIS C 3327 or JCS 4511

Note 2: Each type is permitted to contain the following generic materials.

- EV-2PNCT: EP rubber insulation and Chloroprene rubber sheath
- EV-VCT: PVC insulation and PVC sheath
- EV-PVCT: EP rubber insulation and PVC sheath
- EV-OOCT/F and EV-OOCT: Polyolefin insulation and flame-resistant Polyolefin sheath
- EV-2PPCT and EV-2PPCT/F: EP rubber insulation and flame-resistant Ethylene rubber sheath

A typical EV cable is constructed with two power insulated conductors, nine control insulated conductors and a complete sheath, but not limited to.

It is important to note that UL certified flexible charging cables for electric vehicles are covered under UL's Follow-Up Service (FUS) program. The FUS program is designed to periodically check and test UL certified products to ensure their consistent manufacture and ongoing compliance with the certification program requirements.

Why the UL-JP Mark?

The UL Mark stands for integrity and high quality based upon a long history of technical experience: actively participating in and initiating numerous research projects; a globally respected team of standards experts who develop local and international standards; and, lastly, a strong global network of technical experts.

The UL-JP Mark benefits global manufacturers by further reducing their time-to-market and lowering costs. This is achieved by combining testing and certification efforts into one project and by working with one expert team.

Your Benefits

- **Combined certification efforts** – receive global market access in one product submission working with one reliable resource. You may select one stop service for market access to Japan, US and Canada.
- **Predictable market access** – significantly reduce critical time to market based on reduced project management. You will be able to obtain the certification approximately 3 months after submitting samples.
- **Significantly reduce certification costs** – minimize administrative and logistic efforts(fewer samples for submission), and take advantage of UL's global technical network.
- **Public safety mission globally** – gives your customers confidence that the products you supply to the market demonstrate your commitment to safety and quality.
- **Extending your customer reach** – Once your product is found to meet JCS 4522 and certified under the UL-JP Mark program, the information is made available on UL's UL-JP Mark website. This enables end-use product manufacturers to easily search and find the right wire and cable product type for their need.

For additional information, please contact to:

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Other than Japan: Your local customer service team at http://www.ul.com/global/eng/pages/aboutul/locations/