

Guidance for using DOT-SP 20798

DOT-SP 20798 authorizes the shipment of prototype and low production lithium ion batteries and lithium ion batteries contained in or packed with equipment to be shipped by cargo aircraft. Prototype lithium batteries are not authorized to be shipped by air unless approved by the competent authority of the country of origin (i.e. country where batteries are loaded on the aircraft).

The special permit also applies when you ship to, from or within the U.S because even if you have an approval from another country where the prototype battery is originating an approval is required from the US DOT, Pipeline and Hazardous Materials Safety Administration (PHMSA) in addition to any other approvals that have been issued (see IATA/ICAO USG-01 and USG-03).

Prototype batteries are those that have not yet undergone testing in accordance with the requirements the UN Manual of Tests and Criteria, Part III, Section 38.3

Low Production is defined as a production run of no more than 100 cells or batteries annually of a particular type.

The requirements in 49 CFR §173.185 (e) are consistent with those in SP A88. US approvals applications typically take up to 3-6 months to process and approve but any shipper can use DOT-SP 20798 as long as they comply with the applicable special permit operational requirements.

DOT-SP 20798 Requirements:

Testing

-for prototype cells three prototype cells must be stored at $55^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for at least 48 hours followed by a short circuit test (connecting a conductor across the positive and negative terminal) and maintaining it for at least 1 hour without disassembly or fire;

-for a battery one battery must be stored at $55^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for at least 48 hours followed by a short circuit test (connecting a conductor across the positive and negative terminal) and maintaining it for at least 1 hour without disassembly or fire;

Packaging

-Cells or batteries including those contained in or packed with equipment must be individually packed in inner packaging and be surrounded by non-combustible and non-conductive cushioning material;

- Cells or batteries including those contained in or packed with equipment must be protected against short circuit;

-the outer packaging must meet the PG I performance level. Three types of outer packaging are authorized:

-Thermally aligned 4G boxes, ENG-FBLIB-9100 and ENG-FBLIB 9200 – 1500 Wh maximum aggregate Wh rating;

-UN 4G box with Battery Bag ENG-FBLIB-9300 – 99.5 maximum aggregate Wh rating;

-UN 4B box AT-LIB-AMC-001 5,700 maximum aggregate Wh rating

-A cell or battery with a mass greater than 30 kg is limited to one per outer package

Marking and Labelling

The following markings and labels are required:

Each package must be marked “DOT-SP 20798” and “M6629”.

Hazard Class 9 label w/ “UNID” and “Proper Shipping Name” marking



Cargo Aircraft Only label



Other Requirements

A copy of the special permit must be maintained at each facility where it is offered.

A copy of the special permit must be carried aboard each cargo plane.

Employees that prepare shipments must receive hazmat training including training relative to the requirements of DOT-SP 20798.

A record of each shipment must be maintained for each shipment made under the special permit including:

-A description of each cell or battery type and any tests conducted, if any; and

-The dates and description of each shipment including the number of cells or batteries.

For shipments made under DOT-SP 20798 advance notice to FAA is required according to paragraph 8.g. The user needs to notify FAA by email at: 9-AWA-AXH-SPFlightNotifications@faa.gov before making their shipment. The email address is monitored during normal business hours. Once the notification is received, an FAA official will contact the shipper should any additional information be required (hazmat training, the name and training certs of the person signing the shipper's declaration, etc.), and the FAA will make a determination as to the shipper's ability to properly adhere to the special permit requirements for the use of the subject packaging.

The FAA will notify the shipper in writing – typically via email.