HUIJUE GROUP

Shipping Telecom Lithium Batteries: UN 38.3, Documentation and Packaging

Learn how UN 38.3, UN 3480 or UN 3481 classification, shipment documents, packaging and 2026 air rules apply to telecom lithium batteries worldwide.

POLICIES & REGULATIONS

Shipping Telecom Lithium Batteries: UN 38.3, Documentation and Packaging

Build a release file that connects the exact battery model to its test evidence, transport classification, packaging method, route and carrier acceptance conditions.

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A telecom battery can be electrically ready for a site and still be unready for a carrier. The transport decision starts with the exact cell or battery type, its condition, how it is presented for carriage and the route—not with the wording on a quotation. UN 38.3 evidence is the first gate, but classification, packing, marks, labels, declarations, training and operator acceptance remain separate gates.

This guide addresses rechargeable lithium-ion batteries used for telecom backup and hybrid-energy systems, including lithium iron phosphate products. It is a procurement and pre-booking framework, not a substitute for the current dangerous-goods rules, competent-authority requirements or a trained shipping specialist’s review of a particular consignment.

Does passing UN 38.3 make a telecom battery ready to ship?

No. Passing the applicable UN 38.3 tests establishes transport-test evidence for a particular cell or battery type; it does not select the UN number, packing instruction, mode, route, marks, labels or transport document for a shipment. A valid **UN 38.3 test summary** must also be traceable to the product actually offered for carriage.

Part III, subsection 38.3 of the UN Manual of Tests and Criteria covers lithium-cell and battery test procedures. The series addresses altitude simulation, thermal exposure, vibration, shock, external short circuit, impact or crush, overcharge and forced discharge. The applicable set differs between cell types and battery types, so “T.1 to

T.8” should not be copied into a supplier declaration as though every test applies identically to every article.

The current official source is the UNECE Manual of Tests and Criteria, Revision 8 and Amendment 1 . Section 38.3.5 specifies the information that the test summary must make available. The summary is not the same as a safety data sheet, a laboratory quotation, a one-line “UN 38.3 certificate” or an unlabeled pass report.

Test-summary block	What procurement should verify	Typical mismatch
Responsible parties	Manufacturer and test-laboratory names with contact details	Trading-company name appears, but the battery manufacturer is not identifiable
Report identity	Unique report number and test-report date	File name exists without a report reference that can be checked
Battery identity	Lithium-ion type, mass, watt-hour rating, physical description and model numbers	Summary covers a cell or pack family that cannot be mapped to the ordered model
Test statement	Tests conducted, pass/fail results and assembled-battery references where applicable	“Passed” appears without the required test list or battery-level basis
Document control	Manual revision and amendments, plus signatory name, title and signature	An unsigned summary cannot show who validated the information

Change-control warning. A summary for an earlier model is not automatically evidence for a revised pack. Changes to cell source, nominal energy, voltage, protection hardware or software, mechanical construction, interconnection or other safety-relevant features can affect whether the product remains the tested type. Engineering change control and transport-document control must use the same model identity.

Which UN number applies to a telecom lithium battery shipment?

For rechargeable telecom lithium-ion batteries, the usual starting point is UN 3480 when batteries travel by themselves and UN 3481 when batteries are packed with equipment or contained in equipment. The correct **lithium battery classification** depends on the physical consignment presented to the carrier, not on the destination site’s intended installation.

Consignment form	Starting classification	Air packing-instruction family	Decision boundary
Battery modules or packs shipped without the equipment they power	UN 3480, lithium-ion batteries	PI 965	A charger, cable set or empty rack does not by itself turn the battery into “packed with equipment”
Battery packaged in the	UN 3481, lithium-ion	PI 966	Battery and genuine

Consignment form	Starting classification	Air packing-instruction family	Decision boundary
same outer package with the device it is designed to power	batteries packed with equipment		powered equipment must meet the applicable packing conditions
Battery installed in the equipment it powers	UN 3481, lithium-ion batteries contained in equipment	PI 967	The equipment must provide the required protection; installation alone does not waive dangerous-goods controls

LiFePO4 describes a lithium-ion cathode chemistry; it does not remove the battery from lithium-ion transport rules. Watt-hour rating, battery mass, the number of packages, equipment relationship and transport mode can move a consignment into different instruction sections, quantity limits and approval paths.

An integrated telecom energy cabinet needs a configuration-specific decision. A cabinet carrying removable battery modules, rectifiers and monitoring hardware may not be classified the same way as a finished item in which the battery is installed as the power source for the equipment. Ask the dangerous-goods specialist to record why UN 3480 or UN 3481 applies; do not infer “contained in equipment” merely because batteries are bolted into a rack.

What documents should the shipper collect before booking?

The shipper should collect an exact-model test summary, technical identity data, condition statement, classification record, packing evidence and the mode-specific declaration or waybill information required for the route. The required **battery transport documents** are a controlled set: no single PDF replaces the others.

1. **Product identity record:** manufacturer, model, chemistry, nominal voltage, rated capacity, watt-hour rating, battery mass, dimensions, cell/pack relationship and production status.
2. **UN 38.3 evidence:** current test summary mapped to the ordered model and, where requested by an authority or carrier, access to supporting test information.
3. **Condition declaration:** confirmation that the batteries are not damaged, defective, recalled, waste or offered for recycling. Those conditions can invoke prohibitions or special provisions that a routine new-battery file does not cover.
4. **Classification worksheet:** UN number, proper shipping name, class, packing instruction, applicable section, package count, battery net quantity and the reasoning behind any exception.
5. **Packing evidence:** packaging specification, supplier certificate or test record

where applicable, terminal-protection method, restraint design, gross and net mass, closure instructions and completed-package inspection record.

6. **Shipment communication:** required marks and labels, shipper’s declaration or other dangerous-goods transport document when applicable, air waybill statements, emergency information and approvals or permits.

A safety data sheet may help communicate chemical and emergency-response information, and carriers often request one. It does not prove that the exact battery type passed UN 38.3, does not choose the correct packing instruction and does not by itself authorize transport.

Procurement control. Put transport evidence in the purchase specification before production release. The model on the nameplate, packing list, test summary, technical data sheet and dangerous-goods declaration should resolve to one controlled identity. If a supplier uses a commercial model name and an internal battery code, require a signed mapping between them.

How should large telecom batteries be packaged for transport?

Large telecom batteries must be protected against short circuit, terminal damage, physical movement and damage from the loads normally encountered in transport, using the packaging standard required by the selected rule. A valid **telecom battery packaging** design begins with the battery’s mass, exposed conductors, lifting points and actual shipping orientation.

For air transport, the applicable instruction may require UN specification packaging and performance evidence. The 2026 IATA guidance describes practical short-circuit controls such as non-conductive inner packaging, separation from batteries and conductive materials, terminal caps or insulating protection, secure cushioning and restraint that prevents shifting. Equipment may provide equivalent protection only when the applicable rule allows it and the completed configuration genuinely supplies that protection.

Inspection point	Evidence before closure	Reason for rejection
Terminals and connectors	Insulated, capped or otherwise protected against conductive contact	Exposed connector can contact a tool, rack or another battery
Internal movement	Restraints and cushioning are rated for battery mass and orientation	Module can shift, damage a terminal cover or load the enclosure door
Outer packaging	Correct specification, condition, closure method and mass limit	Unverified crate, damaged packaging or closure different from test instructions

Inspection point	Evidence before closure	Reason for rejection
Cabinet functions	Accidental energization prevented; loose parts and service tools controlled	Switching, contactor or accessible wiring can be activated in transit
Handling interface	Centre of gravity, lifting/fork points and gross mass communicated	Package can be tipped, lifted at an unapproved point or overloaded
Marks and labels	Match classification, mode, package and any overpack condition	Labels copied from a previous shipment with a different configuration

Battery mass deserves an early route check. IATA’s 2026 guidance shows a 35 kg per-package limit for fully regulated UN 3480 batteries under PI 965 Section IA on cargo aircraft and identifies Special Provision A99 as an approval route for a lithium or sodium-ion battery over 35 kg. An approval does not oblige an airline to accept the consignment, and State and operator conditions may add further restrictions.

What changed for telecom lithium battery air shipments in 2026?

From January 1, 2026, the air rules added a mandatory reduced-charge condition for lithium-ion batteries packed with equipment in the cases covered by PI 966; standalone UN 3480 batteries already travel at no more than 30% state of charge unless the required State approvals apply. The exact **state of charge limit** and approval path must be checked against the current instruction, battery rating and operator variations.

The IATA Battery Guidance Document revised for the 2026 regulations distinguishes three cases relevant to telecom projects:

- **UN 3480 under PI 965:** lithium-ion cells and batteries shipped by themselves must not exceed 30% of rated capacity unless approved under the stated conditions, and they are forbidden as cargo on passenger aircraft.
- **UN 3481 under PI 966:** Section I batteries packed with equipment must be offered at no more than 30% rated capacity; the guidance also applies the limit to Section II cells and batteries above 2.7 Wh. Higher charge requires the specified State approvals and written conditions.
- **UN 3481 under PI 967:** for batteries contained in equipment, the 2026 guidance strongly recommends shipment at no more than 30% rated capacity or an indicated battery capacity not exceeding 25%; it states that this reduction is not mandatory under that instruction.

These distinctions matter because telecom battery modules are normally far above consumer-device energy thresholds. The exporter should confirm the charge state at a defined point, record the measurement method and prevent charging after verification.

A dashboard screenshot without battery identity, timestamp, rated-capacity basis and responsible sign-off is weak release evidence.

Sea transport follows the IMDG Code rather than the IATA DGR. The IMDG Code 2024 Edition incorporating Amendment 42-24 became mandatory on January 1, 2026. Road, rail and inland-waterway legs can add national or regional provisions, while carriers may impose conditions beyond the regulatory baseline. A multimodal shipment therefore needs one route review, not an air checklist reused for every leg.

Responsibility follows the shipment, not the sales contract

A supplier can provide test evidence and packaging data, but the party offering dangerous goods for transport remains responsible for the shipper duties assigned by the applicable rules. Delegating packing or document preparation to a forwarder does not make product identity, battery condition or declarations somebody else’s engineering problem.

Party	Minimum controlled output	Handover question
Cell or battery manufacturer	Test summary, rated energy, model identity and change-control status	Does the evidence cover the production type being shipped?
Equipment integrator	Battery-to-cabinet mapping, installation state, electrical isolation and packed configuration	Is the battery standalone, packed with equipment or contained in equipment?
Exporter or shipper	Classification, trained preparation, marks, labels, declarations and approval file	Can the responsible person defend every field on the transport document?
Packer or dangerous-goods service provider	Approved packing method, closure record, mass check and package inspection	Does the completed package match the method and evidence selected?
Forwarder and carrier	Route, operator-variation check, booking acceptance and handling plan	Has the actual operator accepted the actual configuration?
Importer or consignee	Destination permits, receiving capability and damaged-package procedure	Can the destination legally receive, unload and store the consignment?

Names and legal duties vary by jurisdiction and mode, but the interfaces should still be written down. Record who classifies, who signs, who verifies charge state, who closes the packaging, who places marks and labels, and who confirms carrier acceptance. This prevents the familiar late-stage dispute in which every file exists but no party owns the consistency between them.

Use seven release gates before freight is tendered

A practical release process stops the shipment at the first unresolved gate. It does not

allow a later carrier booking to conceal missing product evidence.

1. **Identity:** ordered model, manufactured model, nameplate and packing-list identity agree.
2. **Test basis:** the applicable UN 38.3 summary covers the exact cell or battery type and current change state.
3. **Condition:** batteries are new and undamaged, with any prototype, low-production, defective, recalled, waste or recycling condition separately escalated.
4. **Classification:** UN number, proper shipping name, configuration, watt-hour rating, mass and packing instruction are documented.
5. **Package:** packaging, restraint, terminal protection, gross mass, marks, labels and closure evidence pass inspection.
6. **Route:** every mode, jurisdiction, State/operator variation and approval is checked against the planned itinerary.
7. **Acceptance:** the trained responsible person signs the record and the selected carrier confirms acceptance before collection.

Publication boundary. Transport rules change by date, mode, jurisdiction, battery condition, watt-hour rating, mass, package and operator. Recheck the current mandatory text and carrier variations for every booking. This article does not classify a specific Huijue product or promise that a carrier will accept it.

Specify the battery and its shipping evidence together

For a project quotation, provide the required battery configuration, module and shipment mass, destination, preferred transport mode, equipment relationship and delivery schedule. Huijue can align the proposed product package with the technical document set; final classification, packing and tender must be completed by the authorized shipping parties for the selected route.

Send battery and route inputs

Primary sources reviewed

- UNECE Manual of Tests and Criteria, Revision 8 and Amendment 1, subsection 38.3.
- IATA Battery Guidance Document, revised for the 2026 regulations and based on

the 2025–2026 ICAO Technical Instructions and 67th Edition IATA DGR.
- IMO IMDG Code, 2024 Edition incorporating Amendment 42-24, mandatory from January 1, 2026.

Related engineering resources

Lithium Batteries for Telecom Sites
Telecom Battery Backup Time Calculation
Telecom Energy Standards Guide
Telecom Energy Products and Services

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