



Operating manual

for the fire protection case

BSK-1 with *PyroBubbles®*

for lithium-ion and lithium-metal cells and batteries



Read the instructions carefully before use and keep them for future reference.



1 Product description

1.1 Technical data

Fire protection case BSK-1

Articel-No.: 2701

External dimensions in mm (L x W x H)	ca. 600 x 400 x 280
Internal dimensions in mm (L x W x H)	ca. 510 x 310 x 250
Stacking height in mm	ca. 280
Empty weight (mass) in kg	ca. 8
Max. total weight (gross mass) in kg (max. payload 15 kg)	23
Max. battery power in watts	1000
Volume in l	ca. 40
Cable feed	include
Carrying handles in pcs.	1
Material outside	Poly-propylene
Filler material	PyroBubbles bags
Colour	red
Pressure compensation	2 x grille outlets
Field of application	Lithium-ion batteries
Max. weight of dangerous goods (net mass) in kg	8
Recommended max. Dangerous goods size in mm	490 x 290 x 230



1.2 Components



1. Rubberised carrying handle	2. Cover
3. Ventilation grille (2 St.)	4. Fireproof inner lining
5. Cable feed	6. Poly-propylene outer box
7. Closures (2 pcs.)	8. Eyelets for lock (2 St.)
9. Transport safety	10. PyroBubbles cushion PP-S (2 St.)
11. PyroBubbles cushion PP-M (2 St.)	



2 Notes

2.1 Operating instruction

- a) The GENIUS BSK-1 is certified for the transport and storage of lithium-ion and lithium-metal cells and batteries.
- b) The inner liner included in the case is made of a non-flammable and non-conductive material, as is the filler of the PyroBubbles cushion. Both inserts are heat resistant, the inner lining is also high pressure resistant. In addition, the PyroBubbles filter hydrogen fluoride, which occurs when smoke develops.
- c) The case complies with all legal transport, packaging and shipping regulations (P903 / P908 / P909 and P910, ADR/IATA) for batteries/rechargeable batteries.
- d) The case is suitable for new, used, intact, and defective batteries/rechargeable batteries. Critically defective batteries/rechargeable batteries are NOT permitted.
- e) It is possible to transport several lithium batteries/rechargeable batteries. Please note that the total weight (suitcase + cushion + batteries = gross mass) of 23 kg and the maximum dangerous goods weight of 8 kg are not exceeded. The maximum dangerous goods size of 490 x 290 x 230 mm must also not be exceeded.
- f) It is imperative that the batteries/battery packs are centered in the case and completely enclosed by the PyroBubbles cushion.
- g) The PyroBubbles cushions are not washable. Uncontaminated cushions can be disposed of with normal household waste, as they are hollow glass spheres encased in polypropylene.
- h) If used commercially, the label for ion batteries of dangerous goods class 9, must be displayed on the case.
- i) CAUTION: Even if the PyroBubbles cushion are visibly damaged, their full functionality remains intact. Nevertheless, we recommend replacing the bags to ensure continued dust-free handling.
- j) In case of fire, the case must remain closed until it has cooled down. If oxygen enters, the battery will catch fire again. After a battery fire, the case should be taken outdoors if possible so that all gases and smoke can escape.
- k) The statutory warranty period applies to Genius products.



2.2 Information about PyroBubbles

- a) PyroBubbles are multicellular hollow glass spheres which are not dangerous in solid form (dust non-respirable). If PyroBubbles are intentionally mechanically crushed, continued contact with respirable dust in high concentrations can impair respiratory function. The general dust limit values of 1.25 mg/m³ for the alveolar (A-dust) and 10 mg/m³ for the inhalable (E-dust) fraction must be observed. A single layer mean value must not exceed the value of 3 mg/m³ for the A-dust fraction. For details, see TRGS 900. If the dust concentration at the workplace exceeds the specified workplace limit values, approved and suitable respiratory protection must be used (filter type P2).
- b) Wearing protective goggles is recommended in the event of dust formation, and suitable gloves in the event of skin contact.
- c) PyroBubbles that no longer correspond to the delivery condition must be disposed of in accordance with the disposal instructions (see section 6 Disposal/Environmental Protection) and must not be reused as they no longer meet the requirements for sorption capacity and thermal insulation.



3 Safety instructions

ATTENTION! Before each use, check the condition of the case and other components such as the rubber seal, inner lining, locks and cable feed.

3.1 Allgemeine Sicherheitshinweise

	Warning Risk of injury due to crushing Closing the cover causes a risk of crushing. Open the cover completely.
	Warning Danger of burns In the event of a fire or thermal runaway of the battery, the outside of the case can become very hot. Use PPE*, do not touch the case, keep your distance, alert the fire department.
	Warning Risk of injury In the event of a fire or thermal runaway of the battery, parts can be ejected from the case and cause injuries. Use PPE*, leave the danger zone, keep the lid closed at all times.
	Warning Danger of suffocation In the event of a fire or thermal runaway of the battery, fumes may be produced. Use PPE*, keep the lid closed at all times, leave the danger zone, alert the fire brigade, ensure sufficient ventilation.
	Warning Danger of burns Leaking electrolyte causes burns. Use PPE*, avoid contact with skin, eyes, mucous membranes, do not inhale vapors.
	Warning Risk of injury Do not stack cases with batteries, secure empty cases against falling over.
	Warning Risk of injury Do not stack cases with batteries, secure empty cases against falling over.

*PPE= Personal Protective Equipment



3.2 Storage instructions for PyroBubbles cushion

PyroBubbles cushion must be stored in a dry place. The best place to store the bags is the closed suitcase.

3.3 Storage instructions for the case

The case should be stored at temperatures between +5°C and +25°C, protected from direct sunlight and in a dry place, in order to maintain the sealing properties of the sealing rubber as defined in DIN 7716 (guideline for storage, maintenance and cleaning of rubber products). Empty cases should only be stored on level floors and in dry interior rooms.

3.4 Storage instructions for cells and batteries

When storing products at risk of corrosion, make sure that no moisture can get into the case and that temperature fluctuations cannot cause condensation of humidity on the surfaces at risk of corrosion. PyroBubbles are not corrosive, but do not guarantee corrosion protection!

3.5 Transport instructions

The relevant legal regulations must be observed during transport. This also applies to any additional markings or inscriptions.

Make sure that the cover is placed flat and that all locks are properly closed.

When transporting dangerous goods, the space around the case must be left free to ensure that reaction gases can escape through the grids in the event of a thermal runaway.



4 Use of the case

4.1 Loading process

1

Insert one layer of PyroBubbles cushion without clearances



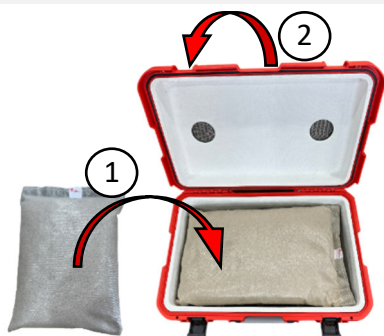
2

Place the load in the center of the case on all sides



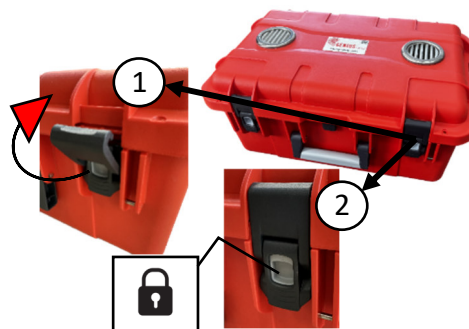
3

1. Fill all free spaces with PyroBubbles cushion
2. Close the cover



4

1. Close locks
2. Lock the caps



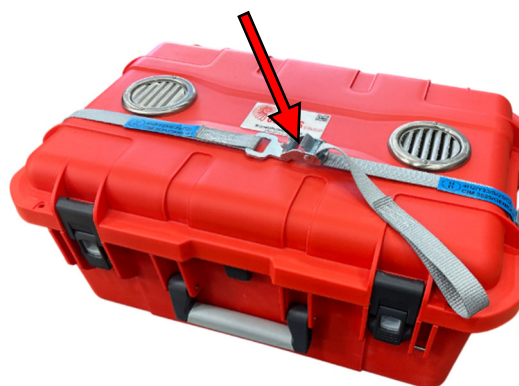
4.2 Preparation for transport

When transporting batteries/accumulators, the transport safety device must be applied and locked after the loading process.

The transport safety is attached to the bottom of the case and can be activated by hooking the fittings and then tightening the strap.

Applying the transport safety device also makes the UN number required for transport visible.

Transport safety





4.3 Removal of the goods

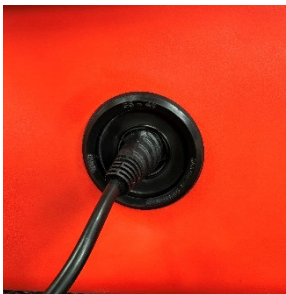
1. Open the transport container
2. Remove PyroBubbles cushion
3. Remove battery (-s)

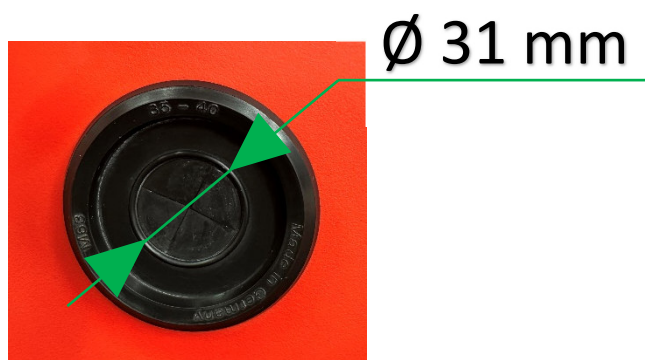
Attention!!!

If deposits, discoloration or a pungent smell are noticeable on the transport container, you must assume that the electrolyte is leaking or the battery is thermally runaway. Procedure see **point 2.1 - j)**.

4.4 Charging in the case

Batteries can (also) be charged in a filled and closed case. For this purpose, the power supply is routed through the built-in cable feeder in the rear part of the case.

1	2	3
		





5 Maintenance and repair

5.1 Maintenance instructions

Dirt on the case caused by substances that have leaked from the battery must be removed. Only use cleaning agents that do not damage the material of the case, the inner lining and the sealing rubber (EPDM).

PyroBubbles cushion can usually be reused if they do not show any optical changes and the granulate is odourless.

5.2 Repair

Damaged cases no longer correspond to the approved type and must not be used any further. Repairs may only be carried out by the manufacturer or by specialists authorised by the manufacturer.

We recommend replacing damaged PyroBubbles cushion with new bags from the manufacturer.

6 Disposal / Environmental protection

The materials of the case are recyclable and can be taken to the appropriate collection of recyclable materials.

Non-contaminated PyroBubbles cushion can be disposed of with household waste without filling. The PyroBubbles filling can be recycled as building materials.

Contaminated PyroBubbles cushion (hazardous waste) must be disposed of properly depending on their contamination.

7 Contact data

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