



Innovative Ideas for Fire Protection, Fire Prevention and Extinguishing Systems



GENIUS GROUP

company brochure



Germany
Land of Ideas



Selected Landmark 2011



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The **GENIUS** Group

With an experienced research and development team, we work every day on the best possible fire protection solutions for our customers.

Since 2010, we have continuously developed innovative solutions for fire protection, the transport and storage of lithium-ion battery systems, as well as special extinguishing systems for the highest demands. In doing so, we work continuously and closely with the responsible institutes and associations, such as BAM, MPA, the Fraunhofer Institute, and OVGU Magdeburg.

Customers such as Porsche, Mercedes-Benz, Volkswagen, Zeppelin, Rimac, Maserati, Scania, Kühne+Nagel, and many more rely on our expertise.

For our customers, partners, and employees, we aim to bring ecology and economic efficiency into harmony and create a correspondingly safe environment. We never lose sight of environmentally conscious thinking and action.



The **GENIUS Group**, as a manufacturer and marketer of sustainable, innovative fire protection solutions, thus forms an important interface between research, science, and industry.

We possess the necessary legal certifications, the know-how, and the resources to reliably and compliantly cover all aspects for you.

No matter which battery system and battery system size you use or which industry you belong to, **GENIUS** has the right solution for you! We even master and handle on a daily basis the premier class of critically defective lithium-ion battery systems in accordance with the latest ADR dangerous goods regulations under P911/LP906, including approvals for containers used for the transport and storage of battery systems.

When it comes to quality, we make no compromises. Through our QSP certification by BAM, we permanently comply with the required quality standards. Quality is not inspected into the company — at **GENIUS**, quality is produced every single day.

Take advantage of our technical expertise and become our long-term partner!





GENIUS product portfolio

PyroBubbles®

The original and patented GENIUS fire extinguishing agent for flammable solids, liquids, battery fires, building fire protection as well as specialty chemicals.

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Storage & Transport Plastic

GENIUS transport and storage boxes for prototypes or defective battery systems.

(Packaging Group 2)

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Storage & Transport Metal containers

GENIUS transport boxes for prototypes, defective or critically defective battery systems including BAM approval.

(Packaging group 1)

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Storage

GENIUS Storage containers for storing defective and critically defective battery systems.

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Test Bench

GENIUS test bench container for research and determination of performance limits of lithium-ion battery systems.

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Other safety products

GENIUS safety products for smaller lithium-ion battery systems and Bengalos

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The original and patented extinguishing agent **PyroBubbles®** from **GENIUS**

The patented GENIUS fire extinguishing agent PyroBubbles® is suitable for lithium-ion battery systems, liquids, building fire protection, cable ducts, and all kinds of other combustible materials. In numerous fire tests and laboratory examinations, GENIUS PyroBubbles® have proven their performance and are among the best extinguishing agents for fighting hazardous goods and hazardous materials fires.

PyroBubbles® do not just contain the fire — PyroBubbles® extinguish it!

- Approx. 8–10 times lighter than sand (approx. 235 kg/m³ and buoyant).
- Filtration and binding of electrolytes and liquids (BAM tested).
- Low thermal conductivity and electrically insulating.
- Thermally and chemically resistant (up to 1050 °C).
- Specific heat capacity of only 0.7 kJ/(kg*K), porosity of 85%.
- Condensation of escaping vapors through GENIUS PyroBubbles®.
- Non-combustible building material (A1, DIN 4102, EN 13501).
- Protection of the battery system against vibration through fixation.
- Available as bulk material as well as in various PE and PP bags.
- Non-hazardous to health, maintenance-free, and reusable.
- Approved as an extinguishing agent for lithium-ion battery systems, liquids, and all combustible materials (e.g. gasoline, magnesium) where water or other extinguishing agents do not provide sufficient effect.
- 100% in stock, 100% ecological, 100% safe.

As a result of the extinguishing tests, it can be stated that all fire objects examined were successfully extinguished with PyroBubbles in a very short time. The suitability of the PyroBubbles for fire extinguishing purposes is hereby confirmed on the basis of the tests carried out.



Baufachlich anerkannte Prüfstelle für Feuerlöschmittel und -geräte
DIN EN ISO/IEC 17025: DAP-PL-1137.00; DIN EN 45011: DAP-ZE-4348.00
DIN EN 17020: DAP-ZS-4347.00
ZLS-P-80000; ZLS-ZE-707700
Notified Body no. 0767
Migrated from VMPA e.V.

MPA Dresden

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Genius Entwicklungsgesellschaft mbH
Fontanestraße 3
15711 Königs Wusterhausen

Ihre Aufträge vom 13.05.2011 / 30.08.2012

Kurzfassung des Untersuchungsberichtes Nr. 2012-F-4045

Brandschutzsystem PyroBubbles® Premium / Fluid
Feuerlöscheruntersuchungen mit PyroBubbles als Feuerlöschmittel, an den Brandobjekten 13 A, 113 B, 5 F und Magnesium/Natrium (Brandklasse D), wie sie in der Norm DIN EN 3-7 : 2007 beschrieben sind

Auftraggeber: Genius Entwicklungsgesellschaft mbH
Fontanestraße 3, 15711 Königs Wusterhausen

Laboratorium: MPA Dresden GmbH
Amtlich anerkannte Prüfstelle für Feuerlöschmittel und -geräte
Fuchsmühlener Weg 6F, 09599 Freiberg, Deutschland

Zusammenfassung:
Bei Feuerlöscheruntersuchungen mit Brandobjekten (siehe oben), wie sie in der Norm DIN EN 3-7 : 2007 beschrieben sind, wurden PyroBubbles zum Löschen durch Aufschießen verwendet.
Die PyroBubbles wurden nach der vorgeschriebenen Brennzeit mit geeigneten Vorrichtungen auf die Brandobjekte aufgegeben, so dass eine vollständige Bedeckung bzw. Umhüllung erfolgte.
Die Wirkung von PyroBubbles beruht auf Isolation (Umhüllung) und Ersticken des Brandherdes.
Im Ergebnis der Löscheruntersuchungen ist festzustellen, dass alle untersuchten Brandobjekte erfolgreich und in sehr kurzer Zeit mit PyroBubbles gelöscht wurden. Die Eignung der PyroBubbles für Feuerlöschzwecke ist auf der Grundlage der durchgeführten Untersuchungen hiermit zu bestätigen.

Die für die Anwendung dieses Feuerlöschsystems erforderliche Auslegung von Löschkräften und Löschmethoden unter Verwendung von PyroBubbles kann, ausgehend von der Analyse des Brand-szenarios, auf der Grundlage der mit dieser Untersuchung gewonnenen Daten und erforderlichen-falls mit Ergebnissen ergänzender Untersuchungen erfolgen.

Allgemeine Hinweise:
Für die Untersuchungen wurden nur die in diesem Bericht angegebenen Einrichtungen und Materialien verwendet. Untersuchungsergebnisse beziehen sich ausschließlich auf die untersuchten Muster. Veröffentlichungen von Berichten und Hinweisen auf Untersuchungen zu Werbezwecken bedürfen in jedem Einzelfall der schriftlichen Einwilligung der MPA Dresden GmbH.

07. September 2012


Dipl.-Ing. Jürgen Dittrich
Leiter des Prüflaboratoriums

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Urkunden mit Gebührenscheinen von Akkreditierungen, Anerkennungen und Zertifizierungen unter www.mpa-dresden.de

Excerpt from various approvals



The original and patented extinguishing medium *PyroBubbles*® from GENIUS

Inerting:

The dense sphere packing inhibits material transport and effectively prevents the formation of ignitable mixtures.

Cooling:

Due to its specific heat capacity, the granulate absorbs a large amount of energy. This reduces the temperature of escaping gases/vapors and prevents self-ignition.

Condensation:

Vapors are cooled below their boiling point and condense on the granulate.

Adsorption:

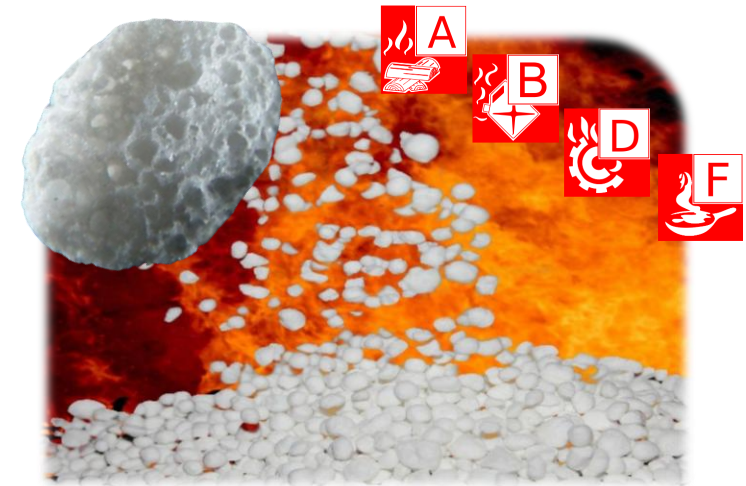
Vapors and liquids accumulate on the porous surface and can thus be disposed of in a bound state.

Applications:

- Anywhere where flammable liquids and metal shavings are present.
- When it is necessary to prevent damage caused by firefighting water.
- When fire loads cannot/should not be extinguished with water.
- For the permanent isolation of fire-hazardous substances/systems.
- For the safe transport of lithium-ion battery systems.
- Preventive fire protection in buildings and cable ducts.
- Gasoline, magnesium, and oil fires as well as other easily flammable liquids and combustible materials.

Examples of use:

- Production facilities
- Pumps and turbines
- Production machines
- Fats, oil, petrol
- Metalworking companies & specialty chemicals
- Electromobility (lithium-ion batteries/modules)
- Protection for storage tanks with flammable liquids
- Hardening baths
- Cable systems & transformers
- Transport of dangerous goods
- Foundries





PyroBubbles® the universal extinguishing and fire protection agent in use

Defensive fire protection with *PyroBubbles®*



Successful extinguishing attempt of a magnesium fire at the BAM test site in Brandenburg. The magnesium fire, which can reach temperatures of up to 3000°C, could be first controlled and then extinguished by the addition of *PyroBubbles®* as an applied extinguishing agent!

Image: glass cocoon around the extinguished 245 kg magnesium container.

Preventive fire protection with *PyroBubbles®*



PyroBubbles® can be excellently used in the field of preventive fire protection, especially for filling cavities, cable trays and installation shafts (horizontal and vertical) as bulk material. A completely straightforward fire protection upgrade to the F90 standard is feasible at any time for both existing buildings and new installations.

Preventive fire protection with *PyroBubbles®*



Example from the year 2024.

In order not to further load the structural integrity of a 10x30x10 m (LxWxH) large protective structure (sarcophagus) in which a 1,500 m³ liquid tank containing a highly flammable and explosive liquid is stored with heavy sand, 200 tons of *PyroBubbles®* were introduced during the revision for protection against external influences. Delivery was carried out using silo trucks and a 45-meter-long hose line.



PyroBubbles® packaging sizes of GENIUS

Item no.	Product description	Unit	External dimension mm (LxWxH) *
11 - PyroBubbles - Filling			
1101	Fire retardants PyroBubbles® Premium	1 Sac, 12,5 kg (approx. 50 liters)	780 x 550 x 130
1102	Fire retardants PyroBubbles® Premium	1 BigBag, 250 kg (approx. 1000 liters)	1020 x 850 x 1200
1104	Fire retardants PyroBubbles® Pure-M	1 Sac, 12,5 kg (approx. 50 liters)	780 x 550 x 130
1105	Fire retardants PyroBubbles® Pure-M	1 BigBag, 250 kg (approx. 1000 liters)	1020 x 850 x 1200
12 - PyroBubbles - Cushion			
1216	PyroBubbles® Cushion PE-S, Pure-M	PU 50 pcs. approx. 9 kg / PU (1 PE-S = 0,18 kg = 0,7 liters)	225 x 145 x 20
1217	PyroBubbles® Cushion PE-M, Pure-M	PU 5 pcs. approx. 10 kg / PU (1 PE-M = ca. 2,0 kg = 8 liters)	404 x 371 x 52
1220	PyroBubbles® Cushion PP-S (dust-free), Pure-M	PU 16 pcs. approx. 12,5 kg / PU (1 PP-S = 0,78 kg = 3 liters)	300 x 220 x 55
1221	PyroBubbles® Cushion PP-M (dust-free), Pure-M	PU 4 pcs. approx. 9,2 kg / PU (1 PP-M = 2,3 kg = 9 liters)	500 x 300 x 70
1222	PyroBubbles® Cushion PP-L (dust-free), Pure-M	PU 2 pcs. approx. 10,6 kg / PU (1 PP-L = 5,3 kg = 21 liters)	600 x 350 x 100
1223	PyroBubbles® Cushion PP-XL (dust-free), Pure-M	1 pcs. approx. 12,6 kg / PU (1 PP-XL = 12,6 kg = 50 liters)	810 x 550 x 110

* approx. value



PyroBubbles®

PE cushion, needle-punched



PyroBubbles®

PP cushion, non-dusting,
resealable with Velcro fastening, air-permeable



PyroBubbles®

Bulk silo transport up to 60 m³

- whenever you want
 - wherever you want
 - as much as you want
- !!! Price on request!!!

PyroBubbles®

Filling in 250 kg BigBag and
12.5 kg paper sack



GENIUS Plastic transport container (PG 2)

The Genius plastic transport containers are suitable for lithium-ion battery systems in nearly all conditions. The containers impress with an excellent price-performance ratio and represent an extremely cost-effective solution in this regard. All systems are designed for maximum user-friendliness during filling and emptying.

We offer you three specialized packaging concepts:

Basic – The efficient entry-level solution

This package consists of the plastic container and custom-fit PyroBubbles® filling cushions. It is the simplest option, in which the hazardous goods are quickly and easily secured using the included cushions, ideal for intuitive handling.

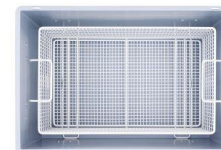
Advanced – The process-optimized solution

In addition to the container, this variant includes a wire basket and loose PyroBubbles® granulate. The basket automatically secures the hazardous goods at the optimal safety distance from the bottom and side walls. Thanks to the two carrying handles, the transport goods can be easily removed, while the loose granulate simply remains in the container.

Premium – Maximum safety and comfort

The premium solution combines a laterally closed wire basket with loose bulk material and additional filling cushions. The loose granulate serves as a protective embedding for the basket. The hazardous goods are simply placed in the basket and secured at the top with filling cushions – for maximum protection with the simplest handling.

- Safety system for storage and transport in accordance with ADR SV 310, SV 376, SV 377 and packing instructions P903, P908, P909, P910.
- Transport and storage of new, defective, end-of-life as well as prototype lithium-ion battery systems.
- E-bike batteries, power tools, laptop and mobile batteries, automotive batteries, etc.
- Safe protection against thermal runaway and exothermic reaction.
- Standard sizes for simple logistics, stackable up to 3.0 meters.
- Very easy handling and no environmental hazard.
- Tested boxes with UN approval.





GENIUS Plastic transport container (PG 2)

Item no.	Product description	Box content	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	Empty weight (mass in kg) *	Total weight incl. <i>PyroBubbles</i> ® (mass in kg) *	Max. total weight (gross mass in kg)	Max. dangerous goods mm (LxWxH)
22 - Plastic transport container - PG2									
2209	XS-Box 1 Basic , incl. <i>PyroBubbles</i> ®	18 PE-S filler cushion	400 x 300 x 235	358 x 258 x 177	17	1,9	6,3	X: 13 / Y:19	318 x 218 x 137
2210	XS-Box 1 Advanced , incl. <i>PyroBubbles</i> ®	1 bag PB, basket open	400 x 300 x 235	294 x 194 x 135	17	3,7	8	X: 13 / Y:19	284 x 184 x 125
2213	XS-Box 1 Premium , incl. <i>PyroBubbles</i> ®	8 PE-S filler cushion, basket closed	400 x 300 x 235	298 x 198 x 129	17	6,6	9	X: 13 / Y:19	288 x 188 x 119
2211	XS-Box 2 Basic , incl. <i>PyroBubbles</i> ®	23 PE-S filler cushion	400 x 300 x 285	358 x 258 x 228	22	2	7,7	X: 13 / Y:19	318 x 218 x 188
2212	XS-Box 2 Advanced , incl. <i>PyroBubbles</i> ®	1 bag PB, basket open	400 x 300 x 285	294 x 194 x 190	11	4	9,5	X: 13 / Y:19	284 x 184 x 180
2201	S-Box 1 Basic , incl. <i>PyroBubbles</i> ®	45PE-S filler cushion	600 x 400 x 293	558 x 358 x 235	48	3,5	16	X: 30 / Y:45	518 x 318 x 195
2202	S-Box 1 Advanced , incl. <i>PyroBubbles</i> ®	1 bag PB, basket open	600 x 400 x 293	484 x 284 x 200	27	6,9	19	X: 30 / Y:45	474 x 274 x 190
2203	S-Box 1 Premium , incl. <i>PyroBubbles</i> ®	30 PE-S filler cushion, basket closed	600 x 400 x 293	488 x 288 x 194	27	14,4	22	X: 30 / Y:45	478 x 278 x 184
2204	S-Box 2 Basic , incl. <i>PyroBubbles</i> ®	85 PE-S filler cushion	600 x 400 x 441	558 x 358 x 382	78	4,7	25	X: 30 / Y:45	518 x 318 x 342
2205	S-Box 2 Advanced , incl. <i>PyroBubbles</i> ®	2 bag PB, basket open	600 x 400 x 441	484 x 284 x 345	47	9	29	X: 30 / Y:45	474 x 274 x 335
2206	S-Box 2 Premium , incl. <i>PyroBubbles</i> ®	55 PE-S filler cushion, basket closed	600 x 400 x 441	488 x 288 x 339	48	20,3	33	X: 30 / Y:45	478 x 278 x 329
2216	M-Box Basic , incl. <i>PyroBubbles</i> ®	45 PE-M filler cushion	1210 x 1010 x 820	1120 x 920 x 600	610	44	197	400	1046 x 846 x 540
2207	M-Box Advanced , incl. <i>PyroBubbles</i> ®	12 bag PB, basket open	1210 x 1010 x 820	966 x 766 x 401	297	70	223	400	956 x 756 x 391
2208	M-Box Premium , incl. <i>PyroBubbles</i> ®	45 PE-M filler cushion, basket closed	1210 x 1010 x 820	974 x 774 x 401	302	131	232	400	964 x 764 x 391

* approx. value



The standard cushions are surrounded by a thin, needle-perforated polyethylene (PE) film and filled with *PyroBubbles*®. In case of need (thermal runaway), the film dissolves and the extinguishing agent *PyroBubbles*® unfolds its full effect.

Alternatively to the standard cushions (PE), our non-dusting polypropylene (PP) fabric cushions can also be used. The dust-free PP cushions are very robust and equipped with a Velcro fastener.





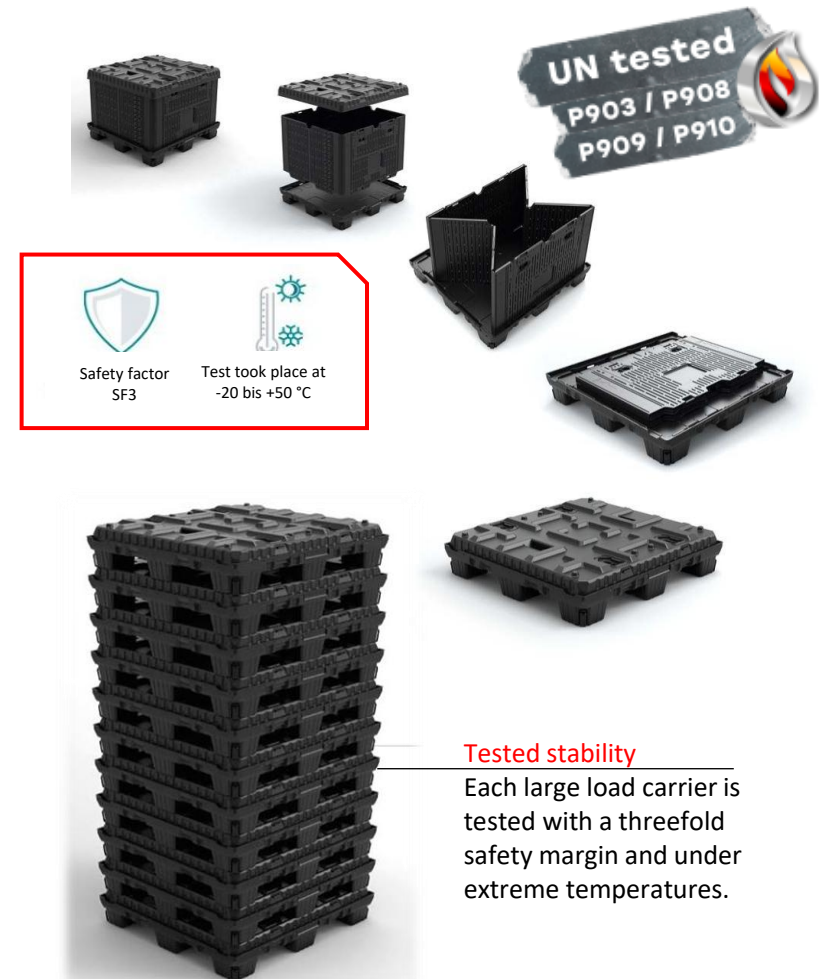
FLEX-Line The foldable plastic container from GENIUS (PG 2)

Safely package and transport hazardous goods – with **GENIUS**.

“Whether by sea, air, rail, or road: our foldable hazardous goods packaging made of plastic guarantees maximum safety when transporting dangerous goods. Thanks to variable sizes and configurations, the system is ideally suited for demanding requirements, such as the transport of defective lithium-ion battery systems.

Beyond safety, the containers offer significant cost advantages: due to the reduced volume during transport and storage, you optimize your logistics costs while also improving your CO₂ footprint.”

- Security system for storage and transport in accordance with ADR LP903, LP904, LP905 or P903, P908, P909, P910 for new, damaged and defective lithium-ion battery systems as well as prototypes.
- E-bike batteries, power tools, laptop and mobile batteries, automotive batteries, etc.
- Recess for barcode labels as well as provision for document register attachment.
- Incorporation of a GPS chip in the pallet base possible.
- Standard sizes for easy logistics, foldable and extremely lightweight.
- Tested boxes with UN approvals and sliding element with hazardous goods symbol.
- Permanent reuse of the system (no replacement required after 5 years).
- Very easy handling and no environmental hazard.
- Stackable up to 3 containers (1+2)



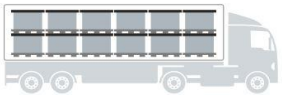


FLEX-Line The foldable plastic container from GENIUS (PG 2)

FLEX-Line folding systems are foldable large load carriers made of plastic that meet all requirements for modern and environmentally friendly transport and warehouse logistics. Thanks to a special construction consisting of a twin-sheet pallet, folding ring, and twin-sheet lid, they are lightweight yet very stable. They are ergonomic and safe to handle, have a long service life, and can be fully recycled at the end of their use. For storage and empty transport, the large load carriers can be folded to save space.

Outward transport

52 full FLEX boxes
1200 x 1000 x 990 mm



Up to **85% volume reduction**
in the return and storage of
empties !!!

Return transport

382 empty FLEX boxes
1200 x 1000 x 990 mm



To ensure we find the right packaging and solution for your hazardous goods, we offer the **FLEX-Line** in three different equipment variants (Basic, Advanced, Premium) and in various sizes.

Basic: For dangerous goods according to ADR P903 / LP903.

Advanced: For higher protection including fiberglass lining, according to ADR P903, P908, P909, P910, LP903, LP904 & LP905.

Premium: For highest protection including E-glass fiber lining & **PyroBubbles®** cushions (dust-free), according to ADR P903, P908, P909, P910, LP903, LP904 & LP905





FLEX-Line The foldable plastic container from **GENIUS** (PG 2)

Item no.	Product description	Box content	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	Empty weight (mass in kg) *	Max. total weight (gross mass in kg)	Max. dangerous goods mm (LxWxH)
22 - foldable transport container plastic - VG 2								
2219	FLEX-Box 240 Basic		1140 x 595 x 635	1060 x 515 x 443	240	38	438	920 x 375 x 303
2220	FLEX-Box 240 Advanced	E-glass fibre needle mats	1140 x 595 x 635	1020 x 475 x 403	195	38 (46 with mat)	438	920 x 375 x 303
2221	FLEX-Box 240 Premium	E-glass fibre needle mats incl. 16 PyroBubbles® cushion PP-M	1140 x 595 x 635	1020 x 475 x 403	195	38 (46 with mat)	438	920 x 375 x 303
2222	FLEX-Box 625 Basic		1200 x 800 x 923	1134 x 734 x 752	625	55	656	994 x 594 x 612
2223	FLEX-Box 625 Advanced	E-glass fibre needle mats	1200 x 800 x 923	1094 x 694 x 712	540	55 (71 with mat)	656	994 x 594 x 612
2224	FLEX-Box 625 Premium	E-glass fibre needle mats incl. 18 PyroBubbles® cushion PP-L	1200 x 800 x 923	1094 x 694 x 712	540	55 (71 with mat)	656	994 x 594 x 612
2225	FLEX-Box 790 Basic		1200 x 1000 x 1000	1092 x 892 x 812	790	52	850	952 x 752 x 672
2226	FLEX-Box 790 Advanced	E-glass fibre needle mats	1200 x 1000 x 1000	1052 x 852 x 772	690	52 (68 with mat)	850	952 x 752 x 672
2227	FLEX-Box 790 Premium	E-glass fibre needle mats incl. 12 PyroBubbles® cushion PP-XL	1200 x 1000 x 1000	1052 x 852 x 772	690	52 (68 with mat)	850	952 x 752 x 672

* approx. value





FLEX-Line The foldable plastic container from **GENIUS** (PG 2)

Item no.	Product description	Box content	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	Empty weight (mass in kg) *	Max. total weight (gross mass in kg)	Max. dangerous goods mm (LxWxH)
22 - foldable transport container plastic - VG 2								
2228	FLEX-Box 975 Basic		2250 x 1140 x 635	2140 x 1030 x 443	975	81	835	2000 x 890 x 303
2229	FLEX-Box 975 Advanced	E-glass fibre needle mats	2250 x 1140 x 635	2100 x 990 x 403	840	81 (102 with mat)	835	2000 x 890 x 303
2230	FLEX-Box 975 Premium	E-glass fibre needle mats incl. 12 PyroBubbles® cushion PP-XL	2250 x 1140 x 635	2100 x 990 x 403	840	81 (102 with mat)	835	2000 x 890 x 303
2231	FLEX-Box 1580 Basic		1700 x 1140 x 1157	1590 x 1030 x 965	1580	86	800	1450 x 890 x 825
2232	FLEX-Box 1580 Advanced	E-glass fibre needle mats	1700 x 1140 x 1157	1550 x 990 x 925	1420	86 (112 with mat)	800	1450 x 890 x 825
2233	FLEX-Box 1580 Premium	E-glass fibre needle mats incl. 20 PyroBubbles® cushion PP-XL	1700 x 1140 x 1157	1550 x 990 x 925	1420	86 (112 with mat)	800	1450 x 890 x 825
2234	FLEX-Box 2900 Basic		2800 x 1800 x 827	2700 x 1700 x 630	2900	300	1500	2560 x 1560 x 490
2235	FLEX-Box 2900 Advanced	E-glass fibre needle mats	2800 x 1800 x 827	2660 x 1660 x 590	2605	300 (240 with mat)	1500	2560 x 1560 x 490
2236	FLEX-Box 2900 Premium	E-glass fibre needle mats incl. 30 PyroBubbles® cushion PP-XL	2800 x 1800 x 827	2660 x 1660 x 590	2605	300 (240 with mat)	1500	2560 x 1560 x 490

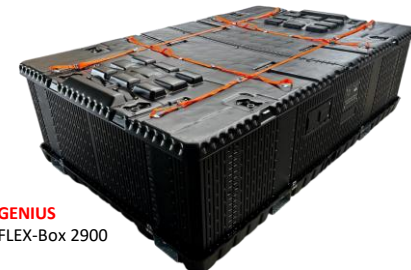
* approx. value



GENIUS
FLEX-Box 975



GENIUS
FLEX-Box 1580



GENIUS
FLEX-Box 2900



GENIUS Fire protection case BSK (PG 2)

We developed the BSK fire protection case according to the highest safety standards for the storage and transport of lithium-ion battery systems.

With an additional cable feed-through, you can not only store your battery system safely in the BSK but also charge it in a protected manner. Thanks to its low weight, easy handling, and robust construction, safe use is also ensured in enclosed spaces. Your safety is important to us!

Maximum SAFETY for your battery

Our high-quality special case is designed for the safe storage and compliant transport of lithium-ion battery systems. Whether you want to charge, transport, or store them securely. With the BSK fire protection case from **GENIUS**, you are on the safe side.

Thanks to our dust-free **PyroBubbles®** cushions, the BSK withstands significantly higher thermal loads than, for example, mineral wool or fiberglass products. In addition to new or end-of-life battery systems and prototypes, the case is also ideally suited for defective lithium-ion battery systems. For critically defective battery systems, please feel free to contact us separately.

- Non-flammable inner housing.
- Easiest handling.
- Special explosion protection in the housing.
- Integrated pressure relief venting.
- Gas and filter system via **PyroBubbles®**.
- Usable in enclosed spaces.
- Environmentally friendly extinguishing agent.
- Extensively tested incl. UN certificate.
- Ergonomic handle.
- Extremely robust outer shell.
- Charging option in the case.
- Eye-catching color.





GENIUS Fire protection case BSK-1 & BSK-2 (PG2)



For dangerous goods up
to 1000 Wh / max. 8 kg /
max. 490x290x230 mm

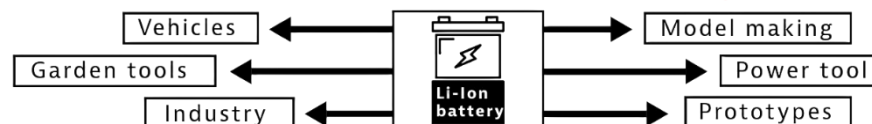
- Ext. dimensions LxWxH: 60 x 40 x 28 cm *
- Int. dimensions LxWxH: 51 x 31 x 25 cm *
- Empty weight: 8 kg *
- Total weight: Max. 23 kg
- Stacking height: 28 cm *
- Volume: 40 liters *
- Cable feed-through: Included
- Number of handles: 1 handle
- Material: Polypropylene PP
- Color: Red / Olive
- Pressure ventilation: 2 grilles
- Delivery: With **PyroBubbles®** cushions
- Item no.: 2701



* approx. value

- Ext. dimensions LxWxH: 80 x 60 x 44.5 cm *
- Int. dimensions LxWxH: 70 x 50 x 38 cm *
- Empty weight: 20 kg *
- Total weight: Max. 60 kg
- Volume: 133 liters *
- Cable entry: Included
- Number of handles: 2 handles
- Material: Polypropylene PP
- Color: Red / Olive
- Pressure ventilation: 2 grilles
- Delivery: With **PyroBubbles®** cushions
- Version: With 2 wheels and telescopic handle
- Item no.: 2702

For dangerous goods up
to 3000 Wh / max. 30 kg /
max. 650x450x330 mm





GENIUS Transport containers made of stainless steel for critically defective battery systems (PG 1)

The **GENIUS** transport containers made of stainless steel and black steel are the ideal solution for users seeking a reliable way to safely transport or store lithium-ion battery systems in accordance with UN numbers 3090, 3091, 3480 and 3481, as well as in line with the latest safety standards.

In addition to intact lithium-ion battery systems, the **GENIUS** transport containers are particularly suitable for critically defective battery systems, which represent a significant hazard both during transport and storage.

Through years of development work, these boxes have become one of the safest transport and storage solutions on the market.

Through a large number of fire tests, the **GENIUS** transport containers have obtained all necessary approvals according to P911 and LP906.



GENIUS
XXL-Box E



GENIUS
M-Box X1 E

- Security system for storage and transport in accordance with the latest ADR regulation for damaged and critically defective lithium-ion battery systems.
- Safest and certified protection against thermal runaway or exothermic reaction.
- Steel containers in various sizes from S to XLP, stackable.
- Certified boxes with UN approvals in accordance with:
 - ADR (road transport)
 - RID (rail transport)
 - IMDG (sea transport)
- Permanent reuse of the system, no maintenance required, and easy handling.
- Filtering of toxic gases and protection of hazardous goods through **GENIUS PyroBubbles®**.
- Over 40 successful fire tests with a wide variety of cell types and over 100 kW/h.
- The temperatures of the outer walls remain, even during and after a thermal runaway of the system, well below 100 °C. The system prevents the release of flames and projectiles. Through special valves and the extinguishing agent **PyroBubbles®**, toxic substances are filtered and the fire is contained, and in the best case completely extinguished.
- The transport containers can be filled either with bulk **PyroBubbles®** or with cushions. Both the containers and the cushions are available in different sizes. Please feel free to contact us.



GENIUS Transport containers made of stainless steel for critically defective battery systems (PG 1)

Item no.	Product description	Box content	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	Empty weight (mass in kg) *	Max. total weight (gross mass in kg)	Max. dangerous goods mm (LxWxH)
21 - Transport container stainless steel - PG1								
2122	S-Box X1 E, incl. <i>PyroBubbles</i> ® Premium	4 sac PB	800 x 600 x 756	674 x 474 x 573	185	69	207	374 x 174 x 273
2125	S-Box X2 E, incl. <i>PyroBubbles</i> ® Premium	6 sac PB	800 x 600 x 1136	674 x 474 x 953	305	83	303	374 x 174 x 653
2124	M-Box X1 E, incl. <i>PyroBubbles</i> ® Premium	10 sac PB	1200 x 800 x 812	1076 x 676 x 650	463	115	430	776 x 376 x 350
2118	M-Box X2 E, incl. <i>PyroBubbles</i> ® Premium	16 sac PB	1200 x 800 x 1278	1076 x 676 x 1100	800	140	701	776 x 376 x 800
2127	L-Box X1 E, incl. <i>PyroBubbles</i> ® Premium	18 Sack PB	1720 x 920 x 953	1596 x 796 x 750	953	175	890	1296 x 496 x 450
2128	L-Box X2 E, incl. <i>PyroBubbles</i> ® Premium	28 Sack PB	1720 x 1320 x 1230	1650 x 1250 x 1000	2062	260	855	1350 x 950 x 700
2120	XXL-Box E, incl. <i>PyroBubbles</i> ® Premium	50 sac PB	2572 x 1556 x 1108	2376 x 1360 x 839	2603	400	1738	2076 x 1060 x 539
2126	XXL-Box E with inner box E, incl. <i>PyroBubbles</i> ® Premium	20 sac PB, permanent filling, Inner box	2572 x 1556 x 1108	2070 x 1060 x 540	1185	520	1738	1970 x 960 x 440
2131	LP-Box² X1 E, incl. <i>PyroBubbles</i> ® Premium (double-walled)	55 sac PB, permanent filling	3175 x 2400 x 1349	2670 x 1900 x 590	2993	2008	3960	2470 x 1700 x 490

* approx. value

26 - Transport container blacksteel - PG1								
2603	S-Box X1 B, incl. <i>PyroBubbles</i> ® Premium (galvanized)	4 sac PB	800 x 600 x 744	678 x 478 x 580	188	47	184	378 x 178 x 280
2605	M-Box X1 B, incl. <i>PyroBubbles</i> ® Premium (galvanized)	9 sac PB	1200 x 800 x 790	1046 x 646 x 625	422	100	387	746 x 346 x 325
2607	XXL-Box B, incl. <i>PyroBubbles</i> ® Premium (galvanized)	55 sac PB	2500 x 1500 x 1230	2336 x 1336 x 926	2890	538	1870	2036 x 1036 x 626
2608	LP1-Box Classic B, incl. <i>PyroBubbles</i> ® Premium (galvanized)	60 sac PB	2835 x 2135 x 957	2159-2699 x 1460-2000 x 570	2990	736	2024	2399 x 1700 x 270
2609	LP1-Box Basic B, incl. <i>PyroBubbles</i> ® Premium (galvanized)	400 PE-M filler cushion	2835 x 2135 x 957	2159-2699 x 1460-2000 x 570	2990	736	2024	2399 x 1700 x 270
2610	LP-Box² B, incl. <i>PyroBubbles</i> ® Premium (galvanized & double-walled)	55 sac PB, permanent filling	3190 x 2190 x 1407	2700 x 1700 x 649	2983	2008	3960	2470 x 1700 x 490

* approx. value

With various partners, we conduct certified fire tests and can therefore also quickly implement special boxes and qualify them for approval. The GENIUS Group has its own procedural specification at BAM so that you can also safely transport critically defective battery systems.



GENIUS Storage boxes as storage containers

The increasing energy density of lithium-ion battery systems and the unstoppable use of these energy carriers in all industrial sectors inevitably lead to significantly greater risk potentials such as transport damage, self-ignition potential, production damage, returns, etc.

The double-walled metal special containers are filled with **PyroBubbles®**. The lid is also securely protected by a permanent **PyroBubbles®** filling. Even lithium-ion battery systems in boxes or other storage units can be quickly and easily safely stored in these containers. The lithium-ion battery systems are also protected from external influences. The condition of the battery system plays no role; even critically defective battery systems can be stored.

The **GENIUS** Storage System represents a simple, weather-resistant, safe, and flexible solution for the storage of lithium-ion battery systems for all industrial sectors. This makes complex separate fire protection containers, halls, and protective rooms unnecessary.

The **GENIUS** Storage Boxes are available in various sizes. Custom sizes can be individually designed in-house by **GENIUS**, entirely according to your needs and requirements.



Item no.	Product description	Box content	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	Empty weight (mass in kg) *	Max. total weight (gross mass in kg)	Max. dangerous goods in mm (LxWxH)
23 - Storage box								
2306	Storage Box 30 B, incl. PyroBubbles®	2 PE-M filler cushion, permanent filling	600 x 400 x 750	363 x 213 x 390	30	79	179	343 x 193 x 370
2307	Storage Box 90 B, incl. PyroBubbles®	4 PE-M filler cushion, permanent filling	800 x 600 x 750	563 x 413 x 390	90	135	335	543 x 393 x 370
2308	Storage Box 220 B, incl. PyroBubbles®	8 PE-M filler cushion, permanent filling	1216 x 800 x 750	1013 x 563 x 390	220	219	619	993 x 543 x 370
2309	Storage Box 280 B, incl. PyroBubbles®	16 PE-M filler cushion, permanent filling	1216 x 1000 x 750	1013 x 743 x 368	280	273	673	993 x 723 x 348
2311	Storage Box 340, incl. PyroBubbles®		1200 x 800 x 1000	995 x 545 x 640	340	245	645	975 x 525 x 620
2310	Storage Box 520 B, incl. PyroBubbles®	45 PE-M filler cushion, permanent filling	1680 x 1480 x 882	1247 x 1047 x 400	520	601	1001	1227 x 1027 x 380

* approx. value



From Storage 90 onwards, all boxes are also available with a set of wheels or a wheeled frame!



GENIUS Test bench as test stand container

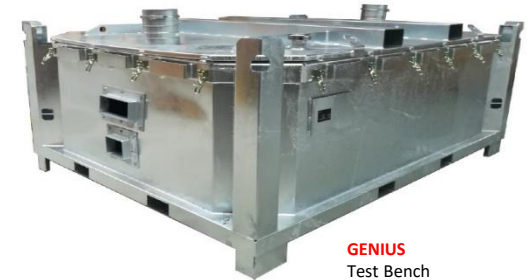
As an additional range of offerings, **GENIUS** provides test bench containers for lithium-ion battery systems. In this context, many years of experience with real fire tests of lithium-ion battery systems of all sizes from the field of electromobility play a crucial role.

The customized test bench containers are used for research and for determining the performance limits of the latest lithium-ion battery systems in the electrical and automotive industry. All containers are made of steel or stainless steel. At the same time, the test bench can also be used as a storage container.

Individually defined cable feedthroughs according to customer requirements, flue gas exhausts, water and compressed air connections, as well as other connections, are possible.



GENIUS
Test Bench 4200



GENIUS
Test Bench
custom-made production



GENIUS
Test Bench 4200 with
trolley function

Item no.	Product description	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	Empty weight (mass in kg) *	Max. total weight (gross-mass in kg)
25 - Test Bench container						
2502	Test Bench 800 E, without filler	1199 x 799 x 1252	1076 x 676 x 1100	800	129	701
2506	Test Bench 1000 E, without filler	1800 x 800 x 1000	1676 x 676 x 838	950	174	800
2505	Test Bench 2100 B, without filler	2100 x 1100 x 1527	1800 x 800 x 560	806	327	827
2503	Test Bench 4200 B, without filler	2835 x 2135 x 1242	2640 x 2000 x 800	4224	585	2585
2501	Test Bench 4500 B, without filler	2835 x 2135 x 1242	2159-2699 x 1460-2000 x 855	4491	807	2807
2504	Test Bench 4900 B, without filler	2935 x 2135 x 1287	2258-2800 x 1460-2000 x 900	4930	971	2971

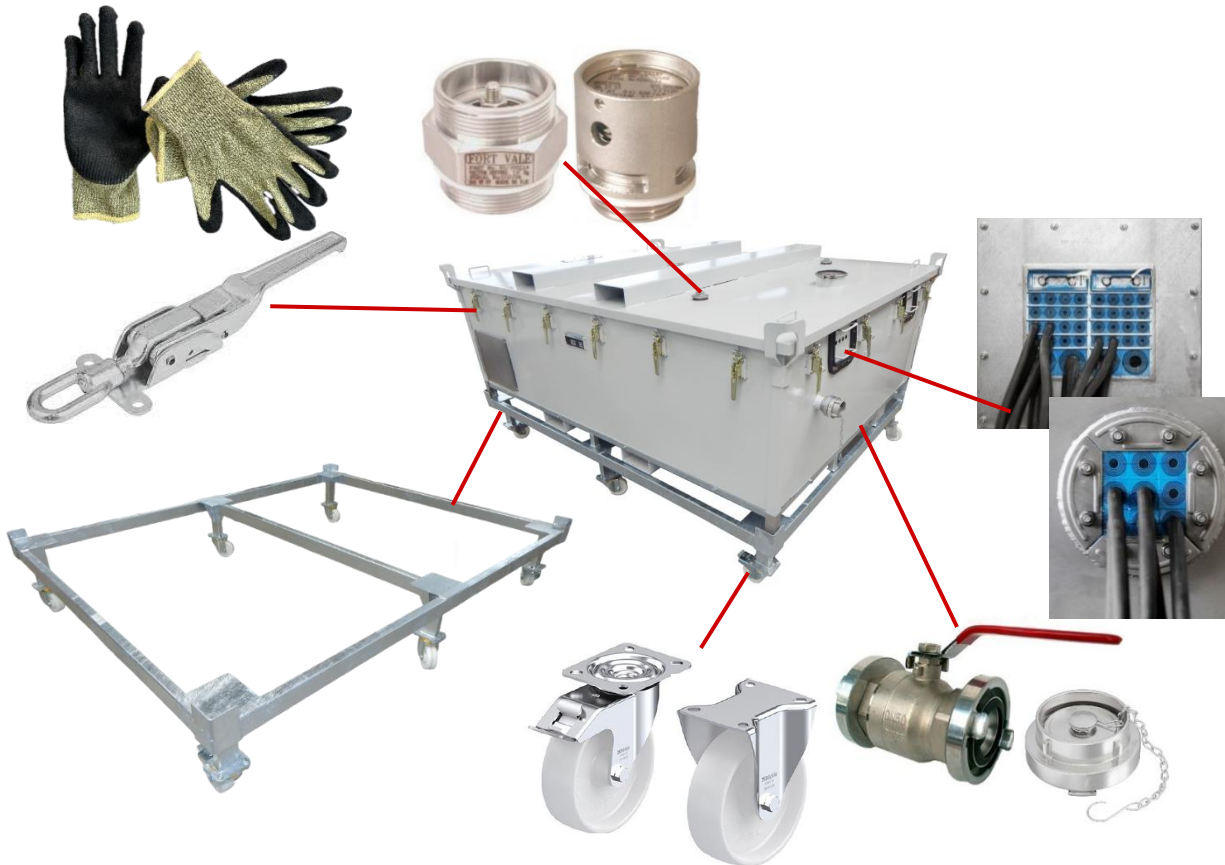
* approx. value

➔ Every test bench is also available with a caster set or rolling frame!



GENIUS Accessories and spare parts

Whether accessories, spare parts or modifications to our **GENIUS** standard products, you receive everything from a single source. We are happy to advise you whether your requests are feasible and compliant with standards and approvals. Feel free to get in touch and have a customised offer created.



- Cable entries
- Fittings
- Rollers
- Trolleys
- Drain couplings
- Exhaust air flange
- etc.





GENIUS Fire protection bag BST & fire protection folder BSM

Rechargeable lithium-ion battery systems are now found in almost every household in the world. An overheated lithium-ion battery system in a mobile phone, tablet, laptop or power bank is no longer a rarity. Overcharging, deep discharging, severe impacts, drops, or strong vibrations can damage a lithium-ion battery system. Exceeding the permitted temperature ranges can also damage the system, for example if it becomes “too hot” or “too cold”. With our products, you can charge, store, and transport your lithium-ion battery system in a protected way. Your safety is important to us...



Maximum SAFETY in the event of a fire



- High penetration resistance in cell explosions, therefore suitable for lithium-ion battery system fires.
- Ideal for retail stores, companies and offices, associations, schools, educational institutions, colleges, universities, kindergartens, public facilities, workshops, battery dealers, hotels, public transport, and private households.
- Developed according to the latest fire protection technology.
- Tested with multiple real fire tests.
- Temperature resistance of over 1000°C. This provides maximum protection for people and the environment.
- Quick to deploy and very easy to use.
- Charging option inside the container.
- Special sizes and custom colors available on request.



GENIUS Fire protection bag BST & fire protection folder BSM

Both the **GENIUS** fire protection bag (BST) and the fire protection folder (BSM) offer you preventive protection against lithium-ion battery system fires. An optimally protected charging process and safe storage of your lithium-ion battery system are thereby fully ensured. These bags are not only designed to bridge short periods of just a few minutes in the event of a fire; in an emergency, they withstand a full fire.

In the event of a fire, the use of **GENIUS** safety bags suppresses a battery fire or allows the battery to burn in a controlled and protected manner. In doing so, smoke development is minimized and the risk of a full-scale fire is reduced. Explosions that can occur in lithium-ion battery system fires are dampened by the bag. In addition, the specially coordinated material layers provide high thermal insulation.

The **GENIUS** fire protection bags help to massively reduce the consequences of a lithium-ion battery system fire. The materials we use meet all current fire safety requirements and are extremely robust while remaining easy to handle.

The **GENIUS** fire protection bags can be used preventively, but also serve for the storage and transport of lithium-ion battery systems. Protected and safe charging of the batteries is possible at any time inside the bags thanks to a cable feed-through.

Item no.	Product name	external dimensions in mm (LxBxH) *	Max. recommended size of dangerous goods in mm (LxBxH) *	Max. recommendation in Wh
28 - Fire protection bag "BST"				
2801	Fire protection bag BST-1 S	220 x 110 x 110	210 x 100 x 100	80
2802	Fire protection bag BST-1 M	320 x 185 x 160	310 x 175 x 150	220
2803	Fire protection bag BST-1 L	550 x 185 x 160	540 x 175 x 150	400

* approx. value

Item no.	Product name	external dimensions in mm (LxBxH) *	Max. recommended size of dangerous goods in mm (LxBxH) *	Max. recommendation in Wh
28 - Fire protection folder "BSM"				
2810	Fire protection folder BSM-1 S	270 x 160 x 10	220 x 120 x 15	40
2811	Fire protection folder BSM-1 M	350 x 250 x 10	300 x 210 x 25	80
2812	Fire protection folder BSM-1 L	430 x 320 x 10	370 x 280 x 35	110
2813	Fire protection folder BSM-1 XL	520 x 385 x 10	460 x 350 x 40	130

* approx. value





GENIUS Fire protection blanket BSD-1P

The new BSD-1P fire protection blanket has been developed to the highest safety standards for the insulation and containment of fires.

Thanks to its special material and the integrated **PyroBubbles®**, it can withstand temperatures permanently well above 1000 °C. Even cell explosions, which can lead to dangerous situations in battery system fires, are safely contained by the **GENIUS** fire protection blanket. Thanks to its compact size, low weight, and easy handling, the blanket can be deployed effortlessly by a single person in the event of a fire. Because your safety is important to us!

Maximum SAFETY in the event of a fire

Fires involving lithium-ion battery systems continue to pose a major challenge for people and the environment. Traditional fire extinguishers have great difficulty dealing with fires involving these energy sources.

The **GENIUS** fire protection blanket is the simplest and most straightforward and effective method for isolating fires involving lithium-ion battery systems. Lithium-ion battery systems will become indispensable in all industrial and private applications in the coming years. By purchasing this fire protection blanket, you are protecting yourself from the outset against major financial damage.

- Extremely flame-retardant.
- Very low weight.
- Very easy handling.
- Explosion protection through **PyroBubbles®**.
- Dust- and waterproof.
- Can be used indoors.
- Free of hazardous substances.
- For fires of any kind.
- Maintenance-free.
- High tear resistance.
- Quick to deploy.
- Continuous temperature up to 1000°C.
- Best price-performance ratio.

Dimensions: 1400 x 1000 mm

Weight: 4.2 kg





GENIUS Bengalo Safe

The Bengalo Safe consists of a specially designed protective container filled with **PyroBubbles®**.

The Bengalo torch is placed into the Bengalo Safe and pressed inside. The torch is thereby extinguished by the extinguishing agent **PyroBubbles®**. What remains is only a safely packaged and burnt-out “Bengalo.” Thanks to its light weight and the two carrying handles, the container can be transported safely and quickly.

Uncontaminated **PyroBubbles®** can be reused without any problems and are completely maintenance-free.

Advantages

- Easy-to-transport container.
- Immediate isolation of the 2000°C hot torch.
- Protection against burns and smoke.
- Safe storage without risk of fire spread and injury.
- No risk of re-ignition.
- Reusable and environmentally friendly.
- Age-resistant.
- Easy operation.

The perfect protection in stadiums, for pyrotechnicians and at events with fireworks. Well-known football clubs have been relying on our technology and products for several years.



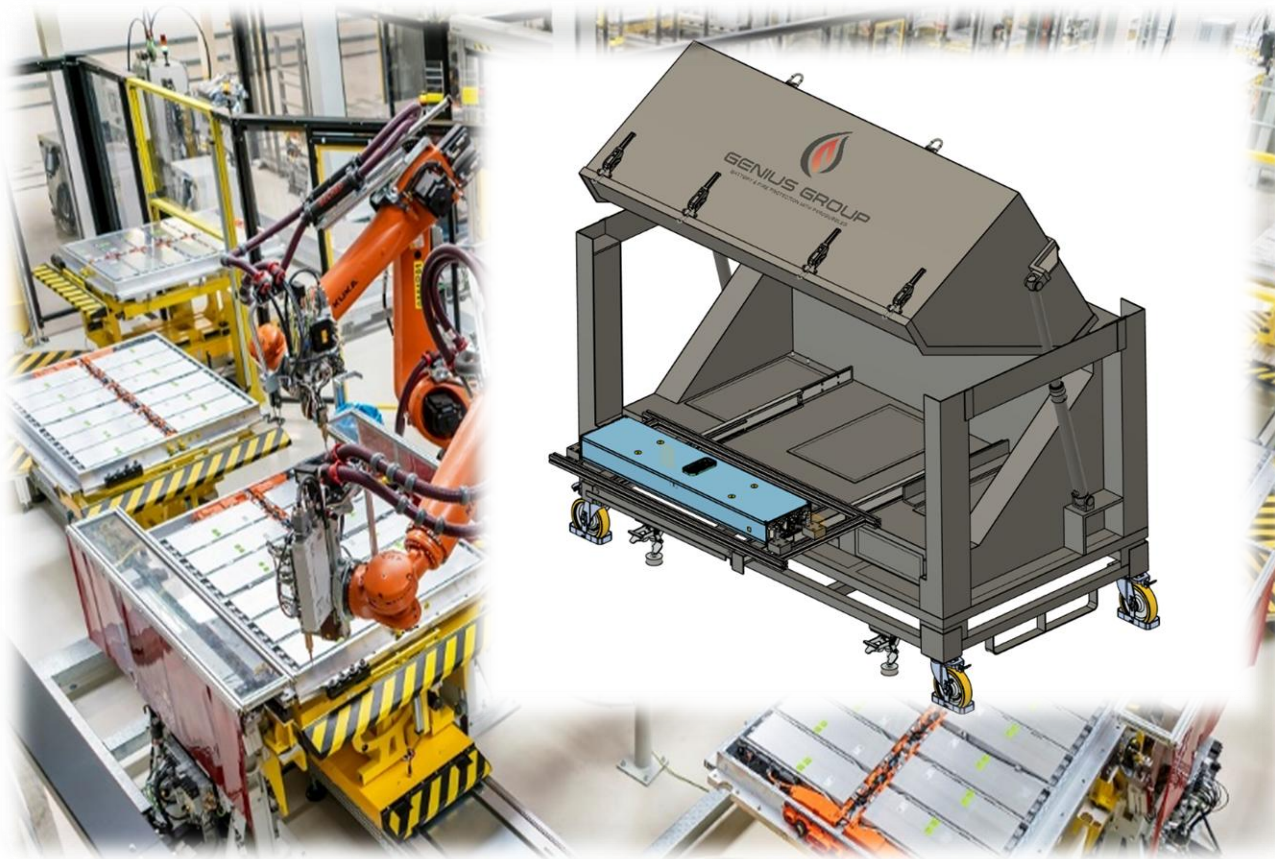
Item no.	Product description	Box content	External dimension mm (LxWxH) *	Internal dimension mm (LxWxH) *	Volume Liter *	System weight kg *
24 - Bengalo Safe						
2401	Bengalo Safe, incl. PyroBubbles®	Fire protection board, PyroBubbles®	575 x 385 x 375	550 x 350 x 335	68	22

* approx. value





GENIUS special solutions



GENIUS Development

We are happy to develop special solutions, automations, or other specific customer requests for you.

In close coordination with you or your team, we record the exact requirements and bring efficiency, cost-effectiveness, and safety into harmony.

With our own in-house design and development department at **GENIUS**, we can respond quickly at any time, implement custom solutions, and thus meet your needs. Using state-of-the-art 3D software, we create various solution options for you.

You, the product, cost-effectiveness, and safety are our top priorities.

Please feel free to contact us!



GENIUS explains the packaging groups and the UN marking

Hazardous goods are classified into three packaging groups:

Risk	Packaging category	Performance group packaging (coding)
High danger	PG I	X
Medium danger	PG II	Y
Low danger	PG III	Z

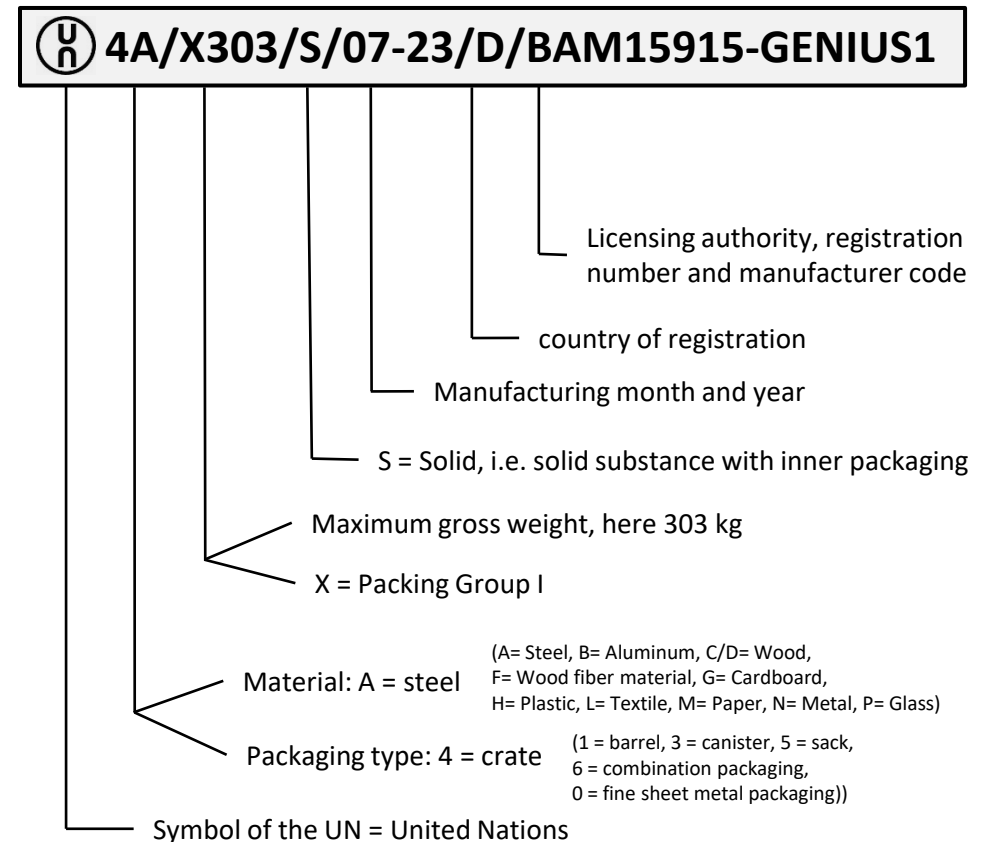
The packaging groups I, II, III refer to the substances being packaged. The packaging groups were each assigned the letters X, Y or Z, which indicate which packaging is permitted for the dangerous goods.

Substances of **packaging group I (high danger)** may only be packed in dangerous goods packaging with the UN marking **UN-X**.

Substances of **packaging group II (medium danger)** may only be packed in dangerous goods packaging with the UN marking **UN-Y**.

Substances of **packaging group III (low danger)** may only be packed in dangerous goods packaging with the UN marking **UN-Z**.

The use of a higher-coded packaging group is permitted!





GENIUS Decision aids for packaging and transport

The initial situation:

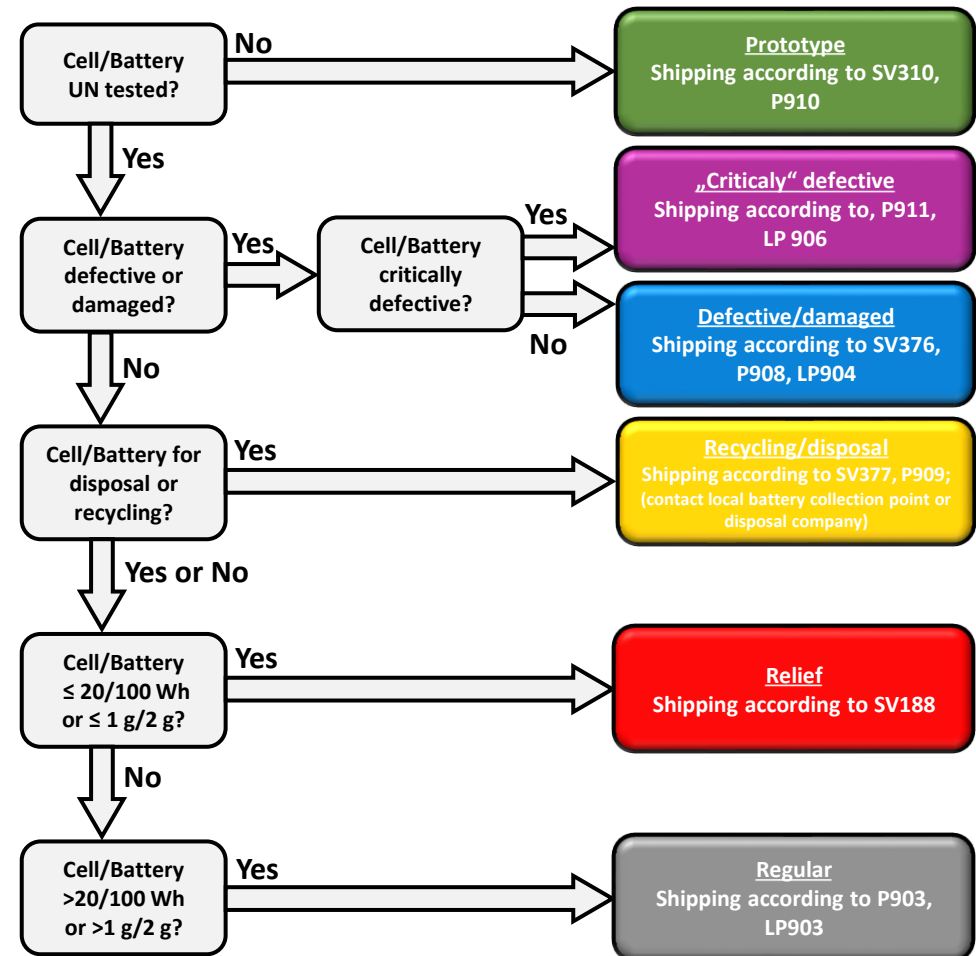
For example, you come from the logistics sector and are interested in containers for the transport and/or storage of lithium-ion batteries/modules. These have different conditions and are not critically defective. Based on this initial information, we can gladly provide a first assessment. At the outset, it is important to have a rough understanding of the various regulations and battery/module conditions. It is also important whether the battery or module is UN-tested or not. Performance, as well as size and weight, also play a crucial role. These factors are later decisive for the selection of the container as well as the shipping and packaging regulations.



A "critically" defective lithium-ion battery or module may only be transported in a specially certified and tested container that is adapted to the exact performance data. Please feel free to contact us about this!

Safe transport of lithium-ion batteries/modules by road, rail, and sea: In the image on the right, we have included a decision aid that makes it easier to classify the battery or module. For each color, the respective regulations can be found on the following pages.

The classification of whether a battery or module is defective or critically defective must, in case of doubt, be carried out by an expert, the manufacturer, or a qualified person.





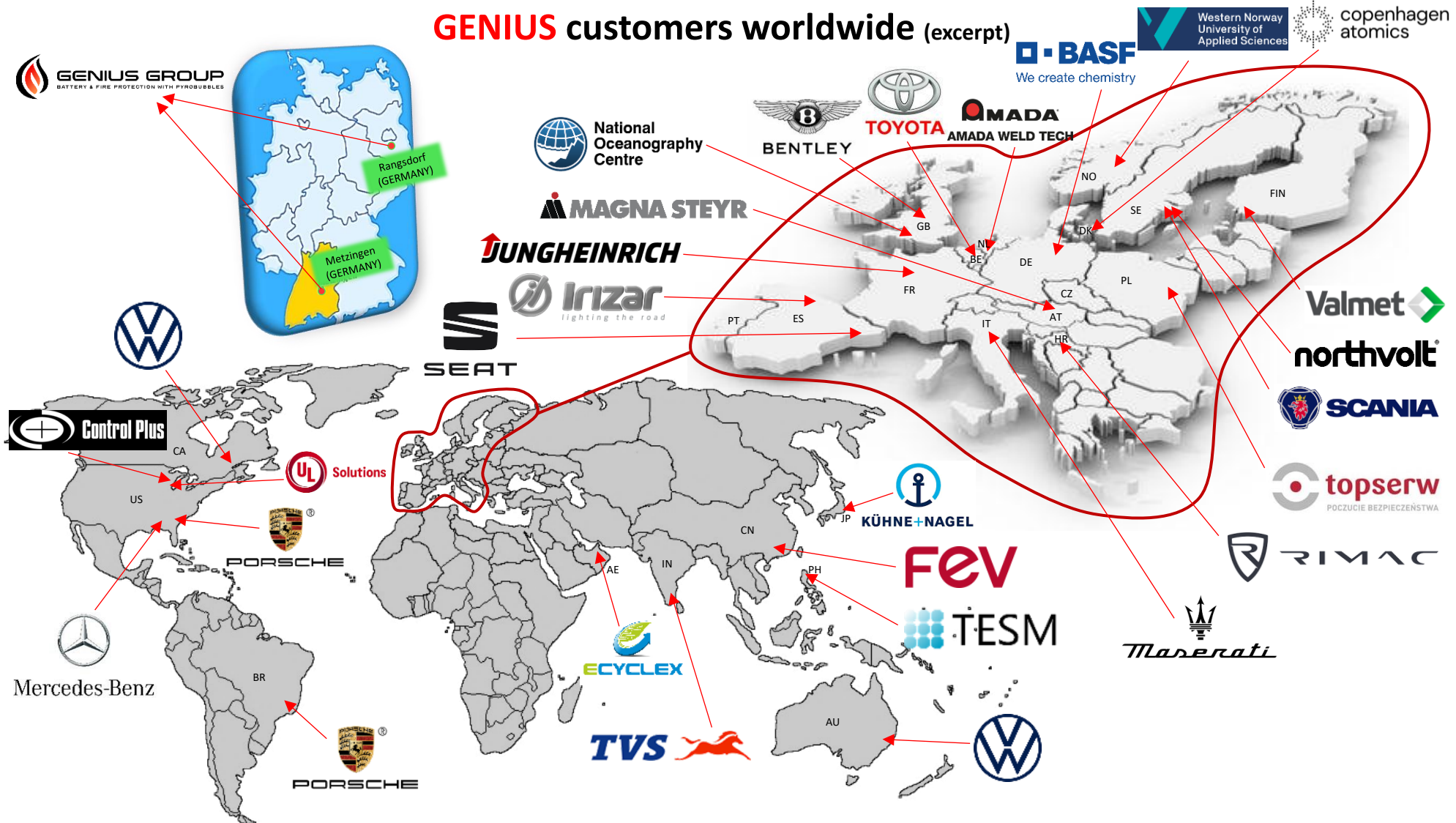
Innovative Ideas for Fire Protection, Fire Prevention and Extinguishing Systems

Defective/damaged according to SV 376, P 908, LP 904	Critically defective according to SV 376, P 911, LP 906						
Critical cells/batteries, that means with a tendency to rapid disassembly, dangerous reaction, flame formation, dangerous heat generation, etc., may be transported in accordance with P 911 or only under conditions specified by the authorities (BAM)! (please refer XXXXXXXXXX) Cells/batteries can be considered non-critical (test!) if they • have external or mechanical damage. • have leaked or degassed. • are considered defective for safety reasons. • can be shipped without diagnostics. Packaging requirements: • The cell/battery must be completely surrounded by the inner packaging. • Use of non-combustible insulating materials and sufficient absorbent material. • Protection against short circuit and accidental movement within the outer packaging. • Use airtight packaging with venting devices. • (H) at least Y-coded, composite packaging. • Net weight > 30 kg: only one cell/battery in the package.	Critical cells/batteries, which • tend to decompose quickly. • react dangerously. • produce a flame. • Produce a dangerous heat level. • release dangerous toxic, corrosive or flammable gases. Transport only according to the official specifications and with approval of BAM authority! Packaging requirements: • The temperature of the outer surface of the complete package shall not exceed 100 °C. A short-term temperature peak of up to 200 °C is permitted. • No flame must form outside the package. • No projectiles may escape from the package. • Only certified containers with fire and drop test according to packaging group I. • (H) at least X-coded, composite packaging. • The structural integrity of the package must be maintained. • Where appropriate, packaging must have a gas management system (e.g. filtration system, air circulation, safety container for gases, gas-tight packaging).						
Recycling/disposal according to SV 377, P 909	Prototypes according to SV 310, P 910						
Packaging requirements: In all cases: • Protection against short circuit and unintentional activation or Movement within the outer packaging (use of non-flammable or conductive cushioning materials). • No conductive material for metal packaging. • Battery ≥ 12 kg: additional resistant housing or similar 2.2.9.1.7 a) to e) ADR/RID and 2.9.4 IMDG code do not apply. Cells/Batteries ≤ 1 g or 2 g / ≤ 20 Wh or 100 Wh: • ≤ 30 kg gross weight per package. • (X) Strong outer packaging, suitable material. Cells/Batteries > 1 g or 2 g / > 20 Wh or 100 Wh: • (H) at least Y-coded, composite packaging. Packed in equipment: • (X) strong outer packaging, suitable material; Transport also unpacked/on pallets, provided that protection is equivalent.	No test requirements according to the Manual of Tests and Criteria, Part III, Subsection 38.3 • Product series ≤ 100 cells or batteries. • Pre-production types of cells or batteries for testing. Packaging requirements: In all cases: • (H) at least Y-coded. • Non-combustibility must be ensured. • Protection against short circuit and unintentional movement (use suitable cushioning material). • The gross mass of the package in the outer packaging must not exceed the gross mass at the time of the type-examination. Packed with or without equipment: • Pack each cell/battery individually (e.g. plastic bag). • Completely enclose each inner package with thermal insulation material (non-combustible, non-conductive). • Net weight > 30 kg: only one cell/battery in the package. Packed in equipment: • Prevent unintentional operation during transport.						
Regular shipping according to P 903, LP 903	Simplified shipping according to SV 188						
Packaging requirements: With or without equipment: • Inner packing must fully enclose the cell or battery. • Protection against short circuit and accidental movement within the outer packaging. • (H) at least Y-coded, composite packaging. • Battery ≥ 12 kg: additionally resistant housing or similar, protection against unintentional movement, no load on the poles. Packed in equipment: • (X) strong outer packaging, suitable material; Transport also unpacked / on pallets, provided that protection is equivalent. • Protection against short circuit and unintentional activation.	<table border="1" data-bbox="1162 1076 1850 1160"> <tr> <td>UN 3480, 3481</td><td>Li-ion-cell ≤ 20 Wh, Li-ion-batterie ≤ 100 Wh</td></tr> <tr> <td>UN 3090, 3091</td><td>Li-metal-cell ≤ 1 g, Li-metal-batterie ≤ 2 g</td></tr> <tr> <td></td><td>Li-metal-cell ≤ 1,5 g + Li-ion-cell ≤ 10 Wh</td></tr> </table> Packaging requirements: With or without equipment: • The cell/battery must be completely surrounded by the inner packaging. • Protection against short circuit. • (X) strong outer packaging, suitable material. • Passing the drop test from a height of 1.2 m. • Gross weight of the package ≤ 30 kg. Packed in equipment: • (X) strong outer packaging, suitable material. • Protection against damage and short circuit.	UN 3480, 3481	Li-ion-cell ≤ 20 Wh, Li-ion-batterie ≤ 100 Wh	UN 3090, 3091	Li-metal-cell ≤ 1 g, Li-metal-batterie ≤ 2 g		Li-metal-cell ≤ 1,5 g + Li-ion-cell ≤ 10 Wh
UN 3480, 3481	Li-ion-cell ≤ 20 Wh, Li-ion-batterie ≤ 100 Wh						
UN 3090, 3091	Li-metal-cell ≤ 1 g, Li-metal-batterie ≤ 2 g						
	Li-metal-cell ≤ 1,5 g + Li-ion-cell ≤ 10 Wh						



Innovative Ideas for Fire Protection, Fire Prevention and Extinguishing Systems

GENIUS customers worldwide (excerpt)





GENIUS partner (excerpt)



Financing, leasing or hire purchase

We are happy to offer you financing tailored to your needs through our company.

Whether financing, leasing or hire purchase. You alone decide which model is the best option for you. This way you can maintain your company's liquidity and take advantage of many tax benefits.

By the way: We are happy to take used boxes back in part exchange or carry out repairs for you.

Feel free to get in touch with us!



GENIUS Your partner for fire protection and fire extinguishing systems



B A M

Federal Institute for Materials Research and Testing

Certified according to QSP at BAM



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