Taking the Danger out of Dangerous Goods

Europe ◆ America ◆ Asia ◆ Africa ◆ Oceania

Zmiany klasyfikacyjne pojazdów zasilanych bateriami oraz przykłady

Prelekcję prowadzi:

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- *Instruktor ICAO/IATA*
- *Instruktor IMDG Code*
- *Instruktor w zakresie Wyważania i Planowania Załadunku Statków Powietrznych*
- *Członek zarządu ESD – ADR*
- *Ekspert w zakresie obsługi naziemnej statków powietrznych*

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Pozycje UN 3166 mają zastosowanie do pojazdów napędzanych silnikami spalania wewnętrznego zasilanymi materiałem zapalnym ciekłym, gazem palnym lub ogniwami paliwowymi.

Pozycje te obejmują również pojazdy elektryczne hybrydowe, zasilane zarówno ogniwem paliwowym i silnikiem spalania wewnętrznego z akumulatorami mokrymi, akumulatorami sodowymi, bateriami litowymi metalicznymi lub bateriami litowo-jonowymi, przewożone z zainstalowanymi akumulatorami.

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Pozycja UN 3171 ma zastosowanie jedynie do pojazdów zasilanych akumulatorami mokrymi, akumulatorami sodowymi, bateriami litowymi metalicznymi lub bateriami litowo-jonowymi i urządzeń zasilanych akumulatorami mokrymi lub akumulatorami sodowymi z zainstalowanymi takimi akumulatorami.

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Na potrzeby przepisu szczególnego … urządzenia samojezdne przeznaczone do przewozu jednej lub … Przykładami … pojazdy … ody, mo… trzy- i czterokołowe … ody ciężarowe, lokomotywy, rowery z silnikiem … np. pojazdy samobalansujące lub pojazdy bez … a), wózki inwalidzkie, ciągniki ogrodowe, … i budowlane, łodzie i statki powietrzne.

Taking the Danger out of Dangerous Goods Europe ◆ America ◆ Asia ◆ Africa ◆ Oceania

Przykładami urządzeń … yny czyszczące lub mode… łodzi i sta… powietrzny…h.

Urządzenia zasilane bateriami z litowo-metalowymi lub bateriami litowo-jonowymi powinny być zaklasyfikowane do pozycji odpowiednio: UN 3091 lub UN 3481

Pozycje UN 3166 mają zastosowanie do pojazdów napędzanych silnikami spalania wewnętrznego zasilanymi materiałem zapalnym ciekłym, gazem palnym lub ogniwami paliwowymi.

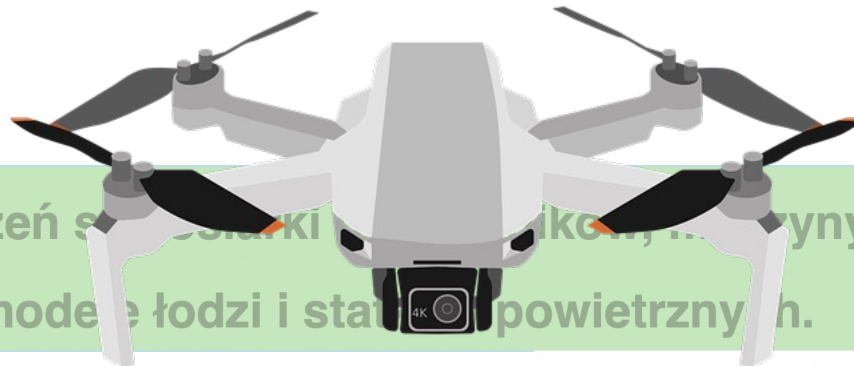
Pozycje te obejmują również pojazdy elektryczne hybrydowe, zasilane zarówno ogniwem paliwowym i silnikiem spalania wewnętrznego z akumulatorami mokrymi, akumulatorami sodowymi, bateriami litowymi metalicznymi lub bateriami litowo-jonowymi, przewożone z zainstalowanymi akumulatorami.

Pozycja UN 3171 ma zastosowanie jedynie do pojazdów zasilanych akumulatorami mokrymi, akumulatorami sodowymi, bateriami litowymi metalicznymi lub bateriami litowo-jonowymi i urządzeń zasilanych akumulatorami mokrymi lub akumulatorami sodowymi z zainstalowanymi takimi akumulatorami.

Na potrzeby przepisu szczególnego pojazdami są urządzenia samojezdne przeznaczone do przewozu jednej lub więcej osób lub towarów. Przykładami takich pojazdów są samochody, motocykle, skutery, trzy- i czterokołowe pojazdy lub motocykle, samochody ciężarowe, lokomotywy, rowery z silnikiem oraz inne pojazdy tego rodzaju (np. pojazdy samobalansujące lub pojazdy bez przynajmniej jednego siedzenia), wózki inwalidzkie, ciągniki ogrodowe, samobieżne maszyny rolnicze i budowlane, łodzie i statki powietrzne.

Przykładami urządzeń są kosiarki do trawników, maszyny czyszczące lub modele łodzi i statków powietrznych.

Na potrzeby przepisu szczególnego p [illegible] ządzenia samojezdne przeznaczo [illegible] o przewozu jednej lub w [illegible] b lub [illegible] . Przykładami t [illegible] pojaz [illegible] hody, moto [illegible] skutery, trzy- i czterokołowe p [illegible] ody ciężarowe, lokomotywy, rowery z silnikiem [illegible] np. pojazdy samobalansujące lub pojazdy bez [illegible] ia), wózki inwalidzkie, ciągniki ogrodowe, [illegible] rolnicze i budowlane, łodzie i statki powietrzne.

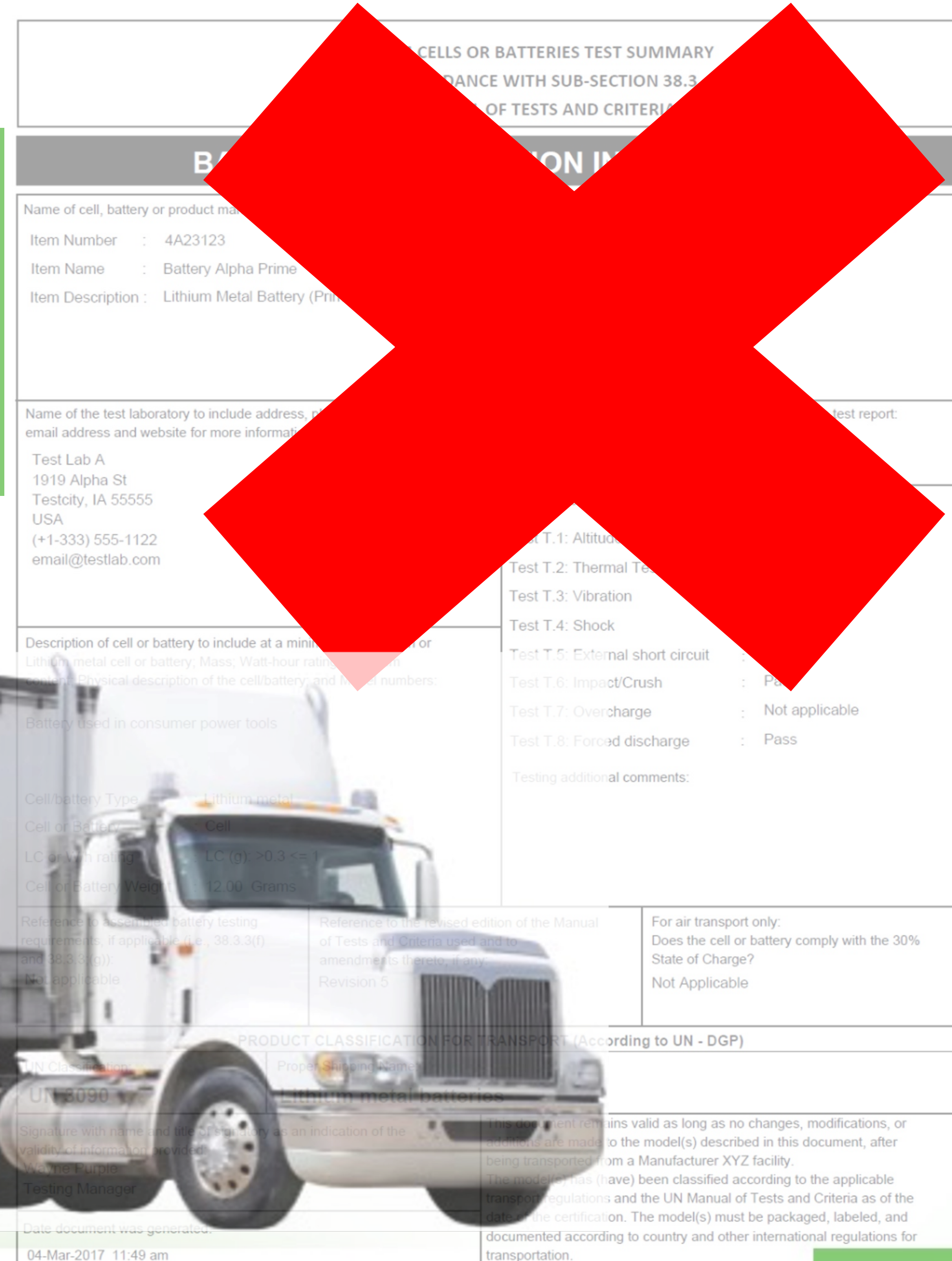


Przykładami urządzeń s[illegible]kiarki [illegible]ików, m[illegible]yny czyszczące lub mode[illegible]e łodzi i stat[illegible] powietrzny[illegible]h.

Urządzenia zasilane bateriami z litowo-metalowymi lub bateriami litowo-jonowymi powinny być zaklasyfikowane do pozycji odpowiednio:

UN 3091 lub UN 3481

Przepisy podane w 2.2.9.1.7 (a) nie mają zastosowania, gdy przedprodukcyjne prototypy ogniw lub baterii litowych bądź ogniwa lub baterie litowe wyprodukowane w niewielkiej serii, składającej się co najwyżej ze 100 sztuk, są zainstalowane w pojeździe, silniku lub maszynie



ICAO TI / IATA DGR:
mogą być przewożone na pokładzie samolotu CAO, jeśli zostanie to zatwierdzone przez właściwą władzę kraju wyjścia i kraju operatora. Do przesyłki należy dołączyć kopię dokumentu zatwierdzenia.

LITHIUM CELLS OR BATTERIES TEST SUMMARY
IN ACCORDANCE WITH SUB-SECTION 38.3
OF MANUAL OF TESTS AND CRITERIA

BATTERY TRANSPORTION INFORMA

Name of cell, battery or product manufacturer, as applicable:

Item Number : 4A23123
Item Name : Battery Alpha Prime
Item Description : ium Metal Battery (Primary)

Cell, battery or product manu ation to include address, phone n d website for more information:

Manufacturer
3480 Lithiu
Lithium
Unite

Name of the test labor phone number, email address and websi

Test Lab A
1919 Alpha St
Testcity, IA 55555
USA
(+1-333) 555-1122
email@testlab.com

port identification
345

Date of the test report:
03-Apr-2013

st of tests conducted and results (i.e., pass/fail):

Test T.1: Altitude Simulation : Pass
Test T.2: Thermal Test : Pass
Test T.3: Vibration : Pass
Test T.4: Shock : Pass
Test T.5: External short circuit : Pass
Test T.6: Impact/Crush : Pass
Test T.7: Overcharge : Not applicable
Test T.8: Forced discharge : Pass

Testing additional comments:

Description of cell or battery to include at a minimum: Lithium ion or Lithium metal cell or battery; Mass; Watt-hour rating, or lithium content; Physical description of the cell/battery; and Model numbers:

Battery used in consumer power tools

Cell/battery Type : Lithium metal
Cell or Battery : Cell

ly:
attery comply with the 30%
harge?
Not Applicable

PRODUCT CLASSIFICATION FOR TRANSPORT (According to UN - DGP)

UN Classification: UN 3090

Proper Shipping Name: Lithium metal batteries

Signature with name and title of signatory as an indication of the validity of information provided:
Wayne Purple
Testing Manager

Date document was generated:
04-Mar-2017 11:49 am

This document remains valid as long as no changes, modifications, or additions are made to the model(s) described in this document, after being transported from a Manufacturer XYZ facility.
The model(s) has (have) been classified according to the applicable transport regulations and the UN Manual of Tests and Criteria as of the date of the certification. The model(s) must be packaged, labeled, and documented according to country and other international regulations for transportation.

Page 1 of 1

Przykładowy raport z testów UN 38.3.

LITHIUM CELLS OR BATTERIES TEST SUMMARY
IN ACCORDANCE WITH SUB-SECTION 38.3
OF MANUAL OF TESTS AND CRITERIA

BATTERY TRANSPORTION INFORMATION

Name of cell, battery or product manufacturer, as applicable:

Item Number : 4A23123
Item Name : Battery Alpha Prime
Item Description : Lithium Metal Battery (Primary)

Cell, battery or product manufacturer's contact information to include address, phone number, email address and website for more information:

Manufacturer XYZ
3480 Lithium cells Rd
Lithiumionville, CA 98765
United States
(+1-987) 987-6543
email@xyz.com

Name of the test laboratory to include address, phone number, email address and website for more information:

Test Lab A
1919 Alpha St
Testcity, IA 55555
USA
(+1-333) 555-1122
email@testlab.com

A unique test report identification number:
ABC12345

Date of the test report:
03-Apr-2013

List of tests conducted and results (i.e., pass/fail):

Test T.1: Altitude Simulation	:	Pass
Test T.2: Thermal Test	:	Pass
Test T.3: Vibration	:	Pass
Test T.4: Shock	:	Pass
Test T.5: External short circuit	:	Pass
Test T.6: Impact/Crush	:	Pass
Test T.7: Overcharge	:	Not applicable
Test T.8: Forced discharge	:	Pass

Testing additional comments:

Description of cell or battery to include at a minimum: Lithium ion or Lithium metal cell or battery; Mass; Watt-hour rating, or lithium content; Physical description of the cell/battery; and Model numbers:

Battery used in consumer power tools

Cell/battery Type	:	Lithium metal
Cell or Battery	:	Cell
LC or W/h rating	:	LC (g): >0.3 <= 1
Cell or Battery Weight	:	12.00 Grams

Reference to assembled battery testing requirements, if applicable (i.e., 38.3.3(f) and 38.3.3;(g)):
Not applicable

Reference to the revised edition of the Manual of Tests and Criteria used and to amendments thereto, if any:
Revision 5

For air transport only:
Does the cell or battery comply with the 30% State of Charge?
Not Applicable

PRODUCT CLASSIFICATION FOR TRANSPORT (According to UN - DGP)

UN Classification:
UN 3090

Proper Shipping Name:
Lithium metal batteries

Signature with name and title of signatory as an indication of the validity of information provided:
Wayne Purple
Testing Manager

Date document was generated:
04-Mar-2017 11:49 am

This document remains valid as long as no changes, modifications, or additions are made to the model(s) described in this document, after being transported from a Manufacturer XYZ facility.
The model(s) has (have) been classified according to the applicable transport regulations and the UN Manual of Tests and Criteria as of the date of the certification. The model(s) must be packaged, labeled, and documented according to country and other international regulations for transportation.

Page 1 of 1

Wymagane testy baterii litowych i ich opis

38.3.4.1 *Test T.1: Altitude simulation*

38.3.4.1.1 Purpose

This test simulates air transport under low-pressure conditions.

38.3.4.1.2 Test procedure

Test cells and batteries shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20 ± 5 °C).

Wymagane testy baterii litowych i ich opis

38.3.4.2 *Test T.2: Thermal test*

38.3.4.2.1 Purpose

This test assesses cell and battery seal integrity and internal electrical connections. The test is conducted using rapid and extreme temperature changes.

38.3.4.2.2 Test procedure

Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72 ± 2 °C, followed by storage for at least six hours at a test temperature equal to - 40 ± 2 °C. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20 ± 5 °C). For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours.

Wymagane testy baterii litowych i ich opis

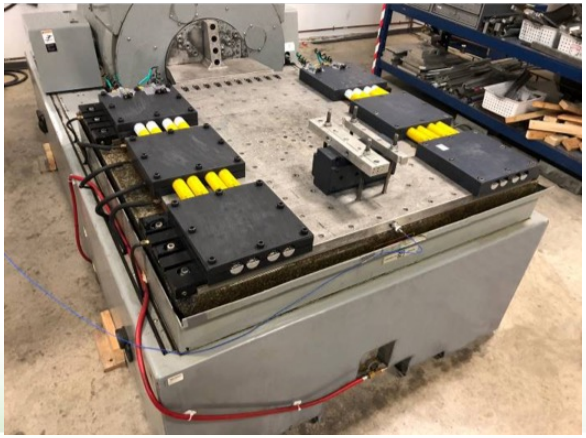
38.3.4.3 *Test T.3: Vibration*

38.3.4.3.1 Purpose

This test simulates vibration during transport.

38.3.4.3.2 Test procedure

Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face.



Wymagane testy baterii litowych i ich opis

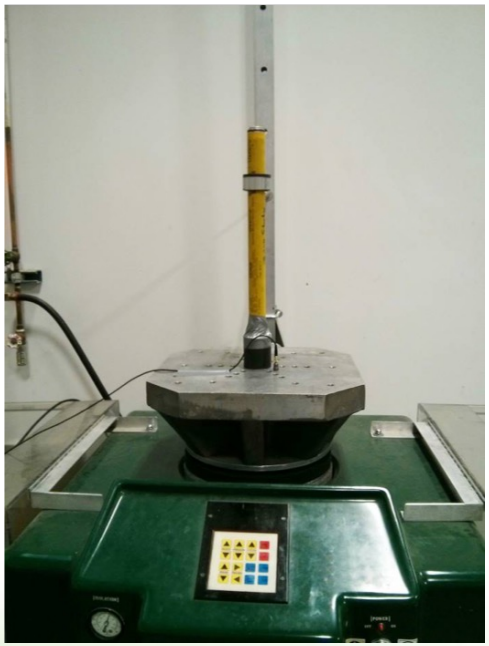
38.3.4.4 *Test T.4: Shock*

38.3.4.4.1 Purpose

This test assesses the robustness of cells and batteries against cumulative shocks.

38.3.4.4.2 Test procedure

Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery.



Wymagane testy baterii litowych i ich opis

38.3.4.5 *Test T.5: External short circuit*

38.3.4.5.1 Purpose

This test simulates an external short circuit.

38.3.4.5.2 Test procedure

The cell or battery to be tested shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of 57 ± 4 °C, measured on the external case. This period of time depends on the size and design of the cell or battery and should be assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries. Then the cell or battery at 57 ± 4 °C shall be subjected to one short circuit condition with a total external resistance of less than 0.1 ohm.

38.3.4.6 *Test T.6: Impact/Crush*

38.3.4.6.1 Purpose

These tests simulate mechanical abuse from an impact or crush that may result in an internal short circuit.

38.3.4.6.2 Test procedure – Impact (applicable to cylindrical cells not less than 18.0 mm in diameter)

Wymagane testy baterii litowych i ich opis

38.3.4.7 *Test T.7: Overcharge*

38.3.4.7.1 Purpose

This test evaluates the ability of a rechargeable battery or a single cell rechargeable battery to withstand an overcharge condition.

38.3.4.7.2 Test procedure

The charge current shall be twice the manufacturer's recommended maximum continuous charge current. The minimum voltage of the test shall be as follows:

(a) when the manufacturer's recommended charge voltage is not more than 18 V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22 V.

(b) when the manufacturer's recommended charge voltage is more than 18 V, the minimum voltage of the test shall be 1.2 times the maximum charge voltage.

38.3.4.8 *Test T.8: Forced discharge*

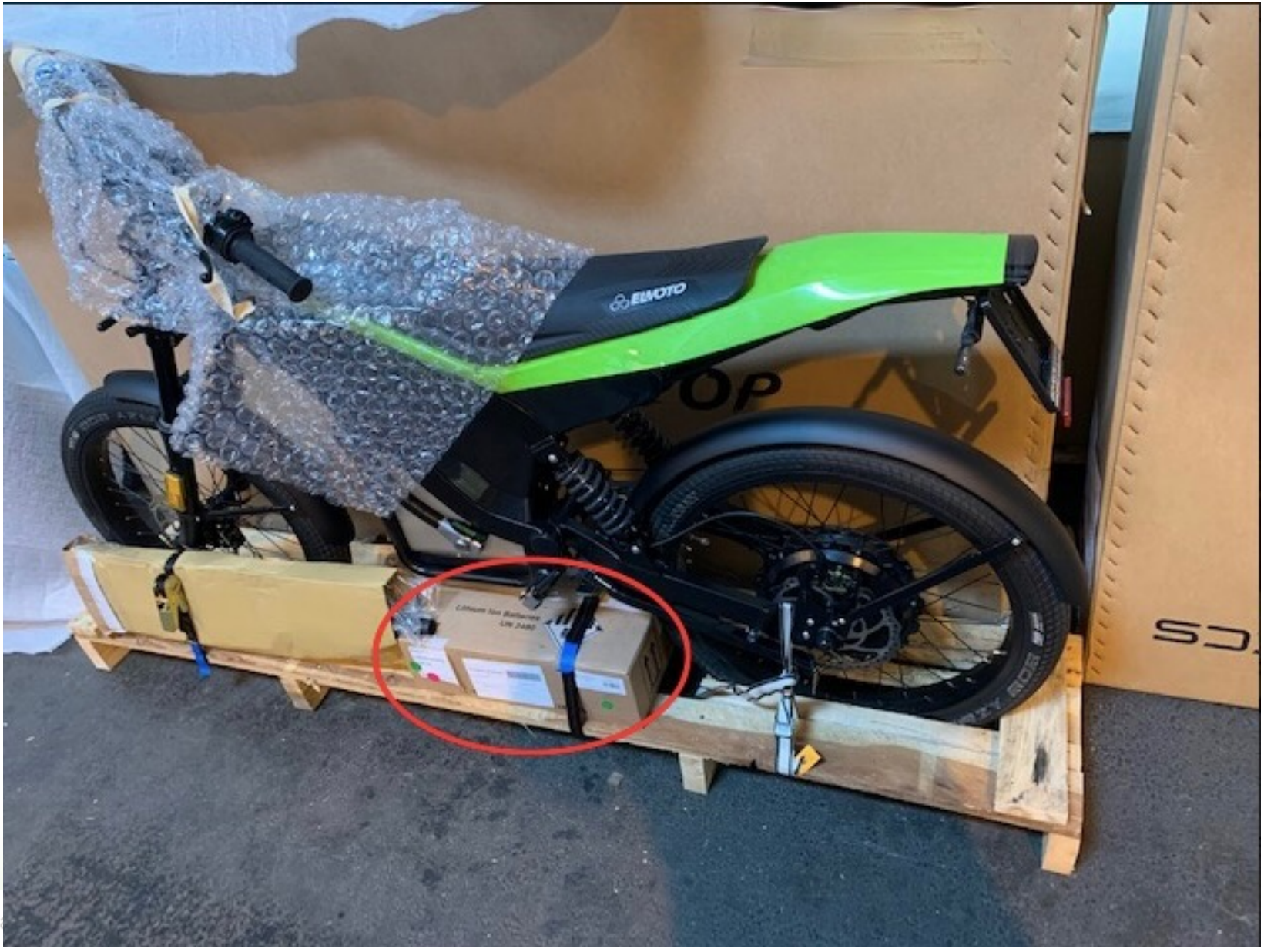
38.3.4.8.1 Purpose

This test evaluates the ability of a primary or a rechargeable cell to withstand a forced discharge condition.

UN No	Name and description	Class	Classification code	Packing group	Labels	Special provisions	Limited and excepted quantities		Packaging		
	3.1.2	2.2	2.2	2.1.1.3	5.2.2	3.3	3.4	3.5.1.2	Packing instructions 4.1.4	Special packing provisions 4.1.4	Mixed packing provisions 4.1.10
(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9a)	(9b)
3171	BATTERY POWERED VEHICLE or BATTERY POWERED EQUIPMENT	9	M11			388 666 667 669					

					Passenger and Cargo Aircraft					Cargo Aircraft Only			
						Ltd Qty							
UN/ ID no.	Proper Shipping Name/Description	Class or Div. (Sub Hazard)	Hazard Label(s)	PG	EQ see 2.6	Pkg Inst	Max Net Qty/Pkge	Pkg Inst	Max Net Qty/Pkge	Pkg Inst	Max Net Qty/Pkge	S.P. see 4.4	ERG Code
A	B	C	D	E	F	G	H	I	J	K	L	M	N
3171	**Battery-powered vehicle**	9	Miscellaneous		E0	Forbidden		952	No limit	952	No limit	A67 A87 A94 A154 A164 A214	*9L*


UN3171
9
9


ELMOTO


WHEELED HEAVY


9
UN3171
Battery Powered Vehicle
Véhicule à Batterie
Vehiculo a Bateria
4G/Y25/S/22
CN/C020222 PI:005


Original Zubehör
electric kick scooter
powered by
16,9kg
GERÄTEGEWICHT


ul
16,9kg
ÄTEGEWICHT
9


UN3496
+86 0756-6333555


UN3496
Ni-MH battery
1.2V AA
4G/ Y 8 /S/22
CN/C570014
PI: 221010


50
60
70
80


UN3171
9
379261
Article Number : 16911
Ctn. Qty.: 1pc
Carton No.: 111 of 120
Importer :TJX UK
Delivery Address: 50 Clarendon RoadWatford, Herts,
UNITEDKINGDOM, WD17 1TX
04 06 21
W3204AC2192034
PROPER SHIPPING NAME: Electric Scooter
CLASS:9 UN No.: UN3171
Gross/Net Weight in Unit KGs: 10.50KGS/8.00KGS


9
4G/Y25/S/20
CN/C231339 PI:007
SHOT ON MI 9T
AI TRIPLE CAMERA


KickScooter
UN3171 Battery-powered
vehicle 16.2 kg
9
Made in China
V 1.0
SHOT ON MI 9T
AI TRIPLE CAMERA


UN3171 Battery-powered
vehicle 20.5 kg
16+ years old
Activation via iOS / Android device required.
Bluetooth
Made in China
9
UN3481
SHOT ON MI 9T
AI TRIPLE CAMERA


NYK LINE
NYKU 521
45G1
3166
CAUTION
HIGH
TRAILER
WIELTON
PL
80
90

3556	**Vehicle, lithium ion battery powered MiscellaneousLithium or sodium ion batt.**	9	MiscellaneousLithium or sodium ion batt.		E0	Forbidden	952	No limit	952	No limit	A70 A87 A118 A120 A154 A214	*12FZ*
3557	**Vehicle, lithium metal battery powered**	9	MiscellaneousLithium or sodium ion batt.			Forbidden	952	No limit	952	No limit	A70 A87 A118 A120 A154 A214	*12FZ*
3558	**Vehicle, sodium ion battery powered**		MiscellaneousLithium or sodium ion batt.			Forbidden	952	No limit	952	No limit	A70 A87 A118 A120 A154 A214	*12FZ*

3556	VEHICLE, LITHIUM ION BATTERY POWERED	9	M11		9A	388 666 667 669	0	E0						
3557	VEHICLE, LITHIUM METAL BATTERY POWERED	9	M11		9A	388 666 667 669	0	E0						
3558	VEHICLE, SODIUM ION BATTERY POWERED	9	M11		9A	388 404 666 667 669	0	E0						

SP 666 Add a new sub-paragraph (e):

"(e) Vehicles that are fully enclosed by packagings, crates or other means that prevent ready identification are subject to the marking and labelling requirements of Chapter 5.2."

DGM Poland

BIURO GŁÓWNE

DGM Poland Sp. z o.o.
ul. Łączyny 3
02-820 Warszawa

NIP 522 290 49 34
KRS 0000315889
REGON 141572075

ODDZIAŁ WROCŁAW

DGM Poland Sp. z o.o.
ul. Armi Krajowej 8C, lok.4
53-342 Wrocław

ODDZIAŁ OLESNO

DGM Poland Sp. z o.o.
ul. Rynek 17/2
46-300 Olesno

ODDZIAŁ SZCZECIN

DGM Poland Sp. z o.o.
ul. Zygmunta Chmielewskiego 22A, lok.103
70-028 Szczecin