EUROBAT

ASSOCIATION OF EUROPEAN AUTOMOTIVE AND INDUSTRIAL BATTERY MANUFACTURERS

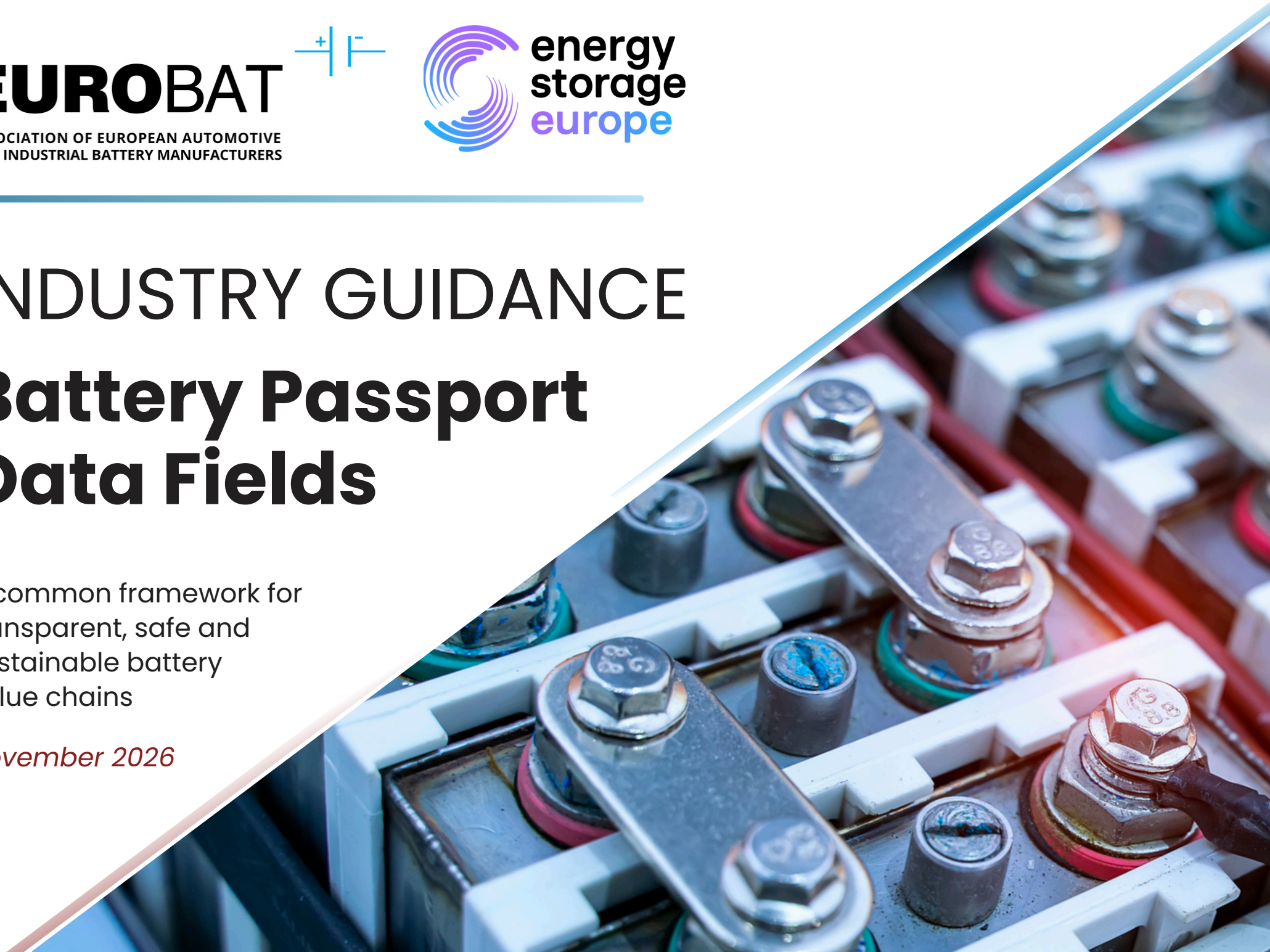
energy storage europe

INDUSTRY GUIDANCE

Battery Passport Data Fields

A common framework for transparent, safe and sustainable battery value chains

November 2026



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1. Introduction

Background

Regulation (EU) 2023/1542 concerning batteries and waste batteries introduces the battery passport, an electronic record for each individual battery. From 18 February 2027, every light means of transport (LMT) battery, industrial battery with a capacity to store more than 2 kWh and electric vehicle (EV) battery placed on the market or put into service in the European Union must have a battery passport. The information it must contain is set out in Article 77 and Annex XIII of the Regulation. Further detail is provided through delegated and implementing acts and supporting material from the European Commission.

The legal framework defines *what* information the battery passport must contain. However, it leaves room for interpretation on *how* individual data points should be understood and expressed. If economic operators interpret these requirements differently, battery passports may become inconsistent and difficult to compare. They would then be less useful to market surveillance authorities, value chain actors and end users.

Purpose

EUROBAT and Energy Storage Europe have jointly developed this Industry Guidance on Battery Passport Data Fields to address this challenge. The guidance aims to:

- support manufacturers and other economic operators in interpreting the battery passport data requirements consistently;
- promote a more harmonised and comparable set of data across the industry; and
- facilitate the timely and successful implementation of the battery passport ahead of 18 February 2027.



Scope and structure

This guidance covers the 71 data points listed in the European Commission's document *Guidance Document: Digital Batteries Passport – data points by category* (initially developed based on Version 2.0 and subsequently updated in accordance with Version 3.2, 19 October 2026). For each data point, it sets out:

- the legal source in the Batteries Regulation;
- its applicability to EV, LMT and industrial batteries;
- a proposed industry definition; and
- a proposed data format.

The European Commission also repeatedly clarified that the Battery Passport will not include a fixed update frequency for dynamic data. Update frequency will follow the principle of proportionality — meaning that when the battery's status changes (e.g., repurposing), certain parameters will require more frequent updates. Version 3.2 of the Commission guidance indicates that data points 51 to 60 are dynamic and may need to be updated when the status of the battery changes.

Legal status

This document is a voluntary industry recommendation and has no legal force. It does not amend, replace or provide a binding interpretation of the Batteries Regulation or any act adopted under it. Each economic operator remains responsible for ensuring its own compliance. In case of any discrepancy, the legal texts and official guidance from the European Commission prevail.

This guidance reflects the legislative framework and European Commission material available at the date of publication. It can be reviewed as further delegated and implementing acts, harmonised standards and European Commission guidance become available.

Other relevant standardisation work

- *The Commission announced the appearance of a Semantic Catalogue for the Battery Passport*
- *There are several similar documents/activities, including:*
  - → *DIN DKE SPEC 99100 (URL: https://www.dinmedia.de/en/technical-rule/din-dke-spec-99100/385692321),*
  - → *BatteryPass-Ready Data Attribute Longlist v1.3 (URL: https://thebatterypass.eu/news/now-published-data-attribute-longlist-v1-3/);*

→ *Github: https://github.com/admin-shell-io/submodel-templates/tree/main/published/Digital%20Battery%20Passport;*
→ *Github: https://github.com/admin-shell-io/smt-semantic-models;*
→ *Specifications · DPP Vocabulary Hub · Semantic Treehouse (URL: https://dpp.vocabulary-hub.eu/specifications)*
→ *IEC 60050-482 - Cells and batteries (URL: https://www.electropedia.org/iev/iev.nsf/index?openform&part=482);*
→ *IEC project PNW 21-1322 ED1: Battery data and semantic interoperability (URL: https://www.iec.ch/dyn/www/f?p=103:38:3226921662804::::FSP_ORG_ID,FSP_APEX_PAGE,FSP_PROJECT_ID:1290,23,141507).*

2. Comments and markings in the text

Text in red	Industry comment to the text of the European Commission
Text in blue	European Commission's change in the text introduced in Version 2.0 (15 August 2026) compared to V1.0 (28 July 2026)
Text in green	European Commission's change in the text introduced in Version 3.2 (19 October 2026) compared to Version 2.0

*1 **Note:** The technical documentation referred to in Annex VIII of the Batteries Regulation shall contain an explanation of the technical specifications, standards and conditions used to measure, calculate or estimate the value reported for this parameter. The explanation should identify the applicable test method and relevant reference conditions. It should be prepared consistently with the applicable harmonised standards developed following the relevant EU standardisation request, where applicable, and should include at least the elements set out in Part B of Annex IV. Additional information may be provided in the technical documentation or conformity declaration where necessary to interpret the reported value.

3. Industry Guidance Table

Digital Batteries Passport - Data Points by Category (EC Version 3.2, 19 October 2026)								EUROBAT & ESE Guidance			
Data point (clarifications in square brackets [ ])		Data point source	As defined in	Type of information	Electric vehicles (EV)	Light means of transport (LMT)	Industrial	Comment		Proposed Industry Definition	Proposed Data Format
№											
1	Unique identifier [unique product identifier]	BR Article 77 (3)	BR Art 3(1)(66)	Public	Mandatory	Mandatory	Mandatory			A unique identifier assigned to each battery for traceability throughout its lifecycle, which comply with EN 18219 and EN 18220.	[Serial number or other unique identifier] Kept distinct from model/batch/part numbers.
2	Identity of who is registering and/or is responsible for the battery passport [name]	BR Article 77 (3)	BR Art 77(4)	Public	Mandatory	Mandatory	Mandatory			The full legal name of the Economic Operator who registers the battery and is responsible for the information in the battery passport, including the legal form suffix. Distinguish the responsible economic operator from the manufacturer, any authorised updater and any external DPP service provider.	[Entity Full Name] + [Legal Form Suffix]; Any additional governance fields flagged as recommended, not legally mandatory; this field will be presented in the text format.

3	Manufacturer name, registered trade name or registered trade mark [at least one of]	BR Annex VI A (1) - BR Annex XIII 1(a)	BR Art 3(1)(33) (manufacturer)	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Annex XIII is asking to add "the information specified in Part A of Annex VI". Part A of Annex VI is subject to a pending implementing act to specify the items listed in Annex VI. As long as the IA is not ready, we should not try defining data points that are unclear. Also, we disagree that it is mandatory before the Art. 13(10) IA has entered into force and applies.	As specified in Art. 38(7)	The full legal name of the manufacturer as registered in the official business register; alternatively the registered trade name or trademark (see Art. 38(7)). A stable manufacturer identifier should be used as an additional governance tool; contract manufacturing, private-label arrangements and transfers of DPP responsibility should be reflected without changing historical manufacturer information.	[Entity Full Name] + [Legal Form Suffix]
4	Manufacturer single contact postal address	BR Annex VI A (1) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)		As specified in Art. 38(7)	The registered postal address of the manufacturer with a persistent organisational contact point (not a named individual) for official correspondence related to the Battery Passport (see Art. 38(7)).	[Street + Number] | [City] | [Postal Code] | [Country] | [Contact Point]
5	If available, manufacturer web and email address [both optional]	BR Annex VI A (1) - BR Annex XIII 1(a)	N/A	Public	optional, to be filled if such data is available	optional, to be filled if such data is available	optional, to be filled if such data is available		As specified in Art. 38(7)	The official company URL and a functional mailbox (not a personal email address) for public inquiry and official correspondence; optional (see Art. 38(7)).	Web: [Full URL] and/or; Email: [Local-part]@[Domain]
6	Battery category [3-code list]	BR Annex VI A (2) - BR Anne	BR Art 3(1)(11), (13) and (14)	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)		As specified in CE Declaration	The category of the battery as defined under Article 1 and 3 of the (EU)2023/1542. The value must be selected from the chosed list of categories defined in the regulation.	One of the following fixed values: - Electric Vehicle Battery - Industrial

		x XIII 1(a)									Battery or Battery Energy Storage System - Light Means of Transport Battery
7	Model identification and batch or serial number, or product number or another element allowing their identification [at least one of]	BR Annex VI A (2) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)			Two-level identification of the battery: - Model identification: the name or number that uniquely identifies the battery model for internal use (including part number) - Unique instance identifier: batch number, serial number, product number, or equivalent element that uniquely identifies the specific battery unit or batch within that model. **To clarify whether/when an existing serial number may also serve as the unique identifier under Article 77(3).**	[Model Name or Number] [Batch or Serial or Product Number]
8	The place of manufacture (geographical location of a battery manufacturing plant) [town, region, country/jurisdiction]	BR Annex VI A (3) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)		We recommend the manufacturing address to be limited to country level only. A precise contact address for the manufacturer is already provided in line 4. For traceability purposes, knowing the country of	The geographical location of the battery manufacturing plant, expressed at the level of country jurisdiction.	[Country/jurisdiction]

									manufacture is sufficient to identify the origin of production. For consumers, **"Made in [Country]"** is more intuitive and directly informative.		
9	The date of manufacturing [month and year]	BR Annex VI A (4) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)			The month and year when the battery was manufactured, corresponding to the date when the battery left the production line and received its identification marking.	[Month - mm] + [Year - yyyy]
10	The weight [unit kg]	BR Annex VI A (5) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)		design mass	The average mass 6of the battery for the given battery model, expressed in kilograms with no specific requirement on decimal.	[Value] kg - design mass
11	The capacity [unit Ah]	BR Annex VI A (6) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)			The rated capacity of the battery, expressed in ampere-hours (Ah), determined in accordance with the applicable technical specifications, standards and conditions.(*1)	[Value] Ah (*1)

12	The chemistry [code list]	BR Annex VI A (7) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)			The electrochemical composition reflecting active materials in cathode and anode.	Lead acid: "Pb" (for Annex XI) Lead acid: Lead-Acid (for DPP) and, <u>where relevant</u>, by construction subtype, such as: Flooded, VRLA-AGM, Gel, TPPL. Nickel cadmium: "Ni-Cd" Nickel metal hydride: "Ni-MH" Lithium ion NMC: "Li-ion NMC" Lithium ion LFP: "Li-ion LFP" Lithium ion LMO: "Li-ion LMO" Lithium ion LCO: "Li-ion LCO" Lithium ion NCA: "Li-ion NCA" Lithium metal: "Li-metal" Sodium-ion: "Na-ion"
13	The hazardous substances present in the battery, other than mercury, cadmium or lead [free text]	BR Annex VI A (8) - BR Annex XIII 1(a)	BR Art 3(1)(52)	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)		Cannot be mandatory before the Art. 13(10) IA applies as the definition is missing.	<u>IF THE ENVIRONMENTAL OMNIBUS PROPOSAL IS ADOPTED</u>: Name of the substances of very high concern in the meaning of Article 3 (1) (69), introduced by Environmental Omnibus, which are present in the battery, other	Preferred option: [Substance name/identifier n1] [Substance name/identifier n2] ...

									As this data point may require extensive text, we suggest adding 'file, web link' as a format for greater flexibility and readability	than mercury, cadmium and lead, with a concentration equal or above 0.1% of the mass of the battery.	[Substance name/identifier n] Secondary option: Included in a file together with the impact of each substance.
14	Usable extinguishing agent [free text]	BR Annex VI A (9) - BR Annex XIII 1(a)	N/A	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)		Agent class refers to standard EN 2:2005-1 (per draft Implementing Act on Art. 13 of EUBR)	Specification of the usable extinguishing agents(s) or agent class(es).	[Name of extinguishing agent(s)] or [Class of extinguishing agent(s)]
15	Critical raw materials present in the battery in a concentration of more than 0,1 % weight by weight [code list]	BR Annex VI A (10) - BR Annex XIII 1(a)	List of raw materials in Annex X (1)	Public	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)	Mandatory (after Art. 13(10) IA applies)			Name of critical raw materials listed in Regulation (EU) 2024/1252 present in the battery at more than 0.1% w/w.	Structured list using controlled names/identifiers: [Name of CRM Element 1]…[N] [Name of CRM Element 2]…[N] ... [Name of CRM Element 3]…[N] Or Included in a file
16	The material composition of the battery, including its		BR Art 3(1)(52); list of raw materials in Annex X (1)	Public	Not to be filled/displayed - repetition,	Not to be filled/displayed - repetition,	Not to be filled/displayed - repetition,				

	chemistry, hazardous substances present in the battery, other than mercury, cadmium or lead, and critical raw materials present in the battery				same data already required under previous data points	same data already required under previous data points	same data already required under previous data points				
17	The carbon footprint declaration	BR Annex XIII 1 (c)	BR Art 3(1)(51) for carbon footprint	Public	Not to be filled/displayed as of February 2027- format still to be specified in the upcoming implementing act (statutory deadline: 18 Feb 2025, or 12 months after the Art. 7(1) act, whichever is later; act still in draft mid-2026)	Not to be filled/displayed as of February 2027- format still to be specified in the upcoming implementing act (statutory deadline: 18 Aug 2028, or 18 months after the relevant act, whichever is later)	Not to be filled/displayed as of February 2027- format still to be specified in the upcoming implementing act (statuory deadline: industrial >2 kWh WITHOUT external storage — from 18 Aug 2026 (or 18 months after the act);				

							industrial >2 kWh WITH EXTERNAL STORAGE — from 18 Aug 2030 (Art. 7(1)))				
18	The carbon footprint label	BR Annex XIII 1 (c)	BR Art 3(1)(51) for carbon footprint	Public	Not to be filled/displayed as of February 2027- format still to be specified in the upcoming implementing act	Not to be filled/displayed as of February 2027- format still to be specified in the upcoming implementing act	Not to be filled/displayed as of February 2027- format still to be specified in the upcoming implementing act				
19	Information on responsible sourcing as indicated in the report on battery due diligence policy referred to in Article 52(3)	BR Annex XIII 1 (d)	N/A	Public	Not to be filled/displayed as of February 2027 - as envisaged by Article 48(1), required from August 2027	Not to be filled/displayed as of February 2027 - as envisaged by Article 48(1), required from August 2027	Not to be filled/displayed as of February 2027 - as envisaged by Article 48(1), required from August 2027				
20	Percentage share of cobalt that is present in active materials and	BR Annex XIII 1 (e)	BR Art 3(1)(5) for active material	Public	Not to be filled/displayed as of February 2027 - to be applied as	Not to be filled/displayed as of February 2027 - to be applied as	Not to be filled/displayed as of February 2027 - to be applied as	The requirement to disclose recycled content applies from August 18, 2028. As the respective delegated act is now expected to enter into force in Q2 2027, the		Not to be filled/displayed as of February 2027	

	that has been recovered from battery manufacturing waste or post-consumer waste [%]				envisaged by Article 8	envisaged by Article 8	envisaged by Article 8	requirement to disclose the recycled content will apply in Q2 2029.		
21	Percentage share of lithium that is present in active materials and that has been recovered from battery manufacturing waste or post-consumer waste [%]	BR Annex XIII 1 (e)	BR Art 3(1)(5) for active material and 3(1)(51) for battery manufacturing waste	Public	Not to be filled/displayed as of February 2027 - to be applied as envisaged by Article 8	Not to be filled/displayed as of February 2027 - to be applied as envisaged by Article 8	Not to be filled/displayed as of February 2027 - to be applied as envisaged by Article 8		Not to be filled/displayed as of February 2027	
22	Percentage share of nickel that is present in active materials and that has been recovered from battery manufacturing waste or post-consumer waste [%]	BR Annex XIII 1 (e)	BR Art 3(1)(5) for active material and 3(1)(51) for battery manufacturing waste	Public	Not to be filled/displayed as of February 2027 - to be applied as envisaged by Article 8	Not to be filled/displayed as of February 2027 - to be applied as envisaged by Article 8	Not to be filled/displayed as of February 2027 - to be applied as envisaged by Article 8		Not to be filled/displayed as of February 2027	
23	The percentage share of lead that is present	BR Annex XIII 1 (e)	N/A	Public	Not to be filled/displayed as of February	Not to be filled/displayed as of February	Not to be filled/displayed as of February		Not to be filled/displayed as of February 2027	

	in the battery and that has been recovered from waste [%]				2027 - to be applied as envisaged by Article 8	2027 - to be applied as envisaged by Article 8	2027 - to be applied as envisaged by Article 8			
24	The share of renewable content [%]	BR Annex XIII 1 (f)	N/A	Public	Mandatory	Mandatory	Mandatory			The mass percentage of battery materials derived from renewable biological feedstock relative to the total mass of the battery.	[Value] % Note: For most battery models today, this value is 0% unless biobased materials are intentionally introduced and documented in the BOM. In case of 0% can be detected, this attribute shall be marked as N/A.
25	Rated capacity [unit Ah]	BR Annex XIII 1 (g)	N/A	Public	Not to be filled/displayed - repetition, same data required under data point 11	Not to be filled/displayed - repetition, same data required under data point 11	Not to be filled/displayed - repetition, same data required under data point 11				
26	Minimal voltage, with temperature range when relevant [unit	BR Annex XIII 1 (h)	N/A	Public	Mandatory	Mandatory	Mandatory			The minimum voltage of the battery under its intended end-use application conditions. The value may be stated at a single reference temperature or across	Value | Unit (V) | Reference temperature – low | Reference temperature – high | Condition

	V, optional unit °C]									a defined operating temperature range. (*1)	type (single / range / none) (*1)
27	Nominal voltage, with temperature range when relevant [unit V, optional unit °C]	BR Annex XIII 1 (h)	N/A	Public	Mandatory	Mandatory	Mandatory			The nominal or rated voltage of the battery under its intended end-use application conditions. The value may be stated at a single reference temperature or across a defined operating temperature range. (*1)	Value | Unit (V) | Reference temperature – low | Reference temperature – high | Condition type (single / range / none) (*1)
28	Maximum voltage, with temperature range when relevant [unit V, optional unit °C]	BR Annex XIII 1 (h)	N/A	Public	Mandatory	Mandatory	Mandatory			The maximum voltage of the battery under its intended end-use application conditions. The reported value shall specify whether it represents the charging upper limit, float, boost, equalisation, operating maximum or absolute maximum voltage. Where relevant, report the applicable temperature condition. For lead-acid batteries, multiple values may be reported where they are linked to the relevant charging or operating conditions. (*1)	Without temperature: [Value] V With single temperature: [Value] V @ [Temperature] °C With temperature range: [Value] V @ [Temp Low] °C - [Temp High] °C (*1)
29	Original power capability [unit W]	BR Annex XIII 1 (i)	BR Annex IV (3) for "power" of the batteries in scope of the Annex	Public	Mandatory	Mandatory	Mandatory		We suggest using 'kW/W' as the unit for more flexibility, as EV and industrial	The original power capability of the battery under its intended end-use application conditions. The power capability may be reported as a single value or as a set of multiple values, where different operating conditions or	[Value] W or [Value] kW (*1)

									battery discharge power is usually in the hundreds of kW	power ratings apply. Each reported value shall be qualified by the applicable power type and test or operating conditions. This shall include, as relevant: → Power direction: charge or discharge → Power type: continuous, short-duration or peak power → Duration for which the power can be delivered or accepted → State of charge → Temperature → Applicable voltage limit For batteries with different power capabilities depending on the duty cycle, charge/discharge mode or operating conditions, multiple values should be reported separately. (*1)	
30	Power limits, with temperature range when relevant [unit W, optionally min_T °C … max_T °C]	BR Annex XIII 1 (i)	BR Annex IV (3) for "power" of the batteries in scope of the Annex	Public	Mandatory	Mandatory	Mandatory			The power limits of the battery under its intended end-use application conditions. The value may be stated at a single reference temperature or across a defined operating temperature range. (*1)	Value | Unit (W/kW) | Reference temperature – low | Reference temperature – high | Condition type (single / range / none) (*1)

31	Expected battery lifetime expressed in cycles [in number]	BR Annex XIII 1 (j)	BR Art 3(1)(59) for "lifetime"	Public	Mandatory	Mandatory	only applicable for some industrial batteries where lifetime can be expressed in cycles			The expected cycle life of the battery under its intended end-use application conditions, expressed as the number of charge/discharge equivalent cycles before reaching the end-of-life criteria defined for the application. (*1)	[Integer] cycles (*1)
32	Reference test used for expected battery lifetime expressed in cycles [free text]	BR Annex XIII 1 (j)	BR Art 3(1)(59) for "lifetime"	Public	Mandatory	Mandatory	only applicable for some industrial batteries where lifetime can be expressed in cycles			The test method used to determine the declared cycle life of the battery. (*1)	[String] Description of the method used or reference to a description of that method (*1)
33	Capacity threshold for exhaustion [%]	BR Annex XIII 1 (k)	N/A	Public	Mandatory	Not to be filled/displayed	Not to be filled/displayed			The capacity threshold for exhaustion can be defined as the expected remaining battery capacity after certain mileage and years specified by the manufacturer.	[Integer] %

34	Temperature range the battery can withstand when not in use (reference test) [min_T °C … max_T °C + free text]	BR Annex XIII 1 (l)	N/A	Public	Mandatory	Mandatory	Mandatory			The temperature range within which the battery can be stored or left unused without permanent damage. This field concerns storage conditions and does not cover transport conditions. For battery technologies or applications with more than one relevant storage scenario, separate temperature ranges may be reported for each specified condition. (*1)	[Temp Low]°C and [Temp High] °C (*1)
35	Period for which the commercial warranty for the calendar life applies [months]	BR Annex XIII 1 (m)	N/A	Public	if applicable (if commercial warranty envisaged)	if applicable (if commercial warranty envisaged)	if applicable (if commercial warranty envisaged)		**Comment to EC:** The standard warranty should be enough. There is no need to provide the commercial warranty to the wide public.	The period in years for which the commercial warranty for the calendar life of the battery applies, provided to the end-user.	[Duration] months/years
36	Initial energy round trip efficiency [%]	BR Annex XIII 1 (n)	N/A	Public	Mandatory	Mandatory	only applicable for some industrial batteries, namely for stationary battery energy storage			The initial energy round trip efficiency of the battery, expressed as a percentage. (*1)	[Value] % (*1)

							systems with a BMS				
37	Energy round trip efficiency at 50 % of cycle-life [%]	BR Annex XIII 1 (n)	BR Annex II 2(e) for life cycle for the calculation of carbon footprint	Public	Mandatory	Mandatory	only applicable for some industrial batteries			The energy round trip efficiency at 50% of the expected cycle life, which can be a simulated value based on degradation curve. (*1)	[Value] % (*1)
38	Internal battery cell resistance [unit Ω]; Internal battery pack resistance [unit Ω]	BR Annex XIII 1 (o)	N/A	Public	Mandatory	Mandatory	Mandatory		We suggest adding 'mΩ' as a unit option for more flexibility, as battery cell resistance measured in milliohms reflects the value more precisely	The internal resistance of the battery, measured in milliohms (mΩ), determined using a clearly specified measurement methodology and reference conditions. The reported value shall align with the value included in the technical documentation. The data requirement shall clearly identify the level to which each value relates: → Complete battery / pack → Module or block, where applicable → Individual cell, where technically available and relevant to the battery design Individual-cell internal-resistance data should not be mandatory where cells are not individually accessible, where a cell-level value is not technically available, or where the product is designed and	Battery level: [Complete battery / Pack] I [Module / Block, where applicable] I [Individual cell, where technically available and relevant] Internal resistance: [Pack IR Value] mΩ I [Module/Block IR Value] mΩ I [Cell IR Value] mΩ (*1)

										placed on the market only as a complete battery, block, module or pack. (*1)	
39	Charge C-rate of relevant cycle-life test [number]	BR Annex XIII 1 (p)	N/A	Public	Mandatory	Mandatory	only applicable for some industrial batteries			Charge- or discharge-rate in relation to the rated capacity, expressed as a constant current. (*1)	Type 1: 1C or 0,1C or C/5 in text format or Type 2: [value] A or [value] mA or [value] kA where [value] is a rational number, A is the SI unit of current, and m and k are decimal multiples and sub-multiples of the SI (International system of units). (*1)
40	Discharge C-rate of relevant cycle-life test [number]	BR Annex XIII 1 (p)	N/A	Public	Optional	Optional	Optional				
41	The marking requirements laid down in Article 13(4) [Yes/No]	BR Annex XIII 1 (q)	N/A	Public	Mandatory	Mandatory	Mandatory			Reference to the marking requirements as per Article 13(4), the separate collection symbol.	PNG/JPEG of the separate collection symbol; to consider a

											machine-readable format in addition to the image
42	The marking requirements laid down in Article 13(5) [code list]	BR Annex XIII 1 (q)	N/A	Public	cadmium or lead symbol if applicable	cadmium or lead symbol if applicable	cadmium or lead symbol if applicable			The cadmium or lead symbol marking if applicable, as per Article 13(5).	PNG/JPEG of the cadmium symbol PNG/JPEG of the lead symbol Recommended to add the chemical symbol (e.g. 'Pb'/'Cd') as structured text for machine readability
43	The EU declaration of conformity referred to in Article 18 [a web link]	BR Annex XIII 1 (r)	N/A	Public	Mandatory	Mandatory	Mandatory			The EU Declaration of Conformity, as a document or reference to it.	A web link to a PDF file
44	The information regarding the prevention and management of waste batteries laid down in Article 74(1), points (a) to (f). [multiple free text]	BR Annex XIII 1 (s)	N/A	Public	Mandatory	Mandatory	Mandatory	As this data point may require extensive text, we suggest adding 'file, web link' as a format for greater flexibility and readability	**Comment to EC:** some information mentioned in the column on the right of this one can only be provided by the PRO and not the battery manufacturer (points a-c). The question arise: how can the economic	Information on the prevention and management of waste batteries, covering points (a) to (f) (a) the role of end-users in contributing to waste prevention, including by information on good practices and recommendations concerning the use of batteries aimed at extending their use phase and the possibilities of re-use, preparation for re-use, preparation for repurposing, repurposing and remanufacturing; (b) the role of end-users in	Suggested form: a web link to a PDF file or web-link. If necessary, the information can be divided into multiple PDFs or other form of disclosure.

									operator that places the battery on the market (and is responsible for the battery passport) rest assured that the passport is up to date with all necessary information that should be provided by someone else? The same applies to the change of status for example.	contributing to the separate collection of waste batteries in accordance with their obligations under Article 64 to allow their treatment; (c) the separate collection, take-back and collection points, preparation for re-use, preparation for repurposing and treatment available for waste batteries; (d) the necessary safety instructions to handle waste batteries, including in relation to the risks associated with, and the handling of, batteries containing lithium; (e) the meaning of the labels and symbols on batteries in accordance with Article 13 or printed on their packaging or in the documents accompanying batteries; and (f) the impact of substances, in particular hazardous substances, present in batteries on the environment and on human health or the safety of persons, including the impact due to inappropriate discarding of waste batteries, such as littering or discarding as unsorted municipal waste.	
45	Clear, understandable and readable	BR Annex XIII 1 (t)	N/A	Public	Not to be filled/displayed as of February	Not to be filled/displayed as of February	Not to be filled/displayed as of February				

	instructions for use in a format that makes it possible to print, download and save them on an electronic device so that the user can access them at all times, in particular during a breakdown of the battery [TBC]				2027 - application provisions on hold pending Omnibus adoption	2027 - application provisions on hold pending Omnibus adoption	2027 - application provisions on hold pending Omnibus adoption				
46	Detailed composition, including materials used in the cathode, anode and electrolyte [free text]	BR Annex XIII 2 (a)	N/A	Restricted: only to persons with legitimate interests, notified bodies, Market Surveillance authorities and COM	Mandatory	Mandatory	Mandatory	Data points 45 to 49 are accessible to Commission and to persons with legitimate interests. As long the persons with legitimate interests are not	As this data point may require extensive text, we suggest adding 'file, web link' as a format for greater flexibility and readability	Option A: Specifying name of all materials in the respective component (anode, cathode, electrolyte) with a reporting threshold of 1 % by weight of the battery. Option B: Cathode: molar ratio of the principal active metals (e.g. NMC 811) Anode: anode material (e.g. graphite) Electrolyte: main material (e.g. LiPF6) Should not require disclosure of proprietary recipes, formulations, additives, know-	[Material Name 1] [Material Name 2] ... [Material Name N] ; If opt. B -to make separate lines for Cathode, Anode and Electrolyte Or Included in a file

								defined (Art. 77(9) implementing act missing), this requires attention		how or complete BOM beyond what is strictly necessary.	
47	Part numbers for components and contact details of sources for replacement spares [a web link]	BR Annex XIII 2 (b)	N/A	Restricted: only to persons with legitimate interests, notified bodies, Market Surveillance authorities and COM	Mandatory	Mandatory	Mandatory		**Safety precaution:** since the persons with legitimate interest are not yet defined, for now EUROBAT recommends to add a safety disclaimer to warn that any change/reparation should be done by a trained professional.	Name and Part numbers for battery components such as cells, modules, and other replaceable parts. Should not require a complete or costed BOM, non-relevant production components, upstream supplier identities or confidential supplier part numbers. The contact information of the authorized after-sales channel through which replaceable spare parts for the battery can be obtained.	[Name]+[Number of Replaceable Part 1] [Name]+[Number of Replaceable Part 2] ... [Name]+[Number of Replaceable Part N] For contact details: Web: [Full URL] or Email: [Local-part]@[Domain]
48	Dismantling information, including at least: exploded diagrams of the battery system/pack showing the location of battery cells, disassembly sequences, type and	BR Annex XIII 2 (c)	N/A	Restricted: only to persons with legitimate interests, notified bodies, Market Surveillance authorities and COM	Mandatory	Mandatory	Mandatory			Dismantling information incl. exploded diagrams, disassembly sequences, fastening techniques, required tools, warnings, cell count and layout; a generic version may be provided where structure/procedure are similar, with cell number given separately. A generic drawing and description should suffice — should not mandate native or editable CAD files where a controlled, non-editable	A web link to a PDF file If necessary, the information can be divided into multiple PDFs or other form of disclosure.

	number of fastening techniques to be unlocked, tools required for disassembly, warnings if risk of damaging parts exist, amount of cells used and layout [a web link]									document contains the required information.	
49	Safety measures [a web link]	BR Annex XIII 2 (d)	N/A	Restricted: only to persons with legitimate interests, notified bodies, Market Surveillance authorities and COM	Mandatory	Mandatory	Mandatory		The safety measures for handling, use, maintenance and disposal largely correspond to information already compiled in the Safety Data Sheet (SDS) under REACH (Art. 31) and CLP, where one exists for the battery or its components. To avoid duplicate reporting and divergence between documents, data point #49 could	Safety measures to be observed during handling, use, maintenance, and disposal of the battery. Safety measures for different scenarios may be presented in separate documents. Safety measures related to disassembly may be included in the dismantling information section. It can also be Included in the safe handling document / owner's manual, which is part of the BP.	A web link to a PDF file If necessary, the information can be divided into multiple PDFs or other form of disclosure.

									be satisfied by referencing the existing SDS (and other existing safety documentation) rather than restating its content in the passport.		
50	Results of test reports proving compliance with the requirements laid down in this Regulation or any delegated or implementing act adopted pursuant to this Regulation [a web link]	BR Annex XIII 3	N/A	Restricted: only to notified bodies, Market Surveillance authorities and COM	Mandatory	Mandatory	Mandatory			Test report results showing compliance with the Regulation or relevant delegated/implementing acts, provided as structured metadata plus a secure document link — not full public disclosure. Raw test data, laboratory notebooks and development records should not be publicly disclosed.	Secure document link accessible only to notified bodies, authorities and the Commission — not full public PDF disclosure
51	Rated capacity [unit Ah]	BR Annex XIII 4 (a)	BR Annex IV (1) for the batteries in scope of the Annex	Restricted: only to persons with legitimate interest (individual battery)	Same as data point 11 (capacity)	Same as data point 11 (capacity)	Same as data point 11 (capacity); only for rechargeable batteries	Data points 51 to 71 are accessible to persons with legitimate interests		same as data point 62	

52	Capacity fade [%]	BR Annex XIII 4 (a)	BR Annex III B(1) or BR Annex IV (2) for the batteries in scope of the Annexes	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Only for rechargeable batteries	only. As long the persons with legitimate interests are not defined (Art. 77(9) implementing act missing), this requires attention		The percentage reduction in capacity compared to original rated capacity. (*1)	[Value] % (*1)
53	Power [unit W]	BR Annex XIII 4 (a)	BR Annex IV (3) for the batteries in scope of the Annex	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Only for rechargeable batteries			same as data point 29	
54	Power fade [%]	BR Annex XIII 4 (a)	BR Annex IV (4) for the batteries in scope of the Annex	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Only for rechargeable batteries			The percentage reduction in power compared to original power capability. (*1)	[Value] % (*1)
55	Internal resistance [unit Ω]	BR Annex XIII 4 (a)	BR Annex IV (5) for the batteries in scope of the Annex	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Only for rechargeable batteries			same as data point 38	
56	Internal resistance increase [%]	BR Annex XIII 4 (a)	N/A	Restricted: only to persons with	Mandatory	Mandatory	Only for rechargeable batteries			The percentage increase in internal resistance compared to initial value. (*1)	[Value] % (*1)

				legitimate interest (individual battery)							
57	Where applicable, energy round trip efficiency [%]	BR Annex XIII 4 (a)	BR Annex IV (6) for the batteries in scope of the Annex	Restricted: only to persons with legitimate interest (individual battery)	if applicable	if applicable	Only for rechargeable batteries, if applicable			same as data point 36	
58	Where applicable, energy round trip efficiency fade [%]	BR Annex XIII 4 (a)	N/A	Restricted: only to persons with legitimate interest (individual battery)	if applicable	if applicable	Only for rechargeable batteries, if applicable			The reduction in energy round trip efficiency expressed as a percentage. (*1)	[Value] % (*1)
59	The expected life-time of the battery under the reference conditions for which it has been designed, in terms of cycles, except for non-cycle applications [number]	BR Annex XIII 4 (a)	BR Art 3(1)(59) for lifetime	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Only for rechargeable batteries and except for non-cycle applications			Same as data point 31	

60	The expected lifetime of the battery under the reference conditions for which it has been designed [years]	BR Annex XIII 4 (a)	BR Art 3(1)(59) for lifetime	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Only for rechargeable batteries			Expected lifetime of the battery under reference conditions, expressed in calendar years.	[Value] Years
61	Information on the state of health of the battery pursuant to Article 14: state of certified energy (SOCE) [%]	BR Annex XIII 4 (b)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Not to be filled/displayed	Not to be filled/displayed			State of Certified Energy (SOCE) as a percentage of original certified energy. (*1)	[Value] % (*1)
62	Information on the state of health of the battery pursuant to Article 14: remaining capacity [unit Ah]	BR Annex XIII 4 (b)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Not to be filled/displayed	Mandatory	Only for stationary battery energy storage systems and if they have a battery management system			The remaining capacity of the battery. Relevant only for batteries with an existing suitable BMS (*1)	[Value] Ah (*1)
63	Information on the state of health of the battery pursuant to Article 14: where possible, the	BR Annex XIII 4 (b)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Not to be filled/displayed	Mandatory	Only for stationary battery energy storage systems and if they have a battery		Considering the actual performance of this data point, we suggest to add “kW” as another option	The remaining power capability of the battery. Relevant only for batteries with an existing suitable BMS (*1)	[Value] W or [Value] kW (*1)

	remaining power capability [unit W]						management system		of the unit for more flexibility, as this reflects the power of EV and industrial batteries more precisely		
64	Information on the state of health of the battery pursuant to Article 14: where possible, the remaining round trip efficiency [%]	BR Annex XIII 4 (b)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Not to be filled/displayed	Mandatory	Only for stationary battery energy storage systems and if they have a battery management system			The remaining round trip energy efficiency. Relevant only for batteries with an existing suitable BMS (*1)	[Value] % (*1)
65	Information on the state of health of the battery pursuant to Article 14: [where possible,] the evolution of self-discharging rates [timestamp, decrease % per year]	BR Annex XIII 4 (b)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Not to be filled/displayed	Mandatory	Only for stationary battery energy storage systems and if they have a battery management system		We suggest removing the 'timestamp' from this data point, as it depends on the BMS functionality and most BMS cannot provide it	The difference between initial and current discharging rate. Relevant only for batteries with an existing suitable BMS (*1)	[Value] % (*1)

66	Information on the state of health of the battery pursuant to Article 14: where possible, the ohmic resistance [unit Ω]	BR Annex XIII 4 (b)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Not to be filled/displayed	Mandatory	Only for stationary battery energy storage systems and if they have a battery management system			The ohmic resistance of the battery. The value shall be reported only where it is technically possible to determine it from the battery management system (BMS) or another equivalent and reliable measurement source. This field should not duplicate information reported under the separate internal-resistance data points. Where the same measurement is used for the Article 14 state-of-health parameter and the relevant internal-resistance data point, the Battery Passport should use a cross-reference rather than require the data to be reported twice. (*1)	Ohmic resistance: [Value] Ω Battery level: [Complete battery / Pack / Module or block / Cell] (*1)
67	Information on the status of the battery, defined as 'original', 'repurposed', 're-used', 'remanufactured' or 'waste'; [code list]	BR Annex XIII 4 (c)	BR Art 3(1)(32) for "remanufacturing" and 3(2)(2)(a) for "waste"	Restricted: only to persons with legitimate interest (individual battery)	Mandatory	Mandatory	Mandatory			The status of the battery, defined as: original, repurposed, re-used, remanufactured, or waste.	One of the following fixed values: - Original - Repurposed - Re-used - Remanufactured - Waste
68	The number of charging and discharging cycles [number]	BR Annex XIII 4 (d)	N/A	Restricted: only to persons with legitimate interest	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used			The total number of charge and discharge equivalent cycles the battery has undergone. Relevant only for batteries with a BMS (*1)	[Value] Cycles (*1)

				(individual battery)							
69	Negative events, such as accidents [multiple free texts]	BR Annex XIII 4 (d)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used			The detailed data list and update frequency shall be determined by the economic operator (or its authorised party) responsible for the Battery Passport based on actual application conditions, with a view to improve battery safety, longevity, and second-life assessment. Relevant only for batteries with a BMS or IoT system	To be determined by economic operator (or its authorised party)
70	Periodically recorded information on the operating environmental conditions, including temperature [code list, histogram, related units]	BR Annex XIII 4 (d)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used		We suggest removing 'histogram' and keeping 'code list' and 'related units', which are sufficient to express this data point. Producing a histogram requires the BMS to collect and store large amounts of historical data, which may exceed its capability. Clarification on "code list' is needed.	The detailed data list and update frequency shall be determined by the economic operator (or its authorised party) responsible for the Battery Passport based on actual application conditions, with a view to improve battery safety, longevity, and second-life assessment. (*1)	To be determined by economic operator (or its authorised party) (*1)

71	Periodically recorded information on the state of charge [histogram, %]	BR Annex XIII 4 (d)	N/A	Restricted: only to persons with legitimate interest (individual battery)	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used	Applicable as soon as the battery starts to be used		We suggest removing 'histogram' and keeping '%', which are sufficient to express this data point. Producing a histogram requires the BMS to collect and store large amounts of historical data, which may exceed its capability.	The detailed data list and update frequency shall be determined by the economic operator (or its authorised party) responsible for the Battery Passport based on actual application conditions, with a view to improve battery safety, longevity, and second-life assessment. (*1)	To be determined by economic operator (or its authorised party) (*1)

About EUROBAT

www.eurobat.org

EUROBAT is the leading association for European automotive and industrial battery manufacturers, covering all battery technologies, and has 34 members. The members and staff work with all policymakers, industry stakeholders, NGOs and media to highlight the important role batteries play for decarbonised mobility and energy systems as well as all other numerous applications.

About Energy Storage Europe

www.energystorageeurope.eu

Energy Storage Europe (previously EASE) is the voice of the energy storage community, actively promoting the use of energy storage in Europe and worldwide. It supports the deployment of energy storage as an indispensable instrument within the framework of the European energy and climate policy to deliver services to, and improve the flexibility of, the European energy system. Energy Storage Europe seeks to build a European platform for sharing and disseminating energy storage-related information and supports the transition towards a sustainable, flexible and stable energy system in Europe.

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The Unified Voice of Energy Storage

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