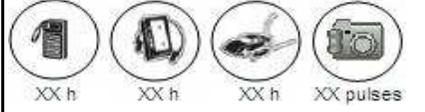
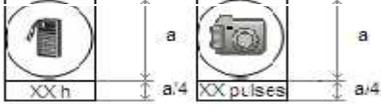
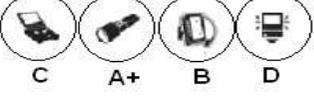
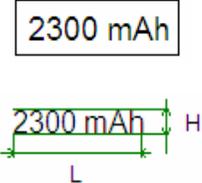


	Type of product	Categories	Number and types of test	Compliance Requirements			Labeling options	
				Capacity or Performance unit	Sample size	Choice of the displayed data*		
Primary batteries	General purpose batteries sold individually	{R20P,R20S, LR20}	4 application tests selected among the 6 tests defined by the IEC/EN 60086-2 for batteries with a R20 geometry. <u>Selected application-tests refer to: Toy, Portable Stereo, Radio, and Portable Lighting (1), tests.</u> <u>Deviation from standard:</u> the tests are as defined in the standards however, there is a slight deviation as the study recommends that the portable stereo test (which is only used to test LR20 batteries in the standard) is also used for testing R20P and R20S batteries.	As indicated in the selected application test from the IEC/EN 60086 (e.g. service hours, minutes, pulses)	9 unit (same size as the sample used in the performance check method as specified in IEC/EN 60086-1)	Average value of the 9 unit sample based on IEC/EN 60086-1 <u>Displayed data:</u> when expressed in minutes, the data is expressed as an integer (no digits) when expressed in hours, the data is expressed as a decimal number with one digit when expressed in pulses, the data is expressed as an integer (no digits) when expressed in ampere hours, the data is expressed as an integer (no digits) <u>Accuracy level:</u> ± 10 % of the nominal value (the IEC standard does not specify accuracy levels)	Delayed performance after one year of ageing in the same storage conditions as specified IEC/EN 60086-1	<p>Recommended labelling options (exemple based on a battery with 4 application tests):</p> <p>First Step: Option 1</p> <p><u>Design:</u></p>  <p><u>Size:</u> a ≥ 10mm</p>  <p><u>Location:</u> FRONT PACKAGING</p> <p><u>Additional mandatory information:</u> Manufacturing date on battery</p> <p><u>Optional additional information:</u> Manufacturer's website address on battery or on packaging</p> <p>Second Step (elaborate option): Option 1b</p> <p><u>Design:</u></p> 
		{R14P, R14S, LR14}	4 application tests selected among the 5 application tests defined by the IEC/EN 60086-2 for batteries with a R14 geometry. <u>Selected application-tests refer to: Toy, Radio, Portable Stereo, and Portable Lighting tests.</u> <u>Deviation from standard:</u> the tests are as defined in the standards however, there is a slight deviation the study recommends that the Portable Stereo test is used for testing R14P and R14S batteries.					
		{R6P, R6S, LR6}	4 application tests selected among the 8 tests defined by the IEC/EN 60086-2 for batteries with a R06 geometry. <u>Selected application-tests refer to: Radio, Motor/Toy, Digital Still Camera, and CD/MD/electronic game tests.</u> <u>Deviation from standard:</u> the tests are as defined in the standards however, there is a slight deviation the study recommends that the digital still camera test and the CD/MD/electronic game test are also used for testing R6P and R6S batteries. Also the motor/toy test is also used for the R6S test.					

Portable		{R03, LR03}	4 application tests selected among the 5 tests defined by the IEC/EN 60086-2 for batteries with a R03 geometry. <u>Selected application-tests refer to : Remote control, Radio, Portable Lighting, and Photo Flash tests.</u> <u>Deviation from standard:</u> the tests are as defined in the standards however, there is a slight deviation as the study recommends that the photo flash test is used for testing R03 batteries.					<u>Size:</u> same as Option 1. <u>Location:</u> same as Option 1 <u>Additional mandatory information:</u> same as Option 1 <u>Optional additional information:</u> same as Option 1	
		{6LR61,6F22}	3 application tests as defined by the IEC/EN 60086-2 for batteries with a R22 geometry. <u>Application-tests refer to : Radio, Toy, and Smoke detector tests</u> <u>Deviation from standard:</u> No						
		Any battery with R6 or R03 geometry	Any battery with R6 or R03 geometries should follow the recommendations for {R6P,R6S,LR6} or {R03,LR03} [e.g. batteries based on Nickel Oxihydroxide or Lithium Iron Disulfide chemistries which are new technologies not covered by IEC standards. In other words and more generally: all batteries having the same geometry (format) and voltage are rated based on the same methods independently of their chemistry - i.e. battery with a geometry corresponding to batteries covered by the IEC standards can be tested even if its chemistry is not covered by the IEC standard						
		Other	Exemption recommended						
		sold without packaging and with equipment	Exemption recommended						
	Watch batteries	All	Exemption recommended						
	Specialty batteries	All	Exemption recommended						

	Compliance Requirements							Labeling options
	Type of product	Categories	Number and types of test	Capacity or Performance unit	Sample size	Choice of the displayed data*	Characteristic of the displayed data	
Portable secondary batteries (including custom-made battery packs)	Nickel Cadmium	All	Constant current test: 5 hours discharge at constant current as specified in IEC/EN 61951-1 and in IEC/EN 60622 (for prismatic cells and batteries)	Capacity (Ah)	between 27 and 32 as specified in IEC/EN 61951-1 and in IEC/EN 60622 (for prismatic cells and batteries)	As specified in IEC/EN 61951-1 and in IEC/EN 60622 (for prismatic cells and batteries)	Fresh or initial capacity as specified in IEC/EN 61951-1/ §7.2.1 and in IEC/EN 60622/ §4.2.1 (for prismatic cells and batteries)	<p>Recommended labelling option: First step Option 1: <u>Design:</u></p> <div style="text-align: center;">  <p>2300 mAh</p> <p>Size:</p> <p>2300 mAh</p> <p>L</p> <p>H</p> </div> <p><u>Size For Individual cells:</u> Minimum size requirements for H and L depending on the model of battery: On cell L = 5 mm - 7 mm and H = 2 mm - 2.5 mm On packaging L = 12 mm and H = 5 mm <u>Location:</u> FRONT PACKAGING and ON CELL <u>Additional mandatory information:</u> N/A <u>Optional additional information:</u> Manufacturer's website address on battery or on packaging</p> <p><u>SIZE For battery packs:</u> Minimum recommended size is 1.5 % of the largest side of the battery pack, and up to 100 mm x 20 mm. Where the size of the battery pack is such that the label is smaller than 2 mm x 5 mm, the battery pack does not need to be marked but the capacity of the battery is recommended to be communicated on their packaging (for replacement battery packs which are sold individually) or on the packaging of the equipment the battery is provided for Location: ON MULTIPLE CELL ASSEMBLY, exceptionally on packaging Additional mandatory information: N/A Optional additional information: Manufacturer's website address on battery or on packaging</p>
	Nickel Metal Hydride	All	Constant current test: 5 hours discharge as specified in IEC/EN 61951-2	Capacity (Ah)	between 27 and 32 as specified in IEC/EN 61951-2	As specified IEC/EN 61951-2	Fresh or initial capacity as specified in IEC/EN 61951-2/ §7.2.1	
	Lithium	All	Constant current test: 5 hours discharge as specified in IEC/EN 61960	Capacity (Ah)	15 as specified in IEC/EN 61960	As specified IEC/EN 61960	Fresh or initial capacity as specified in IEC/EN 61960/ §7.2.1	

Portable secondary batteries (including custom-made battery packs)

Lead-acid	All	Constant current test: 20 hours discharge as specified in IEC/EN 61056-1	Capacity (Ah)	5 (no specifications in IEC/EN 61056-1)	Minimum value of the sample (no specification in IEC/EN 61056-1) with accuracy level of $\pm 7\%$ of the nominal value.	Fresh or initial capacity as specified in IEC/EN 61056-1/§6.2	<p><i>SIZE for button cells and memory back-up batteries sold individually:</i> Minimum recommended size is 12 mm x 5 mm (L x H).</p> <p>Second Step (elaborate option): Option 1b <u>Design:</u></p> <div style="text-align: center;">  </div> <p>Requirements in terms of size and location of these labels on portable secondary batteries could be similar to what presented in Option 1 for portable primary batteries</p>
All	Button cells and memory back-up batteries and batteries pack which are supplied embedded in equipment	Recommended exemption					

Automotive batteries	Lead acid starters	All	<p>Constant current test: 20 hours discharge as specified in IEC/EN 60095-1</p> <p>Cold Cranking Ampere (CCA) measurement test as specified in IEC/EN 60095-1 (Cranking performance test)</p>	<p>Capacity (Ah)</p> <p>Cold Cranking Ampere (CCA in Amperes)</p>	<p>5 (no specifications in IEC/EN 60095)</p>	<p>Minimum value of the sample of 5 batteries (no specifications in the IEC/EN 60095-1)</p> <p>Accuracy level \pm 10 % of the nominal value</p>	<p>Fresh or initial capacity as specified in IEC/EN 60095-1</p>	<p>Recommended Labelling Option: First Step: Option 1: <u>Design:</u></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>44 Ah / 360 A</p> </div> <p><u>Size recommended: the label should cover at least 3 % of the area of the largest size of the automotive battery, up to a maximum of</u> <u>- 20 mm x 150 mm (H x L)</u></p>
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