

OSM/EE DECISION SHEET

Category	Standard:	Clause	Document no.							
ITAV	EN 62368-1:2014 + A11:2017 EN IEC 62368-1:2020 + A11:2020 EN IEC 62368-1:2024 + A11:2024	Clause 3.3.17.4 & Annex M Clauses M.3.3 & M.4	OSM-EE 25/4							
Subject		Key words	Meeting							
Allowable surface temperature of secondary lithium batteries		Recharging Battery temperature Annex M	Strasbourg 9-10 April 2025							
Question										
When applying Annex M, what temperature limit should be applied for the surface temperature of a secondary lithium battery when recharging, if this information is not obtainable?										
Decision										
<p>With reference to clauses M.3.3 & M.4, the safety sensitive temperature limits of the battery must be provided. A maximum permissible surface temperature may be provided by the battery supplier, otherwise other temperature limits provided by the battery supplier such as the operating range temperature should be used as the surface temperature limits.</p> <p>Note: Annex A of IEC 62133-2 specifies a recommended temperature range of 10 - 45°C, to ensure the safe use of secondary lithium batteries.</p>										
Explanatory notes										
<p>Note 1 of clause 3.3.17.4 assumes that the end-product manufacturer is responsible to specify the safety-sensitive temperature, voltage or current of the battery, based on the specifications provided by the battery supplier. and Clause M.3.3 of Annex M states:-</p> <p><i>Throughout the tests:</i></p> <p>– the battery temperature shall not exceed the allowable temperature of the battery as specified by the battery manufacturer;</p> <p>However, battery manufacturers usually only specify the recommended operating temperature range, not the allowable surface temperature. Here is a typical example taken from the datasheet for a small 3.7V 850mAh lithium polymer rechargeable battery:-</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td rowspan="2" style="width: 20%;">3.15 Operating Temperature</td><td style="width: 30%;">Charge</td><td style="width: 20%;">0~+45°C</td><td style="width: 30%;"></td></tr> <tr> <td>Discharge</td><td>-20~+60°C</td><td></td></tr> </table>				3.15 Operating Temperature	Charge	0~+45°C		Discharge	-20~+60°C	
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