

Battery warranties explained

Introduction

The idea of a warranty is two decades old. When new battery technologies were introduced in the market with different configurations in the form of design, construction, and performance, it became difficult for a manufacturer to sustain in the market with the different warranty scenario according to customer. Let's try to understand what exactly the warranty is.

A warranty is a type of guarantee that a manufacturer or similar party makes regarding the condition of its product. It also refers to the terms and situations in which repairs or exchanges will be made if the product does not function as originally described or intended.

How a Warranty Works

Warranties usually have exceptions that limit the conditions in which a manufacturer will be obligated to rectify a problem. For example, many warranties for common household items only cover the product for up to one year from the date of purchase and usually only if the product in question contains problems resulting from defective parts or workmanship.

As a result of these limited manufacturer warranties, many vendors offer extended warranties. These extended warranties are essentially insurance policies for products that consumers pay for upfront. Coverage will usually last for a handful of years above and beyond the manufacturer's warranty and is often more lenient in terms of limited terms and conditions.

Home warranties can provide discounted repair and replacement services for household appliances and systems and the best home warranties offer a range of plans depending on the coverage you want.

Objective of Warranty

- Define the responsibilities of the manufacturer over the life of the battery system
- Define the responsibilities of the end-user over the life of the battery system
- Outline the battery life cycle from the installation to the end of the usable life
- Establish the value of the battery at any stage in its life, especially in the event of battery failure and replacement

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What could be reasons to void your warranty?

- Warranty is null and void for those batteries, which have been stored for more than 3 months without giving any freshening charge. Follow the manufacturers' installation and operation instructions. Proper initial charging and commissioning of the system should be documented as manufacturers will ask for it when warranty questions arise
- Warranty is applicable only for those batteries with properly maintained service records as per the guidelines given in this booklet
- Warranty claims will not be entertained in the case where operating instructions are not strictly followed. It is not applicable for damages due to natural calamities such as floods, thunderstorms, lightning strikes & earthquakes
- Physical damage claims made from places other than delivery points which are not covered by the warranty. It will cease if the units are opened or tampered with or an attempt is made to repair the battery by any person other than the manufacturer's representative
- Litigation arising out of any transaction with the company is subject solely to New Delhi jurisdiction
- Temperature also affects the battery, Heat and cold can take their toll on a battery system. If conditions are hot, the life of the battery will be shortened, and the warranty will be de-rated. If conditions are too hot or too cold, the warranty could be voided entirely





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Pro-rated warranty

Battery manufacturers offer limited time for a full replacement of the battery. After that limited period, pro-rated warranty starts or we can say 100% warranty applicable for the battery for a certain period, in which the manufacturer gives full replacement of battery after that battery comes with a pro-rated warranty. The calculation of pro-rated warranty is determined by several factors including age, temperature, operating conditions, and maintenance.

Pro-Rata Table														
Free of cost	15	18	18	18	24	24	30	30	36	36	42	42	48	
Pro-rata	15	6	12	18	12	24	12	24	12	24	12	18	24	
Total warranty period	30	24	30	36	36	48	42	54	48	60	54	60	72	120
Claim Month Pro-Rata %														
16 to 21	20%													
22 to 30	15%													
19 to 24		15%	20%	20%										
25 to 30			15%	15%	20%	20%								
31 to 36					15%		20%	20%						
37 to 42						15%	15%		20%	20%				
43 to 48								15%	15%		20%	20%		
49 to 54										15%	15%	20%		
55 to 60													20%	
61 to 72													15%	20%
73 to 90														15%
91 to 120														

Conclusion

All battery warranties carry specific requirements to be met to maintain compliance and consideration. Each battery manufacturer sets operational limits for warranties, including operation over a range of ambient temperatures, float voltage, normal and equalization of charge conditions, depth of discharge, current limits, etc. When operating conditions fall outside the specified limits, guidelines are available for compensating certain control parameters to maintain the design life of the product. Contact the battery manufacturer for specific instructions related to your battery.



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Eastman recommendations for battery care

- Visually inspect batteries, rack, charger, room quarterly
- Check electrolyte levels. Fill with distilled water to the 'max' line quarterly.
- Make sure the ventilation system is operational
- Inspect system for unintentional battery grounds quarterly
- Clean terminal connections and cables to prevent corrosion. Ensure cable connections are tight
- Add distilled water to the battery if required (frequency as suggested by (manufacturer). Ensure to add distilled water to battery post charging
- Always consult your battery manufacturer's specifications for charging recommendations
- Recommended cut off voltage 10.8V
- Equalizing charge current has to be given every quarter
- Electrolyte always covers the top of the bus bar
- During bench, charging ensure that the battery vents are open
- Stop charging once the battery attains a closed circuit of $15.5 \pm 0.1V$ and all cells are freely gassing
- During charging ensure that temperature does not cross $55^{\circ}C$
- The specific gravity of a fully charged battery will be $1.260 \pm 0.005V$. When cooled for 3-4 hours

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