

Lead-acid stationary cells and batteries —

Part 3: Specification for the flat positive plate type

ICS 29.220.20

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- British Industrial Truck Association
- British Telecommunications plc
- Electricity Association
- Electric Vehicle Association of Great Britain
- Lighting Industry Federation Ltd.
- Ministry of Defence
- Society of British Battery Manufacturers
- Society of Motor Manufacturers and Traders Ltd.
- Co-opted members

This British Standard, having been prepared under the direction of the Electrotechnical Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 October 1999

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First published, November 1986
Second edition, October 1999

The following BSI references relate to the work on this standard:
Committee reference PEL/21
Draft for comment 96/201003 DC

ISBN 0 580 33040 0

Amendments issued since publication

Amd. No.	Date	Comments
10838 Corrigendum No. 1	February 2000	Supersession details added to foreword

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Foreword

This part of BS 6290 has been prepared by Technical Committee PEL/21.

This British Standard is part 3 of a series of standards. It specifies requirements for flat-plate cells and batteries with pasted positive plates. It supersedes BS 6290-3:1986 which is withdrawn.

BS 6290-1 has been withdrawn, having been superseded jointly by BS 6290-2:1999, BS 6290-3:1999, BS 6290-4:1997 and BS EN 60896-1:1992.

BS 6290-2 specifies requirements for lead-acid high-performance Planté plate cells and batteries.

BS 6290-4 specifies the criteria for classifying lead-acid valve-regulated cells and batteries.

BS EN 60896-1 specifies general requirements for all free-venting types of stationary lead-acid cells and batteries.

Guidance on safety and health aspects of the handling, installation, usage and maintenance of lead-acid stationary cells and batteries is given in BS 6133.

Annexes designated normative are part of the body of the standard.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

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1 Scope

This part of BS 6290 specifies requirements for the materials and performance of stationary cells and batteries comprising either individual lead-acid cells or monobloc units of the flat-plate type.

NOTE Information on applications is given in annex A. Annex B clarifies the position of these cells and batteries with respect to electromagnetic compatibility.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 6133:1995, *Code of practice for safe operation of lead-acid stationary batteries*.

BS 6334:1983, *Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source*.

BS EN 60896-1, *Stationary lead-acid batteries — General requirements and methods of test — Part 1: Vented types*.

3 Terms and definitions

For the purposes of this part of BS 6290, the terms and definitions given in BS 6133:1995, 1.3.2 apply, together with the following.

3.1

stationary cell

cell that is installed on a fixed site and is not intended to be moved continually during its life

3.2 stationary battery

two or more stationary cells electrically connected in series

3.3

lead-acid cell

cell in which the electrolyte is dilute sulfuric acid, and which is fitted with plates in which the active materials are:

- a) positive electrode: lead dioxide;
- b) negative electrode: spongy lead

3.4

free-venting enclosed cell

cell that is fitted with a vent plug which allows free venting of electrolysis gas

NOTE Provision is made for the addition of water and for measurement of the level and density of electrolyte. The cover is not intended to be readily removable.

3.5

flat-plate cell

free-venting enclosed cell containing flat pasted positive and negative plates

3.6

container

box in which plate groups and separators are assembled

3.7

group bar

bar to which a plate or group of plates is attached

3.8

vent plug

plug, provided with a gas vent or vents and baffled to arrest acid spray, that is fitted in the vent hole in the cover of an enclosed cell

NOTE A vent plug normally also provides access for filling.

3.9

monobloc

battery in which the cells are fitted in a multi-compartment container

3.10

float

operation of a cell or battery in parallel with a load and a charging source at constant voltage

3.11

discharge

taking out of a quantity of electricity from a cell by connecting it to an external circuit in such a way that the current flows through the cell in the reverse direction to that for charging

NOTE The quantity of electricity taken out is usually measured in ampere hours.

3.12

capacity

quantity of electricity that can be taken from a cell (or battery) at a particular rate of discharge, under specified conditions of voltage and temperature

NOTE Capacity is usually measured in ampere hours.

3.13

rated capacity

designation, by the manufacturer, of the capacity of a cell (or battery) under specified conditions of discharge