

Bare cells of cylindrical lithium batteries





Overview

Cylindrical cells are designed with a number of safety features including a defined vent path/weakness. The capacity is relatively small and hence the electrical and thermal energy content is smaller.

What is a cylindrical lithium-ion battery?

The cylindrical lithium-ion battery adopts an appropriate and mature winding process, with a high degree of automation, stable quality of the cylindrical lithium-ion battery, and relatively low cost. There are many types of cylindrical cells, such as 14650, 17490, 18650, 21700, 26650 and so on.

What is a cylindrical lithium-ion cell?

The cylindrical cells have high energy density, high power, as well as high performance and long calendar life. The purpose of this document is to introduce a structure of a cylindrical lithium-ion cell. Figure 3 demonstrates a structure of a cylindrical lithium-ion battery cell.

How many Li-ion cylindrical battery cells are there?

This paper investigates 19 Li-ion cylindrical battery cells from four cell manufacturers in four formats (18650, 20700, 21700, and 4680). We aim to systematically capture the design features, such as tab design and quality parameters, such as manufacturing tolerances and generically describe cylindrical cells.

What are battery cells?

Battery cells are the main components of a battery system for electric vehicle batteries. Depending on the manufacturer, three different cell formats are used in the automotive sector (pouch, prismatic, and cylindrical).



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