List of battery sizes wikipedia

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This is a list of the sizes, shapes, and general characteristics of some common primary and secondary battery types in household, automotive and light industrial use. The complete nomenclature for a battery specifies size, chemistry, terminal arrangement, and special characteristics.

This list is a summary of notable electric battery types composed of one or more electrochemical cells. Three lists are provided in the table. The primary (non-rechargeable) and secondary (rechargeable) cell lists are lists of battery chemistry. The third list is a list of battery applications.

The complete nomenclature for the battery will fully specify the size, chemistry, terminal arrangements, and special characteristics of a battery. The same physically interchangeable cell size may have widely different characteristics; physical interchangeability is not the sole factor in substitution of batteries.

National standards for dry cell batteries have been developed by ANSI, JIS, British national standards, and others. Civilian, commercial, government, and military standards all exist. Two of the most prevalent standards currently in use are the IEC 60086 series and the ANSI C18.1 series. Both standards give dimensions, standard performance characteristics, and safety information.

The first IEC standards for battery sizes were issued in 1957.[3]Since 1992, International standard IEC 60086 defines an alphanumeric coding system for batteries.[2][4]British standard 397 for primary batteries was withdrawn and replaced by the IEC standard in 1996.[5]

Standardization of batteries in the United States started in 1919, when the US National Bureau of Standards published recommended test procedures and standard dimensions of cells.[6] American standards were revised several times during the following decades, as new sizes of cells were introduced and new chemistry developed, including chloride, alkaline, mercury and rechargeable types.

In 1999 the ANSI standards were extensively revised and separate safety standards provided. The current edition of the ANSI standards designates sizes with an arbitrary number, with a prefix letter to designate shape, and with a suffix letter or letters to identify different chemistry, terminals, or other features.

Three different technical committees of IEC make standards on batteries: TC21 (lead-acid), SC21 (other secondary) and TC35 (primary). Each group has published standards relating to the nomenclature of batteries - IEC 60095 for lead-acid starter batteries, IEC 61951-1 and 61951-2 for Ni-Cd and Ni-MH batteries, IEC 61960 for Li-ion, and IEC 60086-1 for primary batteries.

Examples of the IEC nomenclature are batteries coded R20, 4R25X, 4LR25-2, 6F22, 6P222/162, CR17345 and LR2616J. The letters and numbers in the code indicate the number of cells, cell chemistry, shape,

dimensions, the number of parallel paths in the assembled battery and any modifying letters deemed necessary. A multi-section battery (two or more voltages from the same package) will have a multi-section designation.

Prior to October 1990, round cells were designated with a sequential numeric size code ranging from R06 through to R70, for example R20 is the size of a "D" cell or ANSI"13" size. After October 1990, round cells are systematically identified with a number derived from their diameter and height. Primary cells larger than 100 mm in diameter or height are designated with an oblique "/" between diameter and height.

Certain sizes, given by one or two digit numbers, represent standard size codes from previous editions of the standard. Sizes given as 4 or more digits indicate the diameter of the battery and the overall height.

The numbers in the code correlate with the battery dimensions. For batteries with dimensions of < 100 mm the (truncated) diameter in millimetres, followed by the height in tenths of a millimetre; for batteries with a single dimension >= 100 mm the diameter in millimetres, then a slash (/) followed by the height in millimetres.