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**Earth-moving machinery - Battery swap system of electric
hydraulic excavators - General requirements**

土方机械 纯电动液压挖掘机换电系统 通用要求

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

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This document is under the jurisdiction of the National Technical Committee for Standardization of Earthmoving Machinery (SAC/TC334).

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Battery replacement system for pure electric hydraulic excavators of earthmoving machinery General requirements

1 Scope

This document specifies the general requirements, battery replacement frequency requirements and safety requirements for pure electric hydraulic excavator battery replacement systems, and describes the corresponding test method.

This document is applicable to the design and manufacture of battery replacement systems for pure electric hydraulic excavators that use battery replacement equipment or human-assisted battery replacement.

For pure electric hydraulic excavators that use pure manual battery replacement, the battery replacement systems of other electric earth-moving machinery can be used for reference.

2 Normative references

GB/T 30038

GB/T 32879-2025

GB/T 36693-2018

GB/T 44254

GB/T 44255-2024

GB/T 45046-2024

GB/T 45049-2024

3 Terms and Definitions

The terms and definitions defined in GB/T 44254 and the following apply to this document.

3.1

An electric hydraulic excavator whose operating energy is provided in whole or in part by a replaceable onboard rechargeable energy storage system.

3.2 battery swap

The process of replenishing the power of a pure electric hydraulic excavator is achieved by replacing the onboard rechargeable energy storage system with battery replacement equipment or human assistance.

[Source. GB/T 40032-2021, 3.1, with modifications]

3.3 Battery swap time batteryswaptime

From the shutdown of the battery-swap pure electric hydraulic excavator, the deployment of battery-swap equipment and personnel, to the completion of the battery-swap pure electric hydraulic excavator replacement The time it takes to replace the battery assembly and reach the electric drive system ready state.

3.4

A system on the fuselage composed of components related to battery replacement operations or battery replacement functions.