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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 44245-2024

Heavy machinery - Design specifications for remanufacturing

重型机械 再制造设计规范

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1 Scope

China's national design specification for remanufacturing heavy machinery. It addresses remanufacturing at the point where it is cheapest to influence: the original design. A machine designed without thought for its second life is expensive to remanufacture and often impossible - components welded where they could have been bolted, wear surfaces integral with structures rather than replaceable, dimensions that leave no material for a repair machining, fasteners that cannot be reached, and no marking that survives to identify what the core was. Designing for remanufacture reverses each of those: joints that can be undone, wear parts that are separate and replaceable, oversize allowances built into the geometry so that a worn surface can be machined back and a bush fitted, and identification that survives the machine's working life. For heavy machinery, whose structures outlast several sets of working components, the return on that is large.

This document specifies the general requirements for remanufacturing design of heavy machinery products and parts, remanufacturing process design, remanufacturing material design, Remanufacturing solution design. This document is applicable to the remanufacturing design of heavy machinery products and components.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 28612 Green Manufacturing Terminology

GB/T 28618 General technical requirements for remanufacturing of mechanical products

GB/T 28619 Remanufacturing terminology

GB/T 31207 Quality management requirements for remanufacturing of mechanical products

GB/T 31208 Quality inspection method for remanufactured blanks

GB/T 32811 Technical specification for remanufacturability evaluation of mechanical products

GB/T 33947 Technical specification for remanufacturing machining

GB/T 35978 Technical Guidelines for Inspection of Remanufactured Mechanical Products

GB/T 37400.9 General technical requirements for heavy machinery Part

3 Terms and definitions

The terms and definitions defined in GB/T 28612 and GB/T 28619 and the following apply to this document.

3.1 Remanufacturing Professionally repair and/or upgrade products that are no longer in use due to functional damage or technical obsolescence to restore their functions. The process of achieving quality characteristics, safety, environmental protection and economy at or above the level of the prototype new product. [Source: GB/T 28612-2023, 4.4.6]

3.2 Remanufacturing design In order to achieve the best value of remanufacturing, the remanufactured blanks are carefully selected in terms of technology, process, material, function, performance, quality, cost, environment, etc. A series of design activities carried out. [Source: GB/T 28612-2023, 4.1.7]

3.3 Remanufacturing blank core Due to functional damage, technical obsolescence or reaching the expiration date, it cannot or is not suitable for continued use, but it implies that it can be used again.

9 Cutting parts

GB/T 37400.10 General technical requirements for heavy machinery Part

10 Assembly

GB/T 37400.12 General technical requirements for heavy machinery Part