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

GB/T 30508-2014

**Ships and marine technology -- Hydraulic oil systems --
Guidance for grades of cleanliness and flushing**

船舶和海上技术 液压油系统 清洁度等级和冲洗导则

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses the translation method identical with ISO 28521:2009 "Ships and marine technology hydraulic oil system cleanliness level and flushing Guidelines "(in English).

Correspondence between the consistency of the standards of international documents and normative references of the following documents.

GB/T 3141-1994 Industrial liquid lubricants - ISO viscosity classification (eqv ISO 3448:1992) GB/T 8923.1-2011 steel substrates before application of paints and Visual assessment of surface cleanliness - Part 1. uncoated Steel surface and the overall removal Rust grades and grade of the original steel surface after coating (ISO 8501-1:2007, IDT) GB/T 14039-2002 Hydraulic fluid level of contamination by solid particles (ISO 4406:1999, MOD) GB/T 17489-1998 Hydraulic Particulate contamination analysis extracted from the working fluid-like system piping (idt ISO 4021:1992) GB/T 19848-2005 hydraulic components from manufacture to installation guide for achieving and controlling cleanliness (ISO/T R10949.2002, IDT) GB /cleanliness and collect pollutants hydraulic transmission parts and components T 20110-2006, analyzing and reporting data related to Inspection documents and guidelines (ISO 18413:2002, IDT) GB/T 30507-2014 Ships and marine technology lubricating oil and hydraulic oil system cleanliness and particle emissions sampling sentenced Set guidelines (ISO 28523:2009, IDT) this standard made the following editorial changes.

--- The ISO 28521. "Relations filtration characteristics and rinsing time (see 12.4)" 12.3.2 in 2009, and amended to read "filtering characteristics and the relationship between the rinsing time (see 12.5)";

--- The ISO 28521:2009 Table 1 pressure " > 16MPa", be amended to read ">=16MPa";

--- The pressure unit "bar" in terms of "MPa" [see Table 1 and formula (6)];

--- The ISO 28521:2009 in the number of 12.4.1 c), d) be amended to a), b).

The standard proposed by China State Shipbuilding Corporation.

This standard by the National Marine Machinery Standardization Technical Committee (SAC/TC137) centralized.

This standard was drafted. China Shipbuilding Technology and Economy Research Institute, Ltd. auxiliary Sheyang ocean-going vessels, nautical equipment Shanghai Co., Ltd., Shanghai Motion Engineering Co., Ltd., Jiangsu Huayang Heavy Industries Co., Ltd., Chongqing Hua Yu Electrical Instrument Factory.

1 Scope

This standard specifies the requirements for cleaning and cleanliness level of the hydraulic oil system piping. Piping and associated components of the hydraulic oil pipeline system Clean ensuring the normal work of the hydraulic system is very important.

This standard also provides a method for cleaning the hydraulic system with a special attachment parts and required equipment.

The purpose of cleaning is to remove contaminants left over during installation, check the piping and hydraulic systems to ensure adequate cleanliness.

When Reynolds $Re \leq 3000$, the cleaning process of the system is transparent wash; $Re \geq 3000$ when the Reynolds number, the cleaning process of the system is flushed.

Reynolds is laminar or turbulent fluid is an indicator.

This standard assumes that the hydraulic system piping cleaning can be part of the pickling method, partly by mechanical means. Further, assume that the supply system Supplied motion components and stationary components are sufficiently clean (see Chapter 5).

Each manufacturer has a product for cleaning and cleanliness standards, the requirements of this proposed standard is its complement, and not replace generation. Where feasible, the priority use the manufacturer's product cleanliness requirements and cleaning guidelines.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

ISO 3448 Industrial liquid lubricants - ISO viscosity classification
(Industrialliquidlubricants-ISO viscosity classification) ISO 4021 Hydraulic particle contamination analysis - Extraction of fluid samples from the pipeline system
(Hydraulicfluidpower-Particulate contaminationanalysis-Extractionoffluidsamplesfromlinesofanoperatingsystem) ISO 4406 Hydraulic fluid level of contamination by solid particles (Hydraulicfluidpower-Fluids-Method

for coding the level of contamination by solid particles) ISO 8501-1 steel before application of paints and surface cleanliness - Visual assessment - Part 1. uncoated steel sheet Rust grades and preparation grades of steel surfaces and the surface of the full removal of previous coatings after (Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness - Part 1. Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings) ISO/T R10949 hydraulic components from manufacture to installation guide for achieving and controlling cleanliness (Hydraulic fluid power - Component cleanliness - Guidelines for achieving and controlling cleanliness of components from manufacture to installation) Cleanliness and collect contaminants ISO 18413 hydraulic transmission parts and components, analyzing and reporting data related to the inspection document and guidelines (Hydraulic fluid power - Cleanliness of parts and components - Inspection document and principles related to contaminant collection, analysis and data reporting) ISO 28523 Ships and marine technology lubricating oil and hydraulic oil systems particulate emissions sampling and determination cleanliness guidelines (Ships and marine technology - Lubricating and hydraulic oil systems - Guidance for sampling to determine cleanliness and particle contamination)