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

GB/T 28784.3-2012

**Mechanical vibration -- Measurement of vibration on ships --
Part 3: Pre-installation vibration measurement of shipboard
equipment**

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Foreword

GB/T 28784 "Mechanical vibration ship vibration measurement" is divided into four parts.

- Part 1. General guidelines;
- Part 2. Measurement of structural vibration;
- Part 3. pre-installation vibration measurement equipment on board;
- Part 4. Measurement and evaluation of ship propulsion device vibration.

This section is GB/T Part of 328,784.

This section drafted in accordance with GB/T 1.1-2009, rules GB/T 20000.2-2009 given.

This section uses the translation method identical with ISO 20283-3.2006 "Mechanical vibration ship vibration measurement - Part 3. Safety equipment on board

Pre-loaded vibration measurements. "

Consistency correspondence between this part of international documents and normative references of our files are as follows.

- GB 3102.7-1993 Quantities and units of acoustics (ISO 31-7.1992, EQV)
- GB/T 2298-2010 Mechanical vibration, shock and condition monitoring of vocabulary (ISO 2041.2009, IDT)
- GB/T 3238-1982 Acoustics volume level and a reference value (ISO 1683. 1983, NEQ)
- GB/T 14412-2005 Mechanical vibration and shock - Mechanical mounting of accelerometers (ISO 5348.1998, IDT)

This part made the following editorial changes.

- Modify the part of the formula of expression and formula numbers.

This part of the National mechanical vibration, shock and condition monitoring Standardization Technical Committee (SAC/TC53) and focal points.

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Introduction

Ship machinery and equipment will produce excessive vibration and structure-borne noise operation, which may make the crew and the passenger compartment interior noise

SPL agreed with the owner over the limits. Cabin noise will affect the structure of the noise can be seen, machine-generated, up to the present section

Low vibration to select the destination machine.

According to the standard procedure for a single device vibration measurements and compared with the acceptance criteria determined by the contract, shipbuilders for the combined selection and installation

Suitable equipment to provide the necessary information.

Mechanical vibration ship vibration measurement

Part 3. Vibration measurement equipment on board prior to installation

1 Scope

This section GB/T 28784 specifies the different types of vibration generated by the equipment on board (the structural vibration noise in the form of a ship knot

Configuration pass) measurement guidelines, requirements and procedures, the measuring device is factory acceptance test (FactoryAcceptanceTest, FAT)

a part of. This part of the operation and installation conditions have a clear measurement device is described in detail, for example, test bench at the supplier's.

This section provides a typical test results framework standards for passenger ships, merchant ships, yachts, equipment on board high speed craft on.

Due to the rotational direction of vibration of the structure contribute little noise, vibration involves only part of the translation direction, but does not specify equipment vibration or knot

Structure noise limits.

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 31-7 Quantities and units of acoustics (Quantities and units-Part 7. Acoustics)

ISO 1683 acoustic quantity level and the reference value
(Acoustics-Preferred reference quantities for acoustic levels)

ISO 2041 Mechanical vibration, shock and condition monitoring of vocabulary
(Mechanical vibration, shock and condition monitoring-Vocabulary)

ISO 5348 Mechanical vibration and shock - Mechanical mounting of accelerometers
(Mechanical vibration and shock-Mechanical mounting of accelerometers)

ISO /T R13298 marine technology in general terms
(Ships and marine technology-Vocabulary of general terms)

3 Terms and Definitions

In ISO 31-7, ISO 2041, ISO /T R13298 as defined in the following terms and definitions apply to this document.

3.1

Equipment equipment

Capable of generating vibrations and to install any machine, system, subsystem, or component in the ship.

Example 1 main propulsion unit. Diesel engine, gas turbine, the main reduction gears, propulsion motors;

Example 2 mechanical ventilation as well as heating, ventilation and air conditioning (HVAC) systems. send exhaust fans, air conditioning units, water-cooled air conditioning units, fresh water pumps, etc;

Example 3 auxiliary equipment. diesel engine or gas turbine generators, hydraulic equipment, electrical and so on.

Note. does not include a pump mounted directly on the reduction gear means, such as diesel engine, mounted directly on the fan propulsion means motors, generators, motors, etc., as well as

Any other auxiliary equipment on large units require pre-testing.

3.2

Elastic support resilientmount

Flexible structure and to reduce vibration transmission means for.

Note. where the rubber elastic support block having a particular shape of the coupling member at the point of use of the partition or similar elastomeric block, as well as the purpose of the support member portion