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

GB/T 25712-2010

**Vibratory stress relief technology - Parameter selection and
effect evaluation methods**

振动时效工艺参数选择及效果评定方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China Machinery Industry Federation. This standard by the National Foundry Machinery Standardization Technical Committee (SAC/TC186) centralized. This standard was drafted. Jinan Sigma Technology Co., Ltd., Jinan Foundry and Metalforming Machinery Research Institute. Drafters of this standard. Tom Dallas, Liujiu Ming, Lu Jun. VSR process parameters and Effect Evaluation Method

1 Scope

GB/T 25712-2010 is the Chinese national standard on vibratory stress relief technology - parameter selection and effect evaluation methods, in the field of manufacturing engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 23 December 2010 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2011. Classification: ICS 25.120.30, CCS J61. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the technical requirements and selection VSR VSR process parameters and effects assessment methods. This standard applies to carbon steel, low alloy steel, stainless steel, cast iron, non-ferrous metals (copper, aluminum, titanium and its alloys) and other materials casting VSR technology and equipment, forgings, welded parts, molds, machined parts.

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.

GB/T 25713 mechanical vibration aging device

3 Terms and Definitions

GB/T 25713 and as defined in the following terms and definitions apply to this document.

3.1 Full and partial sweep sweep spanscanning Aging device from the lowest speed to the current sweep, said eccentric Moment full sweep within the full range of the maximum speed. Aging device in the current local eccentric Moment sweep sweep over a certain period, said speed range.

3.2 Modal vibrationmode Line of the workpiece by a resonance frequency of the excitation, the displacement reaches a point in its moment of maximum displacement of each point of the workpiece surface is formed or Called modes.

3.3 Node and the pitch line vibrationnode Workpiece resonance modes at the minimum amplitude of the oscillation mode called a node, referred to as nodes. Node connected into the line is called the pitch line of the vibration type, referred to the section line. At resonance, the workpiece may have multiple nodes or nodal line.

3.4 Modal effective area effectiveareaofvibrationmode Workpiece resonance between the workpiece adjacent section line or section intersecting lines around the region, its dynamic stress equivalent value in the region is equivalent to dynamic stress

0.707 times the peak value of the area is called the effective area of \u200b\u200bthe vibration modes type, referred to as modal effective area.

3.5 Effective frequency and effective modes effectivevibrationfrequency Workpiece with a resonance frequency, vibration mode active area if it can cover the workpiece to be focused on the area or region larger residual stress, the frequency Corresponding modes called effective modes, the resonance frequency is called the effective frequency.

3.6 Aging frequency egingfrequency When the selection of a valid modes workpiece aging, for the dynamic stress modal effective area equivalent peak value reaches a certain value, the