

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Mounts for Propulsion or Auxiliary Machinery

with type designation(s)

Steel spring elements: GS-...-2513/33 SBY 5-190, GS_-711 SBY, GS_-55 SBY

Issued to

**GERB Schwingungsisolierungen GmbH & Co. KG
Berlin, Germany**

is found to comply with

DNV GL rules for classification – Ships

DNV GL rules for classification – High speed and light craft

Application :

The steel spring elements are approved for flexible support of machinery including internal combustion engines. Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Issued at **Hamburg** on **2017-05-11**

for **DNV GL**

This Certificate is valid until **2022-05-10**.

DNV GL local station: **Magdeburg**

Approval Engineer: **Andreas Wolf**

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**Burkhard Lilienthal
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Steel spring elements with integrated vertical and horizontal stoppers.

Application/Limitation

The steel spring elements are approved for flexible support of machinery including diesel and gas engines.

Spring rate according to data sheets:

3-MS-4356.1 Spring elements Type GS-...-2513/33 SBY 5-190
4-MS-3594.1 Spring element GS-_-711 SBY
4-MS-3491.1 Spring elements Type GS-_55 SBY

Type Approval documentation

Drawings:

3-MS-4356.1 Spring elements Type GS-...-2513/33 SBY 5-190
4-MS-3594.1 Spring element GS-_-711 SBY
4-MS-3491.1 Spring elements Type GS-_55 SBY
2-123960 GS-2..-2513/33 SBY 5-190

Information in Application for Type Approval dated 2010-11-10
Strength Analysis of the Horizontal Blocking Device of Spring element type GS-2.2-2513/33 SBY 5-190
Mounting Instructions dated 2010-09-27

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification

Periodical Assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval certificate was issued.

In cases where the type approved product is manufactured at other companies, periodical assessments shall be carried out randomly at these companies. All companies shall be assessed at least once in the period of validity of the TA certificate.

This will be according to Class Guideline DNV GL-CG-0338, Section 4.

Other conditions

Product certificate issued by DNV GL is not required.

Engine vibration calculations to be submitted for approval as required by the Rules Pt.4, Ch.2, Sec.1 (6.2) Table 1 and specified in DNV GL-CG-0372.

Installation to be done according to maker's instructions.