American National Standard Guide for Describing the Characteristics of Resilient Mountings

Secretariat

Acoustical Society of America
American Society of Mechanical Engineers

Approved November 18, 1971

American National Standards Institute, Inc

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Foreword

(This Foreword is not a part of American National Standard Guide for Describing the Characteristics of Resilient Mountings, S2.8-1972.)

This American National Standard provides suggestions on subject matter and format for describing resilient mountings, so that there will be a clear understanding by both the user and the manufacturer. Since the intention of this standard is to encourage better communication between the manufacturer and the user, it should be regarded as a guide rather than a rigid specification.

It is beyond the scope of this standard to present characteristics of resilient mountings. Rather, it is intended to outline, in standardized form, what data should be presented to enable the experienced designer to apply resilient mountings correctly. Also, the standard defines terminology in a further effort to ease the problem of communication between user and manufacturer.

The S2 Standards Committee on Mechanical Shock and Vibration, under whose jurisdiction this standard was developed, has the following scope:

Standards, specifications, methods of measurement and test, and terminology, in the fields of mechanical shock and vibration, but excluding those aspects which pertain to biological safety, tolerance and comfort.

Suggestions for improvement gained in the use of this standard will be welcome. They should be sent to the American National Standards Institute, Inc, 1430 Broadway, New York, N.Y. 10018.

The organizations which participated in this work and the names of their representatives, as listed at the time this standard was submitted to the S2 Committee for approval, are as follows:

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1. Introduction

The user of resilient mountings is sometimes handicapped in applying mounting systems properly because sufficient technical information is not furnished by the manufacturer. Consequently, the user must conduct his own experimental evaluation of mountings and perhaps unknowingly duplicate work already performed by the manufacturer. Also, in military applications, the user may not be at liberty to divulge applicable information which might otherwise facilitate suggestions and recommendations by the mounting manufacturer. Hence, the user many times must acquire considerable proficiency in the art of applying resilient mountings, and in these instances, he needs appropriate technical information from the manufacturer.

On the other hand, some manufacturers of resilient mountings have experience covering a wide variety of mounting applications. The manufacturers, in most instances, are willing to use their background information for solving the users mounting problems. However, it frequently is difficult for the manufacturer to provide this service, because the user has not furnished sufficient information to the manufacturer regarding the application.

2. Purpose and Scope

2.1 Purpose. This standard sets forth suggestions as to subject matter and format for describing resilient mountings, so that there will be a clear understanding by both the user and the manufacturer. Since the intention of this standard is to encourage better communication between the manufacturer and the user, the material set forth herein should be regarded as a guide rather than a rigid specification.

2.2 Scope. It is beyond the scope of this standard to present characteristics of resilient mountings. Rather, it is intended to outline, in standardized form, what data should be presented to enable the experienced designer to apply resilient mountings correctly. Also, the standard defines terminology in a further effort to ease the problem of communication between user and manufacturer.

3. Definitions of Terms

Definitions of many terms used in discussing shock and vibration phenomena are given in American National Standard Acoustical Terminology, S1.1-1960. Significant and additional definitions pertinent to this document are as follows.

axial stiffness.[1] The load-deflection ratio of a mounting along its central axis symmetry.

base mounting system. A system which has the resilient mountings attached underneath the mounted item. See Fig. 1.

bottoming. Deflection which causes an abrupt change (usually discontinous) of the dynamic or static stiff-

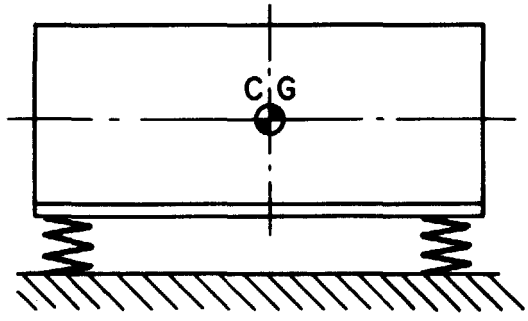

Fig. 1
Base Mounting System

[1] The stiffness may be dynamic or static, and the mounting must have an axis of symmetry.