

Australian Standard™

Cleanrooms, workstations, safety cabinets and pharmaceutical isolators—Methods of test

Method 16: Determination of sound level in cleanrooms

FOREWORD

The uniformity of energy distribution within a cleanroom will depend on the spectrum of the noise source and the position of the noise source in the room.

Noise sources of a broad-band nature will excite many modes of vibration in a room and produce a nearly diffuse field. Noise sources which emit narrow-band sound at single frequencies will generally produce non-uniform fields exhibiting marked maxima and minima. In these circumstances, it is difficult to measure the average sound level in a room.

When forced air is supplied to a room by means of an airconditioning blower system, it is accompanied by a noise spectrum which is invariably broad-band white noise due to airflow accompanied by a narrow-band spectrum pitched around a frequency defined by the type and characteristics of the blower.

METHOD

1 SCOPE This Standard sets out the method for determining the sound level in cleanrooms.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1386 Cleanrooms and clean workstations

1386.1 Part 1: Principles of clean space control

1633 Acoustics—Glossary of terms and related symbols

1807 Cleanrooms, workstations, safety cabinets and pharmaceutical isolators—Methods of test

1807.0 Part 0: List of methods and apparatus

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 1386.1, AS 1633 and AS 1807.0 apply.

4 PRINCIPLE Sound levels are measured at selected locations within the cleanroom under full operating conditions and if necessary, the ambient sound level is measured.