Australian Standard®

Cleanrooms and clean workstations

Part 5: Clean workstations

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PREFACE

This Standard was prepared by Standards Australia's Committee on Controlled Environments.

It is Part 5 of a series of seven Standards published simultaneously as a revision and amalgamation of—

AS 1386—1976 *Cleanrooms and work-stations*; and

AS 1387—1976 *Code of practice for cleanrooms and work-stations.*

The series consists of the following Standards:

AS 1386 *Cleanrooms and clean workstations*
- *Part 1*: *Principles of clean space control* (AS 1386.1)
- *Part 2*: *Laminar flow cleanrooms* (AS 1386.2)
- *Part 3*: *Non-laminar flow cleanrooms—Class 350 and cleaner* (AS 1386.3)
- *Part 4*: *Non-laminar flow cleanrooms—Class 3500* (AS 1386.4)
- *Part 5*: *Clean workstations* (this Standard, AS 1386.5)
- *Part 6*: *Operation and inspection of cleanrooms* (AS 1386.6)
- *Part 7*: *Installation and use of clean workstations* (AS 1386.7)

The above seven Standards supersede both AS 1386—1976 and AS 1387—19[illegible]

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STANDARDS AUSTRALIA

Australian Standard

Cleanrooms and clean workstations

Part 5: Clean workstations

1 SCOPE. This Standard specifies requirements for clean workstations.

NOTE: Requirements for biological safety cabinets and cytotoxic drug cabinets are specified in AS 2252.1, AS 2252.2, and AS 2567. AS 1386.7 provides requirements for installation and use of workstations. Separate specifications and related documents cater for certain vital components, e.g. air filters.

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

AS

1217	Acoustics–Determination of sound power levels of noise sources
1217.1	Part 7: Survey method
1324	Air filters for use in air conditioning and general ventilation
1386	Cleanrooms and clean workstations
1386.1	Part 1: Principles of clean space control
1386.7	Part 7: Installation and use of clean workstations
1807	Cleanrooms, workstations, and safety cabinets–Methods of test
1807.1	Method 1: Determination of air velocity and uniformity of air velocity in clean workstations and laminar flow safety cabinets
1807.2	Method 2: Determination of performance of clean workstations and laminar flow safety cabinets under loaded filter conditions
1807.5	Method 5: Determination of work zone integrity
1807.6	Method 6: Determination of integrity of terminally mounted HEPA filter installations
1807.15	Method 15: Determination of illuminance
1807.18	Method 18: Determination of vibration in workstations and safety cabinets
1807.20	Method 20: Determination of sound level at installed workstations and safety cabinets
1807.23	Method 23: Determination of intensity of radiation from germicidal ultraviolet lamps
2252	Biological safety cabinets
2252.1	Part 1: Biological safety cabinets (class I) for personnel protection
2252.2	Part 2: Laminar flow biological safety cabinets (class II) for personnel and product protection
2567	Cytotoxic drug safety cabinets
3100	Approval and test specification for definitions and general requirements for electrical materials and equipment

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

4 AIR CLEANNESS. The air cleanness within the work zone of workstations shall be Class 3.5 or better in accordance with AS 1386.1.

Compliance with this requirement may be established on the basis of compliance with Clauses 6.1, 6.2 and 6.3.

5 DESIGN AND CONSTRUCTION.

NOTE: Typical clean workstations are shown in Figure 1.

5.1 General requirements. A clean workstation shall comply with the following general requirements:

(a) It shall be self-contained and consist essentially of a work zone, and a motor blower and HEPA filter for laminar airflow.

(b) It shall be independent of any other air-handling system.

(c) The airflow in the workzone shall be laminar and may be either horizontal or vertical.

NOTE: It is not intended that this requirement be construed so as to prohibit vertical flow workstations with solid work floor. Such workstations are considered acceptable (see Figure 1(b)).

(d) All controls associated with the workstation shall be integral parts of it.

5.2 Outer shell. The outer shell shall be of a non-porous, non-shedding, easily cleanable material.

NOTE: A timber construction is not considered acceptable.

5.3 Work floor and work zone. The work floor and interior walls shall –

(a) have a smooth easily cleanable finish that is impervious to water and to cleaning and sanitizing solutions; and

(b) be constructed of materials that resist chipping, flaking, oxidation, or other deterioration.

Any joints in the work floor shall be sealed to effectively prevent the entry of liquids.

NOTE: Where liquids are routinely manipulated within the workstation it is recommended that a removable three-sided tray be provided with the workstation or incorporated in its construction to direct any spill material away from joints and the HEPA filter. Alternatively a seamless construction of the work zone may be employed.

5.4 Viewing window. Where fitted, the viewing window shall be capable of being clamped closed to prevent induction of room air into the work zone.

5.5 Air exit opening. The air exit opening of a horizontal flow workstation shall have the same cross-sectional area as the HEPA filter installation's face area.