AS 1921—1976

Australian Standard®

AIR CONDITIONING AND VENTILATION IN SHIPS

CABINS AND LIVING SPACES OF MERCHANT SHIPS

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

American Bureau of Shipping
Australian Chamber of Shipping
Australian Shipbuilders Association
Australian Shipbuilding Board
Australian Shipping Commission
Bureau Veritas
Commonwealth Scientific and Industrial Research Organization
Department of Defence
Department of Industry and Commerce
Department of Transport
Designers and Manufacturers of Marine Air Conditioning Systems
Institute of Marine Engineers
Lloyds Register of Shipping
Royal Institute of Naval Architects

This standard, prepared by Committee MS/22, Shipbuilding Details, was approved on behalf of the Council of the Standards Association of Australia on 5 May 1976, and was published on 1 January 1977.

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This standard was issued in draft form for public review as DR 75086.

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First published 1976

Incorporating:
Amdt 1—1984

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 0999 6

PREFACE

This standard was prepared by the Association's Committee on Shipbuilding Details at the request of the Whyalla Shipbuilding and Engineering Works.

The standard has been based on Swedish Standard VIS 376, Air Conditioning in Cabins — Conditions and Calculation Fundamentals, with suitable changes for Australian conditions. Assistance was obtained from CSIRO Division of Mechanical Engineering in regard to conditions applying in Australia ports and acceptable conditions of comfort. The air condition charts given in Appendix A were made available from a CSIRO Division of Mechanical Engineering Technical Report (in press) by Wooldridge M., and Kaschmeider D., entitled 'Climatic Data for Several Australian Locations for Use in Air Conditioning Design'.

The standard specifies the design conditions for vessels operating generally on the Australian coast in terms of overall summer conditions, and zoned winter conditions. Recommendations are also given in regard to the summer conditions for ships operating in restricted geographical locations.

The standard is intended to apply to new ships, and to ships that are to be extensively modified or converted.

Users of the standard should note that while observing the requirements of this standard, they should at the same time ensure compliance with such statutory and classification society requirements, rules and regulations as are applicable to the individual ships concerned.

For requirements for air conditioning and ventilation of machinery control rooms of merchant ships, reference should be made to AS 1925.

This standard requires reference to—

AS 1150 Artificial Illumination in Ships.
AS 1806 Seawater Temperatures for Cooling of Ships Machinery

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification

for

AIR CONDITIONING AND VENTILATION IN SHIPS— CABINS AND LIVING SPACES OF MERCHANT SHIPS

1 SCOPE. This standard specifies the design conditions for the air conditioning of cabins and living spaces of merchant ships operating on the Australian coast, and also in all global waters except arctic and antarctic waters in winter, and provides data and suitable methods of calculation for use in designing to meet these conditions.

The 'cabins and living spaces' referred to in this standard are intended to include the following:

Cabins
Saloons and mess rooms
Smoke rooms and recreation room
Day rooms
Games room and gymnasium
Hospital and first aid rooms
Radio office
Other offices
Pantry.

Appropriate requirements are specified for other spaces which may be ventilated from the air conditioning system, or which may affect the operation of the system.

The standard also includes recommendations for the design of air conditioning systems for ships operating in restricted geographical locations on the Australian coast, e.g. ports and adjacent waters. These are given in Appendix A.

2 DESIGN CONDITIONS.

2.1 Summer. The design conditions for summer shall be as follows:

(a) *High enthalpy condition*—
Outside: 35°C dry bulb and 30°C wet bulb
Inside: 29°C dry bulb with a wet bulb temperature less than 24°C.

(b) *Low enthalpy condition*—
Outside: 35°C dry bulb and 22°C wet bulb
Inside: 24°C dry bulb with a wet bulb temperature less than 19°C.

The system shall be designed to meet both sets of conditions.