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# MALAYSIAN STANDARD

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MS 555 : 1985  
ICS : 13.220.10

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**SPECIFICATION FOR FIRE DAMPERS  
(FIRST REVISION)**



STANDARDS & INDUSTRIAL RESEARCH INSTITUTE OF MALAYSIA

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This Malaysian Standard, which had been approved by the Mechanical Engineering Industry Standards Committee and endorsed by the Council of the Standards and Industrial Research Institute of Malaysia (SIRIM) was published under the authority of the SIRIM Council in August, 1985.

SIRIM wishes to draw attention to the fact that this Malaysian Standard does not purport to include all the necessary provisions of a contract.

The Malaysian Standards are subject to periodical review to keep abreast of progress in the industries concerned. Suggestions for improvements will be recorded and in due course brought to the notice of the Committees charged with the revision of the standards to which they refer.

The following references relate to the work on this standard:

Committee reference : SIRIM 406/2/6

Draft for comment : D23 (ISC F)R

Amendments issued since publication

Amd. No.	Date of issue	Text affected

CONTENTS

	<b>Page</b>
Committee representation	3
Foreword	4
1 Scope	5
2 Definitions	5
3 Materials	6
4 Design and manufacture	6
5 Rating	7
6 Testing	7
7 Marking	9
Figure 1 Typical tag	9
Appendix A Installation of fire dampers	11

## Committee representation

The Mechanical Engineering Industry Standards Committee under whose supervision this Malaysian Standard was prepared, comprises representatives from the following Government Ministries, trade, commerce and manufacturer associations and scientific and professional bodies.

Association of Consulting Engineers (Malaysia)  
 Federation of Malaysian Manufacturers  
 Institution of Engineers, Malaysia  
 Malaysian Motor Vehicle Assemblers Association  
 Ministry of Defence  
 Ministry of Labour and Manpower (Factories and Machinery Department)  
 Ministry of Trade and Industry (Malaysian Industrial Development Authority)  
 Ministry of Works and Utilities (Public Works Department)  
 National Chambers of Commerce and Industry of Malaysia  
 University of Malaya

The Technical Committee on Fire Prevention, Protection and Equipment which prepared this Malaysian Standard consists of the following representatives:

Encik M. Chelliah (Chairman)	Ministry of Housing and Local Government (Fire Service Department)
Encik Zainal Abidin bin Muhammad/ Encik Cheng Eng Kit	General Insurance Association of Malaysia
Encik Ng Lam Shen	Association of Consulting Engineers
Encik Jon Song/ Encik Ooi Beng Siew	Master Builders Association
Encik Lam Kow Chit	Public Works Department
Dr. Tso Chih Ping	University of Malaya
Encik Ahmad Fauzi Hassan	Factories and Machinery Department
Encik Henry Lee Inn Seong/ Encik Loh Aik Eng	Malaysian Institute of Architects
Encik P. Sivakumaran	Malaysian Industrial Safety Association
Mejar Udara Abdul Wahab bin Mohd Ibrahim	Ministry of Defence
Encik K. Sivagnanam (Secretary) (up to 16 May, 1984)	Standards and Industrial Research Institute of Malaysia
Encik Ng Chon Kiong (Secretary) (from 18 December, 1984)	

## **FOREWORD**

This Malaysian Standard was prepared by the Technical Committee on Fire Protection, Prevention and Equipment under the authority of the Mechanical Engineering Industry Standards Committee.

Although fire rarely starts in the ducts of ventilation and air-conditioning systems, the ductwork provides a ready means by which fire and products of combustion in any part of the building can spread throughout the building. Fire dampers are installed in openings in walls and ceilings that have been formed to permit the installation of air-handling systems, for the purpose of impeding spread of fire and products of combustion.

By definition, a fire damper provides an effective barrier to the passage of fire and products of combustion, but when its operation is initiated by the detection of smoke or other products of combustion, it may then be termed 'smoke damper'. The difference between a fire damper and a smoke damper is not a physical one but is in the method of initiating the operation.

A fire damper is intended to partially restore the fire resistance of the wall or ceiling in which a hole had been formed to permit passage of air from an air-handling system. The damper should therefore be securely mounted in the wall or ceiling; only ductwork should be connected to the damper casing, and in such a way that it will break free on impact without dislodging the damper.

Fire dampers should be designed and constructed so that when opened minimal resistance to airflow is created. The blade assembly should be of adequate strength to minimize flutter at air velocities up to the maximum recommended by the manufacturer, so as to obviate noise and metal fatigue problems.

As fire dampers are required to operate under emergency conditions infrequently, an important feature of their design is that their eventual operation is not affected by the effect of corrosion. Conversely, frequent false alarm operation of fire dampers can have a high nuisance value and can be costly in terms of time needed to locate and reset or repair the damper which has closed. The prevention has therefore been taken into account in the preparation of this standard. It also requires that provision be made during installation for convenient access to enable easy removal for periodical inspection and replacement of the release mechanism incorporated in the fire damper assembly.

In view of the relatively high expense involved in facilities necessary to test fire dampers, it is anticipated that most testing will be carried out by independent testing organizations. The fire resistance test is a destructive test and, consequently, every damper cannot be tested. This standard requires that tests be carried out on type dampers which are representative of production dampers.

This standard was based on the Australian Standard, AS 1682-1979, 'Specification for fire dampers.'