



# **MALAYSIAN STANDARD**

**MS 30: PART 9:1995  
(CONFIRMED:2011)**

## **METHODS OR TESTING AGGREGATES : PART 9: METHODS FOR DETERMINATION OF TENPER CENT FINES VALUE (TFV) (FIRST REVISION)**

**ICS: 91.100.30**

Descriptors: determination of ten per cent fines value (TFV), measurement of aggregate to crushing resistance

**© Copyright 2011**

**DEPARTMENT OF STANDARDS MALAYSIA**

## DEVELOPMENT OF MALAYSIAN STANDARDS

The **Department of Standards Malaysia (STANDARDS MALAYSIA)** is the national standards and accreditation body of Malaysia.

The main function of STANDARDS MALAYSIA is to foster and promote standards, standardisation and accreditation as a means of advancing the national economy, promoting industrial efficiency and development, benefiting the health and safety of the public, protecting the consumers, facilitating domestic and international trade and furthering international cooperation in relation to standards and standardisation.

Malaysian Standards (MS) are developed through consensus by committees which comprise balanced representation of producers, users, consumers and others with relevant interests, as may be appropriate to the subject at hand. To the greatest extent possible, Malaysian Standards are aligned to or are adoption of international standards. Approval of a standard as a Malaysian Standard is governed by the Standards of Malaysia Act 1996 [Act 549]. Malaysian Standards are reviewed periodically. The use of Malaysian Standards is voluntary except in so far as they are made mandatory by regulatory authorities by means of regulations, local by-laws or any other similar ways.

STANDARDS MALAYSIA has appointed **SIRIM Berhad** as the agent to develop, distribute and sell the Malaysian Standards.

For further information on Malaysian Standards, please contact:

**Department of Standards Malaysia**  
Ministry of Science, Technology and Innovation  
Level 1 & 2, Block 2300, Century Square  
Jalan Usahawan  
63000 Cyberjaya  
Selangor Darul Ehsan  
MALAYSIA

Tel: 60 3 8318 0002  
Fax: 60 3 8319 3131  
<http://www.standardsmalaysia.gov.my>

E-mail: [central@standardsmalaysia.gov.my](mailto:central@standardsmalaysia.gov.my)

OR **SIRIM Berhad**  
(Company No. 367474 - V)  
1, Persiaran Dato' Menteri  
Section 2, P.O.Box 7035  
40700 Shah Alam  
Selangor Darul Ehsan  
MALAYSIA

Tel: 60 3 5544 6000  
Fax: 60 3 5510 8095  
<http://www.sirim.my>

E-mail: [msonline@sirim.my](mailto:msonline@sirim.my)

**MS 30 : PART 9 : 1993**

This Malaysian Standard, which had been approved by the Building and Civil Engineering Industry Standards Committee and endorsed by the Board of the Standards and Industrial Research Institute of Malaysia (SIRIM) was published under the authority of the SIRIM Board in August, 1995.

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 with 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 491/2/17

Draft for comment: D164(ISC D)R

Amendments issued since publication

Amd.	Date of issue	Text affected

**CONTENTS**

	<b>Page</b>
Committee representation .....	iii
Foreword .....	iv
1 Scope .....	1
2 Definitions .....	1
3 Principle .....	1
4 Sampling .....	1
5 Apparatus .....	2
6 Preparation of test portions and specimens .....	4
7 Procedure .....	6
8 Calculations and expression of results.....	7
9 Test report .....	8
<b>Tables</b>	
1 Principle dimensions of cylinder and plunger apparatus.....	4
2 Guide to minimum mass of test portions required to obtain a suitable mass of material to determine the ten per cent fines value .....	5
3 Particulars of test sieves for testing other size fractions of aggregates .....	10
Figure 1 Outline form of cylinder and plunger apparatus for ten per cent fines test .....	3
<b>Appendices</b>	
A Recommended method for determining the ten per cent fines value for other size fractions of aggregate .....	9
B Publications referred to .....	11

**Committee representation**

The Building and Civil 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.

The Institution of Engineers Malaysia

Malaysian Institute of Architects

Master Builders' Association

Ministry of Housing and Local Government (Housing Department)

University of Technology Malaysia

Chartered Institute of Building (Malaysia)

Jabatan Kerja Raya Malaysia

The Working Group on Mineral Aggregates which prepared this Malaysian Standard consist of representatives from the following member organizations:

Ir. Munning Jamaludin (Chairman)	The Institution of Engineers Malaysia (IEM)
Prof. Madya Ir. Hj. Mohd Hashim Daud/ Dr. Sabarudin Mohd	Universiti Sains Malaysia
Dr. Abdul Ghani Rafek	Universiti Kebangsaan Malaysia
Puan Norlainah Ab. Ghani	Jabatan Kerja Raya Malaysia
Encik Abd. Majid Sahat	Jabatan Penyiasatan Kajibumi Malaysia
Encik S. Subramaniam	Institute of Quarrying Malaysian Branch
Encik Huang Wen Pin/Encik Arjunaidi Jamaludin	Cement and Concrete Association

**Co-opted Members:**

Encik Tan Boon Kong	Geological Society of Malaysia
Ir. Zainab Mohamed	Institut Teknologi MARA
Encik Pook Fong Fee/Encik Soam Heng Choon	Masters Builders Association of Malaysia
Puan Raja Nor Siha Raja Abd. Hanan	Standards and Industrial Research Institute of Malaysia
Encik Mohd Azam Md. Yunus	Standards and Industrial Research Institute of Malaysia (Secretary)

## **MS 30 : PART 9 : 1995**

### **FOREWORD**

This Part of MS 30 has been prepared by the Working Group on Mineral Aggregate under the Building and Civil Engineering Industry Standards Committee. This standard is a revision of MS 30 : 1971, which is withdrawn. This Part of Malaysian Standard was based on BS 812 : Part 111 : Methods for determination of ten per cent fines value (TFV).

The methods described in this revision have not been changed technically from that given in MS 30 : 1971, but the opportunity has been taken to include a procedure for determining the ten per cent fines value of aggregates in a soaked condition. This has been done because some aggregates have a significantly reduced resistance to crushing when tested in this condition. With such aggregates, tests on soaked samples give a more reliable indication of their performance in practice.

It is intended that other Malaysian Standards should call up MS 30 test method as the basis of compliance. Nevertheless, it is not intended that all aggregates should be subjected regularly to all the listed tests. Specifications in other standards should call up only relevant tests.

Reference should be made to MS 30 : Part 2 for general guidance on testing aggregates, precision of test methods and variance arising from sampling errors.

**Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations**