



# MALAYSIAN STANDARD

MS 2282-3:2017

## Masonry units - Specification - Part 3: Aggregate concrete masonry units (Dense and lightweight aggregates) (Third revision)

ICS: 91.100.30

Descriptors: masonry unit, aggregate, concrete, dense, lightweight, strength, density, dimensional accuracy, assessment, verification, constancy of performance

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DEPARTMENT OF STANDARDS MALAYSIA

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NOTE: Technical corrigenda are not to correct errors which can be assumed to have no consequences in the application of the MS, for example minor printing errors.

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## Committee representation

The Industry Standards Committee on Building, Construction and Civil Engineering (ISC D) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia  
Construction Industry Development Board Malaysia  
Department of Irrigation and Drainage Malaysia  
Department of Standards Malaysia  
Dewan Bandaraya Kuala Lumpur  
Federation of Malaysian Manufacturers  
Jabatan Bomba dan Penyelamat Malaysia  
Jabatan Kerajaan Tempatan  
Jabatan Kerja Raya Malaysia  
Malaysian Plastics Manufacturers Association  
Malaysian Timber Council  
Malaysian Timber Industry Board  
Master Builders Association Malaysia  
Pertubuhan Akitek Malaysia  
Pertubuhan Perancang Malaysia  
Projek Lebuhraya Utara-Selatan Berhad  
Real Estate and Housing Developers' Association Malaysia  
SIRIM Berhad (Secretariat)  
Suruhanjaya Perkhidmatan Air Negara  
The Cement and Concrete Association of Malaysia  
The Institution of Engineers, Malaysia  
Universiti Sains Malaysia  
Universiti Teknologi Malaysia

The Technical Committee on Bricks and Blocks which recommended the adoption of the EN Standard as Malaysian Standard consists of representatives from the following organisations:

Construction Industry Development Board Malaysia  
Jabatan Bomba dan Penyelamat Malaysia  
Jabatan Kerja Raya Malaysia  
Master Builders Association Malaysia  
Pertubuhan Akitek Malaysia  
Real Estate and Housing Developers' Association Malaysia  
SIRIM Berhad (Secretariat)  
SIRIM QAS International Sdn Bhd (Product Certification and Inspection Department)  
SIRIM QAS International Sdn Bhd (Testing Services Department - Civil and Construction Section)  
SIRIM QAS International Sdn Bhd (Testing Services Department - Fire Protection Section)  
The Cement and Concrete Association of Malaysia  
The Chartered Institute of Building Malaysia  
The Institution of Engineers, Malaysia  
Universiti Sains Malaysia  
Universiti Teknologi Malaysia  
Universiti Utara Malaysia

### Co-opted members:

Blacktop Industries Sdn Bhd  
Integrated Brickworks Sdn Bhd  
Zenbes Sdn Bhd

## **National foreword**

The adoption of the EN Standard as a Malaysian Standard was recommended by the Technical Committee on Bricks and Blocks under the authority of the Industry Standards Committee on Building, Construction and Civil Engineering.

This Malaysian Standard is identical with EN 771-3:2011+A1:2015, *Specification for masonry units - Part 3: Aggregate concrete masonry units (Dense and lightweight aggregates)*, published by the European Committee for Standardization (CEN). However, for the purposes of this Malaysian Standard, the following apply:

- a) in the source text, "this European Standard" should read "this Malaysian Standard";
- b) the comma which is used as a decimal sign (if any), to read as a point;
- c) the title has been changed to "Masonry units - Specification - Part 3: Aggregate concrete masonry units (Dense and lightweight aggregates)";
- d) informative National Annexes, NA to NC have been included; and
- e) reference to European Standards should be replaced by corresponding Malaysian Standards as follows:

### Referenced European Standards

EN 772-1, *Methods of test for masonry units - Part 1: Determination of compressive strength*

EN 772-2, *Methods of test for masonry units - Part 2: Determination of percentage area of voids in masonry units (by paper indentation)*

EN 772-4, *Methods of test for masonry units - Part 4: Determination of real and bulk density and of total and open porosity for natural stone masonry units*

EN 772-6, *Methods of test for masonry units - Part 6: Determination of bending tensile strength of aggregate concrete masonry units*

EN 771-11, *Methods of test for masonry units - Part 11: Determination of water absorption of aggregate concrete, autoclaved aerated concrete, manufactured stone and natural stone masonry units due to capillary action and the initial rate of water absorption of clay masonry units*

### Corresponding Malaysian Standards

MS 1933-1\*, *Methods of test for masonry units - Part 1: Determination of compressive strength*

MS 1933: Part 2, *Methods of test for masonry units - Part 2: Determination of percentage area of voids in masonry units (by paper indentation)*

MS 1933: Part 4, *Methods of test for masonry units - Part 4: Determination of real and bulk density and of total and open porosity for natural stone masonry units*

MS 1933: Part 6, *Methods of test for masonry units - Part 6: Determination of bending tensile strength of aggregate concrete masonry units*

MS 1933-11\*, *Methods of test for masonry units - Part 11: Determination of water absorption of aggregate concrete, autoclaved aerated concrete, manufactured stone and natural stone masonry units due to capillary action and the initial rate of water absorption of clay masonry units*

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\* Revision of Malaysian Standard will be completed in 2017

**National foreword (continued)**

Referenced European Standards

EN 772-13, *Methods of test for masonry units - Part 13: Determination of net and gross dry density of masonry units (except for natural stone)*

EN 771-14, *Methods of test for masonry units - Part 14: Determination of moisture movement of aggregate concrete and manufactured stone masonry units*

EN 772-16, *Methods of test for masonry units - Part 16: Determination of dimensions*

EN 772-20, *Methods of test for masonry units - Part 20: Determination of flatness of faces of aggregate concrete, manufactured stone and natural stone masonry units*

EN 1052-2, *Methods of test for masonry - Part 2: Determination of flexural strength*

EN 1052-3, *Methods of test for masonry - Part 3: Determination of initial shear strength*

EN 1745, *Masonry and masonry products - Methods for determining thermal properties*

EN ISO 7345, *Thermal insulation - Physical quantities and definitions*

ISO 998-2:2010, *Mortar for masonry - Specification - Part 2: Masonry mortar*

Corresponding Malaysian Standards

MS 1933: Part 13, *Methods of test for masonry units - Part 13: Determination of net and gross dry density of masonry units (except for natural stone)*

MS 1933: Part 14, *Methods of test for masonry units - Part 14: Determination of moisture movement of aggregate concrete and manufactured stone masonry units*

MS 1933-16\*, *Methods of test for masonry units - Part 16: Determination of dimensions*

MS 1933: Part 20, *Methods of test for masonry unit - Part 20: Determination of flatness of faces of masonry units*

MS 1934: Part 2, *Methods of test for masonry - Part 2: Determination of flexural strength*

MS 1934: Part 3, *Methods of test for masonry - Part 3: Determination of initial shear strength*

MS 1935, *Masonry and masonry products - Methods for determining thermal properties*

MS ISO 7345:2003, *Thermal insulation - Physical quantities and definitions*

MS 2506-2:2012, *Mortar for masonry - Specification - Part 2: Masonry mortar*

MS 2282 consists of the following parts, under general title *Masonry units - Specification*:

*Part 1: Fired clay masonry units*

*Part 2: Calcium silicate masonry units*

*Part 3: Aggregate concrete masonry units (dense and light-weight aggregates)*

*Part 4: Autoclaved aerated concrete masonry units*

*Part 6: Natural stone masonry units*

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\* Revision of Malaysian Standard will be completed in 2017  
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