MALAYSIAN STANDARD

MS 1746-5:2023

Gaseous fire extinguishing systems - Physical properties and system design - Part 5: FK-5-1-12 extinguishant (ISO 14520-5:2019, MOD)

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ICS: 13.220.10

Descriptors: gaseous fire-extinguishing systems, physical properties, system design, FK-5-1-12 extinguishant

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Committee representation

The National Standards Committee on Fire Safety (NSC 13) 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 Chemistry Malaysia
Department of Occupational Safety and Health
Department of Standards Malaysia (Secretariat)
Fire and Rescue Department of Malaysia
Forest Research Institute Malaysia
General Insurance Association of Malaysia
Malaysian Fire Protection Association
Malaysian Institute of Architects
Master Builders Association Malaysia
Public Works Department Malaysia (Mechanical Branch)
Real Estate and Housing Developers' Association Malaysia
SIRIM QAS International Sdn Bhd (Product Certification and Inspection Department)
SIRIM QAS International Sdn Bhd (Testing Services Department)
Tenaga Nasional Berhad
The Institution of Engineers, Malaysia
The Institution of Fire Engineers (UK) Malaysia Branch
Universiti Kebangsaan Malaysia
Universiti Malaya
Universiti Putra Malaysia

The Technical Committee on Clean Agent Fire Extinguishing Systems (NSC 13/TC 5) which supervised the adoption of the ISO Standard as Malaysian Standard consists of representatives from the following organisations:

Association of Consulting Engineers Malaysia
Department of Environment
Department of Occupational Safety and Health Malaysia
Department of Standards Malaysia (Secretariat)
Fire and Rescue Department of Malaysia
Malaysian Fire Protection Association
Public Works Department Malaysia (Mechanical Branch)
SIRIM QAS International Sdn Bhd (Testing Services Department)
Telekom Malaysia
Tenaga National Berhad
The Institution of Engineers, Malaysia
The Institution of Fire Engineers (UK) Malaysia Branch
Universiti Putra Malaysia

The Working Group on Gaseous Fire-Extinguishing Systems (NSC 13/TC 5/WG 3) which recommended the adoption of the ISO Standard as Malaysian Standard consists of representatives from the following organisations:

Association of Consulting Engineers Malaysia
Department of Standards Malaysia (Secretariat)
Fire and Rescue Department of Malaysia
Malaysian Fire Protection Association
Public Works Department Malaysia (Mechanical Branch)
SIRIM QAS International Sdn Bhd (Testing Services Department)
Special Hazards Protection Sdn Bhd
Steel Recon Industries Sdn Bhd
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Tenaga National Berhad
The Institution of Engineers, Malaysia
Universiti Putra Malaysia
VIC Engineering Sdn Bhd

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National foreword

The adoption of the ISO Standard as a Malaysian Standard was recommended by the Technical Committee on Clean Agent Fire Extinguishing Systems (NSC 13/TC 5) under the authority of the National Standards Committee on Fire Safety (NSC 13).

This Malaysian Standard is a modified adoption of ISO 14520-5:2019, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 5: FK-5-1-12 extinguishant*, published by the International Organization for Standardization (ISO) with the following modifications:

a) in the source text, “this International Standard” should read “this Malaysian Standard”;

b) the comma which is used as decimal sign (if any), to read as a point;

Clause/Subclause	Modifications
6 Fill design, Table 9	Replace “Maximum container pressure at 50°C value 48 bar (absolute)” from the Table 9 34,5 bar storage container characteristics for FK-5-1-12 with “Maximum container pressure at 50°C value 38 bar (absolute)”.
Explanation: The value of “48” was changed to “38”. Based on the graph shown in Figure 2, the correct value is “38”.	
6 Fill design, Table 10	Replace “Maximum container pressure at 50 °C value 38 bar (absolute)” from the Table 10 42 bar storage container characteristics for FK-5-1-12 with “Maximum container pressure at 50°C value 48 bar (absolute)”.
Explanation: The value of ‘38’ was changed to ‘48’. Based on the graph shown in Figure 3, The correct value is ‘48’.	

c) reference to International Standards should be replaced by corresponding Malaysian Standards as follows:

Referenced International Standards	Correponding Malaysian Standards
ISO 14520-1:2015, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 1: General requirements*	MS 1746-1:2008 (CONFIRMED:2015), *Gaseous fire-extinguishing systems - Physical properties and system design - Part 1: General requirements* (First revision) (ISO 14520-1:2006, MOD)
ISO 14520-5:2019, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 5: FK-5-12 extinguishant*	MS 1746-5:2023, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 5: FK-5-12 extinguishant* (ISO 14520-5:2019, MOD)

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National foreword *(continued)*

ISO 14520-8:2015, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 8: HFC 125 extinguishant*	MS 1746-8:2008 (CONFIRMED:2015), *Gaseous fire-extinguishing systems - Physical properties and system design - Part 8: HFC 125 extinguishant* (First revision) (ISO 14520-8:2006, IDT)
ISO 14520-12:2015, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 12: IG-01 extinguishant*	MS 1746-12:2023, *Gaseous fire extinguishing systems - Physical properties and system design - Part 12: IG-01 extinguishant* (Second revision) (ISO 14520-12:2015, IDT)
ISO 14520-13:2015, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 13: IG-100 extinguishant*	MS 1746-13:2023*, Gaseous fire extinguishing systems - Physical properties and system design - Part 13: IG-100 extinguishant* (Second revision) (ISO 14520-13:2015, IDT)
ISO 14520-14:2015, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 14: IG-55 extinguishant*	MS 1746-14:2023, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 14: IG-55 extinguishant* (First revision) (ISO 14520-14:2015, IDT)
ISO 14520-15:2015, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 15: IG-541 extinguishant*	MS 1746-15:2023, *Gaseous fire-extinguishing systems - Physical properties and system design - Part 15: IG-541 extinguishant* (First revision) (ISO 14520-15:2015, IDT)

MS 1746 consists of the following parts, under the general title, *Gaseous fire extinguishing systems - Physical properties and system design*:

Part 1: General requirements

Part 5: FK-5-1-12 extinguishant

Part 8: HFC 125 extinguishant

Part 9: HFC 227ea extinguishant

Part 10: HFC 23 extinguishant

Part 11: HFC 236fa extinguishant

Part 12: IG-01 extinguishant

Part 13: IG-100 extinguishant

Part 14: IG-55 extinguishant

Part 15: IG-541 extinguishant

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National foreword *(continued)*

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

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, and wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1:2005.

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