



JKR/SIRIM 4:2021

ICS: 13.040.20

Indoor environmental quality (IEQ) for office buildings

© Copyright 2021 Jabatan Kerja Raya & SIRIM Berhad

JKR

Jabatan Kerja Raya (JKR) Malaysia is a federal government department in Malaysia under Ministry of Works Malaysia which is responsible for construction and maintenance of public infrastructure in Malaysia such as roads, government buildings, schools, hospitals, airports, harbors, piers and related engineering works.

JKR Malaysia vision is to become a world-class service provider and centre of excellence in asset management, project management and engineering services for the development of the nation's infrastructure through creative and innovative human capital and state-of-the-art technology.

SIRIM

SIRIM Berhad is a premier total solutions provider in quality and technology innovations that helps industries and businesses to compete better through every step of the business value chain.

SIRIM Berhad is the centre of excellence in standardisation, facilitating industries and businesses in enhancing their production and competitiveness, protecting consumers' health and safety, and giving them the choice for quality products and services.

JKR STANDARD

JKR Standard is developed according to SIRIM standardisation procedures, which are in line with international practices that ensure appropriate notification of work programmes and participation of interested parties. As a standards development organisation, SIRIM Berhad has extensive expertise in standards research and consultancy which helps industries and businesses meet local and international requirements and practices.

JKR Standard is developed from JKR Malaysia initiatives as a technical advisory in infrastructure development for the Government of Malaysia through collaboration with SIRIM which provides requirements, specifications, guidelines or characteristics that can be used to ensure that materials, products, processes and services are fit for their purpose.

JKR Standard is developed through consensus by established committee, which consists of experts in the subject matter. The use of this standard is voluntary, and it is open for adoption by regulators, government agencies, associations, industries, professional bodies, etc.

OR

© Copyright 2021

For further info or enquiries on JKR Standard, please contact:

Training Standards and Consultancy Development SIRIM STS Sdn Bhd 1, Persiaran Dato' Menteri Section 2, P.O. Box 7035 40700 Shah Alam Selangor Darul Ehsan

Tel: 60 3 5544 5179/6909 Email: stdsd@sirim.my http://www.sirimsts.my Cawangan Kejuruteraan Mekanikal Ibu pejabat Jabatan Kerja Raya Malaysia Tingkat 27, Menara Kerja Raya, Blok G, Jalan Sultan Salahuddin 50480, Wilayah Persekutuan Kuala Lumpur

Tel: 60 3 2610 8888 Fax: 60 3 2618 9510 Website: www.jkr.gov.my

i

Contents

		P	age
Fore	word.		ii
0	Intro	duction	1
1	Scope		1
2	Normative references		1
3	Terms and definitions		2
4	General		4
5	Requirements for Indoor Environmental Quality (IEQ)		6
6	Housekeeping of buildings		19
7	Safety and health		20
8	Asse	essment	21
Anne	x A	Indoor Environmental Quality (IEQ) elements summary	23
Anne	хВ	Operation and maintenance schedule for IEQ elements	.24
Anne	хС	Mould prevention tests	32
Anne	x D	Cleaning activities	. 35
Anne	хE	Pre-occupancy evaluation	37
Anne	x F	Post-occupancy evaluation	. 40
Bibliography			

JKR/SIRIM 4:2021

Foreword

This standard was developed by the Project Committee on Indoor Environmental Quality (IEQ) established by SIRIM Berhad.

This standard was developed with the following objectives:

- a) to provide general guidance on improving the indoor environmental quality of airconditioned office buildings based on selected parameters in accordance with the current technical requirements and best practices to improve occupants' health, comfort, satisfaction and productivity; and
- b) to educate, promote and create awareness among the stakeholders on indoor environmental quality of air-conditioned office buildings.

This standard will be subjected to review to reflect current needs and conditions. Users and other interested parties may submit comments on the contents of this standard for consideration into future versions.

Information to assist users of the standard

For the purposes of this standard, the following ISO definitions have been adopted regarding verbal forms for the expression of provisions:

- a) "**shall**" indicates an auditable **requirement**: it is used to indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted;
- b) "should" indicates a recommendation: it is used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited:
- c) "may" indicates a permission: it is used to indicate a course of action permissible within the limits of the document; and
- d) "can" indicates a **possibility** or a **capability**: it is used for statements of possibility and capability, whether material, physical or causal.

Compliance with this standard does not by itself grant immunity from legal obligations.