Our Ref: OM-LC/023

Alpha
Consulting Engineers Pte Ltd
2 ALEXANDRA ROAD, #03-03 DELTA HOUSE, SINGAPORE 159919
TEL: (65) 6276 2228 FAX: (65) 6276 9929 E-MAIL: ace@alpha.com.sg
WEBSITE: www.alpha.com.sg COMPANY REGN NO. 199407965N

3 December 2009

MEMORANDUM

To: All Engineering Staff

From: Loh Fook Yuen

SINGAPORE STANDARD SS 554 : 2009 CODE OF PRACTICE FOR INDOOR AIR QUALITY FOR AIR-CONDITIONED BUILDINGS

Please be informed that we have purchased a copy of the Singapore Standards SS 554 : 2009 Code Of Practice For Indoor Air Quality For Air-Conditioned Buildings is uploaded in the Intranet for reference by the Staff.

A copy of the Code Of Practice can be viewed at http://intranet.alpha.com.sg/library/Code_of_Practice/SS554.pdf

LOH FOOK YUEN

cc TLS/LCT/CCG/GSH
cc Memo File

/my

BCA ISO 14000 CERT NO: 2008/134 SS ISO 14001 : 2004
BCA ISO 9000 CERT. NO.: 324 SS ISO 9001 : 2000
SAC ACCREDITED CERTIFICATION BODY Cert No: OS-1097-02 Member of the IAF MLA for QMS

Contents

Page

Foreword 7

CLAUSES

1 Scope 9
2 Normative references 9
3 Definitions 10
4 Guidelines for achieving acceptable IAQ 13
4.1 General 13
4.2 Impact of IAQ on productivity and health 13
4.3 Design 13
4.4 Construction 16
4.5 Renovation work 17
4.6 Commissioning, operation and maintenance 17
4.7 IAQ management programme 17
5 Indoor air quality parameters and measurement 17
5.1 IAQ parameters 17
5.2 Indoor air quality audit 18
5.3 Measurement of indoor air quality 23
6 Competence of IAQ personnel 23

ANNEXES

A IAQ and work productivity and health 24
B Sources and control of indoor air contaminants 28
C Exposure control – Ventilation 31
D Source control – Emissions from building materials 33
E Air filter classification 35
F Maintenance of ACMV systems 37
G IAQ management programme 39
H Information on indoor air contaminants and micro-biological agents including guidelines on mould remediation 40
I Sample checklist for building inspection 44
J Sample confidential questionnaire for building occupants 46

Page

TABLES

1	Recommended IAQ parameters	19
2	Target contaminants triggered by specific sources	21
3	Sampling requirements for indoor environment	23
D.1	European labelling schemes for low emission flooring products	33
D.2	European labeling schemes for control of VOC emissions from coating	34
E.1	Minimum Efficiency Reporting Value (MERV) Parameters	35
E.2	Air filter classification according to ASHRAE 52.2 and possible applications	35
E.3	Air filter classification according to EN and possible applications	36
F.1	Recommended intervals for ACMV system cleanliness inspection	37
F.2	Recommended portions to inspect	37
F.3	Recommended location of test points	38
F.4	Recommended conditions requiring ACMV system cleaning	38
F.5	Recommended surface deposit limits requiring ACMV system cleaning	38

FIGURES

1	Indoor air quality audit methodology	22
A.1	Predicted trends in illness of sick leave versus ventilation rate	25
A.2	Relative performance in relation to the reference value at 6.5 L/s-person versus average ventilation rate	25
A.3	Relative performance in office work depending on the PAQ	26
A.4	Relative performance versus temperature: maximum performance is set equal to1	26

Bibliography 48