Our Ref: OM-LC/022

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 553 : 2009 CODE OF PRACTICE FOR AIR-CONDITIONING AND MECHANICAL VENTILATION IN BUILDINGS (FORMERLY CP 13)

Please be informed that we have purchased a copy of the Singapore Standards SS 553 : 2009 Code Of Practice For Air-conditioning and Mechanical Ventilation In 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/SS553.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-1997-02 Member of the IAF MLA for QMS

Contents

Page

Foreword 7

CLAUSES

Section One – General

1 Scope 8
2 Normative references 8
3 Definitions 9
4 Rules and regulations 13

Section Two – Air-conditioning system

5 Design considerations 13
6 Ventilation rates 14
7 Calculation of cooling load and ventilation load 16
8 Control 18
9 Air handling units 20
10 Plants 21
11 Noise and vibration 22
12 Energy recovery 23

Section Three – Mechanical ventilation system

13 Ventilation rates 24
14 Fan systems 25

Section Four – Auxiliary equipment

15 Ductwork and other air passages 31
16 Pipework 35
17 Thermal insulation 36
18 Electrical works 38

Section Five – Operation and maintenance

19 Testing and commissioning 40
20 Maintenance 42
21 Energy audit 48

ANNEXES

A Symbols 52
B Exchange of information 54
C Identification of pipelines (colour code) 56
D Automatic tube cleaning system for shell and tube heat exchangers 57

Page

TABLES

1	Outdoor air supply requirement for comfort air-conditioning	16
2	Fan power limitation in air-conditioning systems	21
3	Hot gas by-pass limitation	22
4	Recommended ambient sound level	23
5	Outdoor air supply for mechanical ventilation in non air-conditioned buildings or parts of buildings with no natural ventilation	25
6	Mode of ventilation for aboveground car park	26
7	Mode of ventilation for basement car park	27
8	Fan power limitation in mechanical ventilation systems	28
9	Ductwork seal requirements	34
10	Minimum duct installation R-values for cooling only: supply and return ducts	36
11	Minimum pipe insulation thickness for heating and cooling systems	37
12	Supply energy source thresholds	48
13	Sub-system energy use thresholds	49