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CIRCULAR TO PROFESSIONAL INSTITUTES / ASSOCIATIONS

BCA GREEN MARK CERTIFICATION STANDARD FOR NEW BUILDINGS ALTERNATIVE SCORING METHODOLOGY WITH REFERENCE TO THE PROVISION OF AIR-CONDITIONERS FOR RESIDENTIAL BUILDING DEVELOPMENTS

Objective

1 This circular is to inform the industry of the alternative scoring methodology with reference to the provision of air-conditioners for residential building developments.

Background

2 Over the years, the Green Mark framework has helped drive the adoption of better energy efficient air-conditioners in many residential building projects. Under the Green Mark residential building criteria RB 1-2, points can be accorded for the provision of air-conditioners with 3 or 4-tick rating as determined under the Mandatory Energy Labelling Scheme (MELS) administered by the National Environmental Agency (NEA). There is also pre-requisite set for higher Green Mark Gold^{Plus} and Platinum rated projects to require provision of air-conditioners with 4-tick rating.

Alternative Scoring Methodology for Residential Building Criteria RB 1-2

3 It was noted that the recent revision of MELS would require a number of air-conditioners' models to be re-calibrated and rated with different tick ratings. To facilitate the transition, BCA has reviewed the relevant Green Mark requirements and would consider the compliance to be based on the prescribed energy performance standards set, in place of the tick rating. In other words, the relevant prerequisite compliance and point scoring can be achieved for the provision of air-conditioners with Coefficient of Performance (COP) which meets the alternative scoring methodology. The alternative scoring methodology has been incorporated in the Addendums to the BCA Green Mark Certification Standards. A brief description of the alternative scoring methodology has been provided below.

BCA Green Mark Certification Standard for New Buildings GM Version 3.0 – Residential Building Criteria RB 1-2	
Prescribed Energy Performance Standards for Air-Conditioning Systems and Scoring	
Coefficient of Performance (COP) range	Point Allocation
3.34 > Weighted COP ≥ 2.92	2
COP _{100%} ≥ 3.06 & 3.76 > Weighted COP ≥ 3.34	6
COP _{100%} ≥ 3.34 & Weighted COP ≥ 3.76	12

BCA Green Mark Certification Standard for New Buildings GM Version 4.0 and Version 4.1 - Residential Building Criteria RB 1-2	
Prescribed Energy Performance Standards for Air-Conditioning Systems and Scoring	
Coefficient of Performance (COP) range	Point Allocation
COP _{100%} ≥ 3.06 & 3.76 > Weighted COP ≥ 3.34	4
COP _{100%} ≥ 3.34 & Weighted COP ≥ 3.76	8

Note : (1) Coefficient of Performance or COP refers to the ratio of the total cooling capacity expressed in Watts to the total effective input power expressed in Watts, and as specified in the test report.

(2) Weighted COP refers to the sum of 0.4 × COP at full-load cooling capacity and 0.6 × COP at part-load cooling capacity i.e. $Weighted\ COP = 0.4 \times COP_{100\%} + 0.6 \times COP_{50\%}$

(3) For projects that are to be certified under GM Version 4.0 and Version 4.1, to be eligible for Green Mark Gold^{Plus} and Green Mark Platinum, the air-conditioning system provided for all dwelling units must meet the minimum COP_{100%} of 3.34 and weighted COP of 3.76 or more.

4 The alternative scoring methodology can be adopted with effect from 1 September 2014 for all Green Mark certified residential building projects including those that have yet to be completed and verified. Relevant documentary evidences such as the test reports showing the respective COPs of the air-conditioners should be made available for assessment and site verification at later stage.

5 You are advised to refer to the Addendums to the BCA Green Mark Certification Standards (GM Version 3.0, GM Version 4.0 and GM Version 4.1) which can be downloaded from : http://www.bca.gov.sg/GreenMark/green_mark_criteria.html for more details.

For Clarification

6 We would appreciate it if you could convey the contents of this circular to the members of your organization. For clarification, you may email to bca_enquiry@bca.gov.sg or contact the following officers :

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Thank you.



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