



Our ref : RERTO/CIR001/JUL/2010
BCA BC 15.0.3

Date : 14 Jul 2010

All Accredited Site Supervisors

Joint Accreditation Committee
c/o. Institution of Engineers Singapore
70 Bukit Tinggi Road
Singapore 289758
Tel: 64695000 Fax: 64671108
Email: re.rto@iesnet.org.sg

Dear Sir/Madam

CONDUCT OF ACCREDITED SITE SUPERVISORS

We have received feedback alleging that some accredited site supervisors [either Resident Engineer (RE) or Resident Technical Officer (RTO)] have abused their positions when carrying out their duties by delaying the approval for concreting work in order to chalk up more overtime for their financial gains. It was alleged that some accredited site supervisors would apply unreasonable standards on the inspection of steel reinforcement or cleanliness of the formwork, or unnecessarily delay the inspection of reinforcement till late afternoon or evening. Such unprofessional behaviour should not be condoned.

2 We like to remind all site supervisors accredited by the Joint Accreditation Committee (JAC) of the Institution of Engineers Singapore (IES) and the Association of Consulting Engineers Singapore (ACES) that they must abide by the Rules for Professional Conduct and Discipline set out by the JAC. Amongst other things, all accredited site supervisors are required to order their conduct so as to uphold the dignity, standing and reputation of the RE/RTO profession. Site supervisors who are found to have carried out unprofessional practices may be subject to disciplinary action by the JAC. If found guilty, disciplinary action could include suspension or revocation of the certificate of accreditation.

3 On the other hand, if the accredited site supervisor felt pressurised to accept works that do not meet acceptable standards, he should discuss this with the project Qualified Person.

4 If you require further clarification, please contact JAC's secretariat, Mr. Brendon Ho at Tel. 64611225 or Er. Shee Siu Ming of BCA at Tel. 63257583.

Yours faithfully

CHONG KEE SEN
CHAIRMAN
JOINT ACCREDITATION COMMITTEE

CHEW KEAT CHUAN
DIRECTOR
BUILDING ENGINEERING DIVISION
for COMMISSIONER OF BUILDING CONTROL

Our Ref.: BCA BC 15.0.3

Building Plan and Management Division

31 Dec 2010

See Distribution

Dear Sir/Madam

ADOPTION OF NEW SINGAPORE STANDARD SS 555:2010 – CODE OF PRACTICE FOR PROTECTION AGAINST LIGHTNING

Objective

This circular is to inform the industry on the adoption of new Singapore Standard SS 555:2010 – Code of practice for protection against lightning

Adoption of SS 555:2010 – Code of Practice for Protection against Lightning

2 Clause L on Lightning Protection in the Fifth Schedule of the Building Control Regulations (on Objectives and Performance Requirements for the Design and Construction of Buildings) requires **buildings and its occupants to be protected from the direct effects of lightning strike and the risk of lightning current being discharged through the building**. Currently, designs which are in accordance with Singapore Standard CP 33 – Code of Practice for Lightning Protection are deemed to have complied with the above Objectives and Performance Requirements.

3 With the launch of the new SS 555:2010 – Code of Practice for Protection against Lightning in November 2010, BCA has decided to adopt it to replace CP 33 as the deemed approved solution for compliance with the Regulations. **With effect from 1 July 2011, developments whose building plans are submitted on or after this date must comply with the relevant requirements in SS 555:2010.**

4 The new SS 555:2010 is aligned to the IEC 62305 International Standard on Protection against Lightning, and it comprises of the following four parts:

- a) Part 1: General principles – This part provides guidelines for lightning protection of structures and their installations, their contents including persons within the structures and services connected to the structures.

- b) Part 2: Risk Management – This part introduces evaluation procedures for assessing lightning risk for a structure or its services, and selection of lightning protection measures upon completion of risk assessment.
- c) Part 3: Physical damage to structures and life hazard – This part provides requirements for the protection of a structure against physical damage by means of a lightning protection system. It also provides requirements for protection of living beings in the vicinity of the lightning protection system against injuries caused by touch or step voltages.
- d) Part 4: Electrical and electronic systems within structures – This part provides guidelines on the design, installation, inspection, maintenance and testing of Lightning Electromagnetic Pulse (LEMP) protection systems for electrical and electronic services within a structure.

5 Specifically, BCA would like to draw industry's attention to the four classes (I, II, III and IV) of lightning protection system which are mentioned in Part 3 of the SS555:2010. For the purpose of complying with the Building Control Regulations, **a minimum level of Class III lightning protection system (equivalent to a rolling sphere radius of 45m under the rolling sphere method of determining air termination positions) must be provided.** For buildings with higher risks (e.g. storage of explosive or flammable contents), a higher level lightning protection must be provided accordingly.

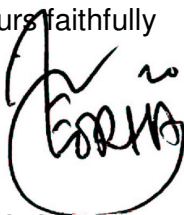
Lightning Protection at Rooftop Garden

6 BCA has observed an increasing trend of developments with rooftop gardens for the enjoyment of the residents/public. Industry is reminded that such rooftop gardens must be provided with lightning protection system as well.

Clarification

7 We would appreciate it if you could convey the contents of this circular to the members of your organisation. For clarification, you may email to bca_enquiry@bca.gov.sg or call our hotline 6325 7159.

Yours faithfully



TEO ORH HAI
DEPUTY DIRECTOR
BUILDING PLAN AND MANAGEMENT DIVISION
for COMMISSIONER OF BUILDING CONTROL

Our Ref : BCA BC 15.0.3

Building Engineering Division (#05-00)

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3 Jan 2011

See **Distribution**

Dear Sir/Madam

DESIGN AND MATERIAL SPECIFICATIONS TO BE SHOWN ON DRAWINGS ON STRUCTURAL STEELWORK

The design guide BC 1: 2008 "Design Guide on Use of Alternative Steel to BS 5950" has been incorporated into the Approved Documents since 1 Jan 2009. However, we are still receiving plan submissions on structural steelwork from Qualified Persons for Structural Works (QPs) without specifying the "design class^a" and "material standard^b" in compliance with BC1: 2008. There are also instances of steel material being specified to obsolete material standards or to those which are not in the list of certified steel material in BC 1: 2008.

2 While BC 1: 2008 aims to enhance the resilience of our building and construction sector by giving the industry a wider choice of alternative steel material, it is crucial that the adequacy and reliability requirements in this design guide are strictly adhered to. QPs should ensure that their design intent including the design class, material standards, steel grades and testing regimes comply with the current version of BC 1 and are clearly specified on the drawings.

^a Class 1 steel material (including those manufactured to the British Standard) to BC 1: 2008 are those from "audited mills" with the necessary Factory Production Control Certificate (FPC) and Material Test Certificates (MTC). Where quality assurance of certified steel material could not be ascertained from the FPC and MTC certifications, the steel can be classified as Class 2 under the alternative route provided for in Clause 4.4 of BC 1: 2008 where sufficient rigorous tests should be carried out to verify that the material meets the requirements in accordance with Appendix B of the design guide.

^b BC 1: 2008 allows design to be carried out using procedures in British Standards BS5950, with appropriate parameters to account for the mechanical and physical properties of steel manufactured to a variety of commonly available material standards as shown under "List of certified steel materials" in Appendix A of BC 1: 2008.

3 I would appreciate it if you could disseminate the contents of this letter to your members. Please contact Mr Ng Hee Yang at Tel: 6325-2103 or email: ng_hee_yang@bca.gov.sg if you need further clarification.

Thank you.

A handwritten signature in black ink, consisting of several fluid, overlapping strokes that form a stylized representation of the name 'K Thanabal'.

Yours faithfully

K THANABAL
DEPUTY DIRECTOR, BUILDING ENGINEERING DIVISION
for COMMISSIONER OF BUILDING CONTROL

Our Ref.: BCA BC 15.0.3

Building Plan and Management Division

10 Jan 2011

See Distribution

Dear Sir/Madam

REGULATIONS ON USE OF GLASS AT CRITICAL AREAS IN BUILDINGS TO ADDRESS SPONTANEOUS SHATTERING AND BOND FAILURE OF STRUCTURAL SEALANT USED TO SUPPORT GLAZING

Objectives

This circular is to inform the industry on the new regulations in relation to the use of glass at critical areas in buildings to address:

- a) spontaneous breakage of glass elements; and
- b) bond failure of structural sealant used to support glazing.

Regulation on Use of Glass at Critical Areas in Buildings

2 Tempered glass, because of its higher strength and ability to meet load design requirements, is frequently used in both the interior (e.g. parapets) and exterior (e.g. curtain walls, full-height windows and skylight) of buildings. It is often selected as the material for facade of buildings. It is also increasingly being used in other critical areas such as roofs, canopies (including sunshades) and safety barriers in buildings.

3 In view of the concern with the spontaneous shattering phenomenon in tempered glass, BCA sought feedback from the industry on the use of tempered glass in critical areas of our buildings. The industry, in general, was in favour of introducing performance-based regulatory requirements to limit the use of tempered glass installed at critical areas.

4 With effect from **1 July 2011**, if glass is used in any of the critical areas mentioned below for any project whose **building plan is first submitted on or after this date**, the following requirements shall apply:

a) Glass used as a Part or Whole of Safety Barrier

Where glass is used as a part or whole of a safety barrier, which is required to comply with Clause H on Safety from Falling in the Fifth Schedule of the Building Control Regulations (on Objectives and Performance Requirements for the Design and Construction of Buildings), it should be laminated glass. The laminated glass must comply with Singapore Standard SS341:2001 – Specification for Safety Glazing Materials for Use in Buildings.

b) Glass used as a Part or Whole of Building Facade, Roof, Canopy or Other Overhead Glazing

Where glass is used as a part or whole of a building facade, roof, canopy or other overhead glazing (such as sunshade, fins or rain shield) locating at a height of 2.4m or above, it may be float glass, heat strengthened glass, tempered glass, laminated glass or any other types of glass. Regardless of the type used, the glass must comply with Singapore Standard SS341:2001 – Specification for Safety Glazing Materials for Use in Buildings.

Specifically, **if monolithic tempered glass, heat-soaked tempered glass or any other type of glass that is prone to spontaneous breakage is used here, the design of the building shall provide for suitable protection** such as installation of screens or shields, or presence of canopies or ledges, to protect people from injuries in the event of breakage of such glass element.

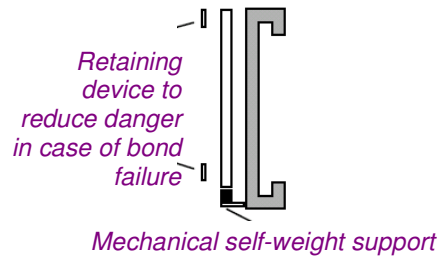
Regulation on Use of Structural Sealant Glazing in Buildings

5 When used in building facades (e.g. curtain walls), conventionally glass is often held onto aluminium frames through mechanical supports which are then attached to the building structure. The use of structural sealant to bond the glass to the aluminium frames which is known as structural sealant glazing, instead of through mechanical supports, is becoming more prevalent.

6 With effect from **1 July 2011, where structural sealant glazing is used in a glass curtain wall or other glass installation located at a height of 2.4 metres or more (whether situated within the interior or forming the exterior of a building)** for any project whose **structural plan is first submitted on or after this date**, installation will be deemed approved if it complies with all of the following requirements:

- a) The structural sealant glazing shall be of either two-sided type or four-sided type **with retaining devices**. The retaining devices must be designed and constructed to prevent any fall of glass panel in the event of bond failure in the structural sealant;

- b) The self-weight of the glass panels shall be mechanical supported when the structural sealant glazing system (see figure shown below) is used; **and**

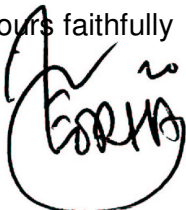


- c) The structural sealant glazing shall be designed and constructed in accordance with the following Standards:
- i. ASTM C1184: Standard Specification for Structural Silicone Sealants and ASTM C1401: Standard Guide for Structural Sealant Glazing; or
 - ii. BS EN 13022-2:2006: Glass in Building - Structural Sealant Glazing and BS EN 15434:2006: Glass in Building – Product Standard for Structural and/or Ultra-violet Resistant Sealant.

Clarification

7 We would appreciate it if you could convey the contents of this circular to the members of your organisation. For clarification, you may email to bca_enquiry@bca.gov.sg or call the following hotline/contact persons.

Hotline/Contact Person	Contact Number
Use of Glass at Critical Areas in Buildings	
BP Hotline	6325 7159
Use of Structural Sealant Glazing in Buildings	
Tay Ah Ching (Ms)	6325 7570

Yours faithfully


TEO ORH HAI
 DEPUTY DIRECTOR
 BUILDING PLAN & MANAGEMENT DIVISION
 for COMMISSIONER OF BUILDING CONTROL

Our Ref : BCA BC 15.0.3

Building Engineering Division (#05-00)

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11 Jan 2011

See **Distribution**

Dear Sir/Madam

SS 557:2010 - CODE OF PRACTICE FOR DEMOLITION

The Code of Practice for Demolition SS CP 11: 2002 which provides guidelines for the safe demolition of structures has been revised and renumbered as SS 557: 2010 in Oct 2010.

2 Major revisions in the code include the development of demolition plan and stability report, waste minimisation and recycling of demolition waste. There has been a greater emphasis in the revised code on the demolition of high-rise buildings especially with the use of machinery. A new section on the demolition of sensitive structures has also been added.

3 This revised code SS 557 will be incorporated in the Approved Document with effect from **1 July 2011**. In the meantime, qualified persons and builders can commence to use this revised standard SS 557: 2010 when carrying out demolition works if they so wish to.

4 I would appreciate it if you could bring to the attention of your members the contents of this circular. Please contact Mr Chang Heng Choy at Tel. 63257577 or email: chang_heng_choy@bca.gov.sg if you need further clarification. Thank you.

Yours faithfully



ANDRIS LEONG (MS)
DEPUTY DIRECTOR
BUILDING ENGINEERING DIVISION
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