

Schedule

Winwall Technology Pte Ltd
27 Kranji Way
Singapore 739437

Certificate No. : LA-1996-0101-B

Issue No. : 15

Date : 28 May 2014

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FIELD OF TESTING : Civil Engineering Testing

MATERIALS/ PRODUCTS TESTED	TESTS/ PROPERTIES	STANDARD METHODS/ TECHNIQUES/
1. Curtain Walls, Exterior Windows & Doors	<p>a. Rate of air leakage under specified pressure differences across specimen</p> <p>b. Structural performance by uniform static air pressure</p> <p>c. Water penetration by uniform static air pressure difference</p> <p>d. Water penetration by cyclic static air pressure difference</p> <p>e. Water penetration using dynamic pressure</p>	<p>ASTM E283: 2012 CNS 13971: 2006</p> <p>ASTM E330/E330M-14 CNS 13972: 2006</p> <p>ASTM E331: 2000 (Reapproved 2009) CNS 13974: 2006</p> <p>ASTM E 547: 2000 (Reapproved 2009)</p> <p>AAMA 501.1: 2005 CNS 13973: 2006</p>
2. Curtain Walls, Storefronts & Sloped Glazing System	a. Water leakage field check	AAMA 501.2: 2009
3. Curtain Walls & Storefront Systems	a. Static test – Seismic and wind induced inter-storey drifts	AAMA 501.4: 2009 CNS 14281: 2006
4. Exterior Walls	a. Thermal Cycling	AAMA 501.5: 2007
5. Building Facades	<p>a. Air infiltration test</p> <p>b. Water penetration by static pressure</p>	AS/NZS 4284: 2008

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6. Windows	c. Water penetration by cyclic pressure Structural test at serviceability limit state	
	d. BMU Restraint test	
	e. Structural test at ultimate limit state	
	f. Seal degradation test	
	a. Air leakage test) SS 212: 2007
	b. Watertightness test)
	c. Structural performance test)
	d. Proof load test)
	e. Test sample, preparation for tests and test sequence	AS 4420.1: 1996
	f. Deflection test	AS 4420.2: 1996
	g. Operating force test	AS 4420.3: 1996
	h. Air infiltration test	AS 4420.4: 1996
7. Curtain Walls	i. Water penetration resistance test	AS 4420.5: 1996
	j. Ultimate strength test	AS 4420.6: 1996
	a. Watertightness test) SS381: 1996
	b. Air permeability test)
	c. Proof load test)
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8. Weather Louvres	d. Structural performance test a. Water penetration test b. Discharge and entry loss coefficient / pressure loss	SS381: 1996 PNAP APP 37– Practice Note for Authorized Persons and Registered Structural Engineers and Registered Geotechnical Engineers, May 2012) HEVAC Technical) Specification, 5 th Edition: 1997))
9. Windows & External Wall	a. Watertightness Test	BCA CONQUAS Manual 8 th Edition 2012, Appendix 2, item 2

Approved Signatories

Mr Simon Chin) For all tests accredited except item 8

Mr Goh Aik Wee) For all tests accredited

Note :

This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025:2005. A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and **management system requirements** that are necessary for it to consistently deliver technically valid test results. The **management system requirements** in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 **Quality Management Systems — Requirements** and are aligned with its pertinent requirements.

The SAC Programme is managed by SPRING Singapore

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