

## Overview

Building Envelope Test Consulting Solutions (beTcs) Asia-Pacific offers highly specialised, independent and accredited inspection services for the witnessing and supervision of performance testing on curtain wall and facade systems, locally and at overseas facilities, delivering assurance verification of a project's facade specification.

This expertise assures confidence in the acceptance process for project stakeholders, relieving them of unrealised risks in the unfamiliar field of performance testing.

55 Pitt Street

## Core Competencies

beTcs Asia-Pacific helps those project stakeholders responsible for delivering and accepting the facade package by applying technical knowledge and providing our own calibrated technical resources to verify performance testing, including:

- Advise on proposed test schedule and PMU configuration
- Test witnessing & supervision
- Scrutineering of overseas facility's credentials & scope
- Review & confirm facility equipment and instrumentation for operability, range, calibration and accuracy
- Ensure test procedures, parameters and PMU configuration are as agreed to by all parties
- Effective oversight for correct application of test procedures and parameters
- Independent analysis of results, verifying compliance with performance requirements
- Comprehensive documentation and issue of a NATA endorsed report

Chifley Square South, Sydney

## Accreditation

beTcs Asia-Pacific is an Inspection Body accredited by the National Association of Testing Authorities (NATA), Australia.



- Accredited to inspect the testing of cladding systems, curtain walling, door, window & skylight assemblies, facade assemblies, and sloped glazing systems under the relevant AS, AS/NZS, SIROWET, AAMA, ASTM, BS EN, CWCT, and NCC BCA standards and codes.



NATA is an Australian government-endorsed peak accreditor of inspection bodies, and a leader in accreditation internationally. NATA is a Global ACI Full Member and MRA signatory - supporting trust, cooperation and confidence in accredited conformity assessment worldwide.

## Supported Clients



## Facade, window & sliding door test witnessing & supervision

Witness and supervise facade testing to the following standards for curtain wall prototypes to - AS/NZS 4284 (SIROWET); ASTM E283, E330, E331 & E547; BS EN 12152, 12153, 12154, 12155, 12179, 12600, 13116 & 14019; AAMA 501.1, 501.4 & 501.5; CWCT TN75 & TN76; and, windows and sliding doors to - AS/NZS 4420.1 for AS 2047; and, BS EN 1026, 1027, 12207, 12210, 12211 and 13049.

## Field inspection of installed facade and fenestration systems

AAMA 501.2 is the widely accepted method for quality assurance and water penetration check for installed curtain walls and sloped glazing systems.

AAMA 503 and BS EN 13051 are more exacting means for on-site assessment.

## Building envelope compliance guidance

In 2015 the Building Code of Australia (BCA) introduced Verification Methods FV1 (Vol. 1) and V2.2.1 (Vol. 2) to evaluate the weatherproofing performance of direct-fix cladding, cavity and unique wall systems. The methods provide a means to verify compliance with the relevant NCC BCA Performance Requirements of FP1.4 and P2.2.2 for water penetration in an external wall.

## Practised Standards & Codes

AS/NZS 4284 Testing of building facades  
 SIROWET Testing of building facades  
 AS 2047 Windows and external glazed doors in buildings  
 AS/NZS 4420.1 Windows, external glazed, timber and composite doors - Methods of test Test sequence, sampling and test methods  
 BS EN 14019 Curtain Walling. Impact resistance. Performance requirements.  
 BS EN 13049 Windows. Soft and heavy body impact. Test method, safety requirements and classification  
 BS EN 12600 Glass in building. Pendulum test. Impact test method and classification for flat glass  
 CWCT TN75 Impact performance of building envelopes: guidance on specification  
 CWCT TN76 Impact performance of building envelopes: method for impact testing of cladding panels  
 BS EN 12152 Curtain walling. Air permeability. Performance requirements and classification  
 BS EN 12153 Curtain walling. Air permeability. Test method  
 BS EN 12154 Curtain walling. Watertightness. Performance requirements and classification  
 BS EN 12155 Curtain walling. Watertightness. Laboratory test under static pressure  
 BS EN 12179 Curtain walling. Resistance to wind load. Test method  
 BS EN 13116 Curtain walling. Resistance to wind load. Performance requirements  
 BS EN 12210 Windows and doors. Resistance to wind load. Classification  
 BS EN 12211 Windows and doors. Resistance to wind load. Test method  
 BS EN 13051 Curtain walling. Watertightness. Site test  
 BS EN 12207 Windows and doors. Air permeability. Classification  
 BS EN 12208 Windows and doors. Watertightness. Classification  
 BS EN 1026 Windows and doors. Air permeability. Test method  
 BS EN 1027 Windows and doors. Watertightness. Test method  
 AAMA 501.1 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure  
 AAMA 501.2 Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems  
 AAMA 501.4 Recommended Static Test Method for Evaluating Window Wall, Curtain Wall and Storefront Systems Subjected to Seismic and Wind-Induced Inter-storey Drift  
 AAMA 501.5 Test Method for Thermal Cycling of Exterior Walls  
 AAMA 503 Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls and Sloped Glazing Systems  
 ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen  
 ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference  
 ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference  
 ASTM E547 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference  
 BCA Vol 1: FV1 Weatherproofing Verification Method  
 BCA Vol 2: V2.2.1 Weatherproofing Verification Method  
 AS 4040.0 Introduction, list of methods and general requirements  
 AS 4040.1 Resistance to concentrated loads  
 AS 4040.2 Resistance to wind pressures for non-cyclone regions  
 AS 4040.3 Resistance to wind pressures for cyclone regions  
 AS 4040.4 Resistance to impact (sandbag) - Sheet roof materials  
 AS/NZS 4040.5 Resistance to impact (sandbag) for wall boards  
 AS 4055 Wind loads for housing

Queen's Wharf Towers 5 & 6, Brisbane

## Experience

Queen's Wharf Towers 5 & 6, Brisbane  
 55 Pitt Street, Sydney  
 Chifley Square South, Sydney  
 AMP Building, Circular Quay  
 Newington College Eungai Creek Campus  
 One Circular Quay, Hotel (Tower B), Sydney  
 Atlassian Central  
 One Circular Quay, Residential (Tower A), Sydney  
 Wee Waa High School, Wee Waa  
 AURA, 168 Walker Street, North Sydney  
 Metro Martin Place South Tower, Sydney  
 PHIVE, Parramatta Square  
 Parramatta Square Civic Redevelopment  
 University of Western Sydney, Bankstown City Campus  
 Queen's Wharf Towers 2 & 3, Brisbane  
 Metro Martin Place North Tower, Sydney  
 308 Exhibition Street, Melbourne  
 Queen's Wharf Tower 1, Brisbane  
 West Side Place 2 podium, Melbourne  
 Jewel, Gold Coast  
 Melbourne Square  
 Arthur Phillip High School (Tower), Parramatta  
 447 Collins Street, Melbourne  
 UTS Central, University of Technology Sydney  
 60 Martin Place, Sydney  
 80 Collins Street, Melbourne  
 Crown Sydney Hotel & Resort  
 CSR Inclose - system  
 Australian National University, New Hall of Residence,  
 Canberra International Convention Centre Hotel, Darling  
 Harbour, Sydney International Convention Centre, Darling  
 Harbour, Sydney AFP Forensic Facility, Canberra  
 888 Collins Street, Melbourne  
 Crown Towers, Perth  
 727 Collins Street, Melbourne  
 CSR Cemintel - system  
 CSR Hebel - system  
 333 George Street, Sydney  
 Abercrombie Precinct, University of Sydney  
 One William Street, Brisbane  
 480 Queen Street, Brisbane  
 Brookfield Place Tower 2, Perth  
 New Children's Hospital, Perth  
 720 Bourke Street, Melbourne  
 New Royal Adelaide Hospital  
 Barangaroo - Towers C4 & C5, Sydney  
 Chris O'Brien Lighthouse - Royal Prince Alfred Hospital, Sydney  
 SAHMRI, Adelaide  
 171 Collins Street, Melbourne  
 700 Bourke Street, Melbourne  
 University of Adelaide Illumin8 project  
 Metro Residences, Chatswood  
 Queensland Children's Hospital, Brisbane

The Residence Hyde Park, Sydney  
 Fusionopolis, Singapore  
 Museum of Contemporary Art, Sydney  
 Fiona Stanley Hospital, Perth  
 Brisbane Airport Domestic Terminal  
 Star Casino, Sydney  
 Westfield Tower, Sydney  
 ALDI Head Office, Minchinbury  
 City Square project, Perth  
 Central Plaza 3 Tower, Brisbane  
 National Portrait Gallery, Old Parliament  
 House, Canberra - for 3M

55 Pitt Street, Sydney