

VIPAC

Engineers & Scientists

Leading Wind Engineering
& Qualification Testing
Services Australia.



Wind Engineering



Established in 1973, Vipac Engineers & Scientists has organically grown to become one of Australia's leading engineering testing laboratories and consultancies. Proudly Australian owned and operated, Vipac specialises in wind engineering consultancy and qualification testing services for the building industry.

Wind engineering by Vipac comprises high-fidelity CFD analyses, wind impact assessments (typically desktop studies), and wind tunnel pedestrian-level wind safety & comfort, wind load on building facades, plus direct force balance/ structural studies. Testing by the company includes the proposed building's surrounds – both natural and built – and the regions wind climate.

Wind qualification testing services by Vipac are ideal for architects, planners, or developers seeking assistance with their development submissions or approvals. The company not only tests for a building's reaction to wind as per Australian Standards but can advise optimal wind controls or treatments to elevate its design, structural integrity, occupant comfort, or efficiency. Wind engineering consultancy conducted early in a building's life cycle by Vipac can also save on construction costs.

Vipac are winners of the UDIA Environmental Award for Excellence in 2009 for the company's consultancy on the Melbourne Convention & Exhibition Centre. Combine Vipac's award-winning wind engineering with our comprehensive environmental testing options to make Vipac your one-stop destination for building qualification testing services.



☎ 1300 847 222

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Services & Testing Provided

High-fidelity CFD Analysis

For the convenient assessment of the wind safety or comfort of developments, including:

- > Pedestrian Wind Comfort (PWC) – the usability of outdoor areas for their intended purposes (i.e. walking, standing, sitting).
- > Wind Load on Tall Buildings/ Elements – predicting the local wind pressure distribution on building facades.
- > Natural & Mechanical Ventilation – Identifying air movement and its impact on indoor occupant safety or comfort.
- > Wind-driven Rain (WDR) – The impact of wind and rain combined on a buildings exterior.

Desktop Studies

Ideal for the evaluation of wind effects on proposed developments and accounts for regional wind climates. Vipac can make wind mitigation recommendations to improve a buildings resistance to adverse wind conditions.

Wind Tunnel Testing

Comprehensive assessment of the wind safety or comfort of developments, including:

- > Pedestrian-level wind studies – conducted using a scale model of the development (typically 1:200 or 1:400) and including its surrounds up to 500m. Vipac analyses wind speeds at the ground level for the safety or comfort of pedestrians. Measurements are taken in 36 wind directions (i.e., at 10° intervals).

- > Design pressure analyses – cladding pressure studies using a 3D-printed model of the development and 500 to 1,000 pressure tapes to simulate various façade conditions.
- > Direct force balance testing – for the assessment of wind on a building's base, i.e. base shear, bend, or torsion. Can be conducted floor by floor (for tall buildings), determining the impact of wind at various levels.



Qualifications & Certifications

- > BSI ISO 45001, ISO 9001, and ISO 14001
- > Registered Research Service Provider (RSP): No. 15701.

