Wind Driven Rain
BUILDING PHYSICS AND ARCHITECTURAL AERODYNAMICS
Wind driven rain or driving rain is one of the most important sources of moisture affecting building facades. The horizontal component of flow given to the rain by the wind also means that it is an important consideration for the design of covered or partially enclosed spaces. The quantity, trajectory, intensity and spatial distribution of driving rain is specific to each design scenario as factors are dependent on the correlation of climate parameters, the subject and surrounding building envelope, and wind turbulence conditions. Ignoring the influence of wind and rain in design can lead to discomfort for pedestrians or spectators who are walking, standing or sitting in areas with insufficient protection from the driving rain.

BMT Fluid Mechanics offers a comprehensive portfolio of wind driven rain consultancy services to assist in design development from the planning and concept stages through to detailed design and construction. BMT combines the use of theoretical rain models with computational flow assessments or wind tunnel testing to investigate specific wind driven rain design scenarios. With the extensive experience of the BMT team it is ensured that the most appropriate tools are employed in each and every assessment.

CAPABILITIES

- Computational fluid dynamics (CFD)
- Wind tunnel testing
- Desk studies

CONSULTANCY SERVICES

- Meteorological investigation of correlations between wind/rain/intensity/droplet size
- Ground level wetting pattern analysis
- Drainage system performance
- Wind / Rain shelter optimization
- Wind driven rain flow pattern analysis
- Raindrop trajectory assessment
- WDR flow patterns