

Section J Review

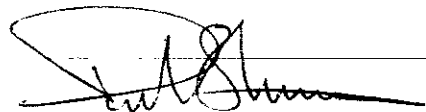
Project	UTS - Peter Johnson Building	Climate Zone	5	Date	25-Mar-09
Location	Sydney	Class	3 (Level 8 & above)		
Client					

This review has been produced to determine the compliance to BCA section J of the building located at the above address. The review has been based on the following documents and information, should these documents change then this review will require updating to reflect changes and may result in a non compliance with the BCA

Mechanical services documents	Not applicable
Electrical services documents	Not applicable
Architectural documents	3531_DA010, 3531_DA018, 3531_DA019, 3531_DA020, 3531_DA021, 3531_DA022, 3531_DA_023, 3531_DA_024, 3531_DA_025, 3531_DA_026, 3531_DA_027, 3531_DA_028
Hydraulic documents	Not applicable
Structural documents	Not applicable

At the completion of the review where the outcome results in compliance for all clauses this document can be utilised as the certification for the project.
 Compliance is achieved with the completion of the recommendations of this report
 Compliance to Deemed to satisfy is achieved by compliance with the following clauses

	Compliance
J1.1 to J1.6	Y
J2.1 to J2.5	Y
J3.1 to J3.7	Y
J4.1 to J4.4	Y
J5.1 to J5.5	Y
J6.1 to J6.6	Y
J7.1 to 7.2	Y

Certified on behalf of DSA Consulting
 Signed By  David Shreeve
 BE Mech

Clause	System	Requirements	Comments	Action	Compliance	Consult Action
J1	Building Fabric				Y/N	
J1.1	Applies to a building element forming and envelope of a class 2 to 9 building					Arch
J1.2	Thermal construction	Insulation complying with AS 4859.1	Continuous barrier of insulation ceilings, walls, floors in accordance with specification J1.2		Y	Arch
J1.3	Roof/ceiling	R2.7	CONCRETE SLAB FLAT ROOF: Outdoor air film R0.03, Waterproof membrane R0.03, Solid Concrete R0.07, Plasterboard R0.06, Indoor air film R0.16, TOTAL R0.35 METAL PITCHED ROOF: Outdoor air film R0.03, Metal R0, Roof airspace R0.22, Plasterboard R0.06, Indoor air film R0.16, TOTAL R0.47 CONCRETE SLAB FLAT: Air film R0.06, Solid Concrete R0.07, Plasterboard R0.06, Indoor air film R0.16, TOTAL R0.35	Required: R2.5 insulation for concrete roof; R2.5 insulation for metal pitched roof Required: R1.0 insulation for ceiling under plant room	Y Y	Arch Arch
J1.4	Roof lights	1.5%-3% floor area Total U value of not more than 5 3%-5% SHGC of not more than 0.70 and Total U value of not more than 5.0 5%-10% SHGC of not more than 0.35 and Total U value of not more than 2.5 Greater than 10% SHGC 0.25 U Value 1.3	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	
J1.5	Walls	R 1.4 Surface density not less than 220 kg/m ²	Outdoor air film R0.03, 180mm Pre-cast concrete R0.09, Sarking 0.75, Insulation, Airspace R0.17, Plasterboard R0.06, Indoor air film R0.12; TOTAL R1.22	Required: R0.5 insulation, approx. 20mm, refer to manufacturer	Y	Arch
	Floor Spandrels	R 1.4	Outdoor air film R0.03, 180mm Pre-cast concrete R0.09, Sarking 0.75, Insulation, Airspace R0.17, Plasterboard R0.06, Indoor air film R0.12; TOTAL R1.22	Required: R0.5 insulation, approx. 20mm, refer to manufacturer	Y	Arch
	Above ceiling spandrels	R 1.4	Outdoor air film R0.03, 180mm Pre-cast concrete R0.09, Sarking 0.75, Insulation, Airspace R0.17, Plasterboard R0.06, Indoor air film R0.12; TOTAL R1.22	Required: R0.5 insulation, approx. 20mm, refer to manufacturer	Y	Arch
J1.6	Floor	N/A	N/A	N/A	N/A	
J2	Glazing					
J2.1	Applies to a building element forming and envelope of a class 2 to 9 building					
J2.2	Glazing of a building must be designed and installed as appropriate in accordance with Class 6 requires compliance with J2.3 or J2.4					

Clause	System	Requirements	Comments	Action	Compliance	Consult Action
J2.3	Glazing Calculator Method 1	Compliance	Refer attached calculation on condition space	Viridian EnviroShield, U value 3.6, SHGC 0.35, Trans 33%, Refl. 5%	Y	Arch
J2.4	Glazing Calculator Method 2	Compliance				
J2.5	Shading	Compliance required where utilised in J2.4	Refer attached calculation	Restrict at least 80% of solar radiation	Y	Arch
J3	Building Sealing					
J3.1	Applies to a building element forming and envelope of a class 2 to 9 building		Envelope to be sealed	Seals, slab edge between floors to be sealed	Y	Arch
J3.2	Chimneys	Damper	N/A	N/A	N/A	
J3.3	Roof Lights	Must be sealed	N/A	N/A	N/A	
J3.4	External windows and doors	Seals to be provided except fire doors		Sealed	Y	Arch
J3.5	Exhaust Fans	Dampers to seal		install damper to toilet exhaust and outside air	Y	Mech
J3.6	Construction of roof, walls and floors	Must be enclosed by internal lining system, close fitting at ceiling, wall and floors, sealed by caulking, skirting, architraves or cornices	Does not apply to smoke hazard management openings	To be sealed as described	Y	Arch
J3.7	Evaporative cooler	Dampers to seal	N/A	N/A	N/A	
J4	Air Movement					
J4.1	Applies to a building element forming and envelope of a class 2 or 9 building					
J4.2	Air Movement	Air movement must be provided in accordance with Table J4.2	Apply to natural ventilated area, UTS Peter Johnson Building complies with 5% of floor area	Complies	Y	
J4.3	Ventilation openings	Rooms not provided with evap coolers or ceiling fans require two openings, with a minimum size of 25% of the openings size required in Table J4.2	Apply to natural ventilated area	Complies	Y	
J4.4	Ceiling Fans and evaporative coolers	permanently fixed, speed controlled and ceiling fans with a minimum blade diameter of 900mm	N/A	N/A	N/A	
J5	Air conditioning and Ventilation Systems					
J5.2	Air conditioning and Ventilation	Must be able to be turned off in area with no occupancy	Units individually switched	complies,	Y	Mech
		Motorised dampers to be provided on the R/A, O/A to close when inactive	To be specified	To be specified	Y	Mech
		supply and return air ductwork insulated and sealed in accordance with Specification J5.2	To be specified	To be specified	Y	Mech
		Flexible ducts to be R 1.0	To be specified	To be specified	Y	Mech
		Duct insulation below 65kW R1.0	N/A	N/A	N/A	
		Duct insulation above 65kW R1.5	N/A	N/A	N/A	
		Reheat limited to 7.5K and thermostatically controlled	N/A	N/A	N/A	
		Economy cycles to be provided over 50kW	N/A	N/A	N/A	

Clause	System	Requirements	Comments	Action	Compliance	Consult Action
		Air flow above 1000 l/s motor horsepower not more than 12 w/m2 above 500m2	N/A	N/A	N/A	
		Mechanical ventilation must be shut down when not occupied		complies	Y	
		mechanical ventilation not to exceed 50% of air conditioned air quantity except if balancing an exhaust system		complies	Y	
		Mechanical ventilation above 1000 l/s motor power must comply with table F5.2	200pa 0.73w/l/s	To be specified	Y	Mech
		Carpark over 40 vehicles requires CO monitoring and control and an air change rate of 0.5 per hour except when not occupied	300 pa 1w/l/s	N/A	N/A	
		The above not to inhibit smoke management	CO monitoring and VSE fan provided	N/A	N/A	
J5.3	Timeswitch	provided on all air conditioning above 10kwr		To be specified	Y	Mech
		Ventilation above 1000 l/s		To be specified	Y	Mech
		Heating above 10kW		To be specified	Y	Mech
J5.4	Heating and chilling systems	Pipes, vessels, heat exchangers, tanks containing chilled or heated fluids to be insulated to Spec J5.4		To be specified	Y	Mech
		protected against sunlight and weather	N/A	N/A	N/A	
		Tanks chilled R1.8	N/A	N/A	N/A	
		Heat R 1.3	N/A	N/A	N/A	
		Heating below 65 kW R0.3	N/A	N/A	N/A	
		Heating above 65 kW R0.7	N/A	N/A	N/A	
		Chilled between 65-200kW R1.0	N/A	N/A	N/A	
		Chilled above 200kW R1.0	N/A	N/A	N/A	
		Pumps above 2 l/s shaft power 3w/m2 below 500m2	N/A	N/A	N/A	
		Pumps above 2 l/s shaft power 4w/m2 above 500m2	N/A	N/A	N/A	
		Pumps Variable speed if operating more than 3500 hours and greater than 11 kW	N/A	N/A	N/A	
		When the building requires more than one chiller or boiler the non required are to be shut down	N/A	N/A	N/A	
		Boiler efficiency to comply to Table J5.4a	N/A	N/A	N/A	
		Boiler efficiency gas below 90 kW 75%	N/A	N/A	N/A	
		Boiler efficiency gas above 90 -750 kW 80%	N/A	N/A	N/A	
		Boiler efficiency gas above 750 kW 83%	N/A	N/A	N/A	
		Air conditioning equipment efficiency to comply to Table J5.4b	To be specified	To be specified	Y	Mech
		Package units 65-95kwr COP 2.7	N/A	N/A	N/A	
		Package units 95kwr to 125kwr COP 2.8	N/A	N/A	N/A	
		Heat pumps 65kwr to 95kwr COP 2.6	N/A	N/A	N/A	
		Heat Pumps 95kwr to 125kwr COP 2.7	To be specified	To be specified	Y	Mech
		Chillers over 125kW to comply with table J5.4C	N/A	N/A	N/A	
		water below 525 kwr full load COP 4.2 part load COP 5.2	N/A	N/A	N/A	
		water 525-100 kwr full load COP 4.5 part load COP 5.6	N/A	N/A	N/A	
		water above 100 kwr full load COP 5.5 part load COP 6.1	N/A	N/A	N/A	
		air cooled 125-525 kwr full load COP 2.2 part load COP 3.0	N/A	N/A	N/A	
		air cooled above 525 kwr full load COP 2.5 part load COP 3.1	N/A	N/A	N/A	

Clause	System	Requirements	Comments	Action	Compliance	Consult Action
		Cooling tower axial not more than 310 w per l/s of cooling Water flow	N/A	N/A	N/A	Mech
		Cooling tower Centrifugal not more than 590 w per l/s of cooling Water flow	N/A	N/A	N/A	
		Miscellaneous Exhaust over 1000 l/s must reduce energy with use of VSD and switching off when not required	Required	To be specified	Y	
J6	Artificial Lighting					
J6.1	Application	Not applicable to class 2 or 4				
J6.2	Interior artificial lighting	Dormitory 5 W/m2 Other area, eg lounge room, dining room 8 W/m2 Stairways 5 W/m2 Public corridors 3 W/m2 Service areas, eg plant room, store room 6W/m2 Can be increased by 30% if the room below 20m2 Can be increased by 40% if the room switched by motion detector or corridor lighting timer inaccordance with specification J6 Can be increased by 15% if the room switched by daylight sensor or dynamic lighting control inaccordance with specification J6 This does not apply to emergency lighting, signange or display lighting		To be specified To be specified To be specified To be specified To be specified	Y Y Y Y Y	Elect Elect Elect Elect Elect
J6.3	Interior artificial lighting and Power control	Must be switched by individual operator Not operate more than 250m2 in 2000m2 or 1000m2 if more than 2000m2 In a building or storey of more than 250m2 timeswitched inaccordance with Specification J6 or occupant sensing Lighting adjacent windows of more than 250m2 must be switched separately Display lights separately switched with timeswitch to Spec J6 if above 7kW	Occupant sensing device will be installed; No internal perimeter lighting	To be specified To be specified	Y Y	Elect Elect
J6.4	Interior decorative and display lighting			To be specified	Y	Elect
J6.5	External lighting	External lights to operate on day light sensor or time switch	Provide with daylight and time switch control	To be specified	Y	Elect
J6.6	Boiling and chilled water storage units	Time switch controled to spec J6		To be specified	Y	Elect
J7	Hot water supply					
J7.2	Hot water supply	Compliance to AS 3500.5 section 8		N/A	Y	
J8	Maintenance					
J8.1	Application	Apply to class 2 or 3		N/A	Y	
J8.2	Access for Maintenance	Access must be provided for maintenance in accordance with Part I2		To be specified	Y	Arch/Mech