

Façade Curtain Wall - Inspection & Test Plan

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Trade/Supply Item	Façade – Curtain Wall					
Subcontractor						
Location of Works						
Reviewed by:	Name		Title		Date:	

ALL CLADDINGS MUST BE MECHANICALLY FIXED, ADHESIVES NOT PERMITTED REFER TO TECHNICAL STANDARD 009 SDC-NSD-DSN-TDC-009

WORK ACTIVITY/ SEQUENCE	REFERENCE (Aust. Standard No., Contract Clause, Dwg No, Manufacturers Recommendations, BCA, DA etc)	ACCEPTANCE CRITERIA (Specific requirements of Aust. Standard, Contract Clauses, Specifications, Drawings, Manufacturers Recommendations BCA, DA etc)	INSPECTIONS & VERIFICATION				Comments / Records Record changes required to meet specification eg variation #, RFI #, alternative (material, process etc) used, sample approved on (date), NCR #., test reports, survey data, written approvals (letter reference)
			By	Type of (Hold, Witness, Surveillance)	Completed	Date	
PRIOR TO CURTAIN WALL INSTALL WORKS							
Shop Drawings	Aconex – Façade Drawings	Confirm correct For Construction Shop drawings available for the installation with the contractor. Refer to Plan located at core walls for approved reference (SDC site engineer to install reference plan)	SE/FN	Witness			Record Shop Drawings available at time of installation from subcontractor.
Survey & Site Measures		Check minimum survey requirements provided for the installation (ie; intersecting grids and benchmarks).	FN	Hold			Attach Photos of grids and benchmarks provided.
		Confirm opening sizes (widths and heights) correct per shop drawings. Check also that hobs & set down are level.	FN	Witness			Record as-built slab/hob/set-down SSL on install floor and floor/soffit above for reference (Surveyor As-built).
Storage/Installation Area		Confirm curtain wall storage/staging area is available and ready. Confirm installation zones available and ready from previous trades.	FN	Surveillance			Note: storage/staging and installation zones may be across multiple floors (ie; panel install on 1 st floor, floor above to be panel laydown, 3 rd floor for crane). Ensure plywood installed across set-downs for pallet trolley movements.

Note: **Signatures & dates are required under “Inspections and Verification” column.** Do not just tick !

When preparing the ITP, consider consequences of failure such as cost of remedial work, effect on construction program, accessibility for rectification, disruption to use of building, consequential damage to other elements, threat to safety of workers & public, breach of legal or other regulatory requirements.

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Product Review	Aconex – Façade Drawings	Confirm all curtain wall panels are free from damages prior to installation.	FN/SE	Witness			Take photos and record any damages prior to install with specific panels (reference shop drawings for panel identification). Panel sign-off walk to occur to after each shift to record damages (if required)
	Aconex – Façade Drawings	Confirm panels are correct for the floor/area being installed, including colour, grade and thicknesses.	FN	Witness			Record photos of panel identification marks on packaging for reference. Compare against install plan on Core Walls.
Cast-in Façade Channel	Façade Contractor ITP	Confirm façade channel installed per agreed detail and in correct locations per shop drawings.	FN/SE	Hold			Attached façade contractor pre-pour inspection ITP for cast-in façade channel.
Cast-in Façade Channel	Façade Contractor ITP	Confirm Channel pull out testing has been conducted on cast-in elements prior to curtain wall installation.	SE	Hold			Attached façade channel testing report showing compliance of brackets.
Weatherproofing Pre-Works	AS 3740	Ensure all sub-structure has membrane installed and signed-off prior to curtain wall installation.	FN	Hold			Ensure to check areas such as: hobs for starter panels, vertical interfaces such as curtain wall to core wall junctions, balcony set downs, etc... Attach waterproofing contractors ITP.
<u>DURING CURTAIN WALL INSTALL WORKS</u>							
Benchmark RL for Installation	Site Survey Marks	Verify with curtain wall install contractor that they are working from the agreed benchmark to set panel positions/heights.	FN	Hold			Record agreed benchmark: _____
Installation / Operation Checks		Review curtain wall panels installed plumb and level with panels below and adjacent.	FN	Surveillance			Spot check 5 panels per floor and complete general visual check.
		Ensure curtain wall installed to the design façade line. Tolerance permissible is + / - 5mm per façade specification.	FN	Surveillance			Check measure off grid as required, use level on panels to check plumb. Spot check 5 panels per floor and complete general visual check.

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		Check to ensure correct type of glass or non-vision panels, etc... installed per shop drawings.	FN	Surveillance			Refer to shop drawings installed on core walls (curtain wall general arrangement & typical panel details) for reference.
		Review sub-head and sub-jamb installation to ensure required gap left for movement per shop drawings (ie; approx. 20-30mm).	FN	Surveillance			Ensure to check wintergarden balcony panels (sub-head) and panels adjacent to core walls (sub-jamb). Spot check 5 panel per floor, attach photos with tape measure.
		Review sub-sill installation, ensure caulking to mechanical fixings where penetrating membrane installations.	FN	Surveillance			All Mechanical anchors to be sealed. Spot check 5 panels per floor, attach photos of sealant works.
		Check installation of smoke flashing and required fire rated insulation (CSR Bradford Fire Seal Curtain Wall Batt) at slab to panel interface. Ensure insulation install to depth of slab. Ensure no gaps present in flashings.	FN	Surveillance			Spot check 5 panels per floor. Attach photos to ITP prior to insulation being covered over. Attach photos of finished smoke flashing.
	Façade Specification	Review fixings to ensure stainless steel per description noted below from façade specification. <u>Fixings and Hardware:</u> - Within panels to be grade 304 stainless steel - Internal fixings (including to structure) to be grade 304 stainless steel - External and visible fixings to be grade 316 stainless steel	FN	Surveillance			Spot check for each floor installation the panels and subcontractor supplies being used on-site.
	FJC façade details	Check secure installation of weatherproof sill flashings and membrane works completed accordingly per architect details. Check any pressure seals installed correctly.					Review against each interface.

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		Check secure installation of any façade sun hoods or louvre elements to panels during install. Check bolts have been secured to required torque (xxx)	FN	Witness			Spot check at least 2 panels per floor and attach photos of torque measurements.
		Check all operable parts are working correctly (ie; sliding doors/windows, window winders/restrictors, door locks and hardware, etc...).	FN	Surveillance			Specific Checks (2 full apartments per floor): <ul style="list-style-type: none"> - Manual awning windows are restricted to 125mm. - Check auto awning windows have cables pulled out and accessible & operating correctly. - Check sash windows to wintergardens and balcony sliding doors are operating smoothly. - Check awning window and sliding door handle hardware engaging correctly. - Swinging doors – check handle operation and restrictors to hold open door are working correctly.
	Acrylic Sash Handles	Check acrylic handle to sash window installed at 1900mm AFFL, level and to centre of panels. Check also that adhesive is free from bubbles	FN	Surveillance			Complete full check of 2 apartments per floor.
		Check all silicone/caulking installed on-site is as per approved sample.	FN	Surveillance			Product approved: Sikaflex-PRO (Concrete Grey Colour) – 961737 Spot check subcontractor supplies per floor installation.

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Services – Mechanical (Kitchen/Toilet Exhaust)	Mechanical Shop Drawings & Curtain Wall Shop Drawings	Review for adequate installation and sealant of the mechanical ductwork to the curtain wall panels.	FN	Surveillance			Record photos for reference. NOTE: Flexible ductwork connections to backpan to be installed prior to panel installation and checked to ensure adequately sealed. Check all instances of mechanical interfaces per floor.
Balcony Services – Hydraulic/Fire (Water/Gas & Sprinkler Lines)	Hydraulic/Fire Shop Drawings & Curtain Wall Shop Drawings	Review correct placement of water/gas lines at sub-head zone and ensure adequately sealed for weathertightness & Acoustics.	FN	Surveillance			Refer to curtain wall shop drawing: XXX for installation details. Check all apartments to ensure details installed correctly.
Balcony Services – Hydraulic (Overflows)	Hydraulic Shop Drawings & Curtain Wall Shop Drawings	Check overflows installed below slab and adequately sealed to curtain wall facade by hydraulic contractor.	FN	Surveillance			Attach typical photos showing installations – check all balconies per floor (x2 overflow installations per balcony).
Curtain Wall Defects (Pre-Installation)		Ensure all protection removed from external face of curtain wall panels pre-installation and review aluminium and glass to ensure free from surface defects.	FN	Surveillance			Record any defect photos as part of ITP. Check 10 panels per floor (approx. 10%)
Curtain Wall Defects (Post-Installation)		Ensure all protection removed from internal face of curtain wall panels post-installation and review aluminium and glass to ensure free from surface defects.	FN	Surveillance			Record any defect photos as part of ITP. Check 10 panels per floor (approx. 10%)
Façade Access Elements	Façade Access Shop Drawings	Where relevant levels, review and ensure façade access elements are attached to curtain wall installation per shop drawings (ie; raptor rails & pig tails, etc...).	FN	Surveillance			Location References: Level 30 sunshade (raptor rails), Level 31 – 35 sunshades (pig tails). Attach install and certification documentation from façade access contractor as required. Attached typical photos of the installation for reference.

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Grouting to Façade Pockets		Ensure grouting to façade pockets completed as per detail in shop drawings.	FN	Surveillance			Obtain sign-off from curtain wall contractor that brackets have been checked prior to infilling pockets. Check all pockets are filled by formwork contractor.
<u>POST CURTAIN WALL INSTALL WORKS</u>							
Contractors ITP		Attach façade contractors' installation ITPs (Façade curtain wall & Window Walls (Balcony panels) & terrace awnings).	FN	Hold			ITP required to be obtained per floor and prior to handover of level to subsequent trades.
Design Deviations		Attach any correspondence related to design deviations as required to show approval from relevant consultants.	SE	Surveillance			Track with design manager as required and review inline with DBPA
Façade Engineer Inspection		Attach façade engineer inspection report/sign- off as required.	SE	Witness			Ensure façade engineer inspects whole installation of first floor curtain wall (Lv14) – cast-in brackets, curtain wall installation, smoke flashings, window walls, etc... Ensure periodic inspections there after (every 3 floors) and any new installation details.
Curtain Wall Protection		Ensure protection installed to curtain wall glazing as required to prevent scratches during construction.	FN	Hold			Ensure protection (coreflute) is installed on every floor, to every panel prior to handover to subsequent trades.

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