

Certificate of Testing

Certificate Number: 2013/52

Date: February 2013

System: Smart Systems MC600 Curtain Wall

System supplier: Smart Systems
Arnolds Way
Yatton
North Somerset
BS49 4QN

Tests performed: Air permeability ✓
Watertightness – static ✓
Watertightness – dynamic ✓
Wind resistance – serviceability ✓
Wind resistance – safety ✓
Hose test ✓

In accordance with 'Standard for systemised building envelopes', CWCT, 2006

Signed:



..... Test Engineer

Signed:



..... Director

Description of components tested

- Glazing system: **Smart Systems MC 600 Wall**
- Framing material: Aluminium 6063 T6
- Glass units: 28mm sealed units
- Spandrel panels: N/A fully glazed
- Mullion – Type: MC619
Box size: 170mmx55mm
- Transom – Type: MC619/616
Box size: 170mmx55mm 2000mm span
125x55mm other spans
- Transom connection: Transoms square cut and fixed by bracket ACMC600 at front face and spring pin ACMC650 at back. Epdm pad ACMC619/616 between end of transom and side of mullion. Sealant required between pad and end of transom and fillet of sealant applied to the completed joint.
- Drainage and ventilation: Transom drained and ventilated
- Curtain wall seals
- Inner seal – Type: ACSC212 gasket bedded on silicone sealant
Jointing: Moulded corners butt jointed to linear gaskets and sealed with ACMX09830 sealant
Material: EPDM
- Outer seal – Type: DK154 pressure plate with co-extruded gaskets
Jointing: ACMX09830 sealant
Material: PVC
- Opening light: None
- Mullion bracket: Steel angle (not part of certified system)
Mullion joint: MC649 sleeve 1m long across joint and secured to mullions by bolts above and below joint preventing movement. Also secured to lower mullion by screws through front wall of mullion from drainage channel. Wall was supported by central bracket with movement allowed at base and head. Joint sealed using and silicone seal.

Testing laboratory

Technology Centre
VINCI Construction UK Ltd
Stanbridge Road
Leighton Buzzard
Bedfordshire LU7 4QH

Registration No: UKAS No 0057

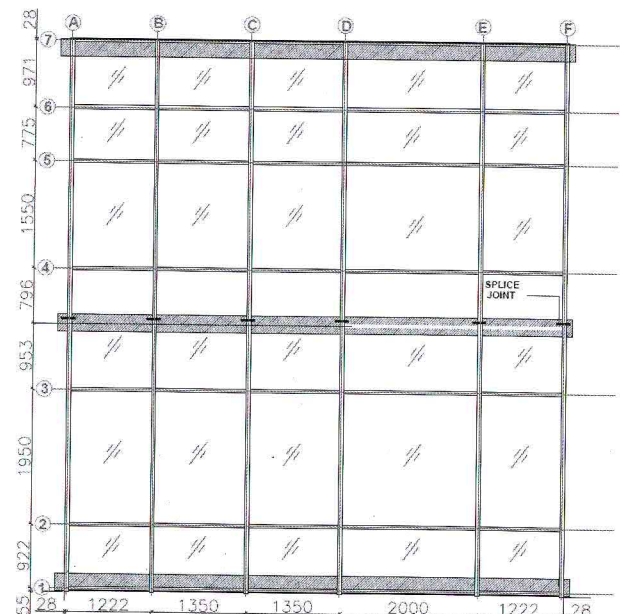
Independent testing authority: Technology Centre
VINCI Construction UK Ltd
Stanbridge Road
Leighton Buzzard
Bedfordshire LU7 4QH

Witness: Alan Keiller
Centre for Window & Cladding Technology
University of Bath
Claverton Down
Bath BA2 7AY

Date of test: June 2012

Summary of results

- Air permeability: PASS
Pressure: 600Pa (infiltration)
600Pa (exfiltration)
- Leakage rate (max): 0.2 m³/hour/m² (infiltration fixed glazing)
0.2 m³/hour/m² (exfiltration fixed glazing)
- Watertightness – static: PASS
Test pressure: 600Pa
- Watertightness – dynamic: PASS (Dynamic aero engine)
- Wind resistance serviceability: PASS
Test pressure: 2400Pa
- Wind resistance safety: PASS
Test pressure: 3600Pa
- Hose test: PASS



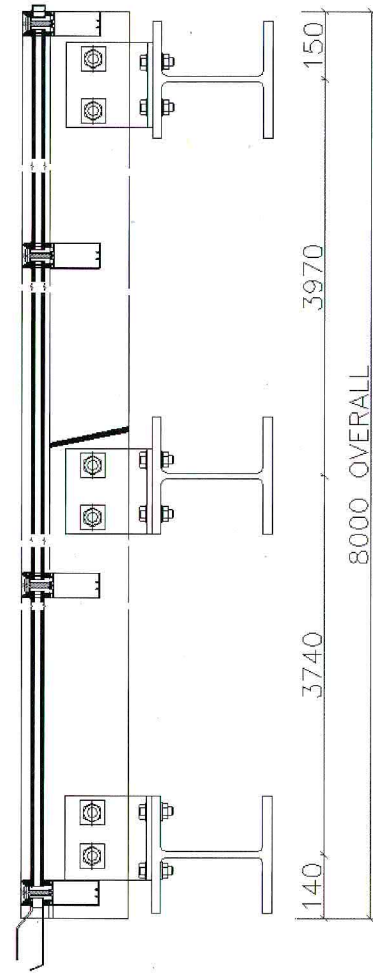
Elevation of test sample

Wind resistance – serviceability test

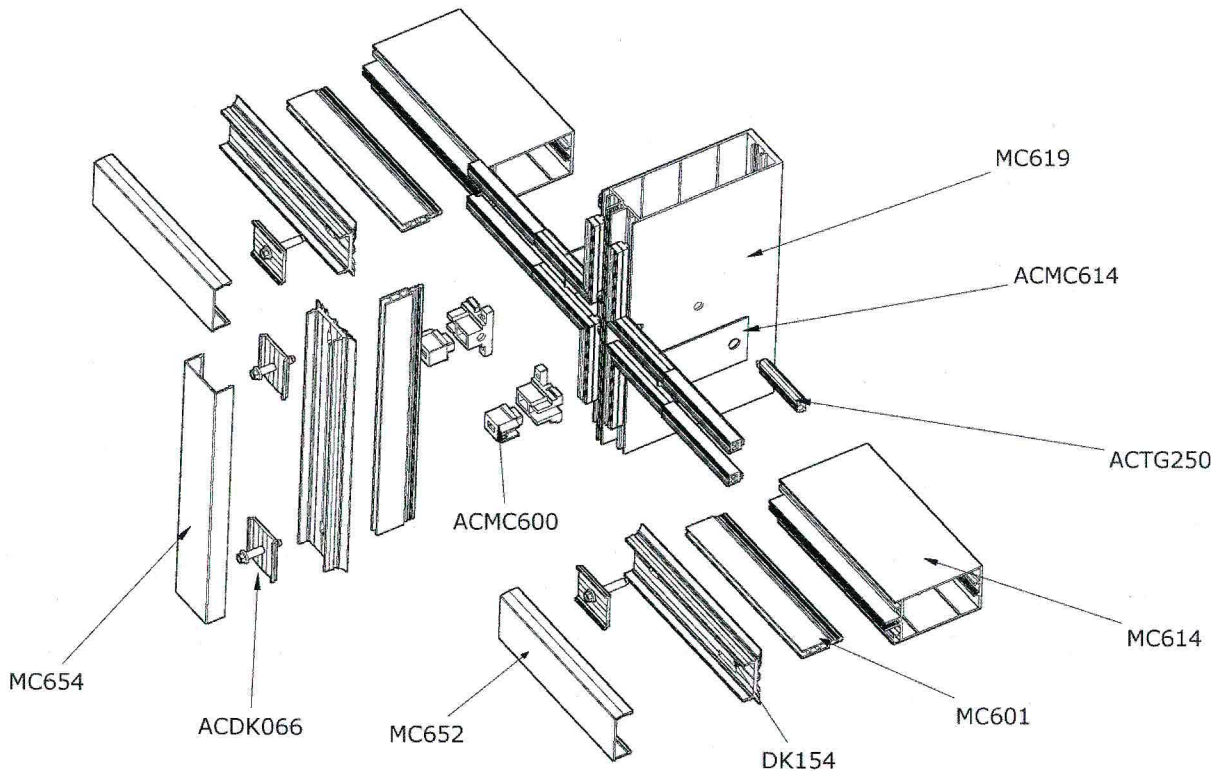
Result: PASS
 Pressure: 2400Pa

Deflections

Member	Length (L) (m)	Measured Deflection (d)			
		Pos (mm)	Neg (mm)	Pos d/L	Neg d/L
Mullion D Lower span	3.7	7.3	-8.1	1/510	1/460
Mullion D Upper span	3.8	11.6	-13.7	1/330	1/277
Transom 3/C-D	1.295	0.5	-0.6	-	-
Transom 3/D-E	1.950	1.4	-1.2	-	-



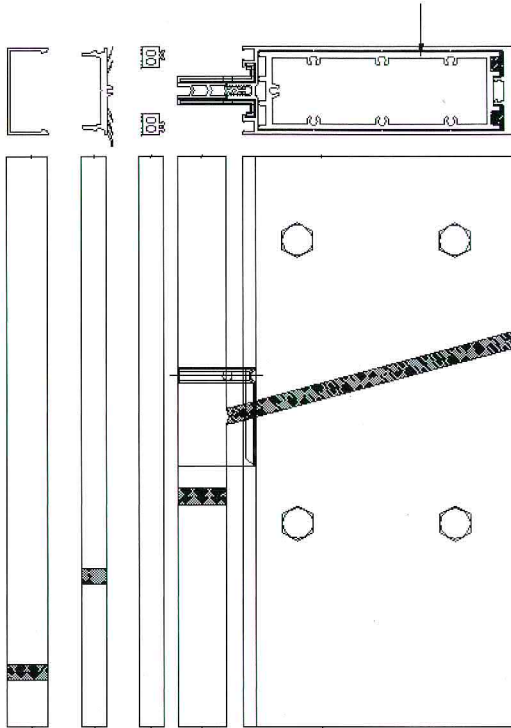
Section through test wall



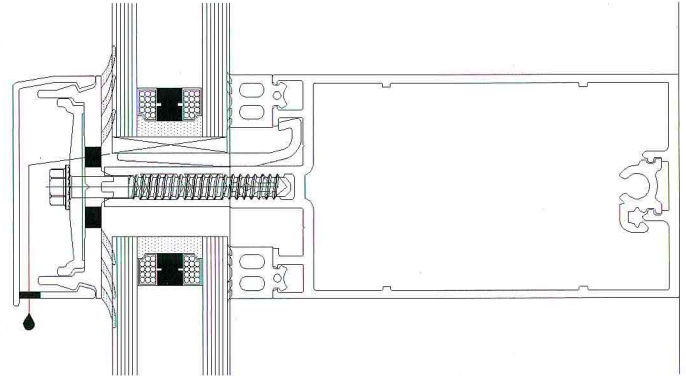
Exploded view of mullion/transom joint

MC654

MC619 MC649



Mullion Joint Details



Section through transom

Fabricator: Smart Systems
Arnolds Way
Yatton
North Somerset
BS49 4QN

Installer: Smart Systems
Arnolds Way
Yatton
North Somerset
BS49 4QN

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