

Certificate of Testing

Certificate Number: 2008/31

Date: October 2008

System: Smart Systems MC-Wall

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

CENTRE FOR
**WINDOW AND
CLADDING**
TECHNOLOGY

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

In accordance with 'Standard for Building Envelopes' CWCT

Signed:  Test Engineer

Signed:  Director

Description of components tested

Glazing system:	Smart Systems MC Wall	
Framing material:	Aluminium 6063 T6	
Glass units:	28mm sealed units	
Spandrel panels:	N/A fully glazed	
Mullion – Type:	MC018 with ACMC048 insert over full length	
Box size:	179mm x 55mm	
Transom – Type:	MC232	
Box size:	100mm x 50mm	
Transom connection:	Transoms notched to overlap mullions and secured by pins	
Drainage and ventilation:	Transom drained and ventilated	
Curtain wall seals	Mullion	Transom
Inner seal – Type	ACMC015 gasket bedded on silicone sealant	ACMC016 gasket bedded on silicone sealant
Jointing Material	ACMX09830 sealant	ACMX09830 sealant
Outer seal – Type	EPDM	EPDM
Jointing Material	DK154 pressure plate with co-extruded gaskets	ASVG34 wedge gasket
Opening light	ACMX09830 sealant	ACMX09830 sealant
Mullion bracket:	PVC	EPDM
Mullion joint:	Smart Systems top hung opening light included in test specimen	
Mullion joint:	Steel angle (not part of certified system)	
Mullion joint:	ACMC048 insert continuous across joint and secured to mullions by bolts above and below joint preventing movement. Wall was hung from top brackets with movement allowed at bottom and intermediate brackets. Joint sealed using ACMC014 coupling pieces in mullion drainage channel and silicone seal in visible sections of joint.	

Testing laboratory

Taylor Woodrow Technology
Technology Centre
Stanbridge Road
Leighton Buzzard
Bedfordshire LU7 4QH

Registration No: UKAS No 0057

Independent testing authority: Taylor Woodrow Technology
Technology Centre
Stanbridge Road
Leighton Buzzard
Bedfordshire LU7 4QH

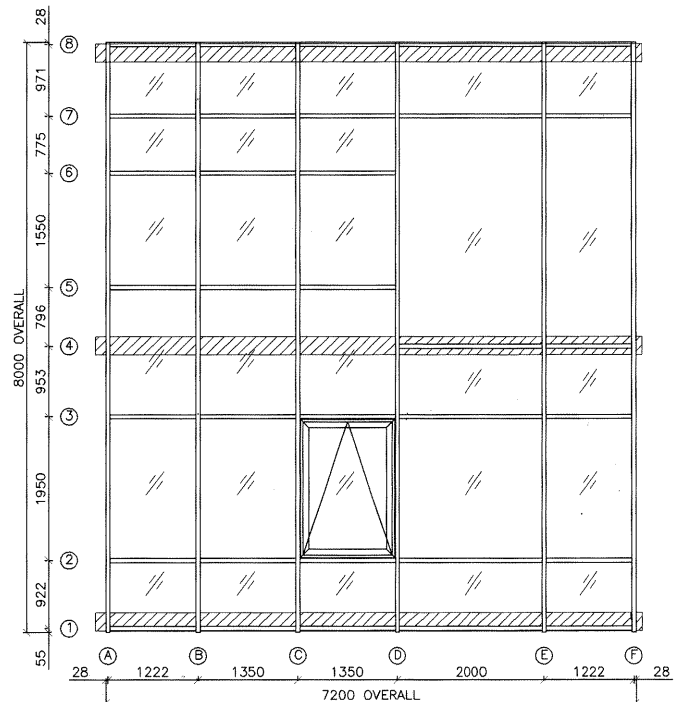
Witness: Alan Keiller
Centre for Window & Cladding Technology
University of Bath
Claverton Down
Bath BA2 7AY

Date of test: May 2008

Summary of results

Air permeability:	PASS
Pressure:	600 Pa (infiltration) 600 Pa (exfiltration)
Leakage rate (max):	0.55 m ³ /hour/m ² (infiltration fixed glazing) 0.58 m ³ /hour/m (infiltration opening joints) 0.84 m ³ /hour/m ² (exfiltration fixed glazing) 1.63 m ³ /hour/m (exfiltration opening joints)
Watertightness – static:	PASS
Test pressure:	600 Pa
Watertightness – dynamic:	PASS (Dynamic aero engine)
Wind resistance serviceability:	PASS
Test pressure:	2400 Pa
Wind resistance safety:	PASS
Test pressure:	3600 Pa
Hose test:	PASS

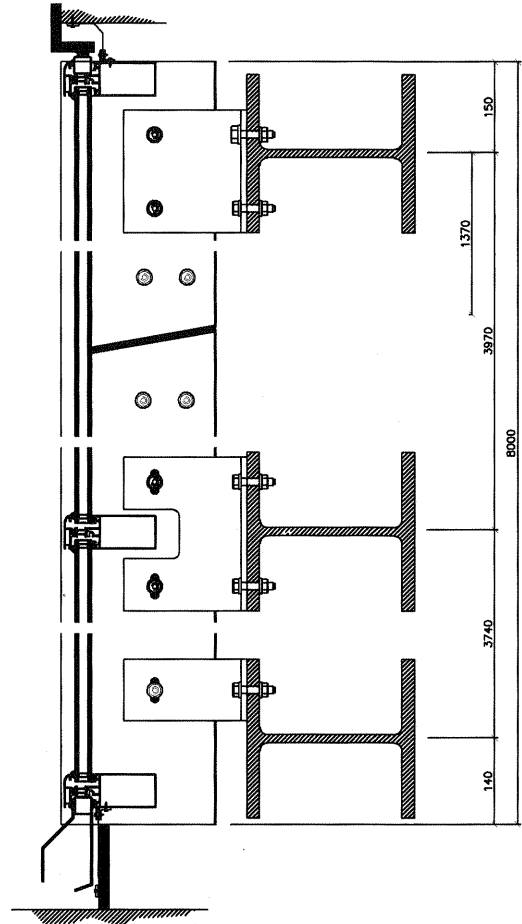
Elevation of test wall



Wind resistance - serviceability test

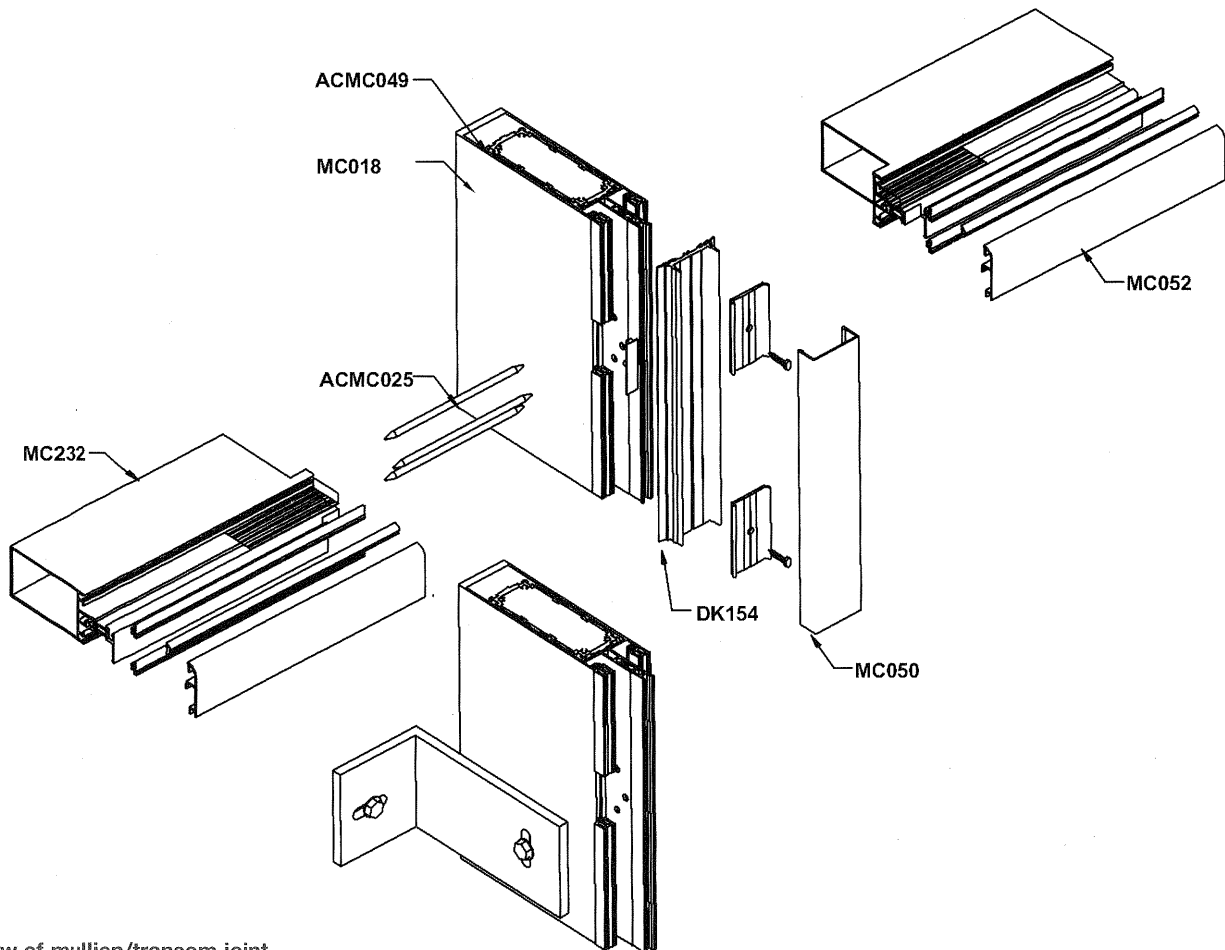
Result: PASS
 Pressure: 2400 Pa

Section through test wall

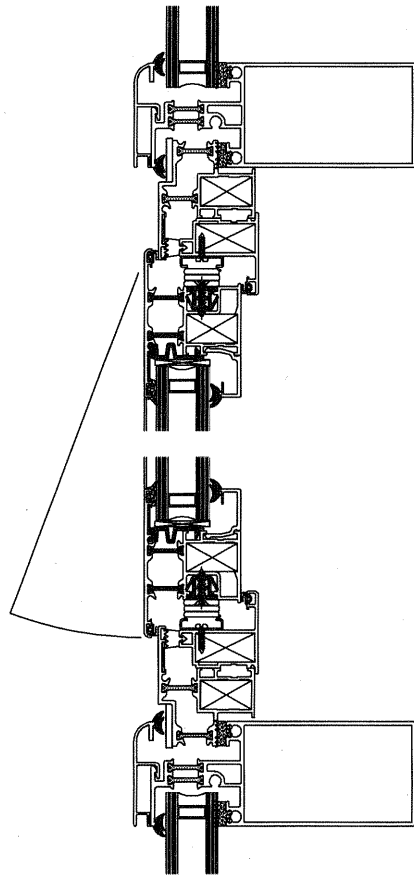
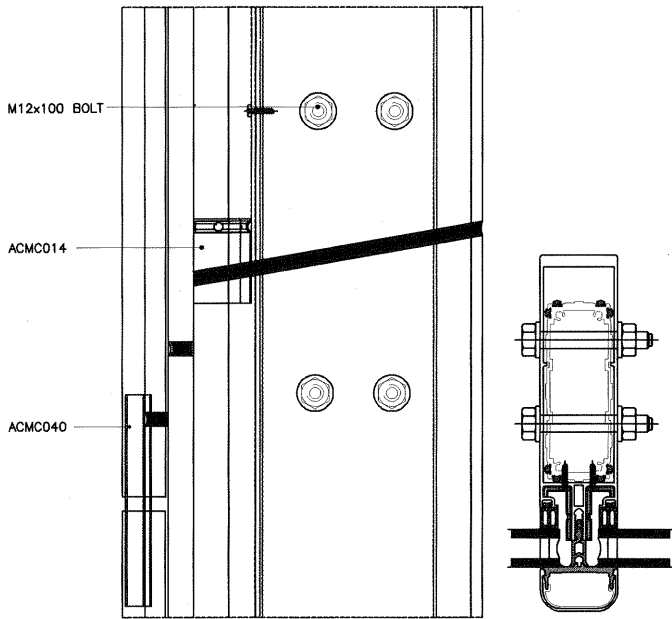


Deflections

Member	Length	Measured Deflection (d)			
		L (mm)	Pos (mm)	Neg (mm)	Pos d/L
Mullion D/1-4	3.7	5.5	4.1	1/672	1/902
Transom 3/D-E	2.0	4.0	4.1	1/500	1/488



Exploded view of mullion/transom joint



Fabricator: Smart Systems
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Installer: Smart Systems
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