LB ALUMINIUM BERHAD
138535-V

ALBEDOOR

MF01-50
MULTIFOLD DOOR

MF01-50
(WITH EXPOSED HINGES)

A luxurious grand entrance door with superior functionally and aesthetics.

ALBEDOOR MULTIFOLD DOOR
MF01-50 SERIES (WITH EXPOSED HINGES)

Performance Range

- Heavy duty.

Features

- Nominal wall thickness of 1.80mm.
- Concealed floor guide option.
- Low maintenance.
- Multipoint locking.
- Top rollers, hang and slide system.
- Flexible panel configurations.
- Ultra smooth operation.

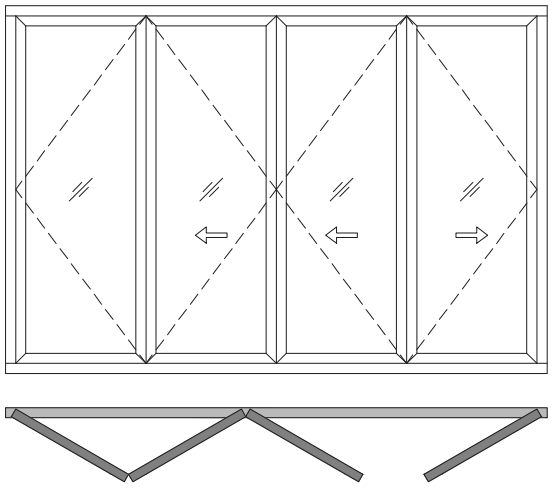
Recommended Panel Sizes / Weight

Door Height	Width	Weight
7'0" (2100mm)	3'3" (990mm)	≤80kg
8'0" (2400mm)	3'0" (915mm)	≤85kg
9'0" (2700mm)	2'8" (815mm)	≤90kg

Note: The specifications above ahould be taken as a guide to door design only. For the best solutions and door sizes configuration, kindly consult our sales personnel.

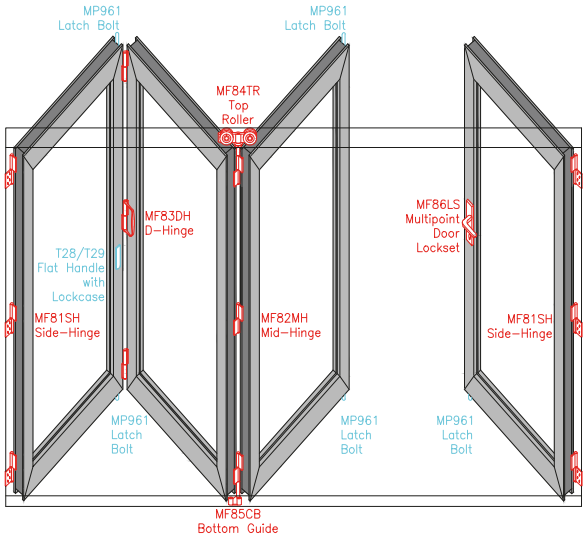
Typical Assembly Details

Typical 4 Panels Elevation (3+0 Configuration)

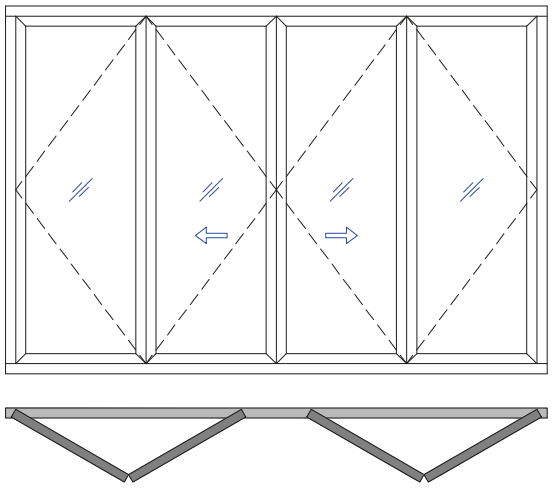


Exterior View

Typical Accessories Arrangement For Multifold Door with 3+1 Configuration - View From Inside

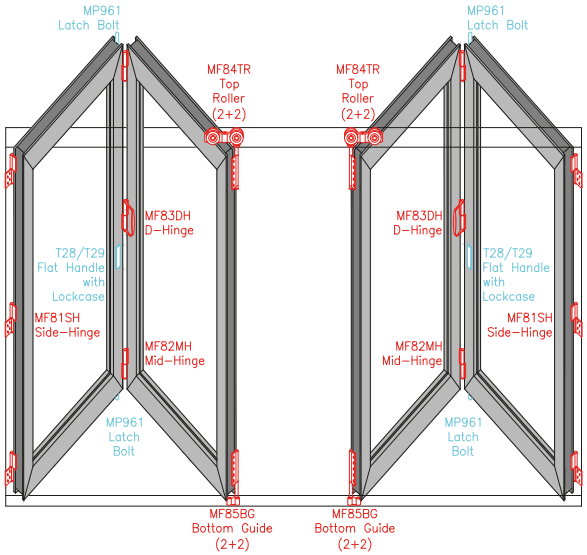


Typical 4 Panels Elevation (2+2 Configuration)

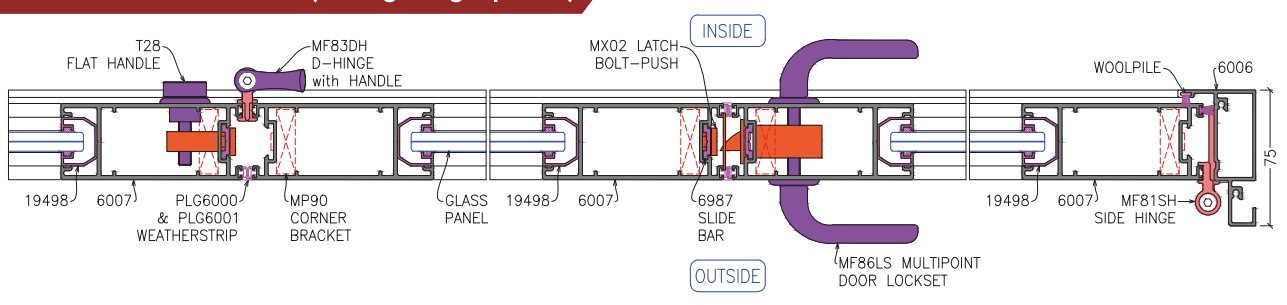


Exterior View

Typical Accessories Arrangement For Multifold Door with 2+2 Configuration - View From Inside

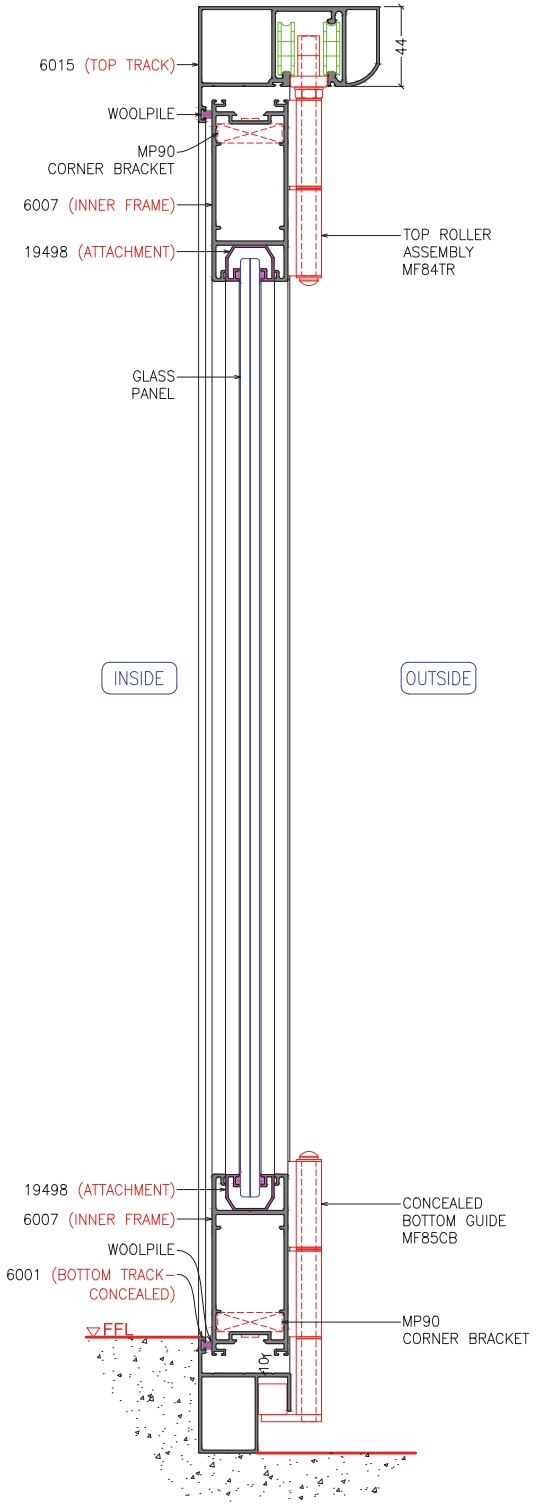


Horizontal Sectional View (Heavy Duty Options)



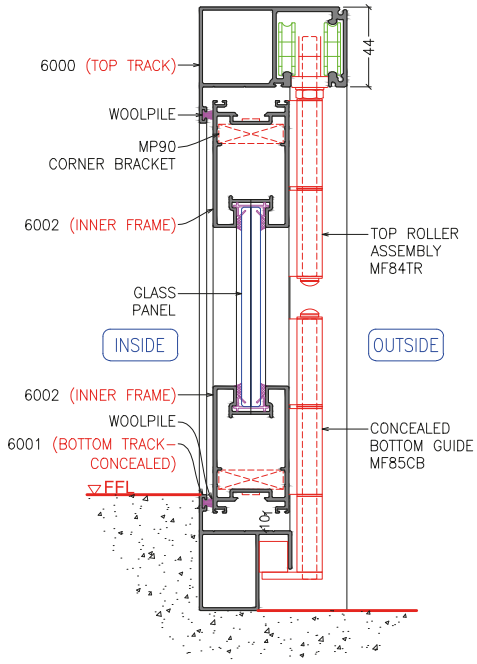
Accessories Arrangement

Vertical Sectional View (Heavy Duty Option)

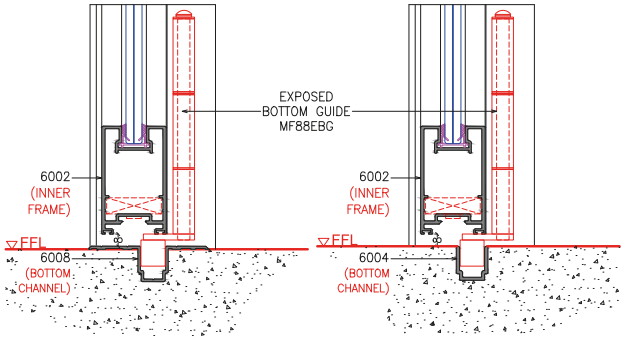


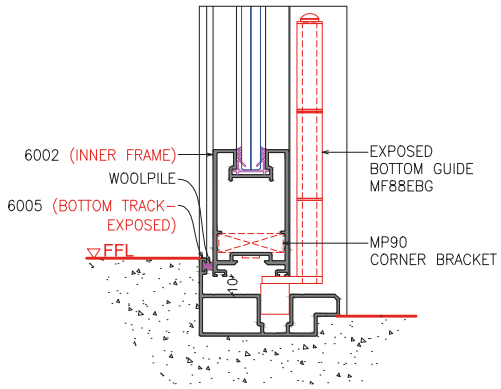
Vertical Sectional View

Bottom Track A
(Concealed Channel)



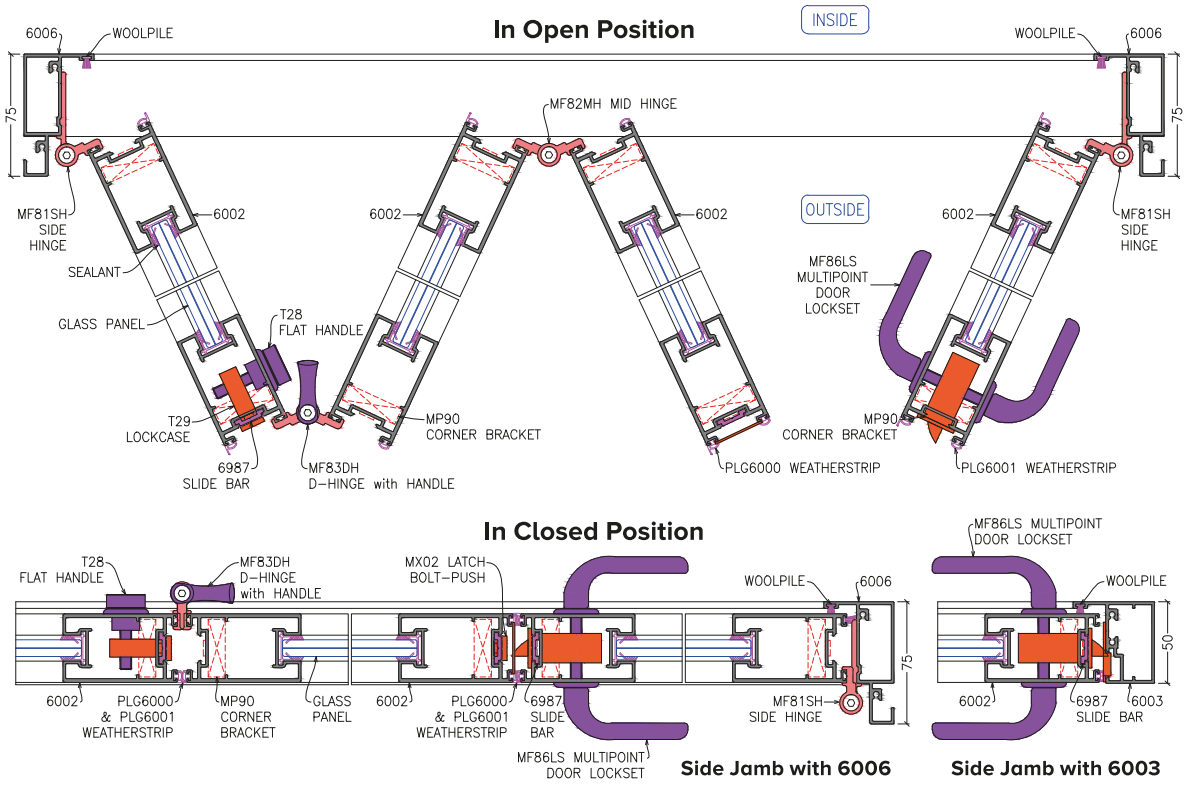
Bottom Track B
(Exposed Channel - Interior)



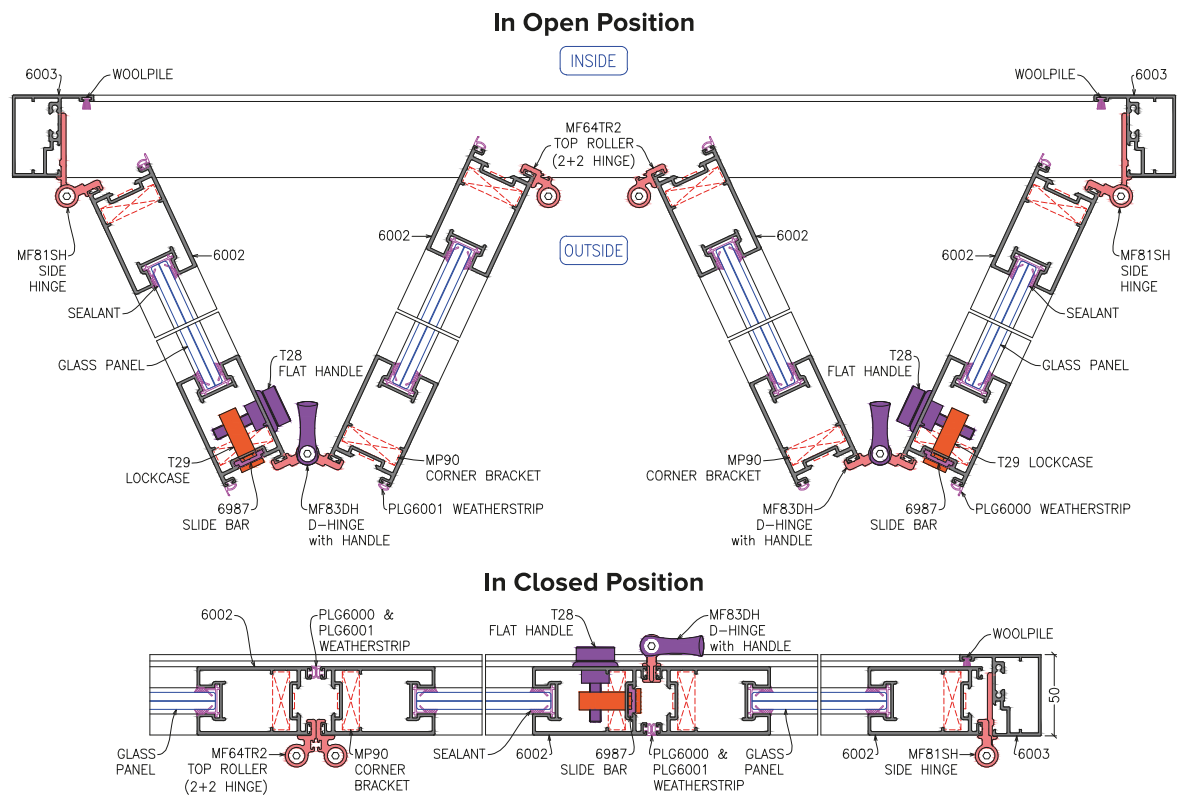


Accessories Arrangement

Horizontal Sectional View 3+1 Configuration

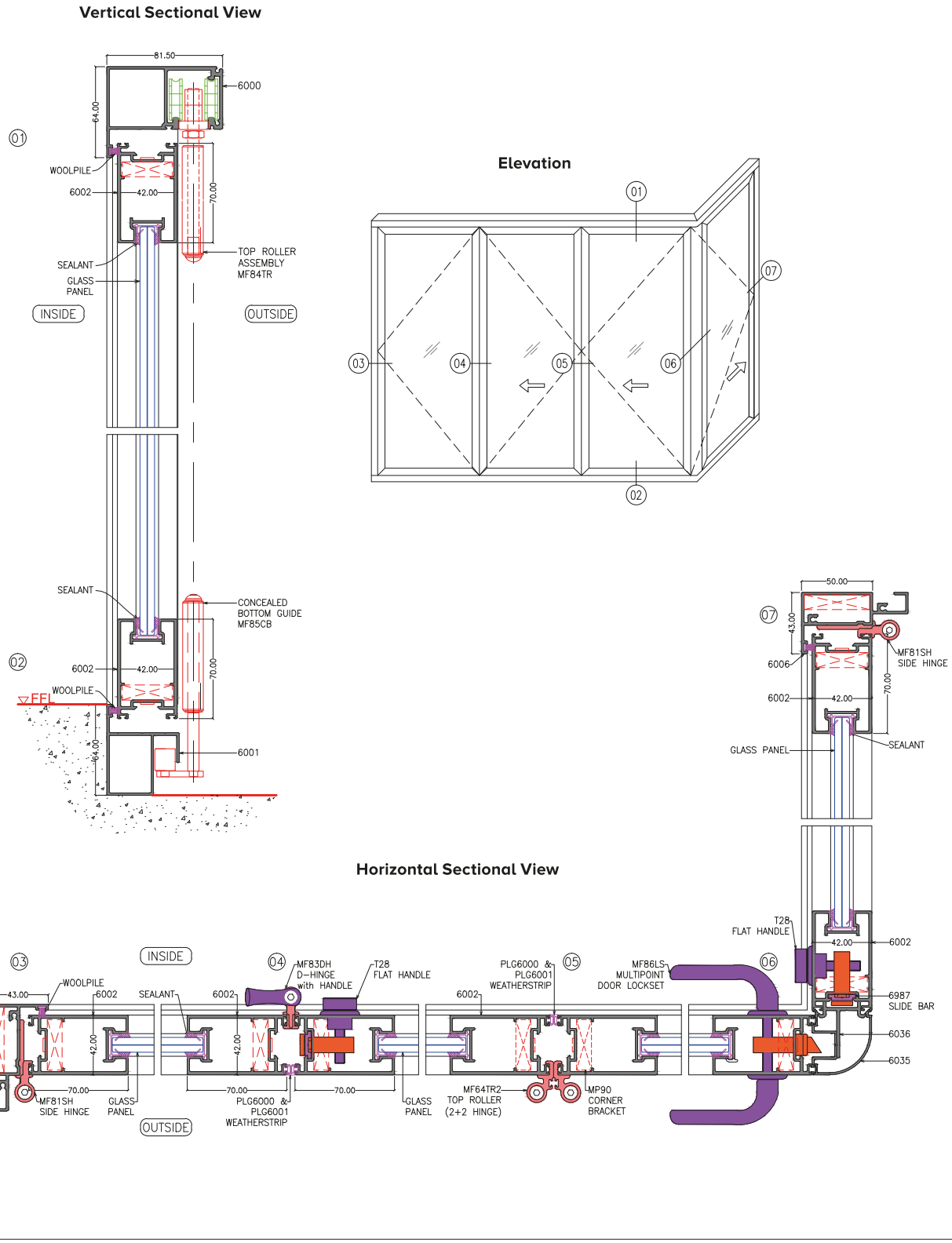


Horizontal Sectional View 2+2 Configuration



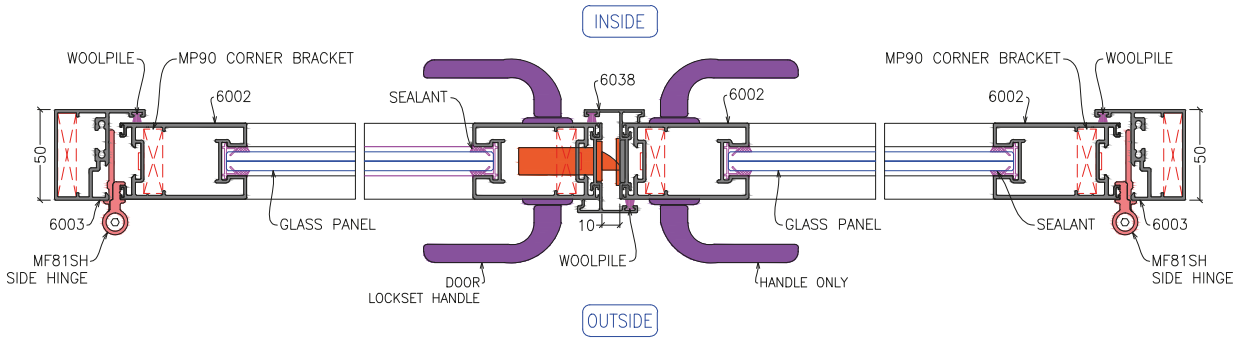
Accessories Arrangement

Typical Elevations - 3 Sliding Panels with Corner Joint

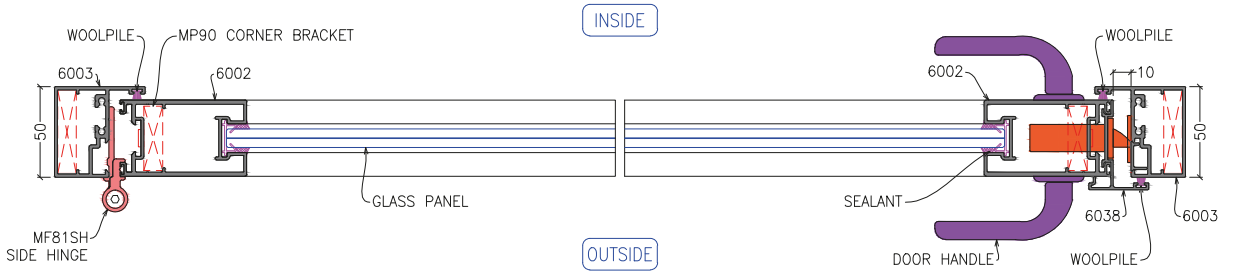


Accessories Arrangement

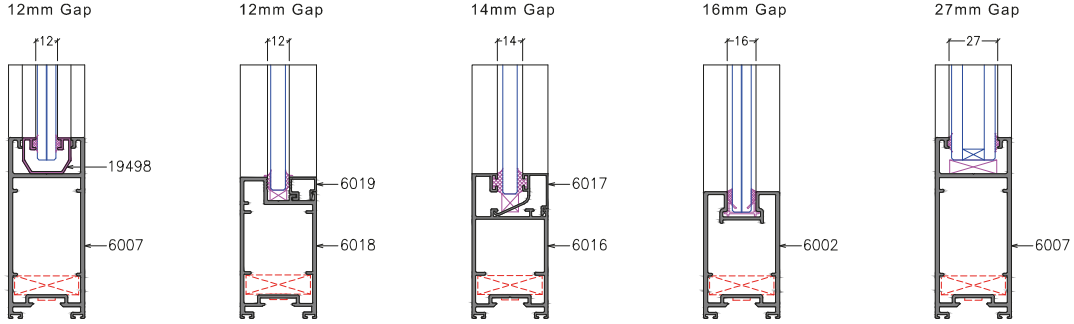
Option of Double-Leaf Swing Door



Option of Single-Leaf Swing Door



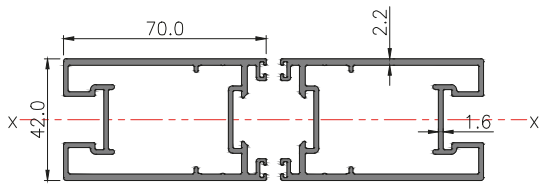
Glazing Gap Option For Inner Frames



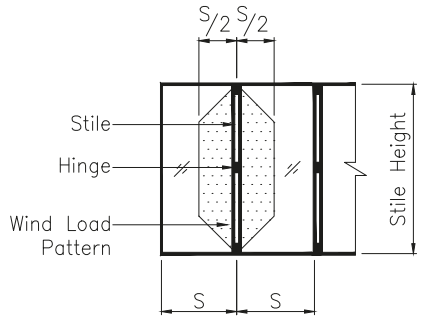
Wind Load Chart

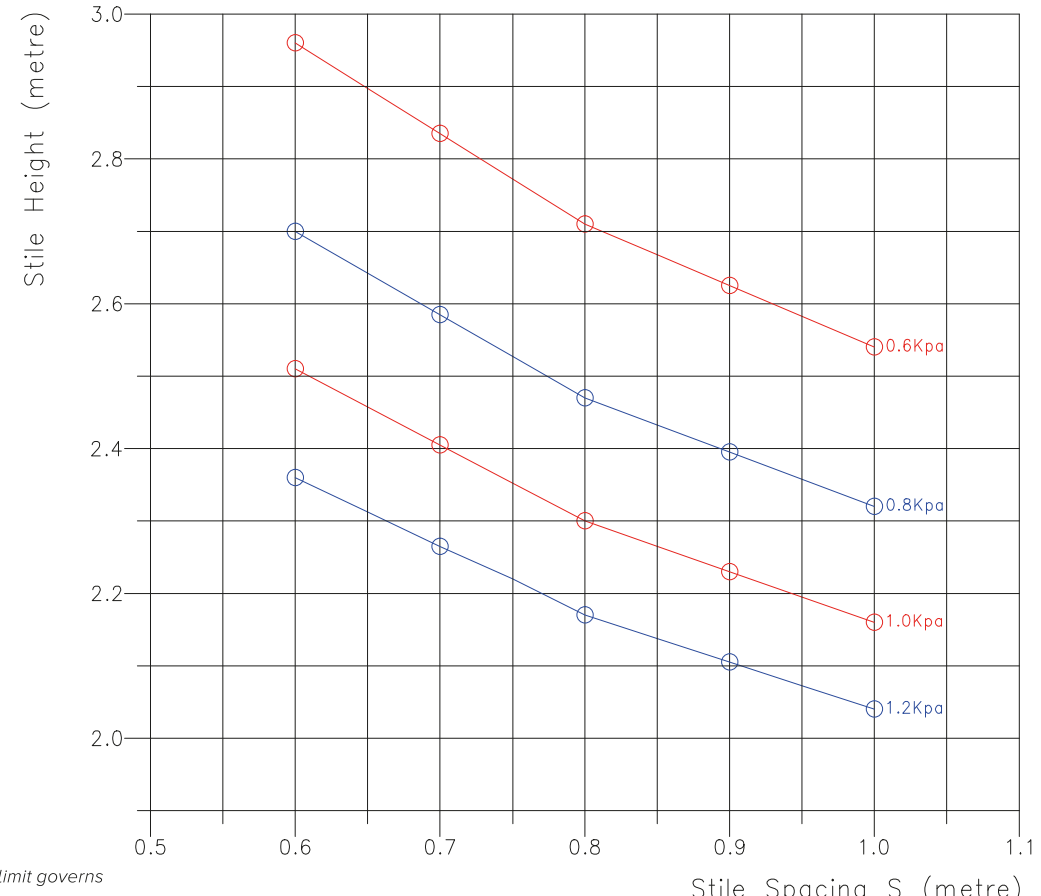
Mullion Section No. : 6002(x2)
Aluminium Alloy : 6063 - T5
Moment of Inertia Ixx : 30.4 cm^4
Mod. of Inertia Zxx : 14.4 cm^3

Mod. of Elasticity : 69 x 10^9 n/m^2
Deflection Limit : Span/175 up to max. 20 mm
Perm. Bend. Stress (within slenderness limit) : 1.25 x 67 Mpa
Nature of Anchor : Simply Supported at Both Ends



Typical Configuration of Multifold Door:





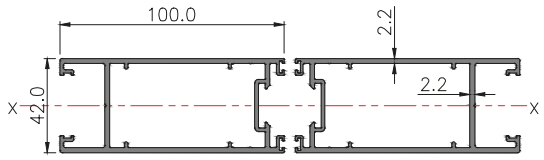
Legend:
◯ *Deflection limit governs*
◇ *Permissable bending stress governs*

Note: This wind load chart is solely for reference only.

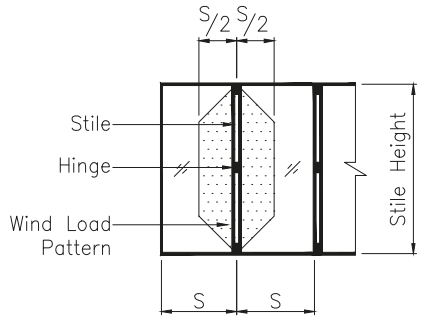
Wind Load Chart

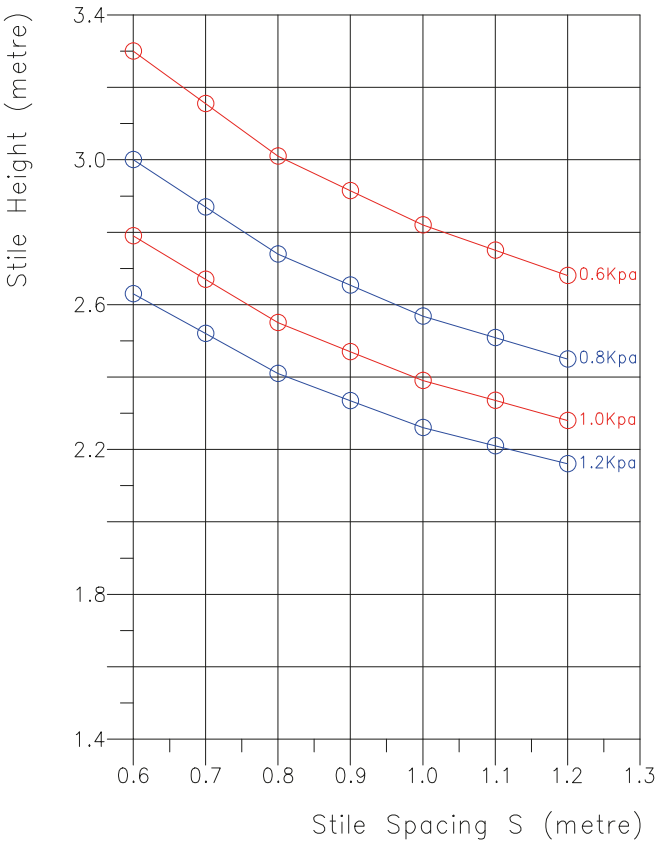
Mullion Section No. : 6007(x2)
Aluminium Alloy : 6063 - T5
Moment of Inertia Ixx : 42.1 cm^4
Mod. of Inertia Zxx : 20.0 cm^3

Mod. of Elasticity : 69 x 10^9 n/m^2
Deflection Limit : Span/175 up to max. 20 mm
Perm. Bend. Stress (within slenderness limit) : 1.25 x 67 Mpa
Nature of Anchor : Simply Supported at Both Ends



Typical Configuration of Multifold Door:



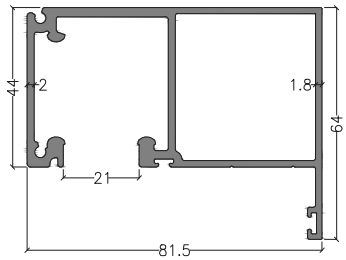


Legend:
◯ *Deflection limit governs*
◇ *Permissable bending stress governs*

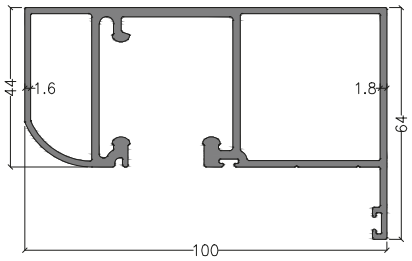
Note: This wind load chart is solely for reference only.

Sectional Details

Top Tracks

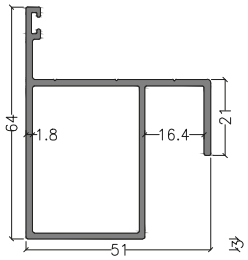


6000
1.718 kg/m “LW”
458.28 mm “AP”

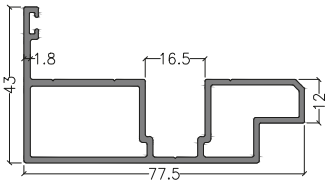


6015
2.016 kg/m “LW”
489.53 mm “AP”

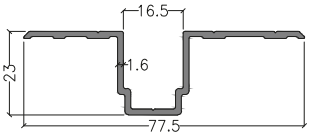
Bottom Tracks / Channels



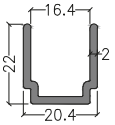
6001
0.965 kg/m “LW”
279.95 mm “AP”



6005
1.084 kg/m “LW”
293.05 mm “AP”

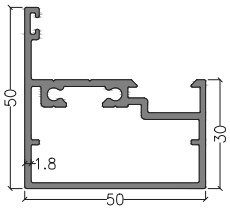


6008
0.515 kg/m “LW”
241.32 mm “AP”

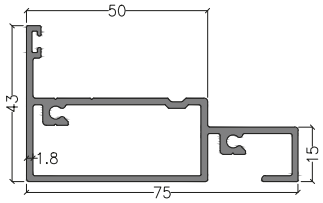


6004
0.322 kg/m “LW”
120.16 mm “AP”

Side Jambs



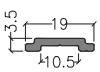
6003
1.009 kg/m “LW”
237.29 mm “AP”



6006
1.111 kg/m “LW”
310.55 mm “AP”

Slide Bars

6987
0.140 kg/m “LW”
49.24 mm “AP”

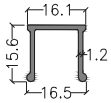


6219
0.117 kg/m “LW”
45.58 mm “AP”

Outer Frame Capping

5928
0.095 kg/m “LW”
55.04 mm “AP”

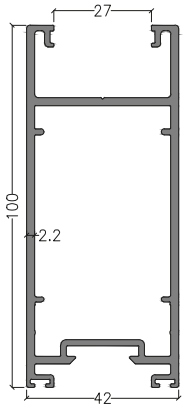
Channel Cover



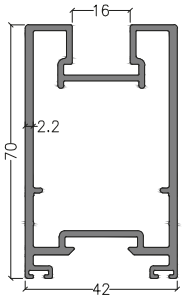
6009
0.156 kg/m “LW”
91.49 mm “AP”

Sectional Details

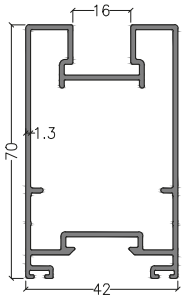
Inner Frames



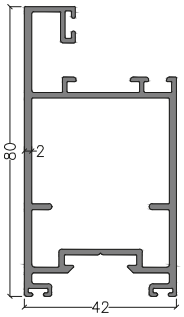
6007
1.828 kg/m "LW"
428.18 mm "AP"
Ixx : 69.6 cm⁴
Iyy : 21.1 cm⁴



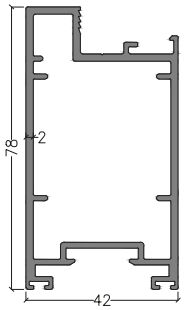
6002
1.475 kg/m "LW"
325.12 mm "AP"
Ixx : 29.2 cm⁴
Iyy : 15.2 cm⁴



6020
1.055 kg/m "LW"
328.72 mm "AP"
Ixx : 22.4 cm⁴
Iyy : 10.5 cm⁴

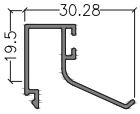


6016
1.361 kg/m "LW"
400.85 mm "AP"



6018
1.430 kg/m "LW"
327.95 mm "AP"

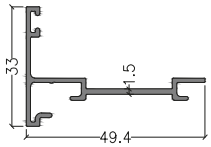
Glazing Beads



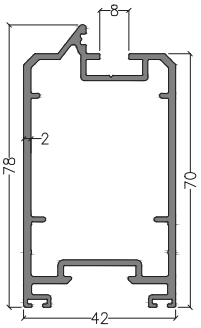
6017 (For 6016)
0.222 kg/m "LW"
161.77 mm "AP"

6019 (For 6018)
0.117 kg/m "LW"
88.84 mm "AP"

Overlap Wing Attachment

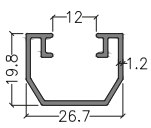


6038
0.384 kg/m "LW"
219.88 mm "AP"



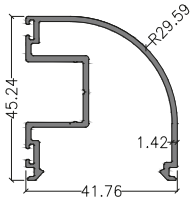
6040
1.369 kg/m "LW"
326.15 mm "AP"

Inner Frame Attachemnt

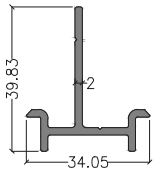


19498
0.276 kg/m "LW"
168.92 mm "AP"

90° Corner Joint Attachment



6035
0.635 kg/m "LW"
329.86 mm "AP"



6036
0.455 kg/m "LW"
169.79 mm "AP"

Accessories

Premium Range

MF81SH Side Hinge
MF82MH Mid Hinge
MF83DH D-Hinge with Handle
MF85CB Bottom Guide (Concealed)
MF88EBG Bottom Guide (Exposed)
MF84TR Top Roller Assembly
MF84STR Top Roller Assembly
MF85SCBG Bottom Guide (Concealed)
MF88SEB2 Bottom Guide (Exposed)

Standard Range

MF61SH Side Hinge
MF62MH Mid Hinge
MF63DH D-Hinge with Handle
MF64TR1 Top Roller (Mid Hinge)
MF64STR Top Roller (2+2 Hinge)
MF65CBG Bottom Guide (Concealed)
MF65SCBG Bottom Guide (2+2 Hinge Concealed)
MF68EB2 Bottom Guide (Exposed)
MF68SEB2 Bottom Guide (2+2 Hinge Exposed)

Accessories

Multipoint Door Locksets

T30 Lockset

ML01
(for 4 point locking)

LH216

Other Accessories

T29
Lockcase

T28
Flat Handle

MPH961
Latch Bolt

MX02
Bolt Push

Woodpile
5 x 7

Corner Bracket

MP90

MP590A
Alum.

Latch Bolt Keepers

MPH962K1
(Single Hole)

MPH962K2
(Double Hole)

Co-Extruded Suntopene Weather Strip

PLG6000

Accessories Performance Test And Report

Report On

Operating test on: ZEBRATTI bi-fold system

Testing was carried out at Advanced Engineering's factory in Auckland, New Zealand. Testing was carried out during August 2007.

Background

Operating test on ZEBRATTI bi-fold door system test to check performance of bi-fold hardware. Specifically top roller system and bottom guide.

Description

Zebratti hardware was mounted on a 2 panel bi-fold door approximately 2400mm high x 1700mm wide. This was mounted in the test frame. The test frame is a mild steel rig capable of supporting the door in a similar manner to the onsite. The test frame is inside AES factory.

Each door panel is approximately 2300mm high x 820mm wide, infill panels are mild steel plate. The total weight of each panel is 80kg.

See pic 1 & 2 appendix A

The door was mounted on standard Zebratti hinges and Zebratti roller code R1CP. The rollers were end mounted on the hinge shaft. Refer to Zebratti product list.

Testing

The test door panels were opened and closed using an air cylinder with a connection onto the door at approx. 1m above the floor, each open and close action was one cycle. The opening and closed positions of the panels was just short of the normal fully opened position to allow the air cylinder to operate without over centring. The doors operated at a rate of approximately 4 cycles per minute. Testing was carried out with steel plate infills in the place of glass.

Testing was stopped at 12000 cycles and an inspection of the roller assembly was carried out, the lock nut below the horizontal thrust bush was tightened. The test was run for 25000 cycles before further inspection was carried out. The wheels were remounted and testing continued.

Testing was stopped at 33000 cycles, sand and grit were poured into the bottom guide channel. This partially blocked the channel (see pic 4). The door was manually operated several times to clear a path through the sand and grit. Testing then continued until a total of 50000 cycles was reached.

Results

The doors were still operating correctly after 25000 cycles with no significant change in door operation. There was some wear to plastic tyres with plastic tyre particles deposited on the chassis (see pic 1). There was no visible wear to the bottom guide roller.

Testing was continued up to 33000 cycles, there was no change in the operation at the time sand and grit were added to the bottom track. A check at 37000 cycles showed some of the grit had become embedded in the bottom guide and on the guide sides. This did not appear to affect operation, but created an increase in bottom guide noise.

Testing continued until 50000 cycles. Manual operation of the doors after the completion of testing showed no significant change in the operating forces from the start of testing. The doors still closed to the same 'shut' position.

Summary

The bi-fold unit tested was still operating as designed at the completion of the test. There was wear of the plastic tyres on the top rollers and lateral support roller. There was no significant wear to the bottom guide although some of the added grit had embedded in the roller.

Prepared by:

Ron Hanley
Facade Design Services Ltd.
Aucland, New Zealand

Appendix A

Rollers and hinges tested to 50,000 times open/close cycles

Picture 2: General arrangement of test unit (note photos after testing 25,000 cycles). Door just before the closed position.

Picture 1: Top rollers in position

Picture 2: Mid-hinge (Opened position)

Picture 3: Sand and grit applied into bottom (33,000 cycles)

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