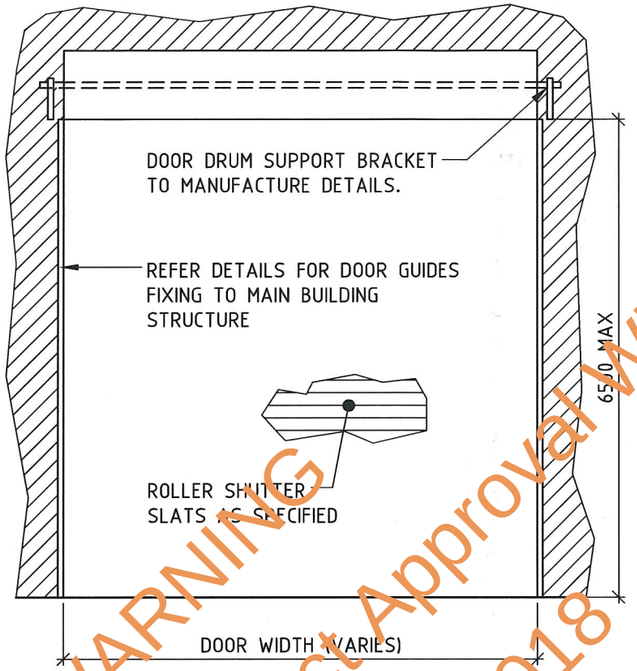
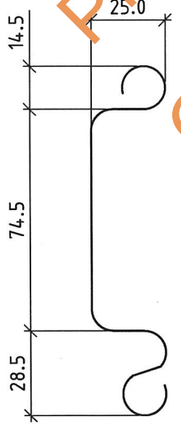


TYPICAL ROLLER SHUTTER ELEVATION (INSIDE VIEW)

SCALE 1:75



TYPICAL ROLLER SHUTTER SLAT

SCALE 1:2

NOTES:-

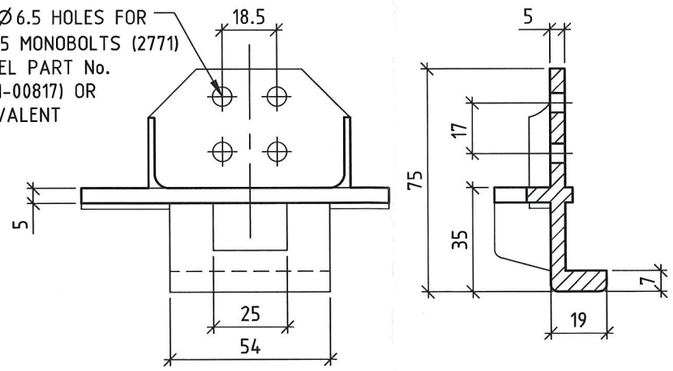
1. APPROXIMATE COVER WIDTH TO SLAT 100mm.
2. SLAT SHALL BE COLD ROLLED FROM 0.95mm BMT G250 Z275 GALVABOND STEEL STRIP.

DOOR MATERIAL TABLE

DOOR WIDTH (mm)	WIND LOCK SPACING	END GAP (mm)	ULTIMATE DESIGN RESISTANCE (kPa)	ULTIMATE REACTIONS (kN/m)	TRUBOLT SPACING (mm)	CHEMSET SPACING (mm)
1500	NIL	N/A	8.50	X=0 Y=6.4	M12@400	M12@400
1500	EVERY 4th SLAT	10	10.60	X=28.0 Y=8.1	M12@400	M12@400
2000	NIL	N/A	4.80	X=0 Y=4.8	M12@400	M12@400
2000	EVERY 4th SLAT	10	7.00	X=28.3 Y=7.1	M12@400	M12@400
2000	EVERY 2nd SLAT	10	13.10	X=53.2 Y=13.3		M12@250
2500	NIL	N/A	3.10	X=0 Y=3.9	M12@400	M12@400
2500	EVERY 4th SLAT	10-15	5.00	X=28.5 Y=6.3	M12@400	M12@400
2500	EVERY 2nd SLAT	10-15	9.60	X=54.7 Y=12.1		M12@250
2500	EVERY 4th SLAT	15	6.00	X=28.2 Y=7.6	M12@400	M12@400
2500	EVERY 2nd SLAT	15	11.00	X=51.7 Y=13.9		M12@250
3000	NIL	N/A	2.10	X=0 Y=3.2	M12@400	M12@400
3000	EVERY 4th SLAT	10	3.80	X=28.6 Y=5.7	M12@400	M12@400
3000	EVERY 2nd SLAT	10	7.50	X=56.4 Y=11.2		M12@250
3000	EVERY 4th SLAT	15	4.60	X=28.3 Y=7.0	M12@400	M12@400
3000	EVERY 2nd SLAT	15	8.60	X=52.9 Y=13.1		M12@250
3500	EVERY 4th SLAT	15	3.70	X=28.6 Y=6.5	M12@400	M12@400
3500	EVERY 2nd SLAT	15	7.10	X=54.9 Y=12.5		M12@250
4000	EVERY 4th SLAT	20	4.50	X=27.4 Y=9.1	M12@400	M12@400
4000	EVERY 2nd SLAT	20	7.40	X=51.7 Y=15.1		M12@250
4000	EVERY 4th SLAT	25 TO 40	3.45	X=28.3 Y=7.0	M12@400	M12@400
4000	EVERY 2nd SLAT	25 TO 40	6.50	X=53.3 Y=13.1		M12@250
5000	EVERY 4th SLAT	20 TO 40	3.20	X=28.9 Y=8.3	M12@400	M12@400
5000	EVERY 2nd SLAT	20 TO 40	5.40	X=53.3 Y=13.7		M12@250
6000	EVERY 2nd SLAT	30 TO 40	5.10	X=55.9 Y=15.4		M12@250
7000	EVERY 2nd SLAT	40	4.50	X=55.2 Y=15.9		M12@250
8000	EVERY 2nd SLAT	40	3.70	X=55.8 Y=14.9		M12@250

X = HORIZONTAL REACTION IN PLANE OF DOOR
Y = HORIZONTAL REACTION PERPENDICULAR TO PLANE OF DOOR
— BASED ON ULTIMATE DESIGN RESISTANCE

NOTE: 1. REDUCE THE REACTIONS PROPORTIONATELY WHEN THE CALCULATED DESIGN WIND PRESSURE IS LESS THAN THE ULTIMATE DESIGN RESISTANCE.
2. FOR ANCHOR TYPE REFER TO DOOR GUIDE FIXING DETAIL ON SHEET 2.



ELEVATION ON WIND LOCK

SCALE 1:2

CAST STEEL, Z/P.

Product name
ROLLER SHUTTER DOORS
WITH WIND LOCKS

Product Description
ROLLER SHUTTER DOORS
WITH WIND LOCKS

Manufacturer's Name
MIRAGE INDUSTRIES PTY LTD
PH (07) 37176666

Design Criteria

1. THE INSTALLED ROLLER SHUTTER IMPOSES SIGNIFICANT FORCES ON THE MAIN BUILDING STRUCTURE. THE IMMEDIATE SUPPORTING STRUCTURE MUST BE DESIGNED TO RESIST THE LOADINGS APPLIED AT EACH END OF THE DOOR AS INDICATED IN THE TABLE. THE REACTIONS IN THE TABLE ARE BASED ON THE INDICATED ULTIMATE DESIGN RESISTANCE OF THE DOOR AND MAY BE REDUCED PROPORTIONATELY IF THE CALCULATED DESIGN WIND PRESSURE IS LESS THAN THE DESIGN ULTIMATE RESISTANCE. A SEPARATE SECTION 40 CERTIFICATE SHALL BE OBTAINED COVERING THE IMMEDIATE SUPPORTING STRUCTURE.
2. THE RATED DESIGN WIND LOAD RESISTANCE FOR EACH DOOR WIDTH IS AS INDICATED IN THE TABLE. THE STRUCTURAL ENGINEER INVOLVED WITH THE MAIN BUILDING DESIGN SHALL VERIFY THAT THE STATED DESIGN RESISTANCE EXCEEDS THE SITE SPECIFIC DESIGN WIND LOADING.
3. THE DOORS HAVE BEEN TESTED FOR DEBRIS IMPACT AS PRESCRIBED IN AS/NZS1170.2-2011. REFER VIPAC CYCLONIC WINDBORNE DEBRIS IMPACT TEST REPORT.

Limitations

1. 6500mm MAX DOOR HEIGHT
2. 8000mm MAX DOOR WIDTH
3. END GAPS MUST BE SET AS INDICATED IN TABLE.
4. THE DOOR MAY BE POSITIONED AT ANY LOCATION ON THE BUILDING STRUCTURE INCLUDING LOCAL PRESSURE ZONES (CORNERS OF BUILDINGS), PROVIDING THAT THE MAXIMUM ULTIMATE DESIGN RESISTANCE OF THE DOORS IS NOT EXCEEDED AND THE MAIN BUILDING FRAME CAN SUSTAIN THE DOOR GUIDE REACTIONS
5. IT IS CRITICAL THAT THE ROLLER SHUTTER WIND LOCKS BE SET WITH THE END GAP INDICATED IN THE TABLE. THE SLAT & WINDLOCK SHALL BE ACCURATELY INSTALLED SO THAT THE SPECIFIED END GAP IS ACHIEVED.
6. ALL WELDED CONNECTIONS SHALL BE COLD GALVANISED.
7. THE ROLLER SHUTTER INSTALLATION SHALL BE TREATED AS REQUIRED IN ORDER TO COMPLY WITH THE DURABILITY REQUIREMENTS OF THE BCA FOR THE ACTUAL SITE EXPOSURE CONDITIONS.
8. PERSONAL ACCESS DOORS ARE NOT PERMITTED IN THE DOOR CURTAIN.

Notes covering basis of DTC (Relevant test report etc)

REFER TO NJA CONSULTING REPORT - REFERENCE No. 09208-001-05:DMcD.

REFER VIPAC ENGINEERS AND SCIENTISTS LTD CYCLONIC WINDBORNE DEBRIS IMPACT TEST REPORT 30B-13-0030-TRP-336169-0 DATED 31 JULY 2013.

****Certifying Engineer's Certification**

Name: RONALD A. BELL
Registration Number: 60596 ES
Date: 18SEP2013
Signature:
**registered as a structural engineer in Northern Territory

***Design Engineer's Certification**

Name: DARREN McDONALD
Registration Number: 24619 ES
Date: 18 SEPT 13
Signature:
*registered as a structural engineer in Australia

Accepted for Inclusion

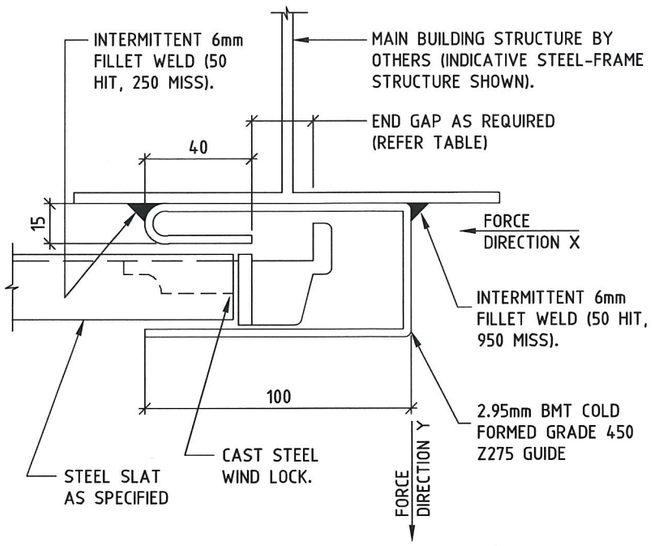
DTCM ref: m/423/01 SHEET 1 OF 2

Chairman's Signature:

Chairman's Name: ~~STEVEN~~ J EHRLICH

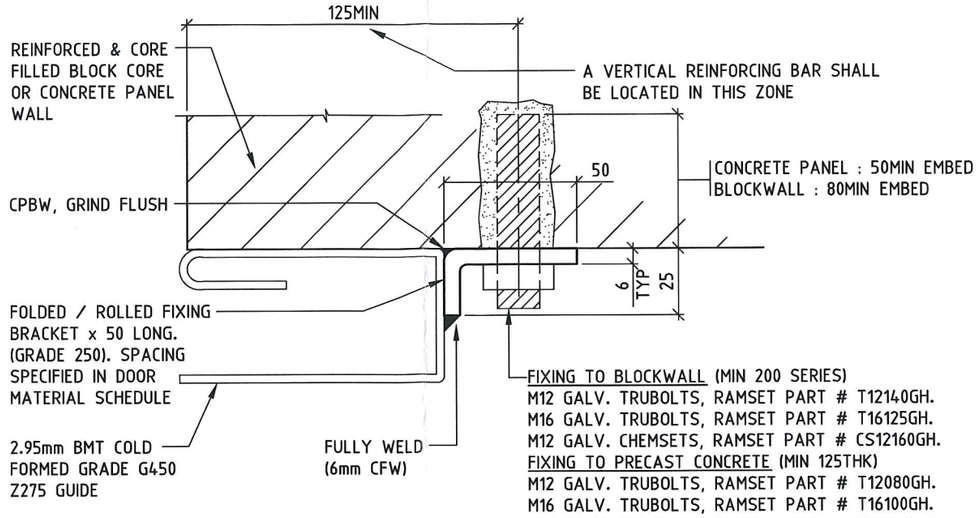
Date of Approval: 24-10-13

Expiry Date: 24-10-18



TYPICAL ROLLER SHUTTER GUIDE DETAIL

NTS

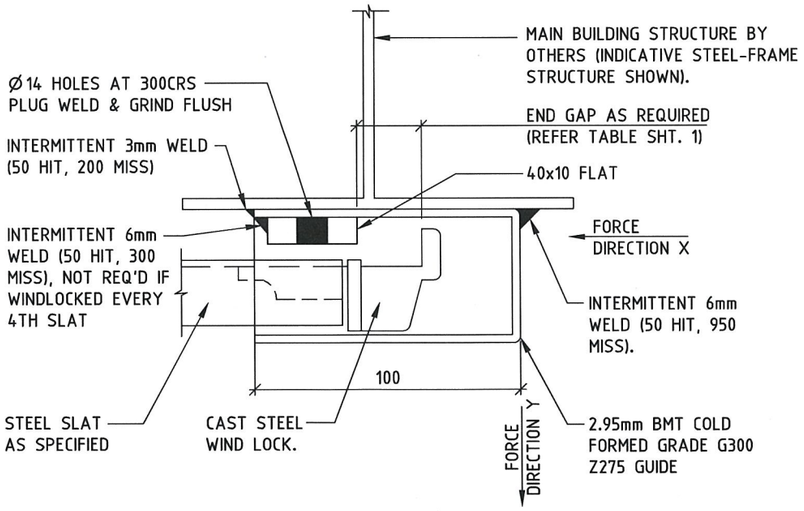


ROLLER SHUTTER GUIDE TO BUILDING FIXING

NTS - (FIXING TO BLOCKWORK OR CONCRETE)

FIXING TO BLOCKWALL (MIN 200 SERIES)
M12 GALV. TRUBOLTS, RAMSET PART # T12140GH.
M16 GALV. TRUBOLTS, RAMSET PART # T16125GH.
M12 GALV. CHEMSETS, RAMSET PART # CS12160GH.
FIXING TO PRECAST CONCRETE (MIN 125THK)
M12 GALV. TRUBOLTS, RAMSET PART # T12080GH.
M16 GALV. TRUBOLTS, RAMSET PART # T16100GH.
M12 GALV. CHEMSETS, RAMSET PART # CS12160GH.
NOTE:

1. FOR FASTENER SPACINGS REFER DOOR MATERIALS TABLE ON SHEET 1.
2. OTHER PROPRIETARY ANCHOR SYSTEMS MAY BE USED PROVIDING THAT THEY CAN SUPPLY THE REACTIONS SPECIFIED ON SHEET 1.
3. A VERTICAL REINFORCING BAR SHALL BE LOCATED BETWEEN THE FASTENER AND THE DOOR OPENING, REFER TO ENGINEER IF OTHERWISE.
4. CHEMSET ANCHORS SHALL BE INSTALLED USING MAXIMA SPIN CAPSULES OR CHEMSET 801 EPOXY ADHESIVE.
5. THIS DRAWING DOES NOT PRECLUDE FIXING OF THE DOOR GUIDES TO OTHER FORMS OF PRIMARY BUILDING STRUCTURE INCLUDING COLD-FORMED STEEL AND 150 SERIES REINFORCED CONCRETE MASONRY. SUBJECT TO THE ADJACENT DESIGN CRITERIA

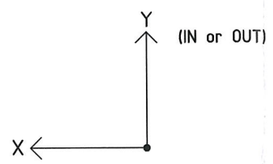


OPTIONAL ROLLER SHUTTER GUIDE DETAIL

NTS

NOTES:-

1. FIXING OF ALTERNATIVE GUIDE TO CONCRETE OR MASONRY SHALL BE SIMILAR TO THAT SPECIFIED FOR "GUIDE TO BUILDING FIXING"



REACTIONS ON DOOR GUIDE

REFER DOOR MATERIAL TABLE ON SHEET 1

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. TREAT ALL WELD AFFECTED SURFACES WITH CORROSION RESISTANT COATING SYSTEM AS REQUIRED.
3. LOCATE MASONRY ANCHORS AS NEAR AS PRACTICABLE TO CENTRE OF VERTICAL REINFORCED CORES.
4. ALL DOOR COMPONENTS TO BE SUITABLY PROTECTED AGAINST CORROSION INCLUDING ZINCALUM GALVANISING OR OTHER APPROVED COATING SYSTEM.

Product name
ROLLER SHUTTER DOORS
WITH WIND LOCKS

Product Description
ROLLER SHUTTER DOORS
WITH WIND LOCKS

Manufacturer's Name
MIRAGE INDUSTRIES PTY LTD
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8. PERSONAL ACCESS DOORS ARE NOT PERMITTED IN THE DOOR CURTAIN.

Accepted for Inclusion

DTCM ref: M/423/02 SHEET 2 OF 2

Chairman's Signature:

Chairman's Name: ~~STEVEN~~ J EHRLICH

Date of Approval: 24-10-13 Expiry Date: 24-10-18

Notes covering basis of DTC (Relevant test report etc)

REFER TO NJA CONSULTING REPORT - REFERENCE No. 09208-001-05:DMcD

THE MAXIMUM DOOR DESIGN RESISTANCE & APPLIED GUIDE FORCES HAVE BEEN CALCULATED USING TEST DATA & THEORETICAL ANALYSIS CARRIED OUT BY NJA CONSULTING:- AS REPORTED IN SUMMARY REPORT REF:- 09208-001-05.

REFER VIPAC ENGINEERS AND SCIENTISTS LTD CYCLONIC WINDBORNE DEBRIS IMPACT TEST REPORT 30B-13-0030-TRP-336169-0 DATED 31 JULY 2013.

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