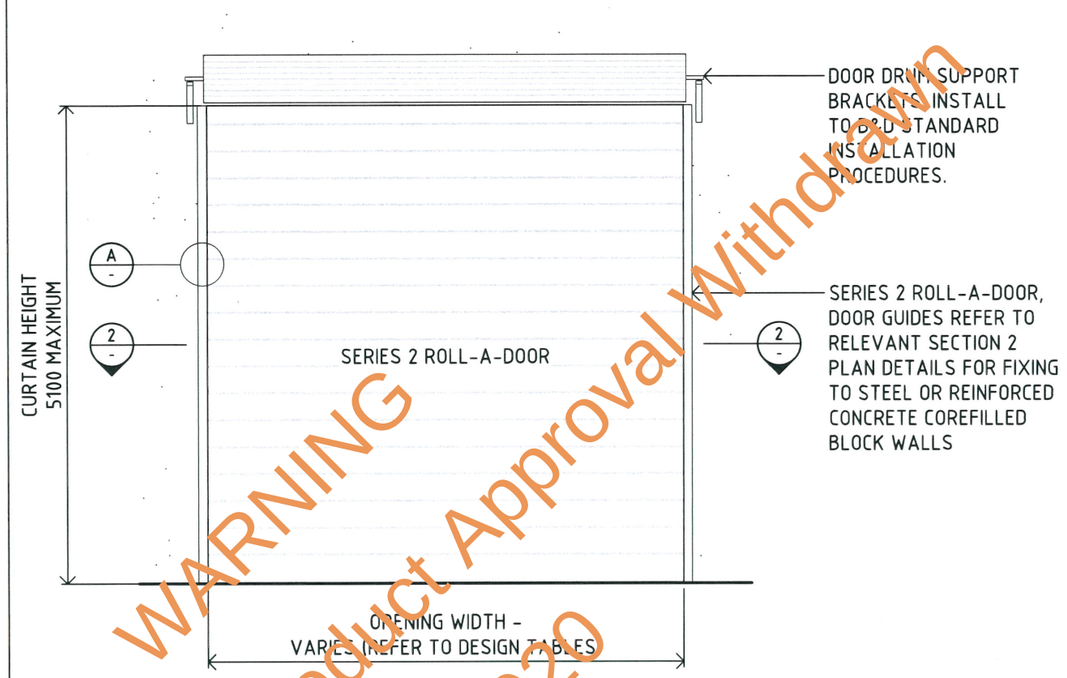
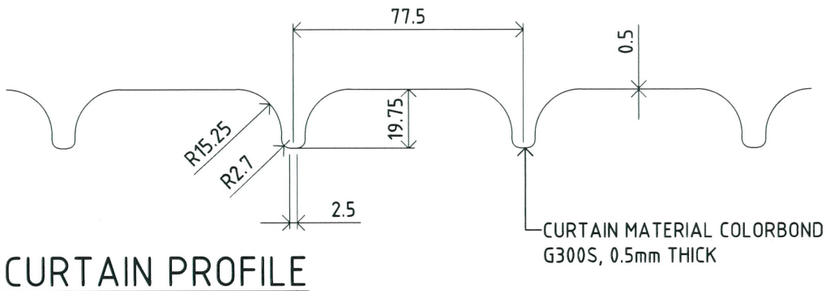
IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1). THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



SERIES 2 ROLL-A-DOOR ELEVATION - TYPICAL

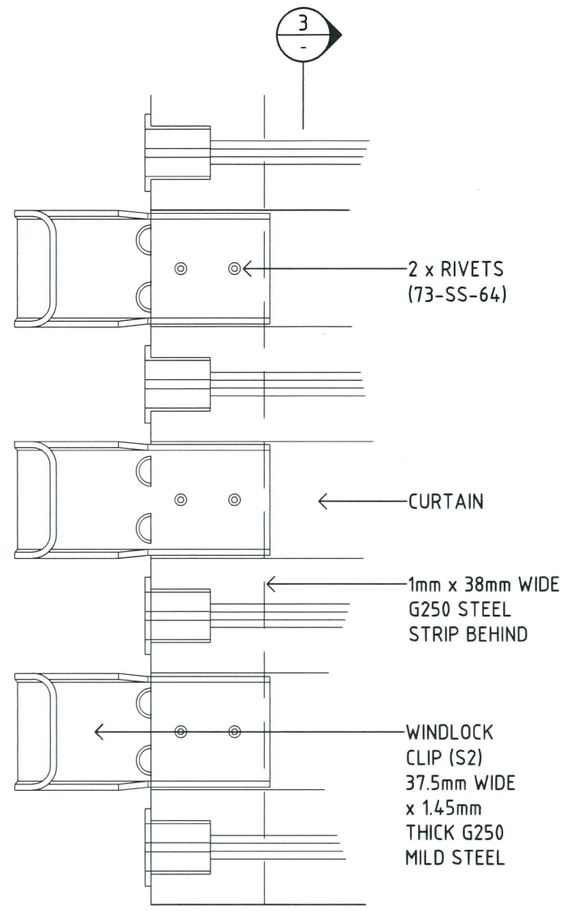
SCALE 1:50

CURTAIN WIDTH (L)= OPENING WIDTH + CURTAIN OVERLAPS
(REFER TO DRAWINGS S02, S03 AND S04)



CURTAIN PROFILE SECTION 3 / -

SCALE = 1:2



DETAIL A / -

SCALE = 1:2

CURTAIN MATERIAL AND WIND-LOCK CLIPS - PART ELEVATION

AS VIEWED FROM BACK FACE

Product Name

B&D SERIES 2 ROLL-A-DOOR

Product Description

WINDLOCKED ROLLER DOOR

Manufacturer's Name

B&D AUSTRALIA PTY LTD

34-36 MARIGOLD STREET, REVESBY NSW 2212 PH: 136 263

Design Criteria

- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 5.1m MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- FOR THE ABOVE DESIGN CRITERIA PROVIDE CLIPS AT EVERY FLAT AS SHOWN ON PART ELEVATION (DETAIL A).
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.01 KPA FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH(L) OF 5500mm .
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2:WIND ACTIONS.
- AS/NZS 4505:2012 GARAGE DOORS & OTHER LARGE ACCESS DOORS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS - PART 0:GENERAL PRINCIPLES.
- AS 4100:1998 STEEL STRUCTURES
- AS 3700-2001 MASONRY STRUCTURES
- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1664.1:1997 ALUMINUM STRUCTURES PART1:LIMIT STATE DESIGN
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.

Limitations

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN FIGURE A.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- PROVIDE CLIPS AT EVERY FLAT OR EVERY SECOND FLAT AS REQUIRED (REFER TO FIGURE A).

Accepted for Inclusion

DTCM ref: M/421/01 DRAWING No. S01 - REV 1

Chairman's Signature:

Chairman's Name: STEVEN J EHRLICH

Date of Approval: 26/05/15 Expiry Date: 25/05/20

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No.'s TS895 & TS907 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR INSTALLATION GUIDELINES.

**Design Engineers Certification

Name: JAMES ELLIS
Registration Number: 47429ES
Date: 9/5/2015
Signature:

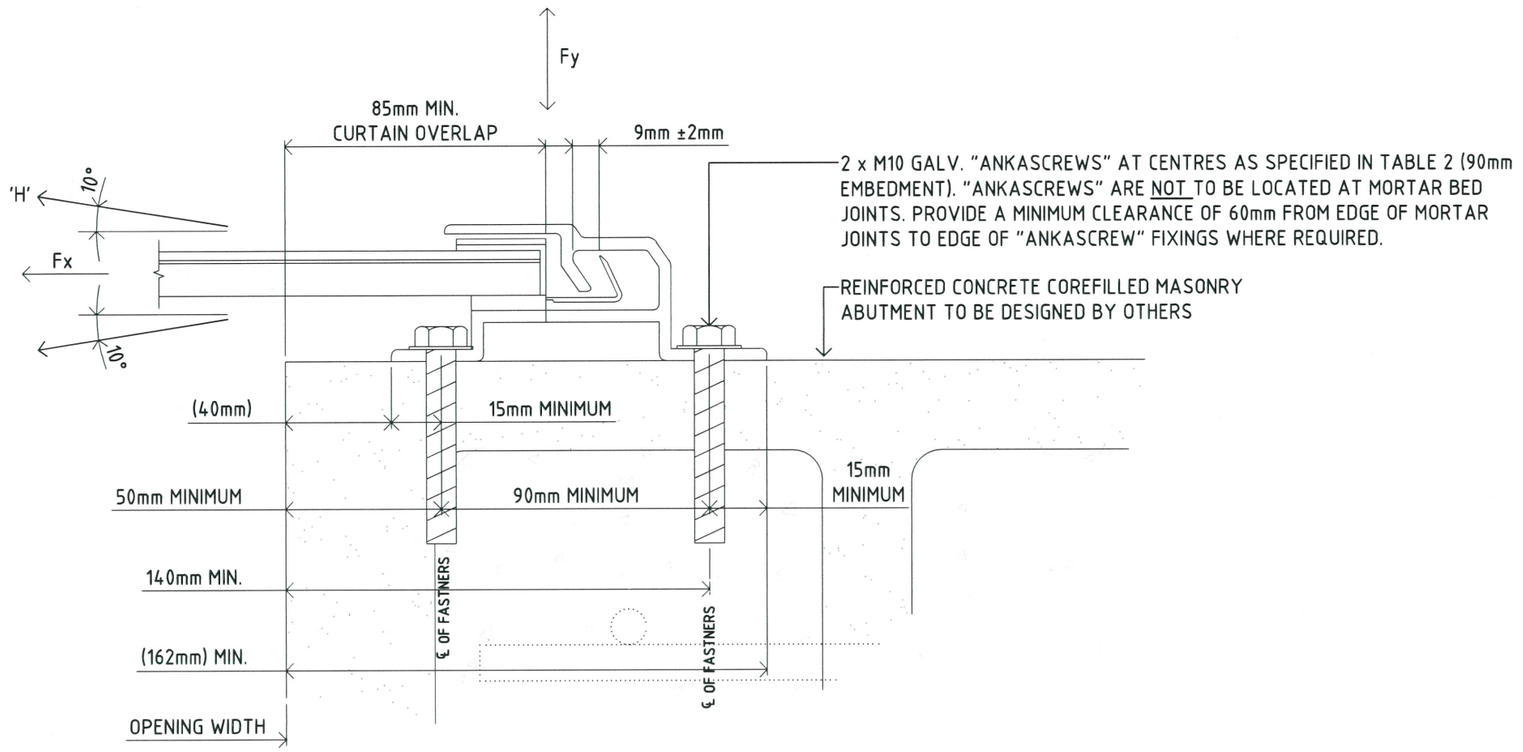
registered as a structural engineer in **Australia

**Certifying Engineers Certification

Name: HEINER STRUCTURAL ENGINEERING CONSULTANTS PTY LTD
NT Registration Number: 52229ES
Date: 9/05/15
Signature:

registered as a structural engineer in **Northern Territory

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1). THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



FIXING TO BLOCKWORK

SECTION 2 S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY REINFORCED CONCRETE COREFILLED MASONRY ABUTMENTS (REFER TO TABLE 2 FOR DETAILS).

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON THE RELEVANT MAXIMUM DESIGN SPAN LIMITS GIVEN IN TABLE 2.
- FIXINGS INTO REINFORCED CONCRETE COREFILLED BLOCK WALL ABUTMENTS HAVE BEEN DESIGNED USING THE RAMSET-SPECIFIERS RESOURCE BOOK.

Product Name

B&D SERIES 2 ROLL-A-DOOR

Product Description

WINDLOCKED ROLLER DOOR

Manufacturer's Name

B&D AUSTRALIA PTY LTD

34-36 MARIGOLD STREET, REVESBY NSW 2212 PH: 136 263

Design Criteria

- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 5.1m MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- FOR THE ABOVE DESIGN CRITERIA PROVIDE CLIPS AT EVERY FLAT AS SHOWN ON PART ELEVATION (DETAIL A).
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.01 KPA FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH(L) OF 5500mm .
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2:WIND ACTIONS.
- AS/NZS 4505:2012 GARAGE DOORS & OTHER LARGE ACCESS DOORS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS - PART 0:GENERAL PRINCIPLES.
- AS 4100:1998 STEEL STRUCTURES
- AS 3700-2001 MASONRY STRUCTURES
- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1664.1:1997 ALUMINUM STRUCTURES PART1:LIMIT STATE DESIGN
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.

Limitations

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN FIGURE A.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- PROVIDE CLIPS AT EVERY FLAT OR EVERY SECOND FLAT AS REQUIRED (REFER TO FIGURE A).

Accepted for Inclusion

DTCM ref: M/421/02 DRAWING No. S02 - REV 1

Chairman's Signature:

Chairman's Name: STEVEN J EHRLICH

Date of Approval: 26/05/15 Expiry Date: 25/05/20

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No.'s TS895 & TS907 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR INSTALLATION GUIDELINES.

**Design Engineers Certification

Name: JAMES ELLIS

Registration Number: 47429ES

Date: 9/5/2015

Signature:

registered as a structural engineer in **Australia

**Certifying Engineers Certification

Name: HEINER STRUCTURAL ENGINEERING CONSULTANTS PTY LTD

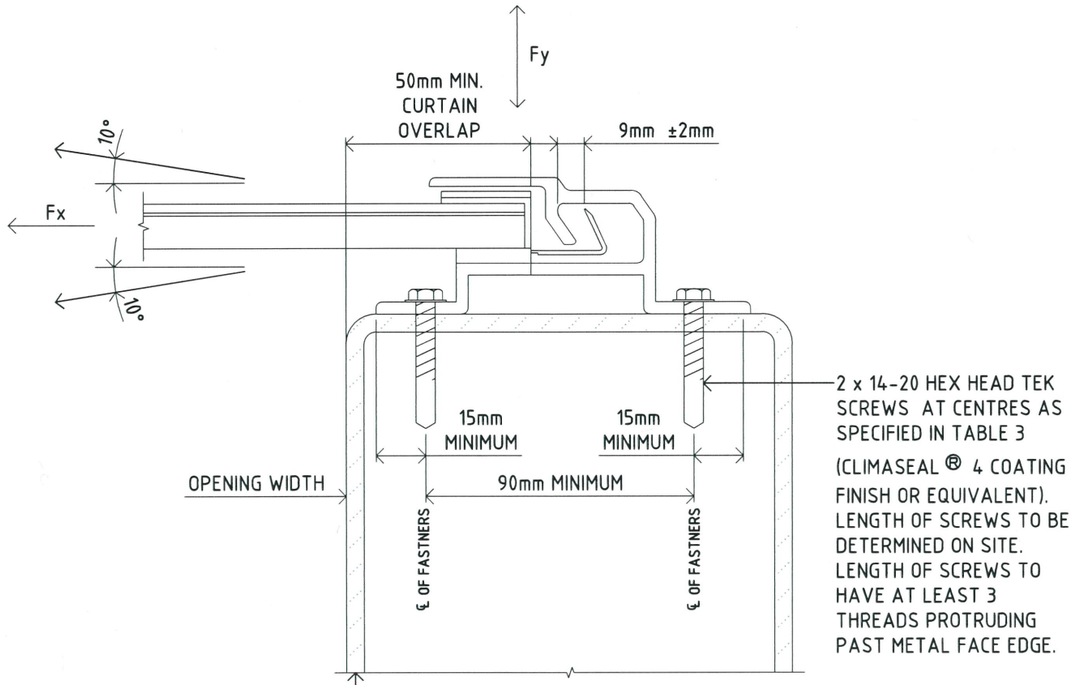
NT Registration Number: 52229ES

Date: 9/05/15

Signature:

registered as a structural engineer in **Northern Territory

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1). THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



FIXING TO MILD STEEL MULLION

SECTION 2 S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY MILD STEEL MULLION FRAME (REFER TO TABLE 3 FOR DETAILS).

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON THE RELEVANT MAXIMUM DESIGN SPAN LIMITS GIVEN IN TABLE 3.
- FIXINGS INTO STRUCTURAL STEEL ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTENERS.
- STAINLESS STEEL TEK SCREWS IN LIEU OF CLIMASEAL ® 4 COATED TEK SCREWS ARE TO BE USED IN HIGHLY CORROSIVE ENVIRONMENTS.

Product Name

B&D SERIES 2 ROLL-A-DOOR

Product Description

WINDLOCKED ROLLER DOOR

Manufacturer's Name

B&D AUSTRALIA PTY LTD

34-36 MARIGOLD STREET, REVESBY NSW 2212 PH: 136 263

Design Criteria

- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 5.1m MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- FOR THE ABOVE DESIGN CRITERIA PROVIDE CLIPS AT EVERY FLAT AS SHOWN ON PART ELEVATION (DETAIL A).
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.01 KPA FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH(L) OF 5500mm .
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2:WIND ACTIONS.
- AS/NZS 4505:2012 GARAGE DOORS & OTHER LARGE ACCESS DOORS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS - PART 0:GENERAL PRINCIPLES.
- AS 4100:1998 STEEL STRUCTURES
- AS 3700-2001 MASONRY STRUCTURES
- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1664.1:1997 ALUMINUM STRUCTURES PART1:LIMIT STATE DESIGN
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.

Limitations

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN FIGURE A.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- PROVIDE CLIPS AT EVERY FLAT OR EVERY SECOND FLAT AS REQUIRED (REFER TO FIGURE A).

Accepted for Inclusion

DTCM ref: M/421/03 DRAWING No. S03 - REV 1

Chairman's Signature:

Chairman's Name: STEVEN J EHRLICH

Date of Approval: 26/05/15 Expiry Date: 25/05/20

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No.'s TS895 & TS907 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR INSTALLATION GUIDELINES.

**Design Engineers Certification

Name: JAMES ELLIS

Registration Number: 47429ES

Date: 9/5/2015

Signature:

**registered as a structural engineer in Australia

**Certifying Engineers Certification

Name: HEINER STRUCTURAL ENGINEERING CONSULTANTS PTY LTD

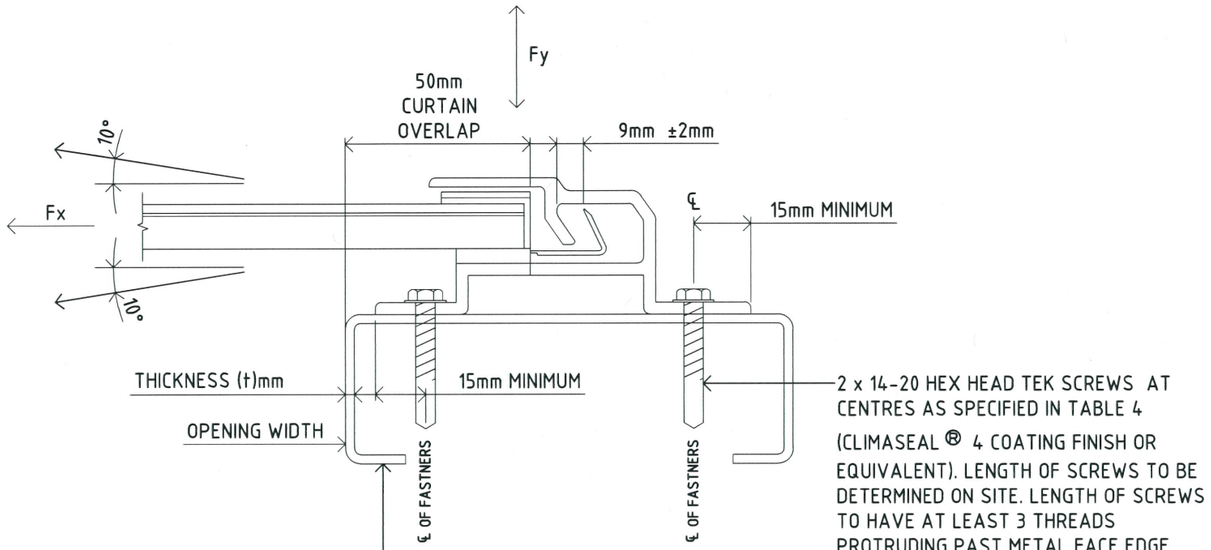
NT Registration Number: 52229ES

Date: 9/05/15

Signature:

**registered as a structural engineer in Northern Territory

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1). THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.



FIXING TO COLD FORMED MULLION

SECTION 2/S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY COLD FORMED STEEL MULLION FRAME (REFER TO TABLE 4 FOR DETAILS).

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON THE RELEVANT MAXIMUM DESIGN SPAN LIMITS GIVEN IN TABLE 4.
- FIXINGS INTO COLD FORMED STEEL ABUTMENTS HAVE BEEN DESIGNED USING THE TECHNICAL DATA PROVIDED BY BUILDEX FASTENERS.
- STAINLESS STEEL TEK SCREWS IN LIEU OF CLIMASEAL ® 4 COATED TEK SCREWS ARE TO BE USED IN HIGHLY CORROSIVE ENVIRONMENTS.

Product **Name**

B&D SERIES 2 ROLL-A-DOOR

Product **Description**

WINDLOCKED ROLLER DOOR

Manufacturer's **Name**

B&D AUSTRALIA PTY LTD

34-36 MARIGOLD STREET, REVESBY NSW 2212 PH: 136 263

Design Criteria

- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 5.1m MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- FOR THE ABOVE DESIGN CRITERIA PROVIDE CLIPS AT EVERY FLAT AS SHOWN ON PART ELEVATION (DETAIL A).
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.01 KPA FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH(L) OF 5500mm .
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2:WIND ACTIONS.
- AS/NZS 4505:2012 GARAGE DOORS & OTHER LARGE ACCESS DOORS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS - PART 0:GENERAL PRINCIPLES.
- AS 4100:1998 STEEL STRUCTURES
- AS 3700-2001 MASONRY STRUCTURES
- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1664.1:1997 ALUMINUM STRUCTURES PART1:LIMIT STATE DESIGN
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.

Limitations

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN FIGURE A.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- PROVIDE CLIPS AT EVERY FLAT OR EVERY SECOND FLAT AS REQUIRED (REFER TO FIGURE A).

Accepted for Inclusion

DTCM ref: M/421/04 DRAWING No. S04 - REV 1

Chairman's **Signature**:

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

Date of **Approval**: 26/05/15 Expiry **Date**: 25/05/20

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No.'s TS895 & TS907 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR INSTALLATION GUIDELINES.

**Design Engineers Certification

Name: JAMES ELLIS

Registration Number: 47429ES

Date: **9/5/2015**

Signature:

registered as a structural engineer in **Australia

**Certifying Engineers Certification

Name: HEINER STRUCTURAL ENGINEERING CONSULTANTS PTY LTD

NT Registration Number: 52229ES

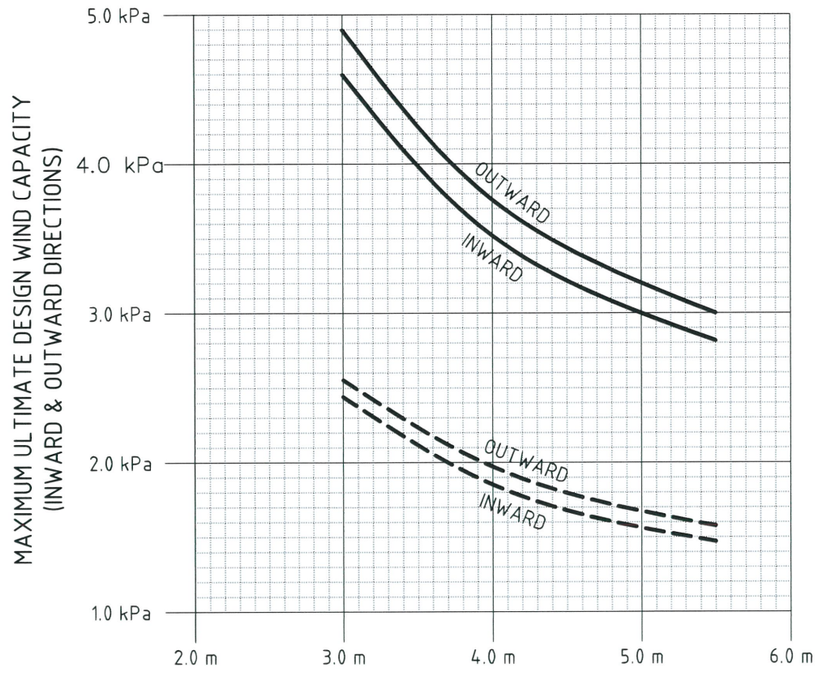
Date: 9/05/15

Signature:

registered as a structural engineer in **Northern Territory

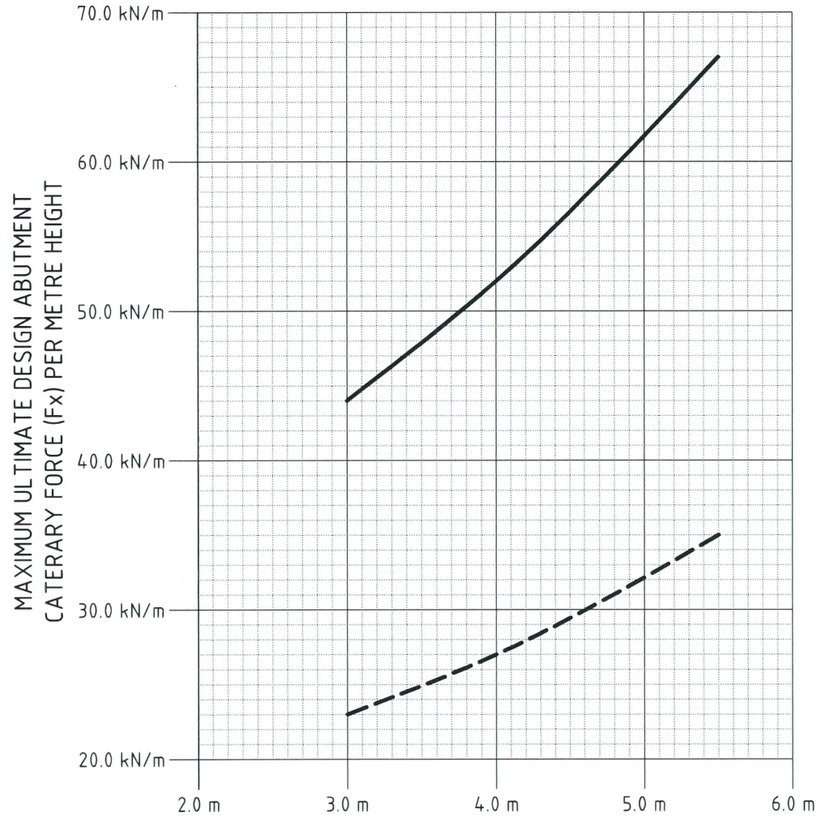
IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1). THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.

FIGURE (A)
ULTIMATE DESIGN WIND CAPACITY FOR A GIVEN SPAN



NOTE: EXTRAPOLATION IS NOT PERMITTED
CURTAIN WIDTH (L) = OPENING WIDTH + CURTAIN OVERLAPS

FIGURE (B)
ULTIMATE DESIGN CATENARY FORCE FOR A GIVEN SPAN



NOTE: DESIGN ABUTMENT FORCES HAVE BEEN DERIVED USING THE MAXIMUM ULTIMATE DESIGN WIND PRESSURE CAPACITY FOR A GIVEN SPAN (REFER ALSO TO FIGURE A).
CURTAIN WIDTH (L) = OPENING WIDTH + CURTAIN OVERLAPS

NOTE: $Fy = \frac{WL}{2}$
WHERE Fy = MAXIMUM OUT OF PLANE ULTIMATE DESIGN ABUTMENT FORCE (PER METRE HEIGHT)
W = ULTIMATE DESIGN WIND PRESSURE (kPa)
L = CURTAIN WIDTH (SPAN) (m)

Product **Name**

B&D SERIES 2 ROLL-A-DOOR

Product **Description**

WINDLOCKED ROLLER DOOR

Manufacturer's **Name**

B&D AUSTRALIA PTY LTD
34-36 MARIGOLD STREET, REVESBY NSW 2212 PH: 136 263

Design Criteria

- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 5.1m MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- FOR THE ABOVE DESIGN CRITERIA PROVIDE CLIPS AT EVERY FLAT AS SHOWN ON PART ELEVATION (DETAIL A).
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.01 KPA FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH(L) OF 5500mm .
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2:WIND ACTIONS.
- AS/NZS 4505:2012 GARAGE DOORS & OTHER LARGE ACCESS DOORS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS - PART 0:GENERAL PRINCIPLES.
- AS 4100:1998 STEEL STRUCTURES
- AS 3700-2001 MASONRY STRUCTURES
- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1664.1:1997 ALUMINUM STRUCTURES PART1:LIMIT STATE DESIGN
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.

Limitations

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN FIGURE A.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- PROVIDE CLIPS AT EVERY FLAT OR EVERY SECOND FLAT AS REQUIRED (REFER TO FIGURE A).

Accepted for Inclusion

DTCM ref: M/421/05 DRAWING No. S05 - REV 1

Chairman's **Signature**:

Chairman's **Name**: BRIAN J EHRLICH

Date of **Approval**: 26/05/15 Expiry Date: 25/05/20

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No.'s TS895 & TS907 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR INSTALLATION GUIDELINES.

**Design Engineers Certification

Name: JAMES ELLIS
Registration Number: 47429ES
Date: **9/5/2015**
Signature:

registered as a structural engineer in **Australia

**Certifying Engineers Certification

Name: HEINER STRUCTURAL ENGINEERING CONSULTANTS PTY LTD
NT Registration Number: 52229ES
Date: 9/05/15
Signature:

registered as a structural engineer in **Northern Territory

IN ACCORDANCE WITH NCC VOLUME 2 (SECTION P3.10.1). THIS PRODUCT SATISFIES PERFORMANCE REQUIREMENTS P2.1.1 FOR CONSTRUCTION IN A HIGH WIND AREA.

TABLE 1
MAXIMUM ALLOWABLE SPANS (L)

REGION	TERRAIN CATEGORY	UP TO 5.1m HIGH	
		CLIPS AT EVERY FLAT	CLIPS AT EVERY SECOND FLAT
C	2	5.5m	N/A
	2.5	5.5m	N/A

NOTE:
- SPAN (L) = CURTAIN WIDTH
- CURTAIN WIDTH (L) = OPENING WIDTH + CURTAIN OVERLAPS (REFER TO DRAWING DRAWINGS S02,S03 & S04).
- THE BUILDING DESIGN ENGINEER IS TO VERIFY THAT THE MAXIMUM ALLOWABLE SPANS GIVEN IN TABLE 1 ARE WITHIN THE MAXIMUM ULTIMATE DESIGN WIND CAPACITY LIMITS GIVEN IN FIGURE A WHEN DETERMINING THE SITE SPECIFIC DESIGN WIND PRESSURES.

TABLE 2
FASTENING SPECIFICATIONS INTO BLOCKWORK ABUTMENTS

SPAN (L)	CLIPS AT EVERY FLAT
3000-3499mm	2 x M10 GAL ANKASCREW AT 275 CTS.
3500-3999mm	2 x M10 GAL ANKASCREW AT 250 CTS.
4000-4499mm	2 x M10 GAL ANKASCREW AT 225 CTS.
4500-4999mm	2 x M10 GAL ANKASCREW AT 200 CTS.
5000-5500mm	2 x M10 GAL ANKASCREW AT 175 CTS.

NOTE:
- SPAN (L) = CURTAIN WIDTH
- CURTAIN WIDTH (L) = OPENING WIDTH + CURTAIN OVERLAPS (REFER TO DRAWING DRAWING S02).

TABLE 3
FASTENING SPECIFICATIONS INTO STRUCTURAL STEEL ABUTMENTS (G250 STEEL)

SPAN (L)	CLIPS AT EVERY FLAT
3000-3499mm	2 x 14-20 TEK SCREWS AT 250 CTS.
3500-3999mm	2 x 14-20 TEK SCREWS AT 225 CTS.
4000-4499mm	2 x 14-20 TEK SCREWS AT 200 CTS.
4500-4999mm	2 x 14-20 TEK SCREWS AT 175 CTS.
5000-5500mm	2 x 14-20 TEK SCREWS AT 150 CTS.

NOTE:
- SPAN (L) = CURTAIN WIDTH
- CURTAIN WIDTH (L) = OPENING WIDTH + CURTAIN OVERLAPS (REFER TO DRAWING S03).

TABLE 4
FASTENING SPECIFICATIONS INTO COLD FORMED STRUCTURAL STEEL ABUTMENTS COMPLYING WITH AS 1397-1993

THICKNESS AND GRADE	SPAN (L)	CLIPS AT EVERY FLAT
1mm (G550)	3000-3499mm	2 x 14-20 TEK SCREWS AT 125 CTS.
	3500-3999mm	2 x 14-20 TEK SCREWS AT 100 CTS.
	4000-4499mm	2 x 14-20 TEK SCREWS AT 100 CTS.
	4500-4999mm	2 x 14-20 TEK SCREWS AT 80 CTS.
	5000-5500mm	2 x 14-20 TEK SCREWS AT 80 CTS.
1.2mm (G500)	3000-3499mm	2 x 14-20 TEK SCREWS AT 150 CTS.
	3500-3999mm	2 x 14-20 TEK SCREWS AT 125 CTS.
	4000-4499mm	2 x 14-20 TEK SCREWS AT 125 CTS.
	4500-4999mm	2 x 14-20 TEK SCREWS AT 100 CTS.
	5000-5500mm	2 x 14-20 TEK SCREWS AT 100 CTS.
1.5mm (G450)	3000-3499mm	2 x 14-20 TEK SCREWS AT 175 CTS.
	3500-3999mm	2 x 14-20 TEK SCREWS AT 175 CTS.
	4000-4499mm	2 x 14-20 TEK SCREWS AT 150 CTS.
	4500-4999mm	2 x 14-20 TEK SCREWS AT 125 CTS.
	5000-5500mm	2 x 14-20 TEK SCREWS AT 125 CTS.
1.9mm (G450)	3000-3499mm	2 x 14-20 TEK SCREWS AT 250 CTS.
	3500-3999mm	2 x 14-20 TEK SCREWS AT 225 CTS.
	4000-4499mm	2 x 14-20 TEK SCREWS AT 200 CTS.
	4500-4999mm	2 x 14-20 TEK SCREWS AT 200 CTS.
	5000-5500mm	2 x 14-20 TEK SCREWS AT 175 CTS.
2.4mm (G450)	3000-3499mm	2 x 14-20 TEK SCREWS AT 250 CTS.
	3500-3999mm	2 x 14-20 TEK SCREWS AT 225 CTS.
	4000-4499mm	2 x 14-20 TEK SCREWS AT 200 CTS.
	4500-4999mm	2 x 14-20 TEK SCREWS AT 200 CTS.
	5000-5500mm	2 x 14-20 TEK SCREWS AT 175 CTS.

NOTE:
- SPAN (L) = CURTAIN WIDTH
- CURTAIN WIDTH (L) = OPENING WIDTH + CURTAIN OVERLAPS (REFER TO DRAWING DRAWING S04).

TABLE A
MINIMUM STRENGTHS OF STEEL COMPLYING WITH AS 1397-1997

THICKNESS (t)mm	GRADE	YIELD STRENGTH	TENSILE STRENGTH
1mm	G550	550 MPa	550 MPa
1.2mm	G500	500 MPa	520 MPa
1.5mm	G450	450 MPa	480 MPa
1.9mm	G450	450 MPa	480 MPa
2.4mm	G450	450 MPa	480 MPa

Product Name

B&D SERIES 2 ROLL-A-DOOR

Product Description

WINDLOCKED ROLLER DOOR

Manufacturer's Name

B&D AUSTRALIA PTY LTD
34-36 MARIGOLD STREET, REVESBY NSW 2212 PH: 136 263

Design Criteria

- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 5.1m MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- FOR THE ABOVE DESIGN CRITERIA PROVIDE CLIPS AT EVERY FLAT AS SHOWN ON PART ELEVATION (DETAIL A).
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.01 KPA FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH(L) OF 5500mm .
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2:WIND ACTIONS.
- AS/NZS 4505:2012 GARAGE DOORS & OTHER LARGE ACCESS DOORS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS - PART 0:GENERAL PRINCIPLES.
- AS 4100:1998 STEEL STRUCTURES
- AS 3700-2001 MASONRY STRUCTURES
- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1664.1:1997 ALUMINUM STRUCTURES PART1:LIMIT STATE DESIGN
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.

Limitations

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN FIGURE A.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE VALUES GIVEN IN FIGURE A.
- PROVIDE CLIPS AT EVERY FLAT OR EVERY SECOND FLAT AS REQUIRED (REFER TO FIGURE A).

Accepted for Inclusion

DTCM ref: M/421/06. DRAWING No. S06 - REV 1

Chairman's Signature:

Chairman's Name: STEVEN J EHRLICH

Date of Approval: 26/05/15. Expiry Date: 25/05/20

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No.'s TS895 & TS907 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 2 ROLL-A-DOOR INSTALLATION GUIDELINES.

**Design Engineers Certification

Name: JAMES ELLIS
Registration Number: 47429ES
Date: 9/5/2015
Signature:

registered as a structural engineer in **Australia

**Certifying Engineers Certification

Name: HEINER STRUCTURAL ENGINEERING CONSULTANTS PTY LTD
NT Registration Number: 52229ES
Date: 9/05/15
Signature:

registered as a structural engineer in **Northern Territory