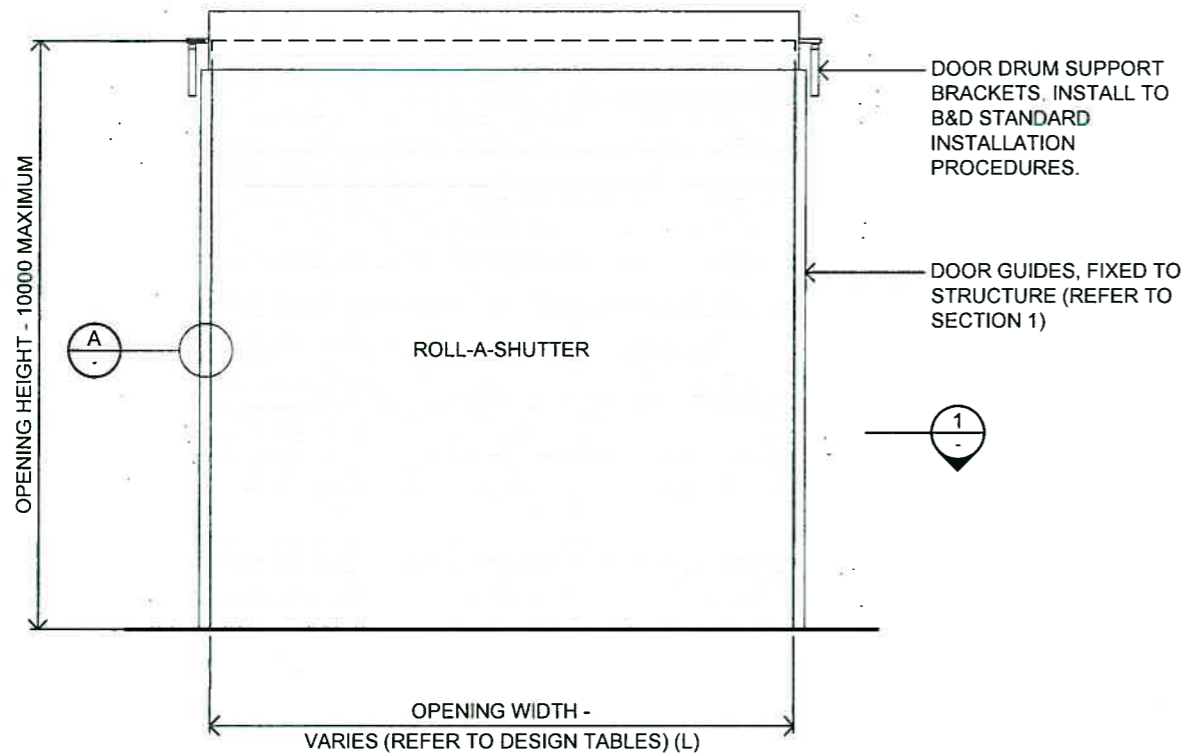


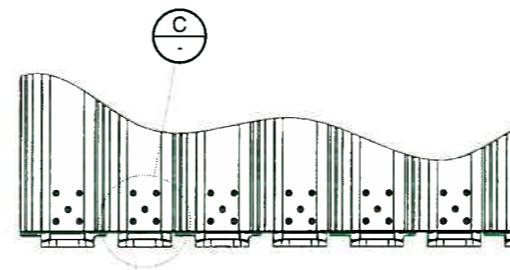
NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.



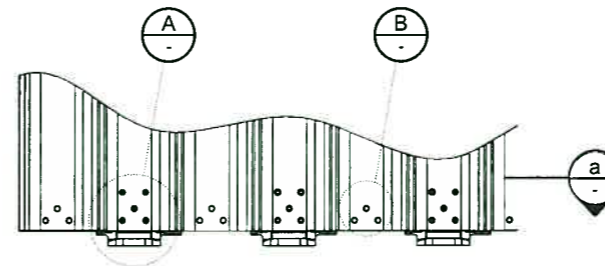
ROLL-A-SHUTTER DOOR ELEVATION - TYPICAL

SCALE 1:50



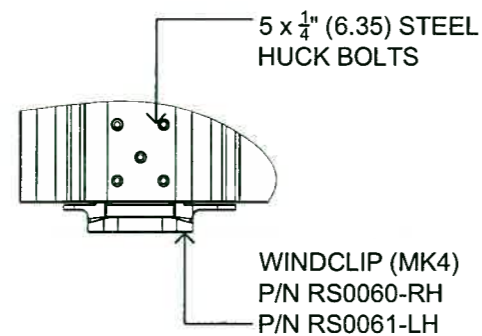
CURTAIN WITH CLIPS - PART PLAN

(CLIPS AT EVERY SLAT)
(SCALE 1:10)



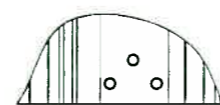
CURTAIN WITH CLIPS - PART PLAN

(CLIPS AT EVERY SECOND SLAT)
(SCALE 1:10)



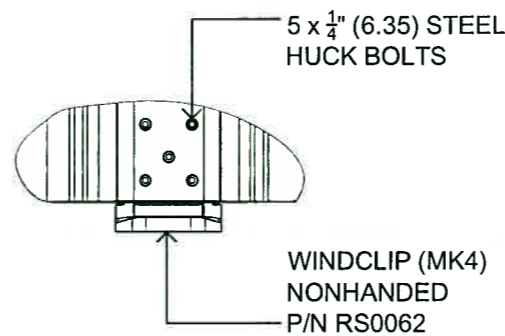
DETAIL A
SCALE = 1:5

RIGHT/LEFT HANDED
WINDLOCK CLIP TO
SLAT DETAIL



DETAIL B
SCALE = 1:5

UNCLIPPED SLAT DETAIL
(WINDCLIPS AT EVERY
SECOND SLAT)



DETAIL C
SCALE = 1:5

NONHANDED WINDLOCK
CLIP TO SLAT DETAILS

Product Name

B&D ROLL-A-SHUTTER

Product Description

WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details

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 AND 2.5
- DOOR HEIGHT 10m MAX.
- BUILDING IMPORTANCE LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE FOR A GIVEN MAXIMUM ALLOWABLE OPENING WIDTH AS NOMINATED IN TABLE 1 & FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
- 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 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
- AS 3600:2009 CONCRETE STRUCTURES

Limitations

- STEEL ABUTMENT POSTS TO BE 3mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE HOLLOW MASONRY UNITS (f'_{uc}) = 15 MPa (MIN.).
- CORE FILLING OF CONCRETE HOLLOW MASONRY UNITS (f'_c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE DESIGNED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE NOMINATED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
- THE BUILDING DESIGN STRUCTURAL ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS PROVIDED IN TABLE 1 AND FIGURES 1 & 2 FOR ANY GIVEN SPAN.
- 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 FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/01 DRAWING No. S01-Rev.2

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- IN-HOUSE TESTING CONDUCTED ON THE 9th APRIL 2013, 2nd MAY 2013, 6th MAY 2013 & 16th OCTOBER 2014.
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D ROLL-A-SHUTTER MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD ROLL-A-SHUTTER INSTALLATION GUIDELINES.

Checking Engineer

Name: JAMES ELLIS
Registration Number: 47429ES
Date: 22/04/2021
Signature:

Must be an Australian registered structural engineer

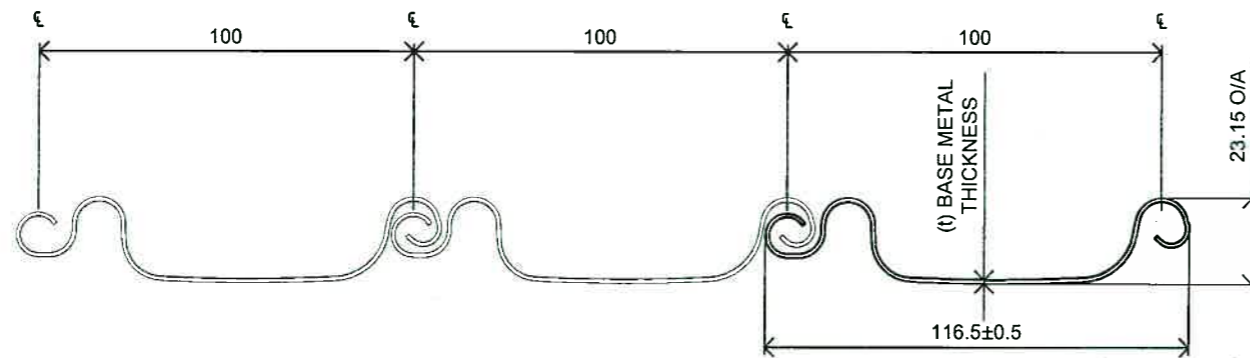
Certifying Engineer

Name: ASSET SERVICES PTY LTD
NT Registration Number: 152941ES
Date: 22/04/2021
Signature:

Must be a registered as a structural engineer in the Northern Territory

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.

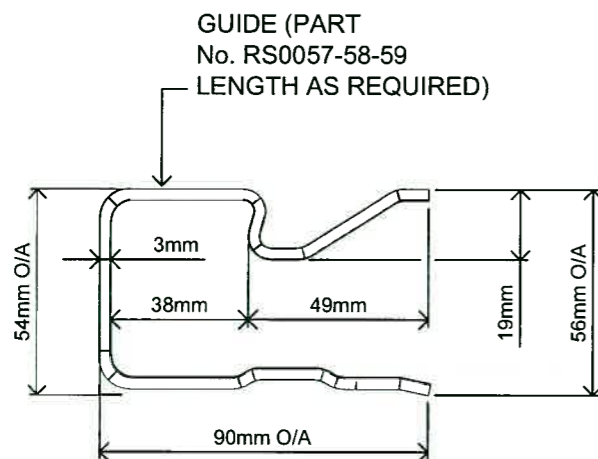


SECTION a
TYPICAL SLAT PROFILE
SCALE = 1:2

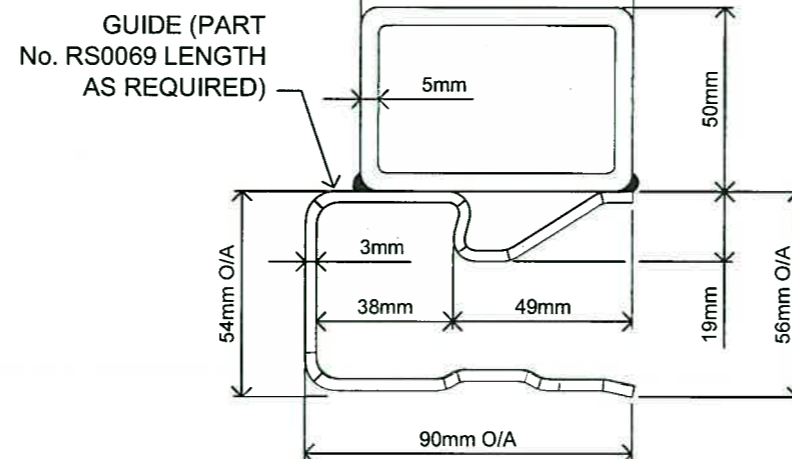
CURTAIN SLAT TYPES
6/100, 8/100, 10/100 & 12/100
(SLAT PROFILES AS PER STANDARD B&D DRAWING NUMBER RS0050-4)

CURTAIN SLAT TYPES, MATERIAL SPECIFICATION AND BASE METAL THICKNESSES

CURTAIN TYPE	MATERIAL SPECIFICATION	BASE METAL THICKNESS (t)
6/100	GALVABOND STEEL G2 Z275	0.60mm
8/100	GALVABOND STEEL G2 Z275	0.75mm
10/100	GALVABOND STEEL G2 Z275	0.95mm
12/100	GALVABOND STEEL G2 Z275	1.15mm



TYPICALLY ROLL FORMED CHANNEL GUIDE
SCALE 1:2



TYPICALLY ROLL FORMED CHANNEL GUIDE WITH BACKJAMB
SCALE 1:2

Product Name

B&D ROLL-A-SHUTTER

Product Description

WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details

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 AND 2.5
- DOOR HEIGHT 10m MAX.
- BUILDING IMPORTANCE LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE FOR A GIVEN MAXIMUM ALLOWABLE OPENING WIDTH AS NOMINATED IN TABLE 1 & FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
- 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 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
- AS 3600:2009 CONCRETE STRUCTURES

Limitations

- STEEL ABUTMENT POSTS TO BE 3mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE HOLLOW MASONRY UNITS (f_{uc}) = 15 MPa (MIN.).
- CORE FILLING OF CONCRETE HOLLOW MASONRY UNITS (f_c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE DESIGNED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE NOMINATED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
- THE BUILDING DESIGN STRUCTURAL ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS PROVIDED IN TABLE 1 AND FIGURES 1 & 2 FOR ANY GIVEN SPAN.
- 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 FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/02 DRAWING No. S02-Rev.2

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- IN-HOUSE TESTING CONDUCTED ON THE 9th APRIL 2013, 2nd MAY 2013, 6th MAY 2013 & 16th OCTOBER 2014.
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D ROLL-A-SHUTTER MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD ROLL-A-SHUTTER INSTALLATION GUIDELINES.

Checking Engineer

Name: JAMES ELLIS
Registration Number: 47429ES
Date: 22/04/2021
Signature:

Must be an Australian registered structural engineer

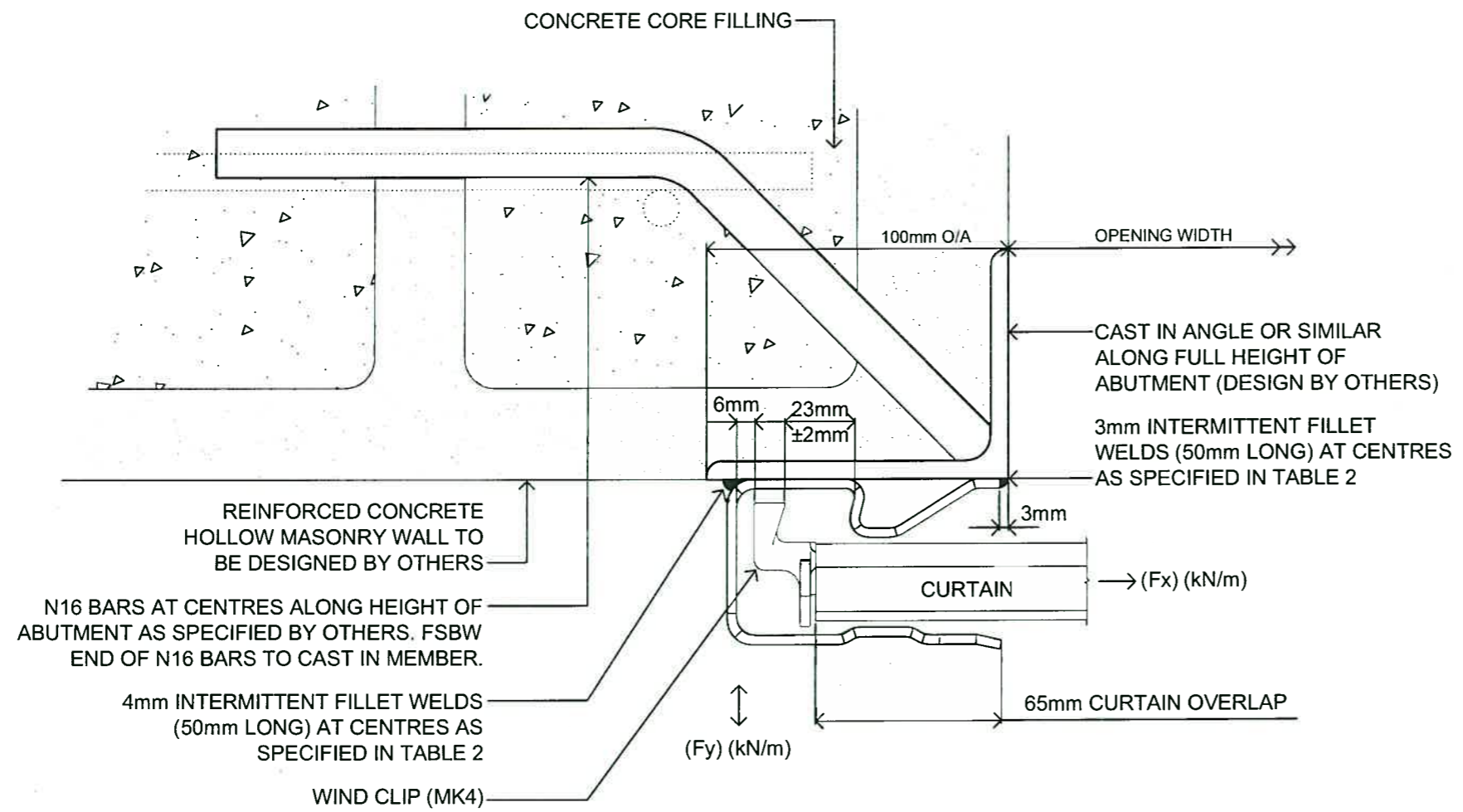
Certifying Engineer

Name: ASSET SERVICES PTY LTD
NT Registration Number: 152941ES
Date: 22/04/2021
Signature:

Must be a registered as a structural engineer in the Northern Territory

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.



SECTION 1 PLAN
SCALE = 1:2
S01

TYPE 1 FIXING - ROLL FORMED CHANNEL GUIDE TO BE WELDED ONTO CAST IN MEMBER SUPPORTED ONTO REINFORCED CONCRETE CORE FILLED MASONRY UNITS.

NOTE: SAME DETAIL IS TO BE ADOPTED WHEN ANGLE OR SIMILAR IS CAST INTO REINFORCED CONCRETE PANELS.

THE ABOVE DETAIL IS NOMINAL AND IS ONLY USED TO ILLUSTRATE WELDING OF GUIDE TO ABUTMENT STRUCTURE.

SAME DETAIL APPLIES WHEN USING ROLL FORMED CHANNEL WITH BACK JAMB

Product Name
B&D ROLL-A-SHUTTER

Product Description
WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details
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 AND 2.5
 - DOOR HEIGHT 10m MAX.
 - BUILDING IMPORTANCE LEVEL 2
 - REGION WINDSPEED VR = 69.3m/s
 - DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE FOR A GIVEN MAXIMUM ALLOWABLE OPENING WIDTH AS NOMINATED IN TABLE 1 & FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
 - 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 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
 - AS 3600:2009 CONCRETE STRUCTURES

- Limitations
- STEEL ABUTMENT POSTS TO BE 3mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250.
 - CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE HOLLOW MASONRY UNITS (f_{uc}) = 15 MPa (MIN.).
 - CORE FILLING OF CONCRETE HOLLOW MASONRY UNITS (f_c) = 15 MPa (MIN.).
 - THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE DESIGNED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.
 - ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE NOMINATED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
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 - 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 FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2.

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/03 DRAWING No. S03-Rev.2

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- IN-HOUSE TESTING CONDUCTED ON THE 9th APRIL 2013, 2nd MAY 2013, 6th MAY 2013 & 16th OCTOBER 2014.
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D ROLL-A-SHUTTER MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD ROLL-A-SHUTTER INSTALLATION GUIDELINES.

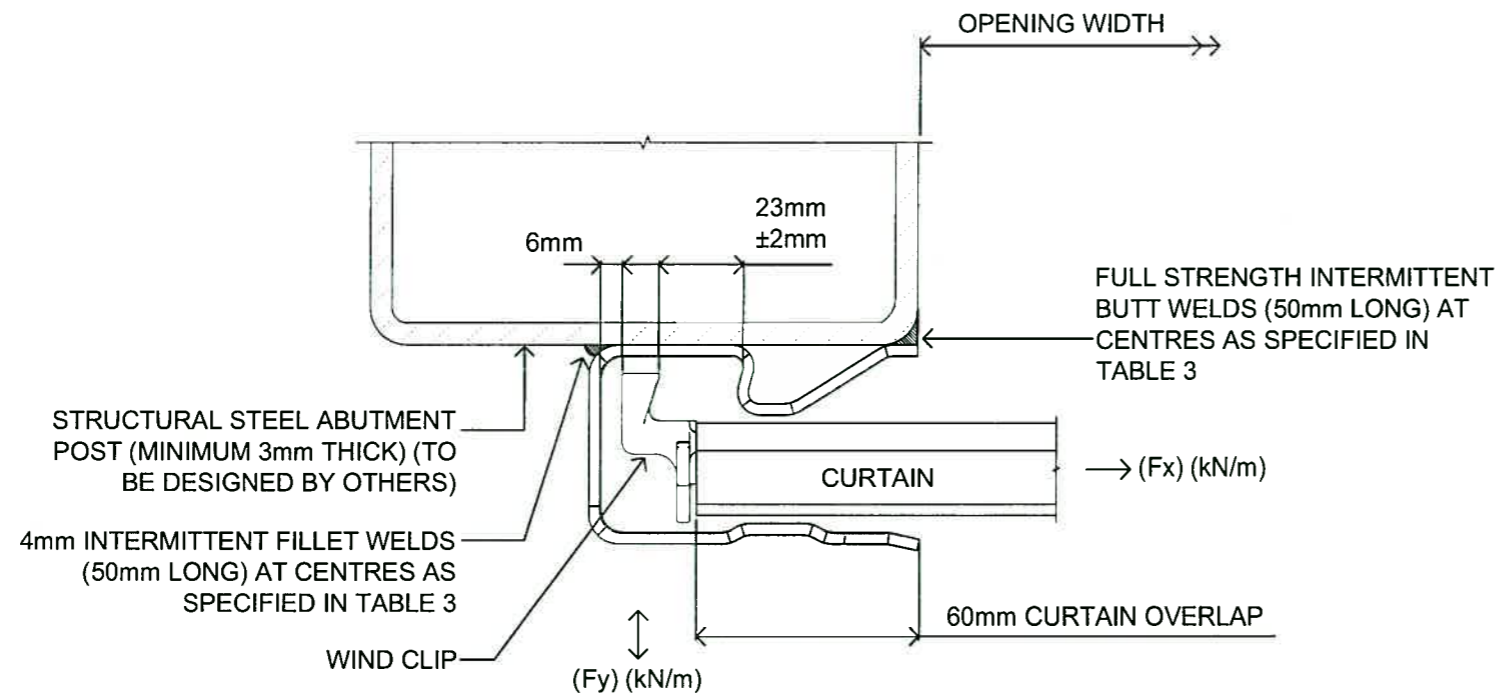
Checking Engineer
Name: JAMES ELLIS
Registration Number: 47429ES
Date: 22/04/2021
Signature:

Certifying Engineer
Name: ASSET SERVICES PTY LTD
NT Registration Number: 152941ES
Date: 22/04/2021
Signature:

Must be an Australian registered structural engineer Must be a registered as a structural engineer in the Northern Territory

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.



SECTION 1 PLAN

SCALE = 1:2



TYPE 2 FIXING - CHANNEL GUIDE WELDED TO STRUCTURAL STEEL ABUTMENT

THE ABOVE DETAIL IS NOMINAL AND IS ONLY USED TO ILLUSTRATE WELDING OF GUIDE TO ABUTMENT STRUCTURE.

SAME DETAIL APPLIES WHEN USING ROLL FORMED CHANNEL WITH BACK JAMB

Product Name
B&D ROLL-A-SHUTTER

Product Description
WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details
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 AND 2.5
 - DOOR HEIGHT 10m MAX.
 - BUILDING IMPORTANCE LEVEL 2
 - REGION WINDSPEED VR = 69.3m/s
 - DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE FOR A GIVEN MAXIMUM ALLOWABLE OPENING WIDTH AS NOMINATED IN TABLE 1 & FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
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 - 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 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
 - AS 3600:2009 CONCRETE STRUCTURES

- Limitations
- STEEL ABUTMENT POSTS TO BE 3mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250.
 - CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE HOLLOW MASONRY UNITS (f_{uc}) = 15 MPa (MIN.).
 - CORE FILLING OF CONCRETE HOLLOW MASONRY UNITS (f_c) = 15 MPa (MIN.).
 - THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE DESIGNED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.
 - ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE NOMINATED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
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Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/04 DRAWING No. S04-Rev.2

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
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- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD ROLL-A-SHUTTER INSTALLATION GUIDELINES.

Checking Engineer
Name: JAMES ELLIS
Registration Number: 47429ES
Date: 22/04/2021
Signature:

Certifying Engineer
Name: ASSET SERVICES PTY LTD
NT Registration Number: 152941ES
Date: 22/04/2021
Signature:

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

Must be an Australian registered structural engineer Must be a registered as a structural engineer in the Northern Territory

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.

TABLE 1 - MAXIMUM ALLOWABLE OPENING WIDTHS (L) FOR A GIVEN WIND PRESSURE

MAXIMUM ALLOWABLE OPENING WIDTHS (L) FOR DOOR HEIGHTS UP TO 10m										
REGION	TERRAIN CATEGORY	ULTIMATE DESIGN WIND PRESSURE	6/100 SLAT		8/100 SLAT		10/100 SLAT		12/100 SLAT	
			WINDCLIPS AT EVERY SLAT	WINDCLIPS EVERY 2nd SLAT	WINDCLIPS AT EVERY SLAT	WINDCLIPS EVERY 2nd SLAT	WINDCLIPS AT EVERY SLAT	WINDCLIPS EVERY 2nd SLAT	WINDCLIPS AT EVERY SLAT	WINDCLIPS EVERY 2nd SLAT
C	2	3.66 KPa	8.95m	5.65m	10.6m	6.65m	10.6m	6.65m	10.6m	6.65m
	2.5	3.07 KPa	10.1m	6.35m	11.9m	7.5m	11.9m	7.5m	11.9m	7.5m

TABLE 2 - FASTENING SPECIFICATIONS FOR FIXING ONTO CAST IN STRUCTURAL STEEL MEMBERS - TYPE 1

FASTENING SPECIFICATIONS FOR FIXING ONTO CAST IN STRUCTURAL STEEL MEMBERS - TYPE 1			
ABUTMENT TYPE	CURTAIN TYPE	WINDCLIPS AT EVERY SLAT	WINDCLIPS AT EVERY 2nd SLAT
CAST IN STEEL	6/100	WELDED AT 200 CTS.	WELDED AT 400 CTS.
	8/100	WELDED AT 150 CTS.	WELDED AT 300 CTS.
	10/100	WELDED AT 150 CTS.	WELDED AT 300 CTS.
	12/100	WELDED AT 150 CTS.	WELDED AT 300 CTS.

NOTE 1: FOR WELDING ILLUSTRATIONS REFER TO SECTION 1 ON DRAWING S03 Rev.2.
NOTE 2: ALL WELDED AREAS TO BE APPROPRIATELY TREATED FOR PROTECTION AGAINST CORROSION (SPECIFICATIONS BY OTHERS).

TABLE 3 - FASTENING SPECIFICATIONS FOR FIXING ONTO STRUCTURAL STEEL ABUTMENTS - TYPE 2

FASTENING SPECIFICATION FOR FIXINGS ONTO STRUCTURAL STEEL ABUTMENTS - TYPE 2			
ABUTMENT TYPE	CURTAIN TYPE	WINDCLIPS AT EVERY SLAT	WINDCLIPS AT EVERY 2nd SLAT
STEEL	6/100	WELDED AT 200 CTS.	WELDED AT 400 CTS.
	8/100	WELDED AT 150 CTS.	WELDED AT 300 CTS.
	10/100	WELDED AT 150 CTS.	WELDED AT 300 CTS.
	12/100	WELDED AT 150 CTS.	WELDED AT 300 CTS.

NOTE 1: FOR WELDING ILLUSTRATIONS REFER TO SECTION 1 ON DRAWING S04 Rev.2.
NOTE 2: ALL WELDED AREAS TO BE APPROPRIATELY TREATED FOR PROTECTION AGAINST CORROSION (SPECIFICATIONS BY OTHERS).

TABLE 4 - MAXIMUM ULTIMATE DESIGN CATENARY FORCE (Fx) PER METRE HEIGHT BASED ON MAXIMUM ALLOWABLE OPENING WIDTHS

MAXIMUM ULTIMATE DESIGN CATENARY FORCE (Fx) PER METRE HEIGHT		
CURTAIN TYPE	WINDCLIPS AT EVERY SLAT	WINDCLIPS AT EVERY 2nd SLAT
6/100	98.0 KN/m	49.0 KN/m
8/100	125.8 KN/m	62.9 KN/m
10/100	125.8 KN/m	62.9 KN/m
12/100	125.8 KN/m	62.9 KN/m

NOTE 1: THE MAXIMUM ULTIMATE DESIGN CATENARY FORCES (Fx) HAVE BEEN DERIVED USING THE MAXIMUM ALLOWABLE OPENING WIDTHS (L) FOR THE GIVEN WIND PRESSURES IN TABLE 1.

NOTE 2: THE MAXIMUM OUT OF PLANE ABUTMENT FORCES (Fy) CAN BE CALCULATED AS FOLLOWS:

$$F_y = \frac{W \cdot L}{2}$$

WHERE Fy = MAXIMUM OUT OF PLANE ULTIMATE DESIGN ABUTMENT FORCE (PER METRE HEIGHT)

W = ULTIMATE DESIGN WIND PRESSURE (kPa)

L = OPENING WIDTH (SPAN) (m)

Product Name

B&D ROLL-A-SHUTTER

Product Description

WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details

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 AND 2.5
- DOOR HEIGHT 10m MAX.
- BUILDING IMPORTANCE LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
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- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS.
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- AS/NZS 4600: 2005 COLD FORMED STRUCTURES
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
- AS 3600:2009 CONCRETE STRUCTURES

Limitations

- STEEL ABUTMENT POSTS TO BE 3mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE HOLLOW MASONRY UNITS (F_{uc}) = 15 MPa (MIN.).
- CORE FILLING OF CONCRETE HOLLOW MASONRY UNITS (F_c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED SHALL BE DESIGNED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE NOMINATED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
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Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/05 DRAWING No. S05-Rev.2

Chairperson Signature:




Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- IN-HOUSE TESTING CONDUCTED ON THE 9th APRIL 2013, 2nd MAY 2013, 6th MAY 2013 & 16th OCTOBER 2014.
- PRINCIPLES OF MECHANICS.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D ROLL-A-SHUTTER MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD ROLL-A-SHUTTER INSTALLATION GUIDELINES.

Checking Engineer

Name: JAMES ELLIS
Registration Number: 47429ES
Date: 22/04/2021
Signature: 

Must be an Australian registered structural engineer

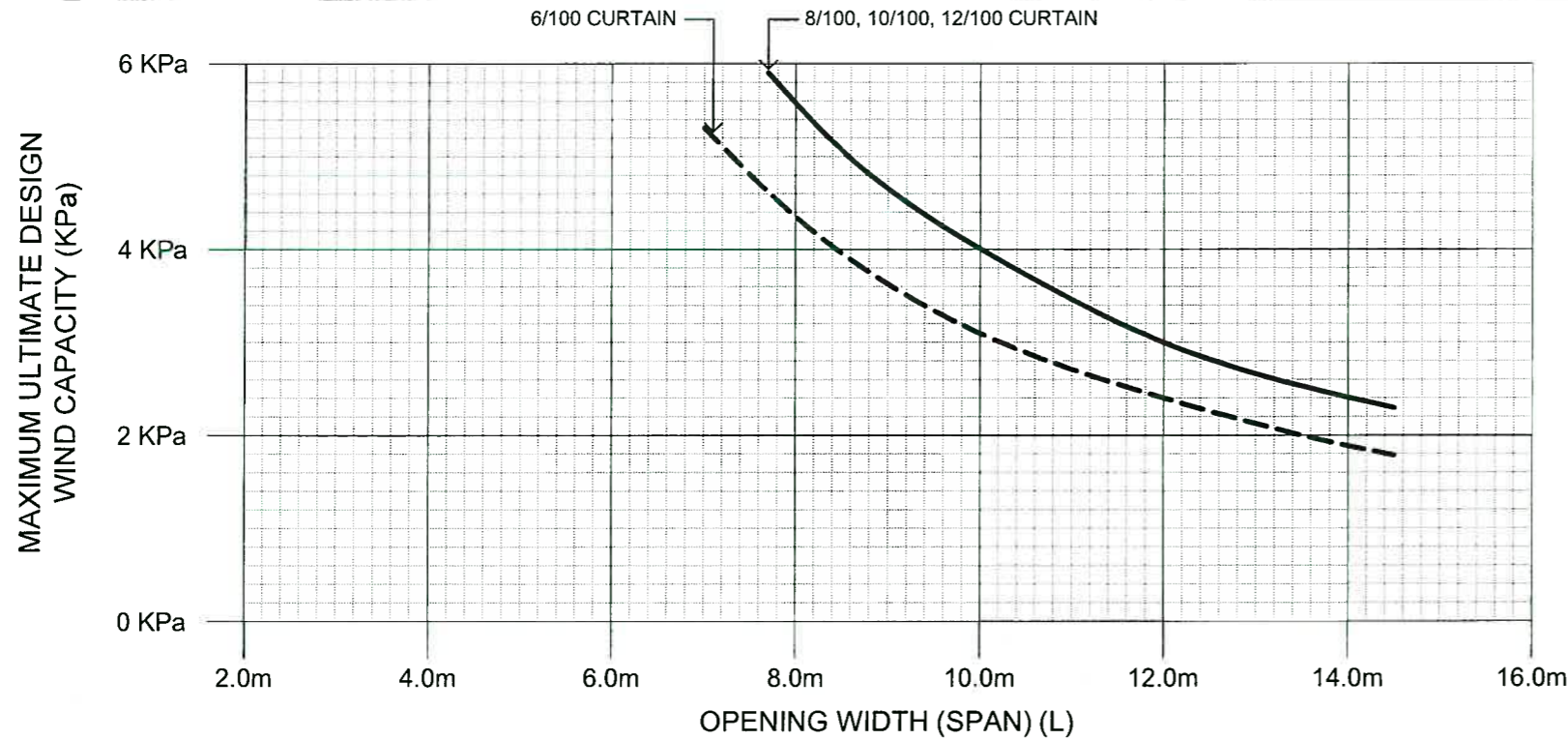
Certifying Engineer

Name: ASSET SERVICES PTY LTD
NT Registration Number: 152941ES
Date: 22/04/2021
Signature: 

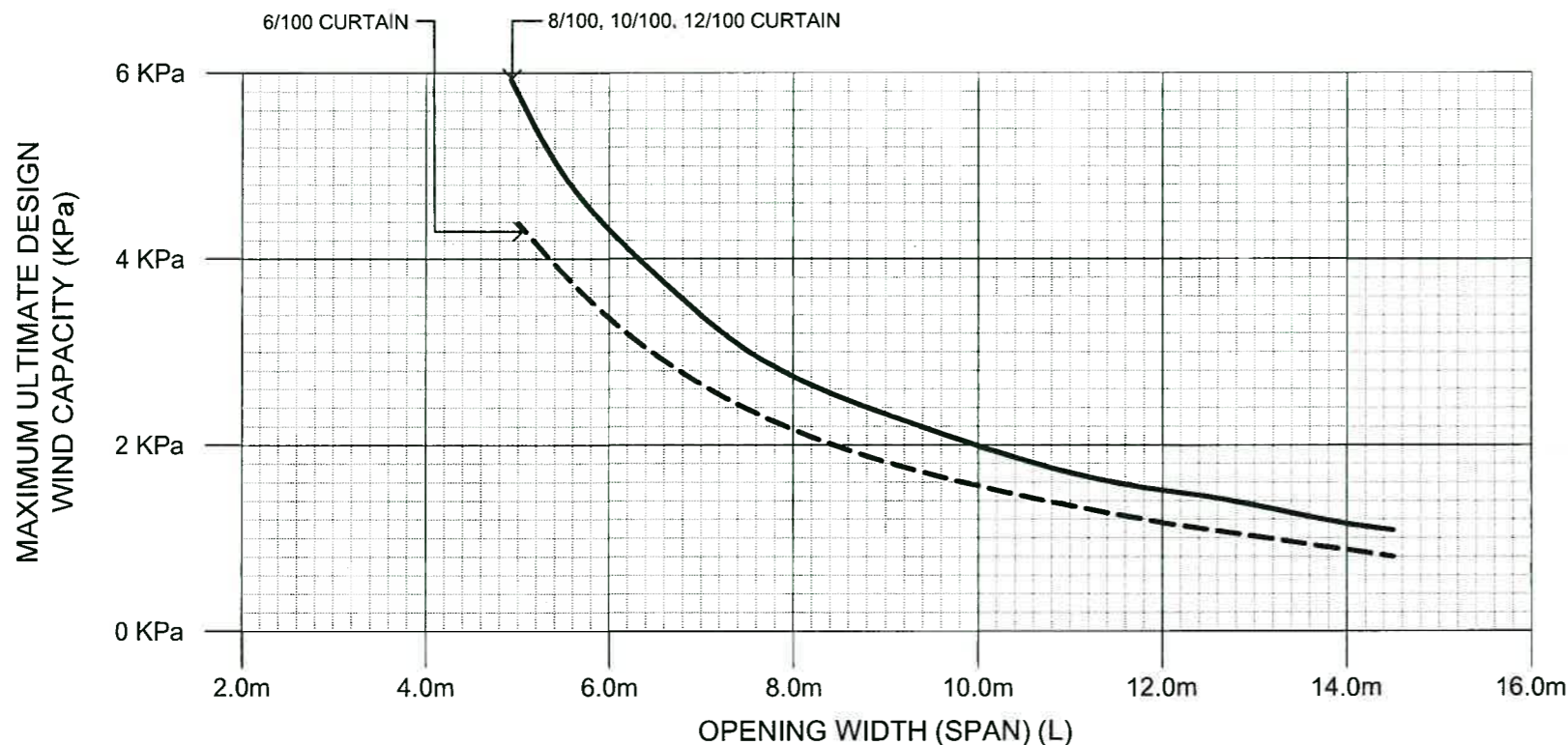
Must be a registered as a structural engineer in the Northern Territory

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.



NOTE: CURTAIN WIDTH = OPENING WIDTH + CURTAIN OVERLAPS
 FIGURE 1: ULTIMATE DESIGN WIND CAPACITY FOR A GIVEN SPAN (CLIPS AT EVERY SLAT)



NOTE: CURTAIN WIDTH = OPENING WIDTH + CURTAIN OVERLAPS
 FIGURE 2: ULTIMATE DESIGN WIND CAPACITY FOR A GIVEN SPAN (CLIPS AT EVERY 2nd SLAT)

Product Name
B&D ROLL-A-SHUTTER

Product Description
WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details
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 AND 2.5
 - DOOR HEIGHT 10m MAX.
 - BUILDING IMPORTANCE LEVEL 2
 - REGION WINDSPEED VR = 69.3m/s
 - DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE FOR A GIVEN MAXIMUM ALLOWABLE OPENING WIDTH AS NOMINATED IN TABLE 1 & FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
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 - AS/NZS 4600: 2005 COLD FORMED STRUCTURES
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 - AS 3600:2009 CONCRETE STRUCTURES

- Limitations
- STEEL ABUTMENT POSTS TO BE 3mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250.
 - CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE HOLLOW MASONRY UNITS (f_{uc}) = 15 MPa (MIN.).
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 - ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE NOMINATED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES FOR ANY GIVEN SPAN DO NOT EXCEED THE VALUES PROVIDED IN TABLE 1 AND FIGURES 1 & 2 ON DRAWINGS S05 AND S06.
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Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/06 DRAWING No. S06-Rev.2

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
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- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD ROLL-A-SHUTTER INSTALLATION GUIDELINES.

Checking Engineer
 Name: JAMES ELLIS
 Registration Number: 47429ES
 Date: 22/04/2021
 Signature: *[Signature]*
 Must be an Australian registered structural engineer

Certifying Engineer
 Name: ASSET SERVICES PTY LTD
 NT Registration Number: 152941ES
 Date: 22/04/2021
 Signature: *[Signature]*
 Must be a registered as a structural engineer in the Northern Territory

Chairperson Signature: *[Signature]*

Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL - National Construction Code Volume 2 (Section 3.0.4 Structural resistance of materials in high wind areas)

This product has been determined to satisfy NCC Performance Requirement P2.1.1 for structural stability and resistance.

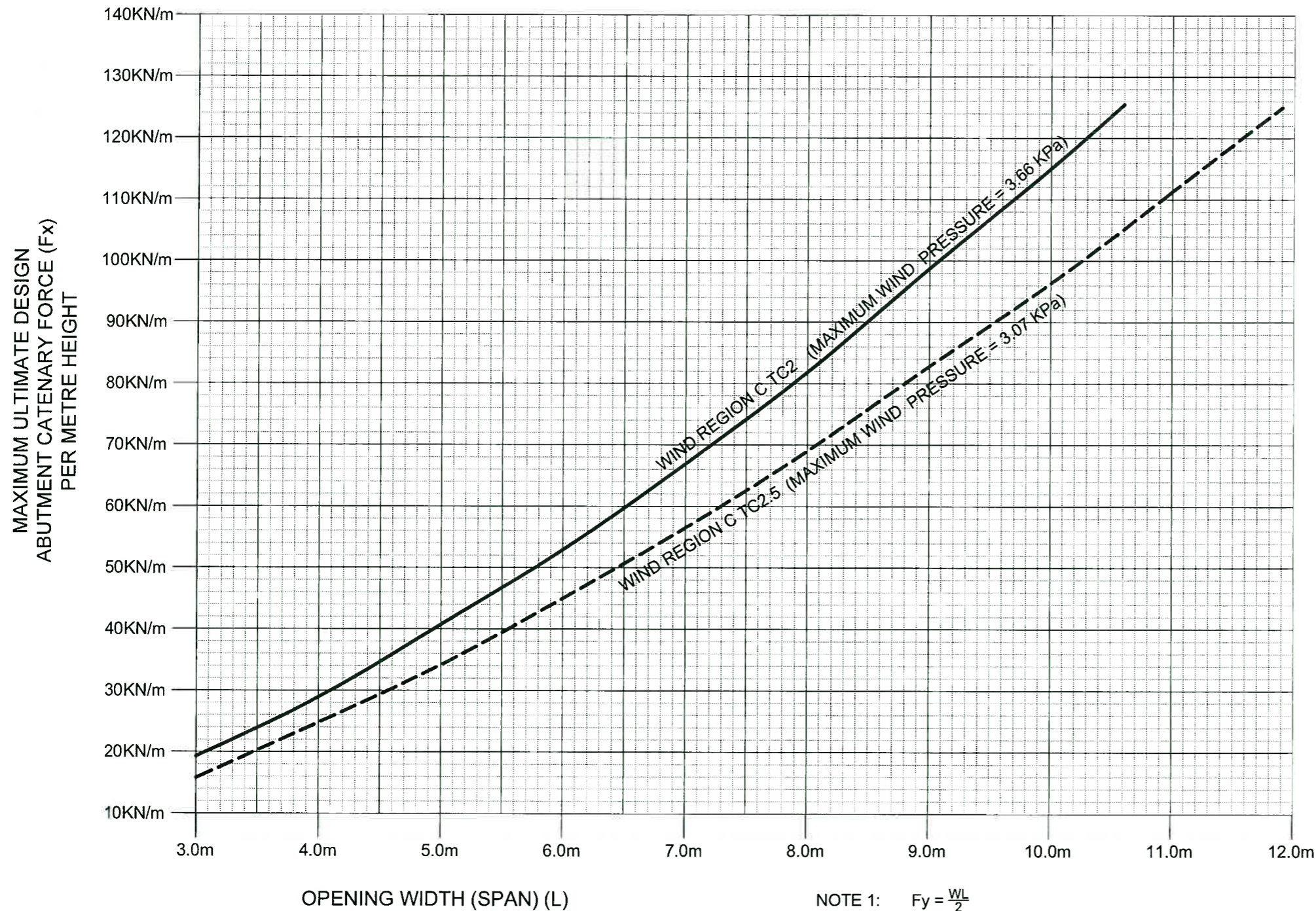


FIGURE 3: ULTIMATE DESIGN CATENARY FORCE FOR A GIVEN SPAN AND WIND PRESSURE

NOTE 1: $F_y = \frac{WL}{2}$
 WHERE F_y = MAXIMUM OUT OF PLANE ULTIMATE DESIGN ABUTMENT FORCE (PER METRE HEIGHT)
 W = ULTIMATE DESIGN WIND PRESSURE (kPa)
 L = OPENING WIDTH (SPAN) (m)

Product Name

B&D ROLL-A-SHUTTER

Product Description

WINDLOCKED ROLLER SHUTTERS

Manufacturer's Details

B&D AUSTRALIA PTY LTD

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

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Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/417/07 DRAWING No. S07-Rev.1

Chairperson Signature:

Chairperson Name: Paul Nowland

Date of Approval: 28/07/2021 Expiry Date: 28/07/2026

Notes covering basis of DTC (Relevant test reports etc)

- REPORT No. TS1001 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
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