

NAVY FEDERAL CREDIT UNION (NFCU)
820 Follin Ln SE,
Vienna, VA 22180

Materials and Finishes

1- "Click-on Screen Wall"

Product Technical Datasheet

Click-on Screens

for Balustrade Infills and Free
Standing Screens.



Issued by: Woodform Architectural Pty Ltd,
t/a Sculptform
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sculptform.com

About this document

As the Sculptform system has been designed to be versatile in its application, the purpose of this document is to provide the core properties of each system component (material, capacities, and fire behaviour), for use by a *professional engineer* or recognised expert as defined within NCC 2022 Volume 1.

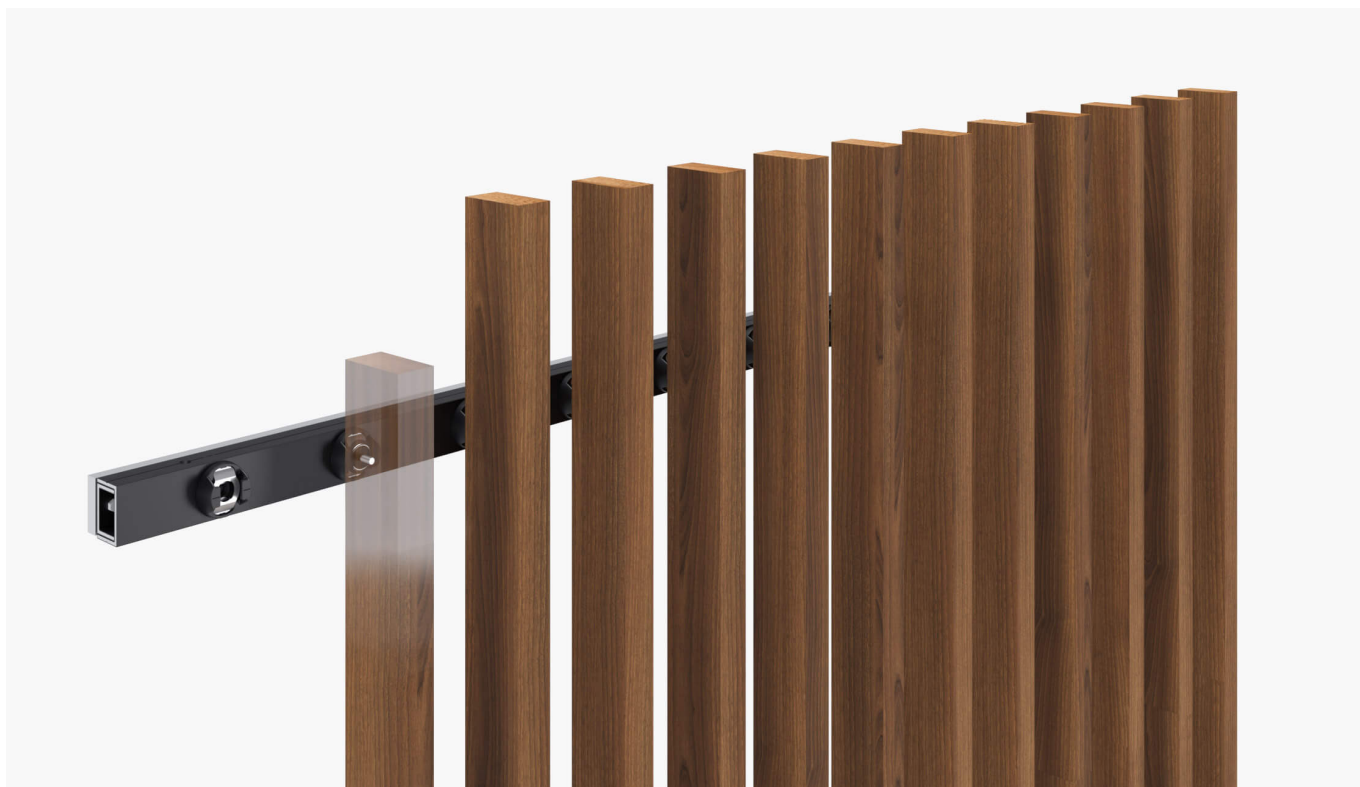
The data and referenced reports contained within, are to be used by an appropriately qualified professional engineer (fire and/or structural), as part of their verification method assessing the performance requirements within the NCC 2022, the engineering specification, Deemed-to-Satisfy provisions and other methods of performing full design check, including a Performance Solution.

The following options are available around engineering verification:

- Have your professional engineer use the data contained within this document, as part of a Verification Method calculation against the requirements contained within the engineering specification.
- Engage Sculptform for preliminary calculations which we provide as a billable service.
- Engage Sculptform to design and verify engineering against the engineering specification, through our Pre-construction team as a billable service.

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1.0 PRODUCT OVERVIEW

Sculptform's Click-on Screens are a patented open batten system, designed for balustrade infill applications in accordance with AS 1170.1. The system consists of mounting tracks, the patented clip/button connection system and feature battens.

1.1 Applications

The system was designed for applications requiring barrier infill properties, such as Free-Standing Screens and Balustrade/Balcony infills.

1.2 Limitations of Use

The system is designed for barrier infill applications and attaches to third-party structural systems such as rails and stanchions which meet the primary barrier requirements for the overall application. As such, the onus rests on the designer to incorporate other factors such as wind loading, bracing, seismic, building movement and other standards relevant to the overall design, at the shop drawing stage, as part of the design checks done against the performance requirements of the project.

Note: As most of Sculptform's contracts are supply only, unless contracted otherwise, Sculptform cannot be held liable for ensuring "fit for purpose" on any given project.

This responsibility lays with the company or individual, as contained within their contract, to meet the design requirements stipulated within the Engineering Specification to demonstrate fit for purpose, typically at the shop drawing stage.

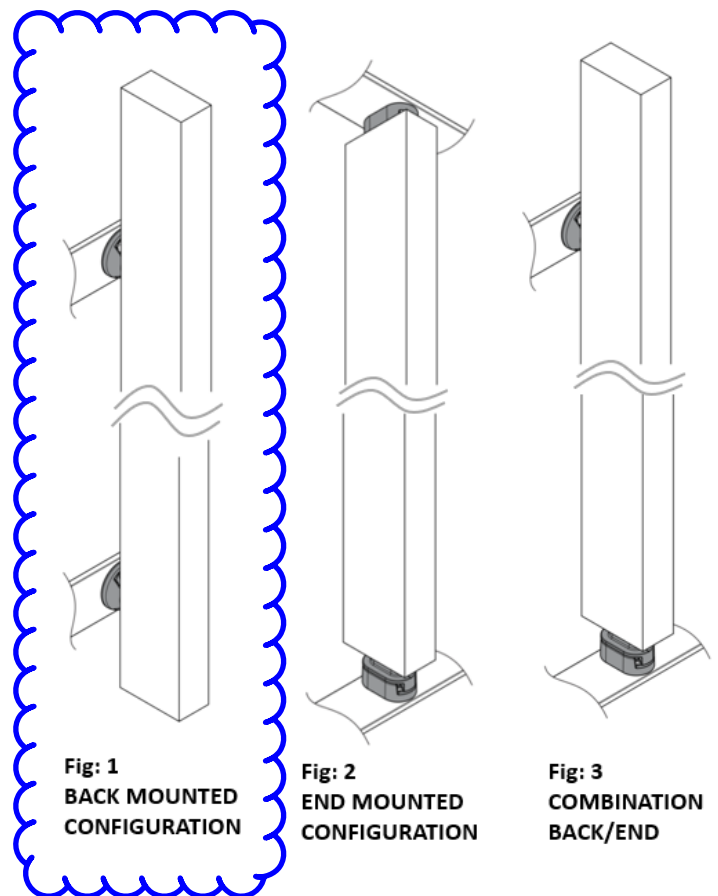
Note that Building Codes (and their interpretation), along with our products, finishes and systems may change over time. As such, Sculptform cannot accept liability for any of the information or omission of information within this datasheet or the consequential losses that occur as a result. Please consult with a Sculptform representative to ensure that you have the latest up-to-date information regarding our products and systems.

1.3 Mounting Options

The system has three core mounting options:

1. Back fixed (Fig 1).
2. End Fixed (Fig 2).
3. Combination Back/End (Fig. 3)

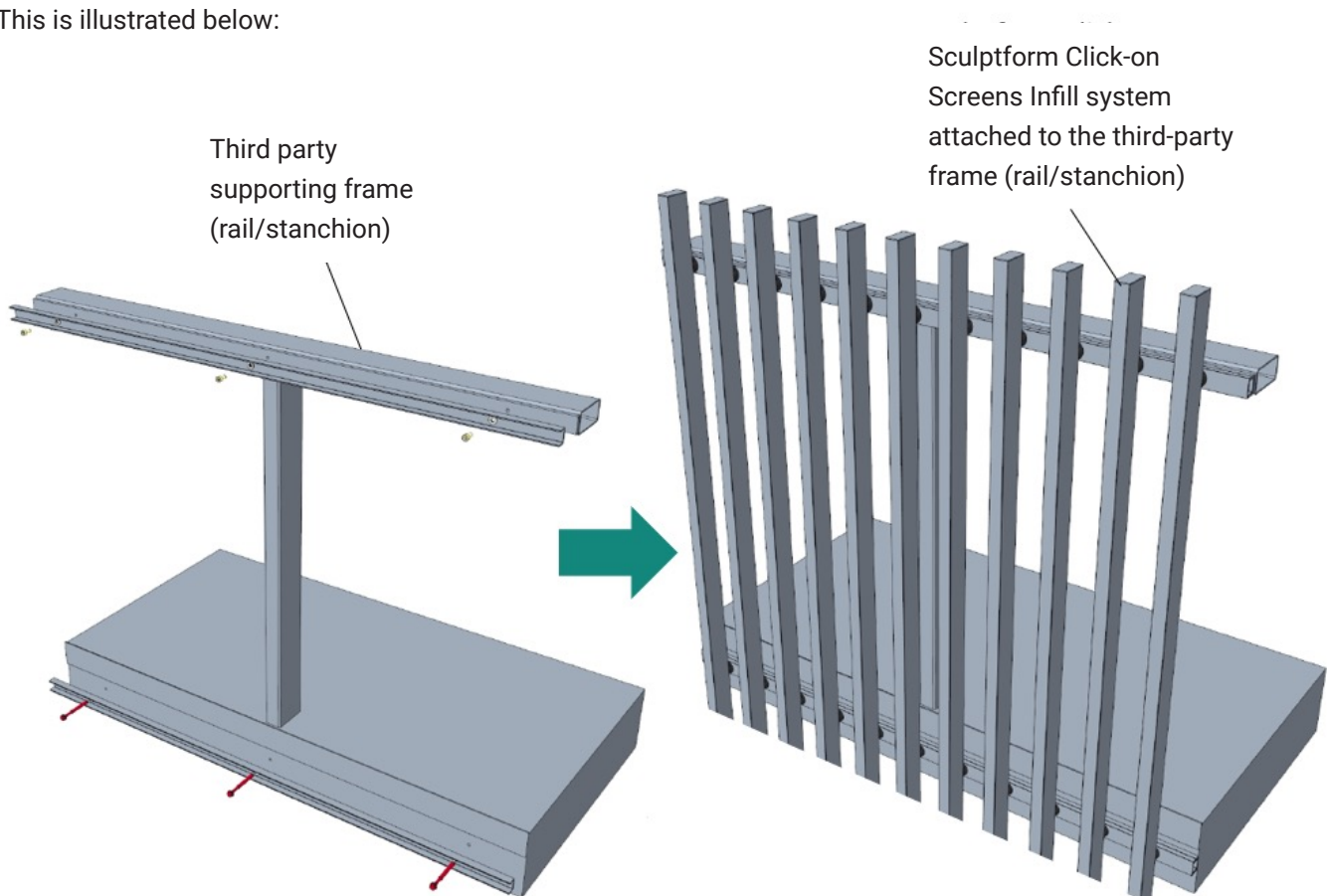
Note: both the back and end mounted versions have a fixed end and floating end. One part of the batten is fixed and the other end slides within the mount to accommodate building movement.



Important Note:

The barrier systems rating (C1/C2, C3 or C5) of the Sculptform Click-on Screens infill system is achieved in combination with a third-party framing system. The third-party framing system must meet the top edge minimum imposed action requirements as stated in table 3.3 in AS/NZS 1170.1. The data contained within this datasheet should be used as part of the design checks by the structural engineer to ensure overall compliance to the code.

This is illustrated below:



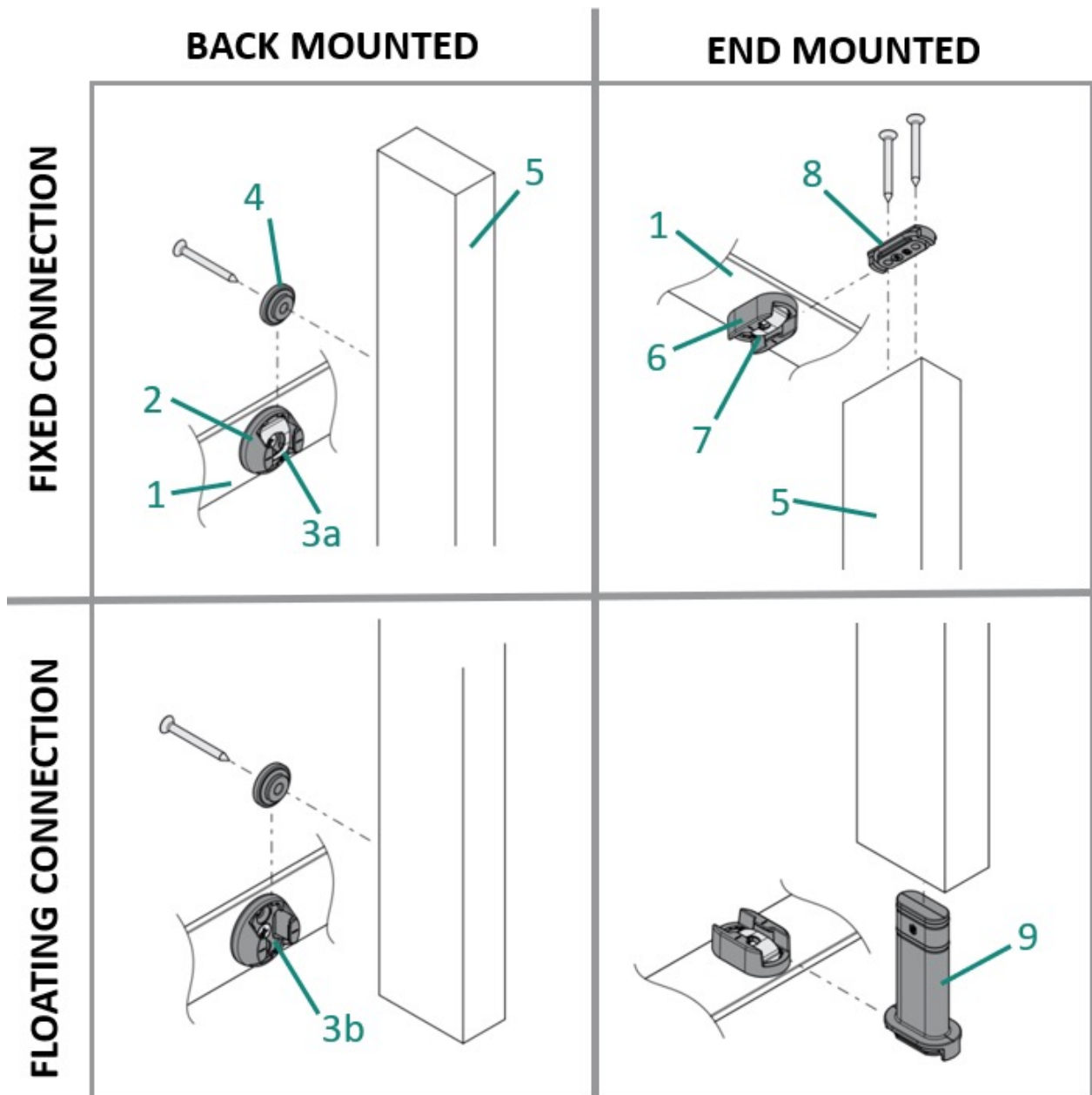
1.4 Clip Types

The Click-on Screens System consists of the following:

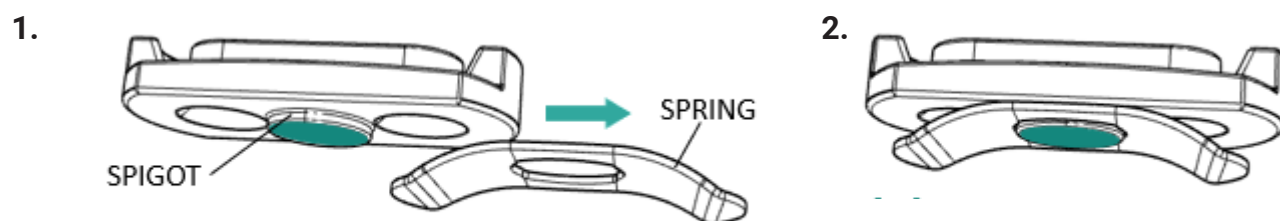
- Mounting Bases: back (2) or end mount types (6)
- Mounting Springs: back (3a) or end mount types (7).

Note: for the floating connection type, back mount only, the spring is omitted (3b).

- Button connectors: back (4) or end mount types (8)
- Battens (5)
- Tenon: End mount only (9)

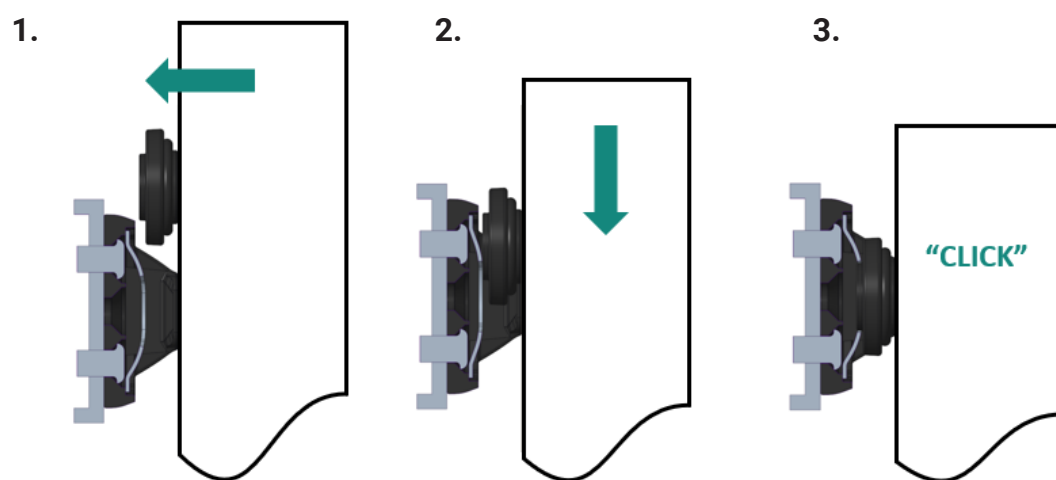


1.5 The Connection System

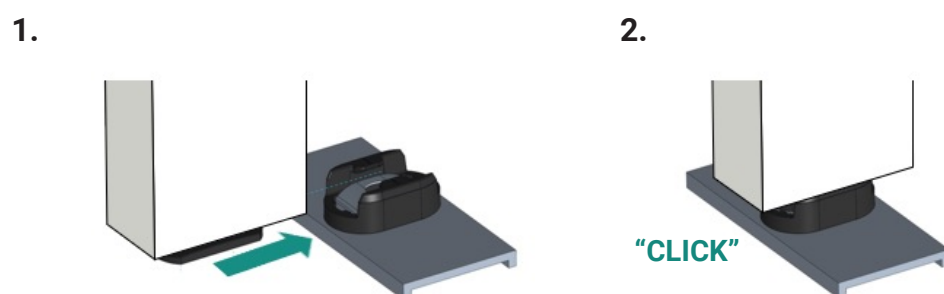


The Click-on Screen connection uses a spring/spigot system to fix the button to the mounting base.

Back mount connection

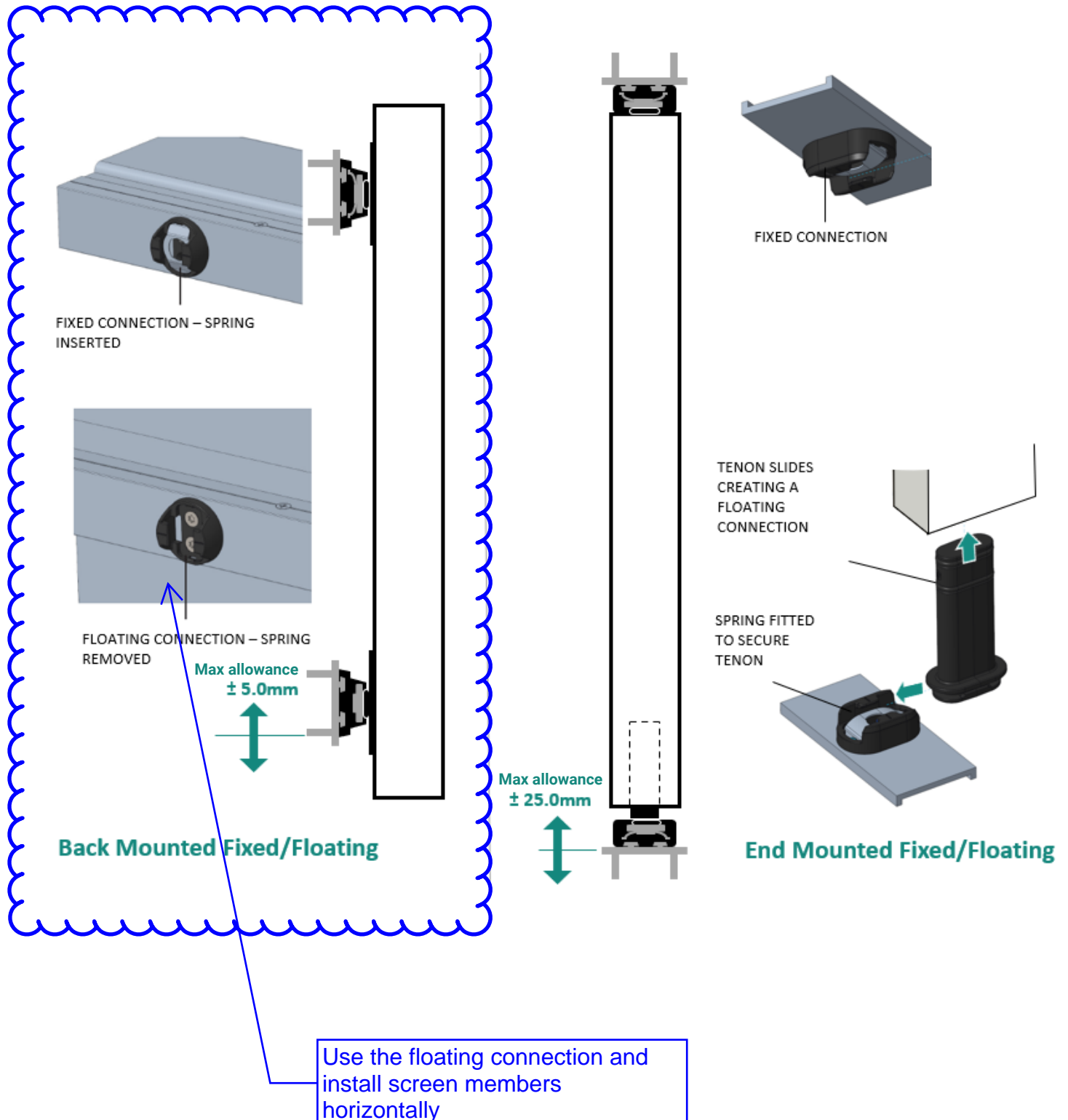


End mount connection



1.6 Site Tolerances/Building Movement

To accommodate site tolerances and/or building movement, the system has been designed to have a fixed end and a floating end to be used together in the design. It is important to consider and document the building movement allowance for your application. For example, an internal Free-standing screen might only need to account for 5mm building movement but an external balcony might need to allow 25mm.



2.0 COMPONENT PROPERTIES

2.1 Back Mount Clips

1. Back Mount Stainless Steel Clip

Material: 304 S/S

Thickness: 0.6 mm

2. Back Mount Base

Material: AS 1881-1986 Zn Al 4 (Zamak 3)

Finish: Powder Coated Matt Black

3. Self-Piercing Rivet

Diameter: 5.0mm Dome Head

Material: Low Carbon Boron Steel

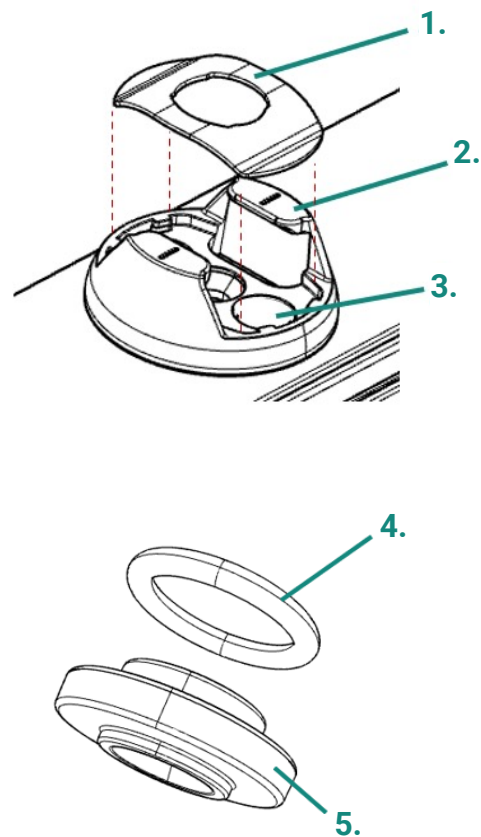
Finish: Zinc/Tin Co-Deposit Class 4

4. O-Ring

Polymer: EPDM

Hardness: 90 Shore A

5. 304 Stainless Steel Button



2.2 End Mount Clips

1. Back Mount Stainless Steel Clip

Material: 304 S/S
Thickness: 0.6 mm

2. Back Mount Base

Material: AS 1881-1986 Zn Al 4 (Zamak 3)
Finish: Powder Coated Matt Black

3. Self-Piercing Rivet

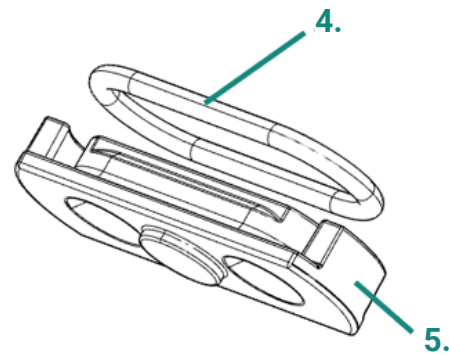
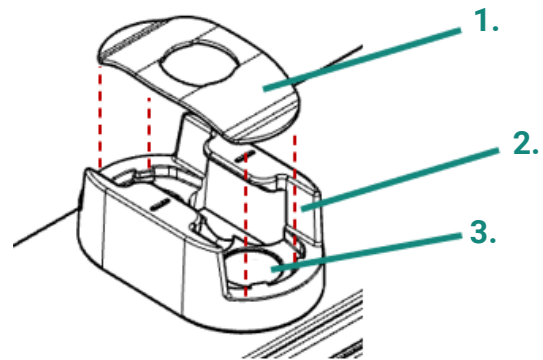
Diameter: 5.0mm Dome Head
Material: Low Carbon Boron Steel
Finish: Zinc/Tin Co-Deposit Class 4

4. O-Ring

Polymer: EPDM
Hardness: 90 Shore A

5. End Mount Base

Material: AS 1881-1986 Zn Al 4 (Zamak 3)
Finish: Powder Coated Matt Black



1. O-Ring

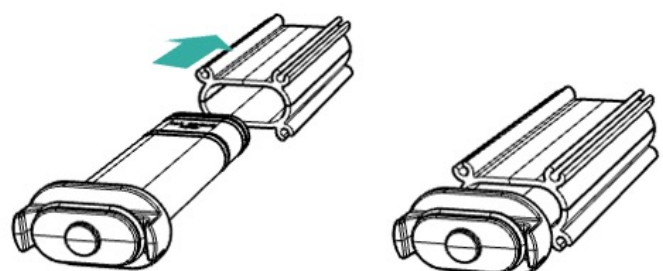
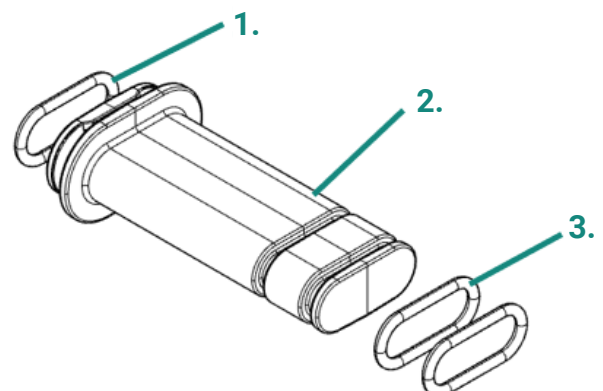
Polymer: EPDM
Hardness: 90 Shore A

2. Tenon

Material: AS 1881-1986 Zn Al 4 (Zamak 3)
Finish: Powder Coated Matt Black

3. O-Ring

Polymer: EPDM
Hardness: 90 Shore A



2.3 Mounting Track Types

45x25mm Split Track

The split track system was designed to accommodate on-site tolerances and reduce the amount of packing required to achieve a straight line along the mounting track.

The outer track can be moved outwards up to 10mm (from 25mm to 35mm) prior to being stitched with 8-18 x 13mm S/Drill Screw Pan Head Phil Drive 304 S/S Black Zinc screws. These are stitched on both sides of the split track, every 450mm.

1. Mounting Track Base Extrusion

Material: Aluminium 6106 / T6

Finish: Powder Coated (Dulux Electro Black Ace)

Weight: 0.654 kg / linear meter

2. Mounting Track Extrusion

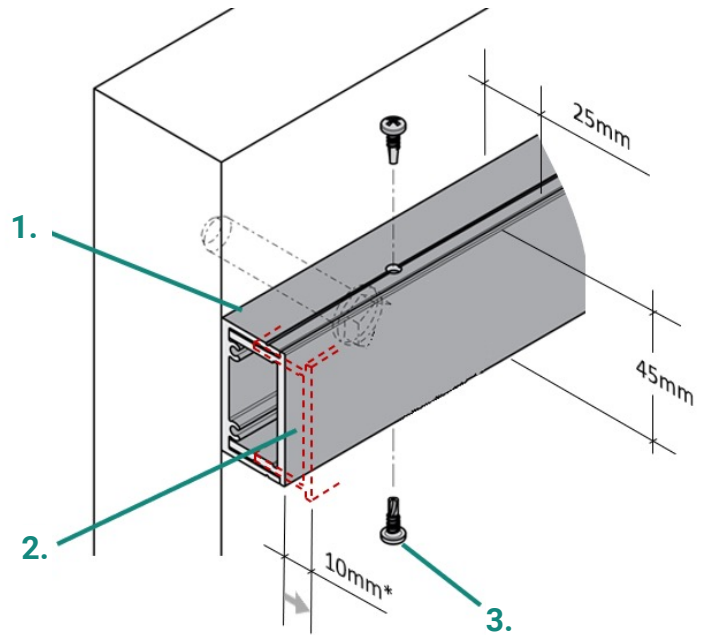
Material: Aluminium 6106 / T6

Finish: Powder Coated (Dulux Electro Black Ace)

Weight: 0.626 kg / linear meter

3. 8-18 x 13mm S/Drill Screw

Pan Head Phil Drive 304 S/S Black Zinc - for Split Mounting Track. Stitched both sides, every 450mm along the track.



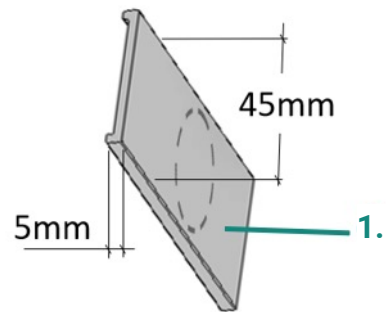
45x5mm Slim Track

1. Slim Track Extrusion

Material: Aluminium 6106 / T6

Finish: Powder Coated (Dulux Electro Black Ace)

Weight: 0.396 kg / linear meter

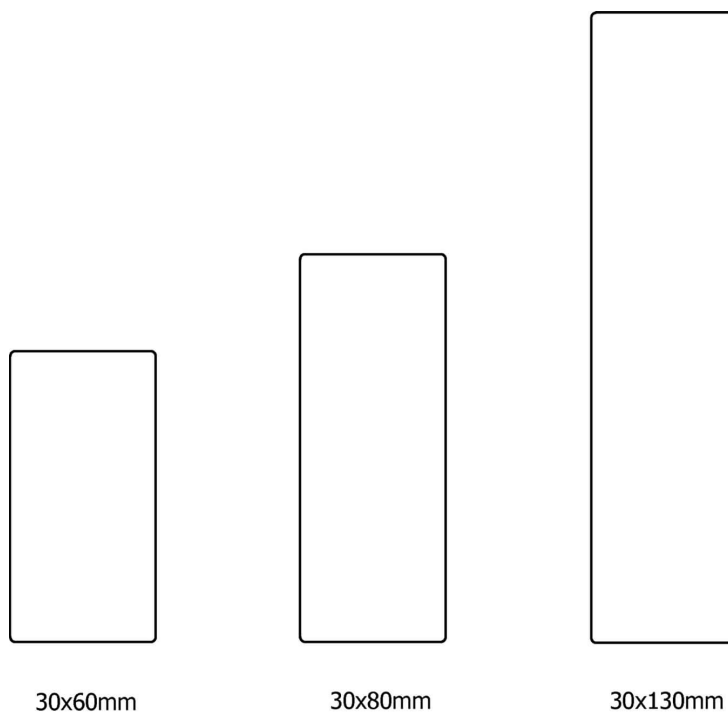


2.4 Mounting Track Sectional Properties

PROPERTIES	UNITS	45X5	45X25 (25MM)
Sectional Area	mm ²	1.467854E+02	4.744852E+02
Weight per Linear Meter	kg/m	0.396	1.280
Second Moment of Area - Ixx	mm ⁴	1.718894E+02	9.592461E+03
Second Moment of Area - Iyy	mm ⁴	2.797375E+04	1.200412E+05
Minimum Section Modulus (Zxx+)	mm ³	1.010150E+02	3.039250E+03
Minimum Section Modulus (Zyy+)	mm ³	1.243280E+03	5.335160E+03
Radius of Gyration (rx)	mm	1.082139E+00	9.134713E+00
Radius of Gyration (ry)	mm	1.380492E+01	1.590574E+01
Co-efficient of Linear Expansion		0.000023 °C ⁻¹	
Flammability		Non-Flammable Ignitability Index: 0 Spread of Flame Index=0 Heat Evolved Index = 0 Smoke Development Index = 3 (CSIRO Report: FNE11834. 16/12/2016)	
Shear Modulus		26 GPa	
Poisson's Ratio (v)		0.33	
Compressive Modulus of Elasticity (E)		70 GPa	

Please Note: stitching screw centres impact on the overall combined sectional properties and performance of the 45x25mm split track.

2.5 Timber Batten Profiles



2.6 Timber Species Properties

CHARACTERISTICS		SPOTTED GUM*	AMERICAN OAK
PROPERTIES	Grading	AS 2796.2 as 67% Select Grade, 33% Medium Feature Grade.	
	Moulding Specifications	AS 2796.1 Section 7 Dressed Boards, Joinery and Mouldings.	
	Moisture Content	9% to 14% (AS/NZS 1010.1; AS/NZS 2796.1)	
	Average Density (12% EMC)		
	990kg/m3	900kg/m3	550kg/m3
	Hardness (Janka) kN	11	6.0
	Stress Grade (AS 2082:2007)	F14	F11
	Unit Tangential Movement	6.1%	6.6%
FIRE	BCA C1.10a Group 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	AS 3959	BAL 12.5, 19 , 29 (AS3959)	-
	Ignitibility:	13	-
	Spread of Flame Index	3	-
	Smoke Development Index	3	-
	Crit. Radiance Flux Range	2.2 to 4.5kW/sq.m	-
	Smoke Development Rate	<750	-
	Average Extinction Area	<250	-

Note: *ACGH3 treated

2.7 Timber Batten Durability Rating

TIMBER SPECIES	DURABILITY CLASS – LIFE EXPECTANCY* AS 5604:2005	USAGE
Spotted Gum*	Class 1 – Greater than 40 years	Interior / Exterior
American Oak	Class 3 – 7 to 15 years	Interior Only

Note: *ACGH3 treated

2.8 Timber Batten Acclimatisation

Where the environment in which the timber battens will be installed, has low humidity (<30%) such as an air-conditioned environment, the timber battens should be unwrapped, placed within the environment, avoiding UV exposure, and conditioned for three (3) days within the target humidity range.

2.9 Timber Batten Tannins

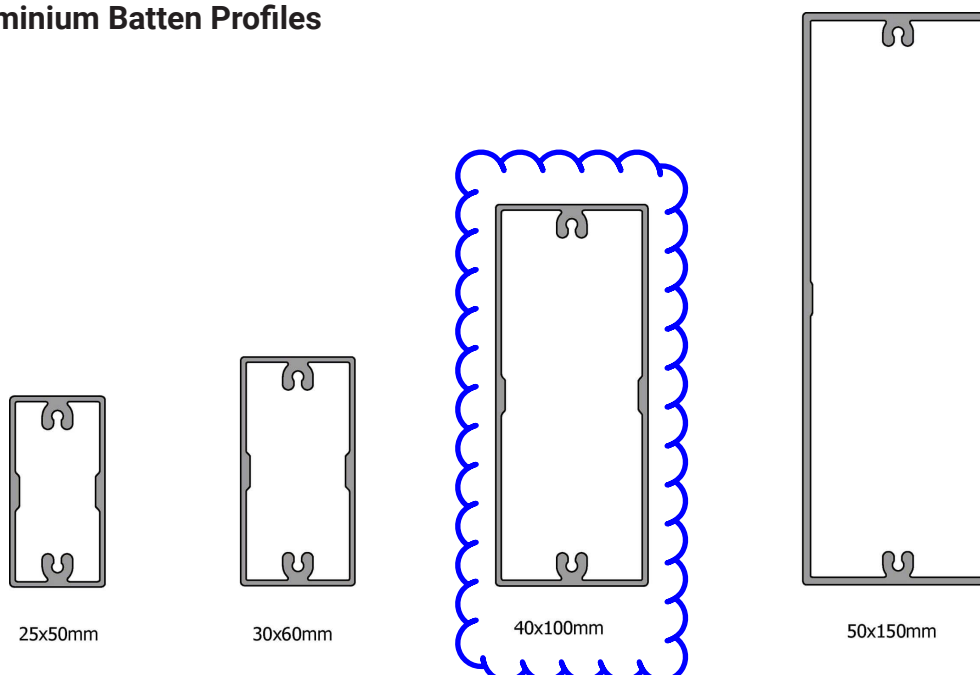
Certain timbers are especially prone to tannin bleed such as Spotted Gum. In terms of suitability, consideration of the substrate around the feature should be considered, and the use of aluminium angles with sealants.

2.10 Storage

Product should be stored on a level surface, with minimal exposure to the sun or UV, moisture (including ground moisture).

Where the product will be stored for more than two weeks onsite, please consult Sculptform for additional storage advice. Moisture within the timber may be released within the packaging over time, dis-colouring or compromising the coating.

2.11 Aluminium Batten Profiles



Extrusion Finish (prior to anodising or powder coating): Shopfront

Surface lines should be expected in an extruded aluminium product and are part of its natural finish. There are commonly two types of lines found in an extrusion: thermos-mechanical and die lines.

Streaking

Origin: billet and thermo-mechanical

Identification: dark and light lines, side-by-side, longitudinally. Variation in glossiness.

Cause: variable cross-sectional thicknesses, web intersections, reforming of alloy after bridge(adhesion), differences in grain density across the cross-section.

These are natural colour variation found within the extrusion and are acceptable.

Die Lines

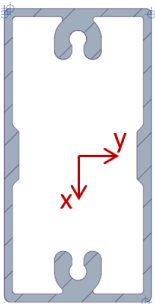
Origin: Aluminium Extrusion tooling

Identification: longitudinal line or small groove on the die. Running a pencil across the raw aluminium

Cause: Roughened tool or foreign particle between the tool and the product.

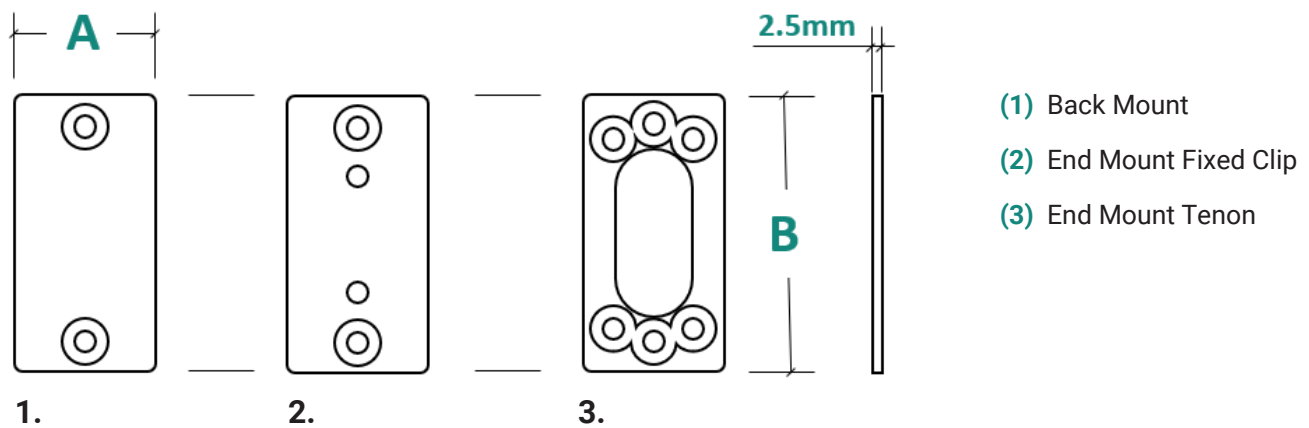
Note that unless surface ground or sanded, die lines may be present although minimal in the extrusion. The type of finish selected also impacts on the visibility of these lines. Please contact us for more information.

2.12 Sectional Properties of Aluminium Battens

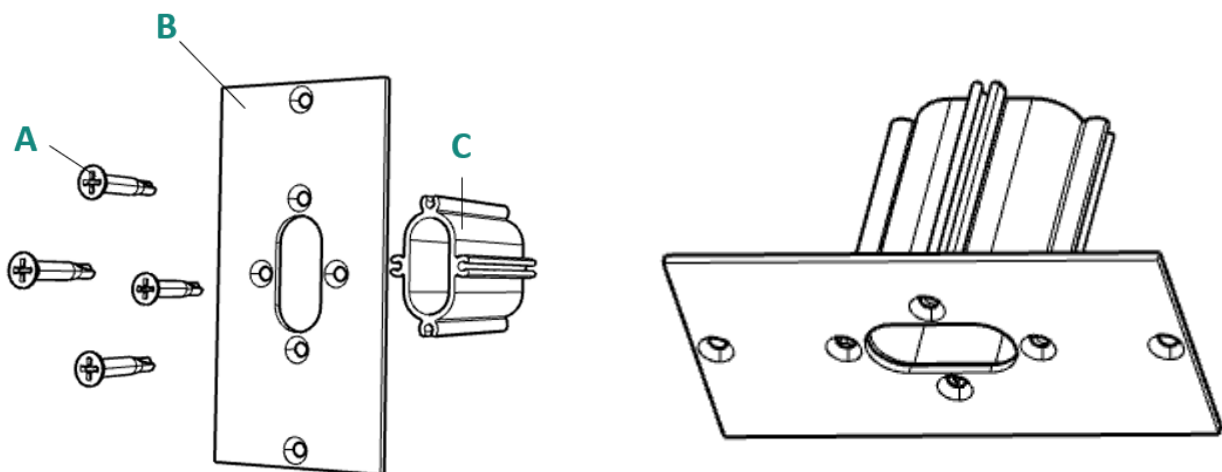
REFERENCE DRAWING	PROPERTIES	UNITS	25X50mm	30X60mm	40X100mm	50X150mm
	Sectional Area	mm ²	3.0291E+02	3.4491E+02	5.0993E+02	8.6790E+02
	Weight per Linear Meter	kg/m	0.862	0.931	1.402	2.347
	Second Moment of Area - Ixx	mm ⁴	2.4683E+04	4.2833E+04	1.3034E+05	3.8273E+05
	Second Moment of Area - Iyy	mm ⁴	9.8805E+04	1.6692E+05	6.8325E+05	2.5002E+06
	Minimum Section Modulus (Zxx+)	mm ³	1.9746E+03	2.8555E+03	6.5170E+03	1.5309E+04
	Minimum Section Modulus (Zyy+)	mm ³	3.9522E+03	5.5639E+03	1.3647E+04	3.3336E+04
	Radius of Gyration (rx)	mm	9.0268E+00	1.1144E+01	1.5988E+01	2.1000E+01
	Radius of Gyration (ry)	mm	1.8061E+01	2.1999E+01	3.6604E+01	5.3673E+01
	Co-efficient of Linear Expansion	0.000023 °C ⁻¹				
	Flammability	Non-Flammable Ignitability Index: 0 Spread of Flame Index=0 Heat Evolved Index = 0 Smoke Development Index = 3 (CSIRO Report: FNE11834. 16/12/2016)				
	Shear Modulus	26 GPa				
	Poisson's Ratio (v)	0.33				
	Compressive Modulus of Elasticity (E)	70 GPa				
	Material Grade (BS EN 573-3:2009)	6106 / T6 TEMPER				

2.13 End Caps

There are three end cap types depending on the mounting configuration.



2.14 Mortice Extrusion



A Endcap - 6g, 16mm, Countersink head, Phillips drive, A2 Stainless, Black Zinc Coated

B End Mount – Mortice Cap

C Mortice extrusion

3.0 FINISHES

3.1 Timber

ATTRIBUTE	NATURAL ACCENT* INTERIOR	NATURAL ACCENT* EXTERIOR	INTERGRAIN ENVIROPRO	CUTEK EXTREME
Type	Waterbased Lacquer	Waterbased Lacquer	Waterbased Lacquer	Stabiliser
No. of Coats	2	2	2	1
Application	Interior	Sheltered Exterior	Exterior	Exterior
VOC's of the Product Applied	52.2 g/l	32.8 g/l	Not disclosed by supplier	250 g/l ASTM 3960

* Available with stain options. VOC for clear option only.

The coatings and stabilisers are applied at the factory. For best results for Cutek Extreme, a second application should be applied as per the manufacturer's requirements, soon after installation. For coating maintenance, please see the product maintenance guide. Re-coating requirements are condition based, unique to environment in which the product is installed.

3.2 Aluminium

3.2.1 Wood Finish (Olefin Embossed Film)

PEEL OFF STRENGTH	SURFACE TREATMENT FOR ADHESION	THICKNESS	ADHESIVE
>30kg/inch (average if 3x samples)	10 microns Anodised, unsealed surface treatment	0.12mm to 0.18mm	Hotmelt PUR

Light Reflectance Values (LRV's) – as per AS 1428.1 (2009) Appendix B

FINISH TYPE	LRV
Northern Spotted Gum	13.09%
Grey Gum	24.46%
Charred Ash	5.88%
Coffs Blackbutt	23.79%
American Oak	33.82%
Australian Ash	36.39%
Whitewash Oak	62.45%

3.2.2 Powder Coating

TYPE	TYPICAL COATING THICKNESSADHESION	GLOSS	APPEARANCE
Thermoset Polyester	60 - 80 µm (AS 2331.1.1.4)	Matt 2145 at 60° Satin 4675 at 60° Gloss >76 at 60°	(AS 3715 – 2.5.1) - No visible scratches from 1 meter, or in-situ viewing distances

Humidity Resistance (AS/NZS 4506)

Scribed, 100% Relative Humidity at 40 +/- 3 deg. C for 1,000 hr. No more than 1 mm creep. No visible blistering.

Light Reflectance Values – see Appendix for coatings with LRV's of 20% or less.

3.2.3 Anodised

Thickness Grade: ASTM 1231-2000

THICKNESS GRADE	MINIMUM AVERAGE THICKNESS	MINIMUM LOCAL THICKNESS
AA25 (Exterior severe - Class 4 and above)	25mm	20mm
AA20 (Exterior Std - Class 3)	20mm	16mm
AA10 (INTERIOR)	10mm	8mm
(ISO 1463, ISO 2360 or ISO 1463)		

Note: Corrosion class is defined in ISO 9223 and within Australia from AS 4312. In addition, some interior pool environments may be class 4 or above. Please consult with your engineer to confirm the appropriate corrosion class.

Light Reflectance Values (LRV's)

FINISH TYPE	LRV
Dark Gold	47.28%
Clear Silver	72.17%
Standard Bronze	13.35%
Light Gold	59.93%
Pale Bronze	38.35%
Antique Gold	22.21%
Dark Bronze	5.61%
Light Bronze	24.40%
Medium Bronze	8.29%
Medium Gold	54.08%
Black	4.27%

Handling, Transportation of Anodised Finishes

Special care is required in the handling, transportation and during installation. Anodised surfaces scratch easily. The anodised product should not rub or slide against each other. Wrapping is not allowed to get damp.

Appearance Considerations of Anodised Finishes

Anodic treatment accentuates the differences in metallurgical condition of the Aluminium. It is possible at close inspection, from different viewing angles, to see streaking and changes in brightness.

A viewing distance of 3 meters should be assumed when inspecting the product for defects.

3.3 Scratch Resistance Comparison of Coatings

Comparative scratch resistance test to AS/NZS 1580.403.1-1999 (Bureau Veritas Report No. 21-10881031)

FINISH	MAX. LOAD AT SCRATCH PENETRATION	MAX LOAD AT NO SCRATCH PENETRATION
Anodised	400 grams	200 grams
Wood Finish	1800 grams	1600 grams
Powder coating	400 grams	200 grams

3.4 Maintenance

Please consult with our maintenance guides. Maintenance requirements are dependent on the corrosivity class of the environment, the material selected for the screen and the finish. For more information, please contact us: support@sculptform.com

4.0 SYSTEM CAPACITIES

4.1 Back Mount Connection

Back Mount Button to Back Mount Base Connection
Capacity Across Two (2) Battens.

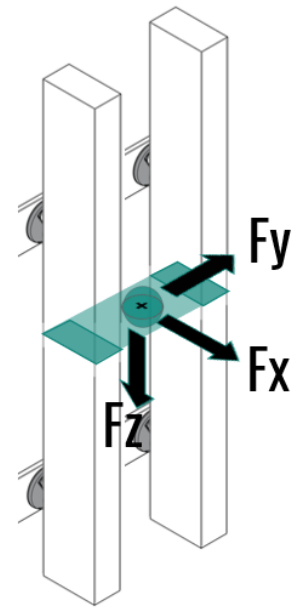
F_x: 11.38 kN

F_y: 2.62 kN

F_z: 2.62 kN

Note: Reaction capacity of connections only, assuming the load is applied across two battens.

Please consult with the sectional properties table when conducting full system design checks.



Assumptions:

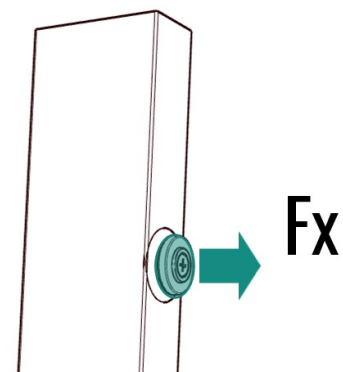
Point load applied (shared) across two battens (4x connections) as per AS/NZS 1170.1:2002 Table 3.3 note [2] as an infill only.

Point load applied mid-span on 700mm long batten, as per test plan SFM:304 R1.

Failure mode, when tested to failure: back mount base (F_x, F_y) and spring (F_z).

Design capacity factored and shared across four clips.

MATERIAL	F _x
Aluminium	2.96 kN
Spotted Gum	3.5 kN
American Oak	2.95 kN



Screw Type: No.10gx32mm (1 1/4 inch) Type AB S/Tapping
Screw Csk Hd Phil Drive 304 SS

4.2 End Mount Connection

End mounted button to end-mounted base connection across two battens.

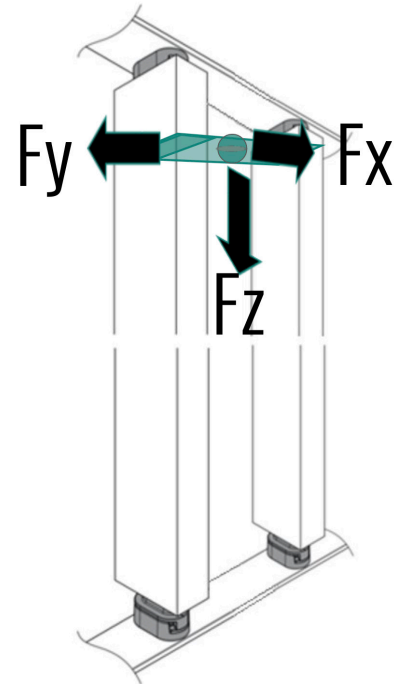
F_x: 2.25 kN

F_y: 2.25 kN

F_z: 2.25 kN

Note: Reaction capacity of connections only, assuming the load is applied across two battens.

Please consult with the sectional properties table when conducting full system design checks.



Assumptions:

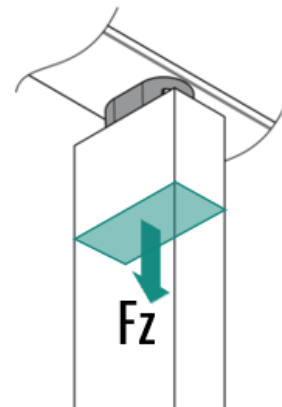
Point load applied (shared) across two battens as per AS/NZS 1170.1:2002 Table 3.3 note [2] as an infill only. Design load was applied and held for 5 minutes.

Point load applied at tip of batten, beneath mounting point on 700mm long batten as per test plan SFM:304 R1, shared between two battens.

Failure mode when tested to failure: back mount base shear (F_x , F_y) and spring yield (F_z).

MATERIAL	FZ
Aluminium	
Spotted Gum	2.25 kN
American Oak	

2x Screws: 8gx32mm Type AB S/Tapping Screw Csk Hd Phil Drive 304 SS

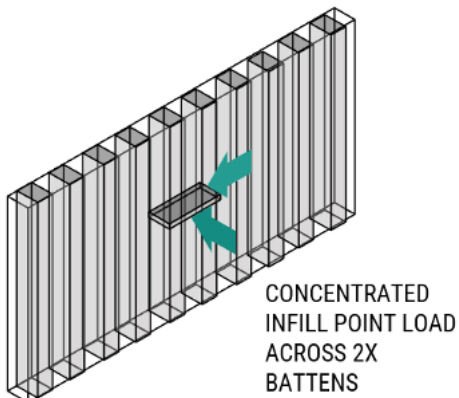


5.0 BARRIER SPAN CHARTS – AS1170.1

5.1 Single Batten Span Capacity (2 Mounting Tracks)

PROFILES	MOUNTING TRACK SPAN				
	1000MM	1200MM	1800MM	2400MM	3000MM
Timber: 30x60mm BM/EM	C3	C3	C3	-	-
Timber: 30x80mm BM/EM	C3	C3	C3	-	-
Timber: 30x130mm BM/EM	C3/C5	C3/C5	C3	-	-
Alum: 25x50mm BM/EM	C3/C5	C3/C5	C3	-	-
Alum: 30x60mm BM/EM	C3/C5	C3/C5	C3	-	-
Alum: 40x100mm BM/EM	C3/C5	C3/C5	C3/C5	C3	C3
Alum: 50x150mm BM/EM	C3/C5	C3/C5	C3/C5	C3/C5	C3/C5
NON-STANDARD PROFILES					
Alum: 50x100mm BM/EM	C3/C5	C3/C5	C3/C5	C3/C5	C3
Alum: 25x100mm BM/EM	C3/C5	C3/C5	C3	C3	C3
Alum: 50x50mm BM/EM	C3/C5	C3/C5	C3/C5	C3	C3

Schematic



Legend:

- C3, C5 = Type of occupancy (Area where people may congregate), AS/NZS 1170.1: 2002 (Table 3.3).
- EM = End Mount, BM = Back Mount.
- ‘-’ means not feasible.

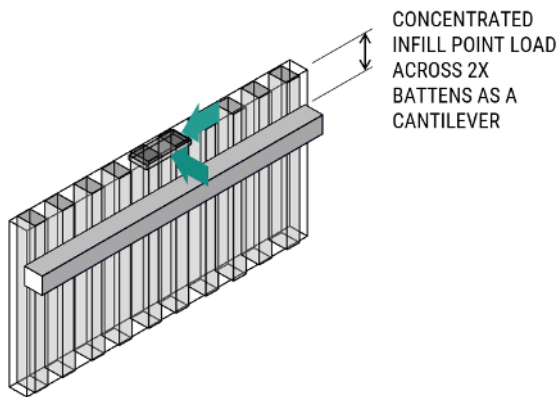
Design Notes/Assumptions:

- Above span table is prepared based on the ‘Infill’ column of Table 3.3, AS/NZS 1170.1:2002 and considering point load (kN) as an imposed action (Q) at mid-span of pair of shared battens in weaker axis direction.
- It is assumed that battens connections are rigidly restrained and will provide similar section capacities for both back mount and end mount connections for the same section length.
- Only mount reactions to C3 and C5 loadings have been considered in the above table. Any other loads on the screen need to be assessed and verified on a project basis.
- Supporting rails or split battens needs to be to design checked to take the imposed loading via the fixed mount systems.
- Span table above is derived from gross section properties of the batten type.
- Minimum Timber Grade = F14 (Spotted Gum), Aluminium Grade = 6106/T6 Temper (Yield Strength, $F_y = 170\text{MPa}$).
- The infill loading values (i.e. C3, C5) are factored in by 1.5 for imposed loading action (Q) as per AS/NZS 1170.0: 2002 (Section 4).
- Supporting rails or split battens needs to be to design checked to take the imposed loading via the fixed mount systems.
- Deflection Limit = $\text{Span}/60$ or 30mm maximum.

5.2 Barrier Loading Table – Point Load at Cantilever End (Span/Cantilever)

PROFILES	C3	C5
Timber: 30x60mm	1.2m / 0.35m	1.2m / 0.15m
Timber: 30x80mm	1.2m / 0.35m	1.2m / 0.20m
Timber: 30x130mm	1.2m / 0.35m	1.2m / 0.30m
Alum: 25x50mm	1.2m / 0.30m	1.2m / 0.20m
Alum: 30x60mm	1.2m / 0.32m	1.2m / 0.22m
Alum: 40x100mm	1.2m / 0.33m	1.2m / 0.22m
Alum: 50x150mm	1.2m / 0.35m	1.2m / 0.24m
NON-STANDARD PROFILES		
Alum: 50x100mm	1.2m / 0.33m	1.2m / 0.22m
Alum: 25x100mm	1.2m / 0.30m	1.2m / 0.20m
Alum: 50x50mm	1.2m / 0.35m	1.2m / 0.24m

Schematic



Legend:

- C3 and C5 are infill point loadings (P, kN). Refer appendix section for standards reference.
- All profile dimension above are in millimeters.

Design Notes/Assumptions:

- Above table is based on point load (P, kN) as an imposed action at top end of cantilevered single batten from its side as shown in above detail.
- It is assumed that battens connections are rigidly restrained and will provide similar section capacities for both back mount and end mount connections for same length section.
- The loading table is limited to weakest member type and/or its connection capacity (max. top mount reaction = <1.5kN).
- Supporting rails or split battens needs to be design checked to take the imposed loading via the fixed mount systems.
- Loading table is derived from gross section properties (refer appendix section).
- Minimum Timber Grade = F14 (Spotted Gum), Aluminium Grade = 6106/T6 Temper (Yield Strength, $F_y = 170\text{MPa}$).
- The infill loading values (i.e. C3, C5) are factored in by 1.5 for imposed loading action (Q) as per AS/NZS 1170.0: 2002 (Section 4).
- The length/cantilever ratio presented in above table are set at maximum 3:1 i.e if span is 1.2m, maximum cantilever length can be 0.40m.
- The span between the mounts position can be adjusted between 1.0m to 1.2m.
- Deflection Allowance = 30mm maximum or Span/60.
- Designer should perform their own check and satisfy themselves if the above table values meets the design criteria for the project especially the deflection limits for both internal span and cantilever end.

5.3 Windload only (Unfactored)- Serviceability Table

PROFILE	SPAN / CANTILEVER								
	0 - 0.5KPA	.60 -1KPA	1.1 - 1.5KPA	1.6 - 2KPA	2.1 - 2.5KPA	2.6 - 3KPA	3.1 - 3.5KPA	3.6 - 4KPA	4.1 - 4.5KPA
Timber: 30x60mm BM/EM	3.3 / 0.7	2.8 / 0.6	2.5 / 0.6	2.3 / 0.6	2.2 / 0.5	2.1 / 0.5	2.0 / 0.5	1.9 / 0.5	1.8 / 0.5
Timber: 30x80mm BM/EM	3.3 / 0.7	2.8 / 0.6	2.5 / 0.6	2.3 / 0.6	2.2 / 0.6	2.1 / 0.6	2.0 / 0.6	1.9 / 0.5	1.8 / 0.5
Timber: 30x130mm BM/EM	3.3 / 0.8	2.8 / 0.7	2.5 / 0.6	2.3 / 0.6	2.2 / 0.5	2.1 / 0.5	2.0 / 0.5	1.9 / 0.5	1.8 / 0.5
Alum: 25x50mm BM/EM	3.5 / 0.7	2.9 / 0.6	2.6 / 0.6	2.5 / 0.6	2.3 / 0.5	2.2 / 0.5	2.1 / 0.5	2.0 / 0.5	1.8 / 0.5
Alum: 30x60mm BM/EM	3.8 / 0.8	3.2 / 0.7	2.9 / 0.7	2.7 / 0.7	2.6 / 0.6	2.4 / 0.6	2.3 / 0.6	2.2 / 0.6	2.1 / 0.5
Alum: 40x100mm BM/EM	4.5 / 0.9	3.7 / 0.8	3.4 / 0.8	3.2 / 0.7	3.0 / 0.7	2.8 / 0.7	2.7 / 0.7	2.6 / 0.7	2.5 / 0.5
Alum: 50x150mm BM/EM	5.2 / 0.8	4.4 / 0.8	4.0 / 0.8	3.7 / 0.7	3.5 / 0.7	3.3 / 0.6	3.2 / 0.6	3.1 / 0.6	3.0 / 0.5
NON-STANDARD PROFILES									
Alum: 50x100mm BM/EM	5.0 / 0.9	4.2 / 0.8	3.8 / 0.8	3.5 / 0.7	3.3 / 0.7	3.2 / 0.7	3.1 / 0.6	3.0 / 0.6	2.9 / 0.5
Alum: 25x100mm BM/EM	3.4 / 0.7	2.9 / 0.7	2.6 / 0.6	2.4 / 0.6	2.3 / 0.6	2.2 / 0.6	2.1 / 0.6	2.0 / 0.6	1.9 / 0.5
Alum: 50x50mm BM/EM	5.1 / 1.2	4.2 / 1.0	3.9 / 0.9	3.6 / 0.8	3.4 / 0.8	3.3 / 0.8	3.1 / 0.7	3.0 / 0.6	2.9 / 0.5

Legend:

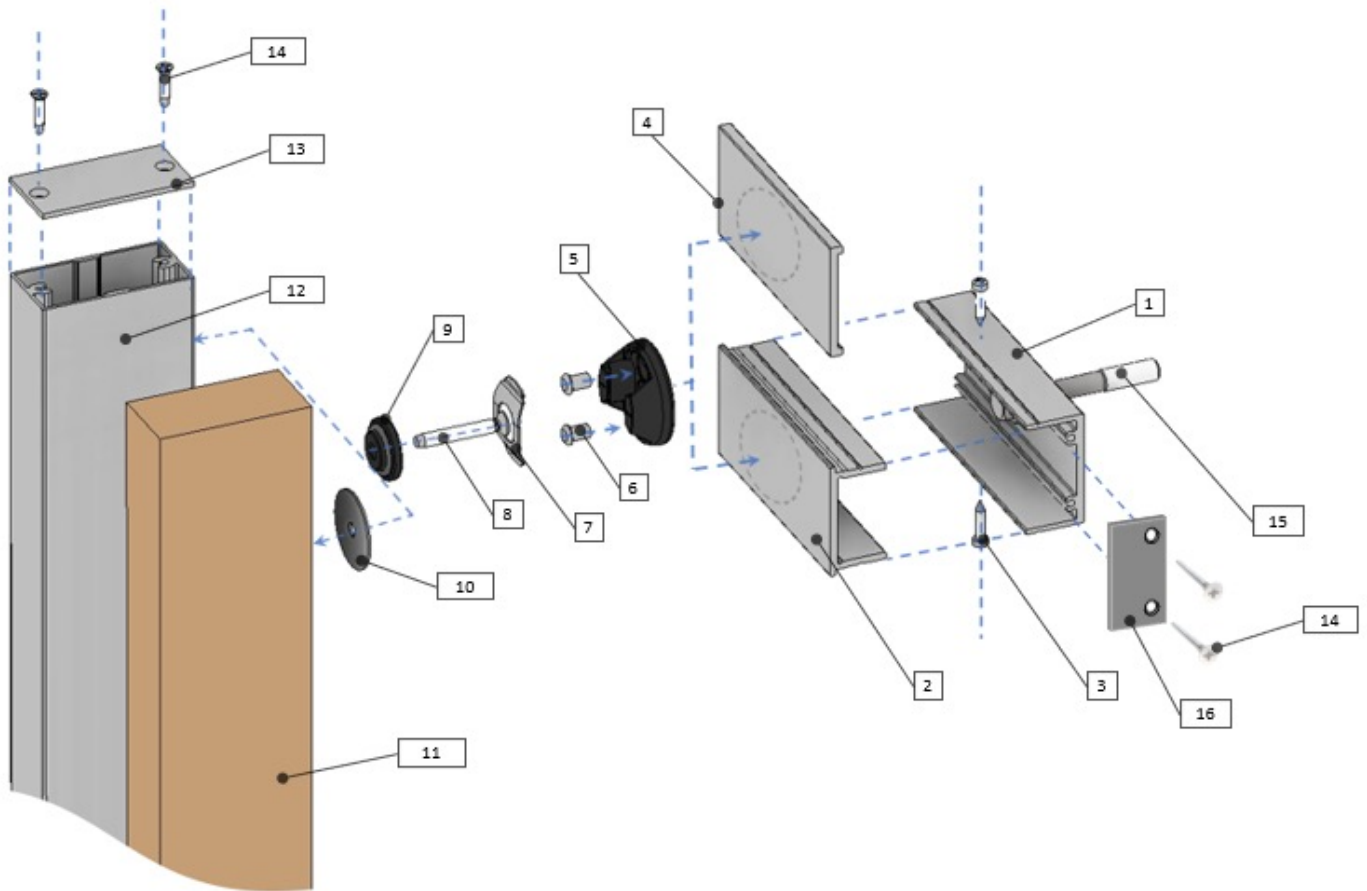
- EM = End Mount, BM = Back Mount

Design Notes/Assumptions:

- Above table is prepared to satisfy the serviceability criteria of wind load standards, AS/NZS 1170.2: 2011 and the wind pressure is applied to full length section of single batten profiles in weaker axis direction.
- It is assumed that battens connections are rigidly restrained and will provide similar section capacities for both back mount and end mount connections for same length section.
- Mount connection capacities should be verified for given batten span configurations and imposed loading conditions.
- Supporting rails or split battens needs to be to design checked to take the imposed loading via the fixed mount systems.
- Span table is derived from gross section properties (refer appendix section) and is applicable to single batten only.
- Minimum Timber Grade = F14 (Spotted Gum), Aluminium Grade = 6106/T6 Temper (Yield Strength, $F_y = 170\text{MPa}$).
- The span/cantilever value ratio presented in above table are not constant or final and it can be adjusted to a reasonable margin.
- Prescribed cantilever dimension above can be at one end or at both ends provided that its measurement are identical.
- Load width for wind = Depth of profile (e.g. for 30mm X 80mm profile, load width is taken as 80mm for wind).
- Deflection Allowance = 30mm (maximum) or Span/60.
- Designer should perform their own check and satisfy themselves if the above table values meets the design criteria for the project especially the deflection limits for both internal span and cantilever end.

6.0 APPENDIX: EXPLODED VIEW OF SYSTEMS

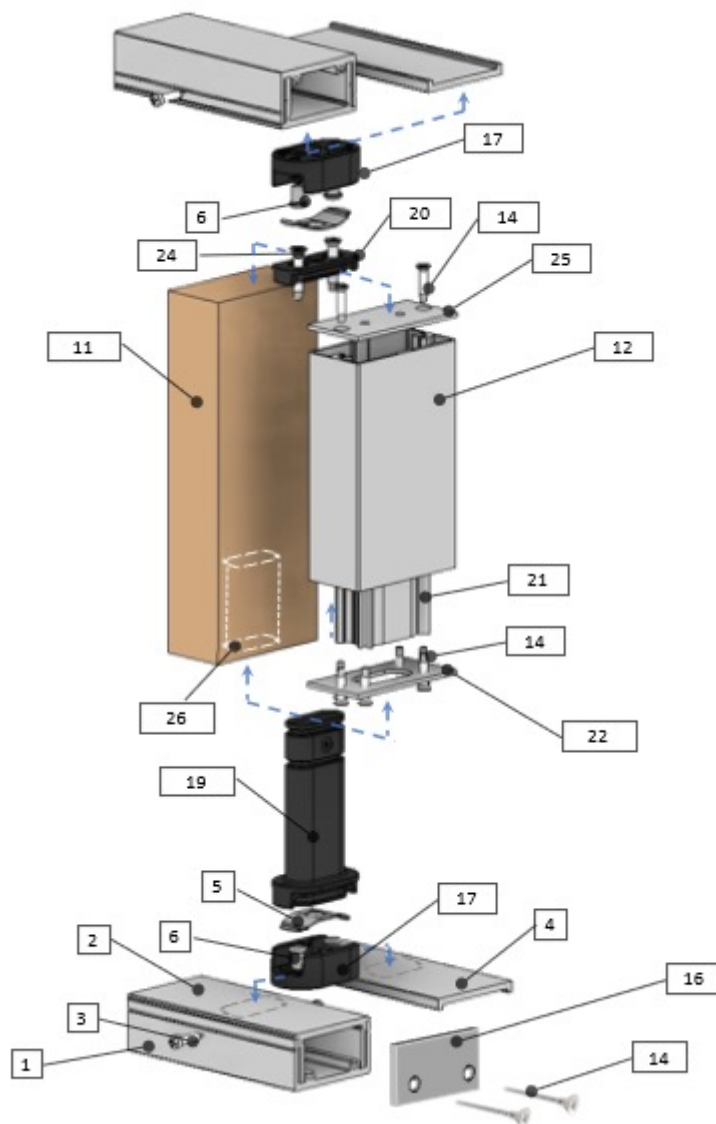
6.1 Back Mount Assembly



- 1 45x25mm Split Mounting Track Base (Part 2)
- 2 45x25mm Split Mounting Track (Part 1)
- 3 Black 8g stainless steel stitching screws
- 4 45x5mm Slim Mounting Track (Option)
- 5 Back Mount Clip Base (Factory spaced and fixed to the Mounting Tracks)
- 6 Rivet (factory installed)
- 7 Back Mount Spring
- 8 10g Button Fixing Screw
- 9 Back Mount Button
- 10 Washer (only required for timber screen battens)
- 11 Timber Screen batten option
- 12 Aluminium Screen Batten option
- 13 Aluminium batten endcap
- 14 Black 6g Endcap screw
- 15 Mounting Track Fixings (Not supplied)
- 16 Mounting Track Endcaps if required

6.2 End Mount Assembly

- | | |
|----|---|
| 1 | 45x25mm Split Mounting Track Base (Part 2) |
| 2 | 45x25mm Split Mounting Track (Part 1) |
| 3 | Black 8g stainless steel stitching screws |
| 4 | 45x5mm Slim Mounting Track (Option) |
| 5 | End Mount Spring |
| 6 | Rivet (factory installed) |
| 11 | Timber Screen Batten |
| 12 | Aluminium Screen Batten |
| 14 | Black 6g Endcap screw |
| 16 | Mounting Track Endcaps if required |
| 17 | End Mount Clip Base (Factory spaced and fixed to the Mounting Tracks) |
| 19 | End Mount Tenon |
| 20 | End Mount Button |
| 21 | Mortise Profile – 70mm long |
| 22 | Aluminium batten endcap with mortise slot |
| 24 | 8g end mount button screw |
| 25 | Aluminium batten endcap with button fixing holes |
| 26 | Timber batten factory machined mortise slot |

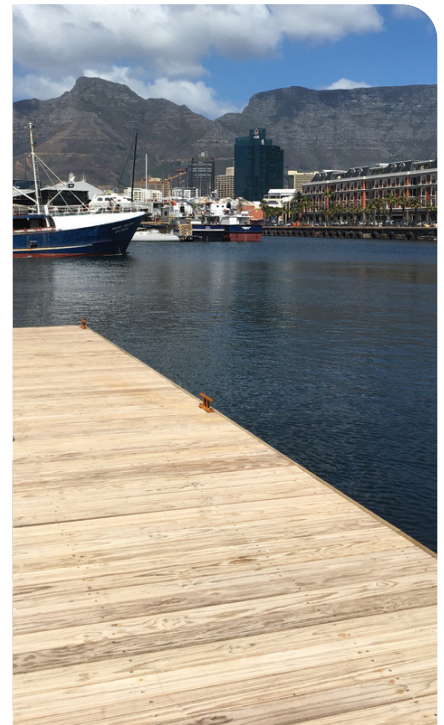


Color Selected



Northern Spotted Gum

2- Wood Ceiling



rhino
wood

Rhino Wood is the environmental, social and economical solution to the long-term future of wood and its application in our world.



WHAT IS RHINO WOOD?

Patented Process Flow



BENEFITS



STRONGER

Rhino Wood's impregnation treatment increases the strength of pine timber by up to 60%, without decreasing its bending ability or elasticity.



ZERO-TOXICITY

No metals, foreign oils, biocides or other toxic substances are introduced, making it completely people and pet friendly.



HARDER

The treatment process doubles the density of the wood. An increased hardness means less dents, scratches, and surface damage.



REDUCED WOOD BORER AND TERMITE DAMAGE

Wood borer and termites do not recognise Rhino Wood as a food source.



DIMENSIONALLY STABLE

The dimensional stability of wood is the measure of the extent of swelling resulting from moisture pick-up. Rhino Wood has nominal dimension change, meaning the wood is less susceptible to the effects of water, specifically swelling and shrinking.



LOW MAINTENANCE

Due to Rhino Wood being treated to the core and its dimensional stability, it does not need to be treated in its lifespan. Apart from regular cleaning the timber can be left to weather naturally.



DURABLE

Rhino Wood has greater resistance to UV degradation, which can cause discoloration and the premature aging of your wood. Rhino Wood is ideal for outdoor applications. Rhino Wood has been awarded a class 1 durability rating.



ENVIRONMENTALLY FRIENDLY

Rhino Wood is the environmentally responsible choice as our wood is sourced from sustainable forests. The treatment process uses zero toxins, creates no disposable waste, and aids in the protection of our rain forests.



REDUCED FUNGAL AND DRY ROT

The pores of Rhino Wood block all moisture, which prevents the wood from decaying and rotting. This allows for a longer wood life cycle.



DISPOSAL

Rhino Wood does not require special methods of disposal after use. One can dispose of it like any natural untreated wood.

DECKING

Decking boards are available in various lengths



CLADDING

Cladding boards are available in various lengths and sizes



LAMINATED BEAMS

Laminated beams are offered in various lengths and sizes

rhino
wood
APPLICATIONS



PERGOLAS

Pergolas are moulded to specific requirements



CUSTOM SIZES

Rhino Wood works in partnership with architects, property developers and individual consumers to find custom made timber solutions

FINISHES

Standard Rhino Wood finishes are

N

NATURAL

Smooth and if not oiled, has a matt finish

B

BRUSHED

Shallow non-slip texture achieved with a rustication machine. Enhances the timber's grain

R

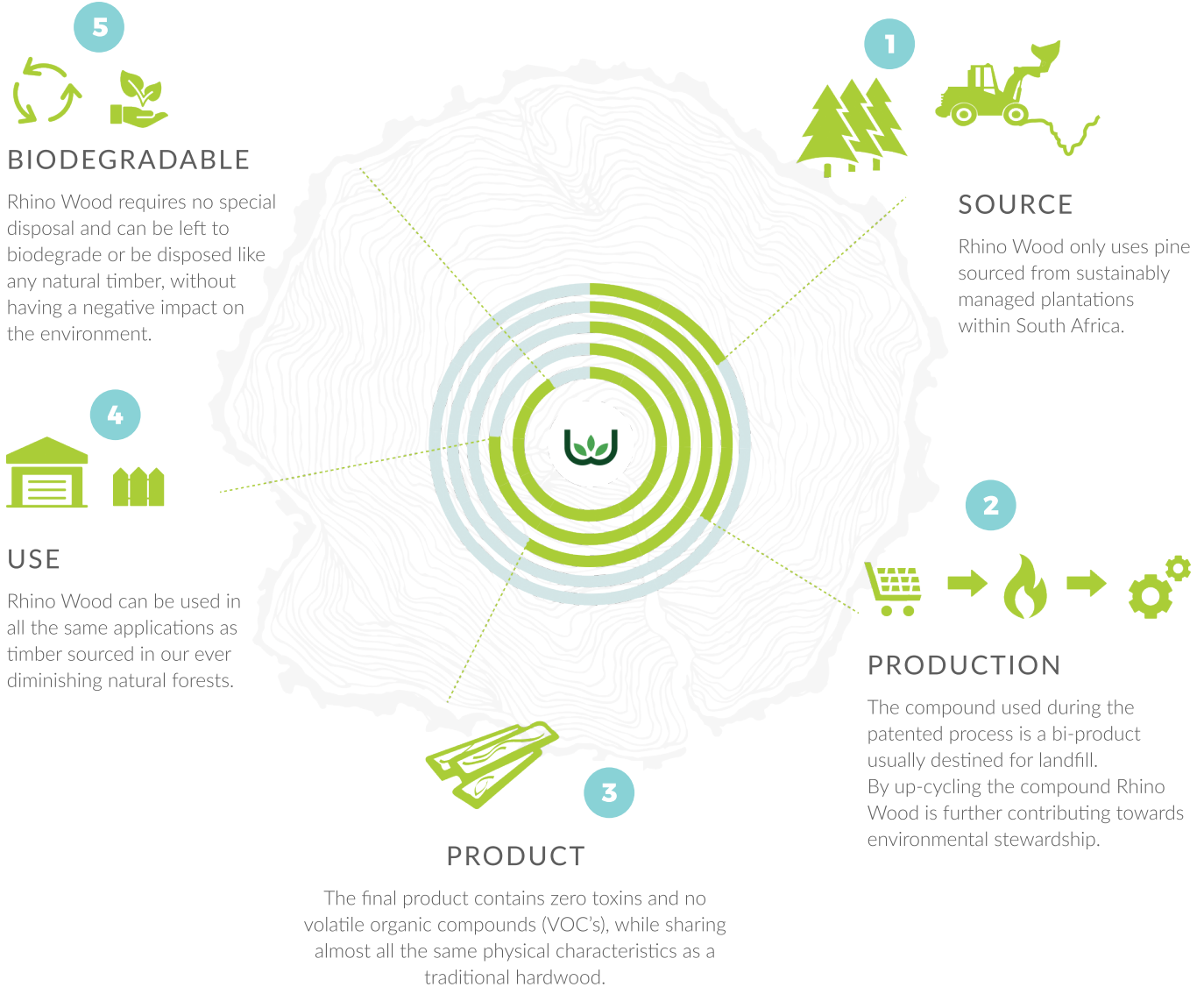
REEDED

Available on request



NATURAL FOREST

A vast majority of hardwoods used in regular domestic and commercial applications are sourced from virgin tropical rain forest and woodland. These forests are diminishing at alarming rates as a result, even when 'selectively logged' the disruption to overall biodiversity is irreversible. Deforestation is the second largest contributor to carbon emissions, and has been identified as a key driver of climate change.



Rhino Wood received the World Wide Fund (WWF) Climate solver award. This award recognises businesses that are developing and commercialising innovations that reduce carbon emissions and boost energy access around the world.



Rhino Wood supports responsible forestry. Please request FSC® certified products when speaking to our sales team.





We're here to help

PO Box 11506 Costa Mesa, CA 9262

+1 (949) 515-9501

+1 (949) 524-2866

info@reclaimedwoods.com

3- Linear Pendant Lighting



nLIGHT

Controls

HE

Tech lens

eldoLED

Drivers

White tuning

Dim. to warm

BAA

Buy American

ADA

Compliant

IK

IK Rated

IP66

IP-66 Rated

Build America
Buy America

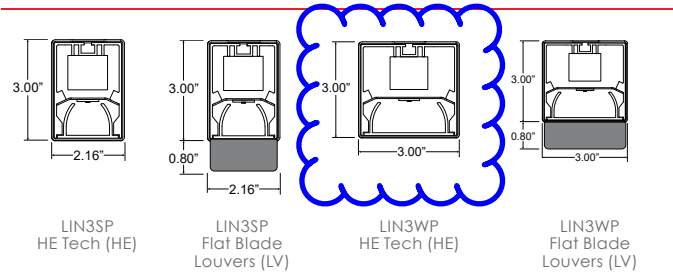
BABA

Performance

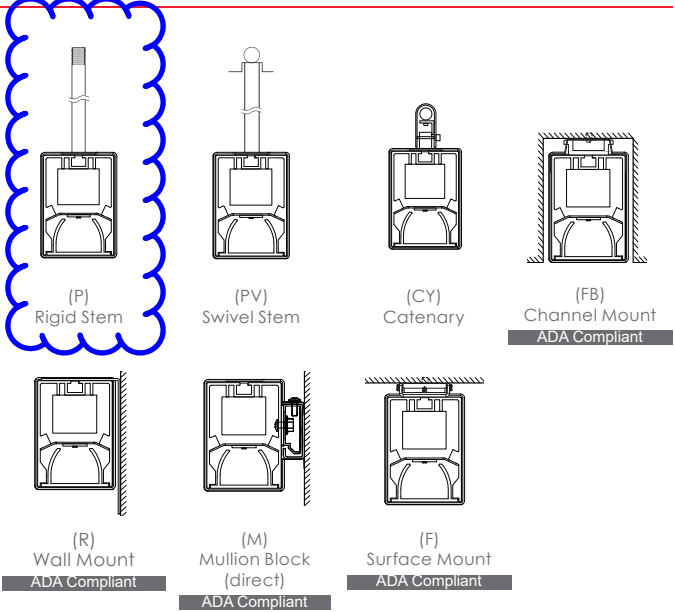
OUTPUT	DIRECT OPTICS	NOMINAL		
		LUMEN OUTPUT	INPUT WATTS	EFFICACY
LH (High)	HE Tech™	1263 lm/ft	13 W/ft	97 lm/W
	1" Drop Lens	1181 lm/ft	13 W/ft	91 lm/W
LS (Standard)	HE Tech™	522 lm/ft	5 W/ft	104 lm/W
	1" Drop Lens	488 lm/ft	5 W/ft	98 lm/W

Based on static white 35K HE lens fixtures. For the complete photometric data of this fixture refer to page 4.

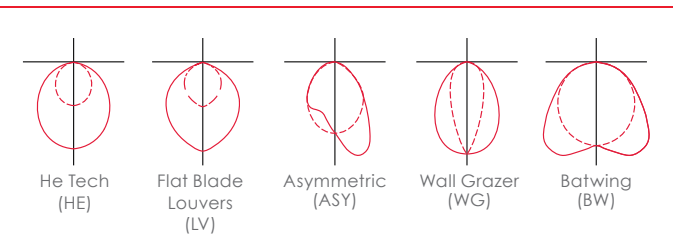
Dimensions



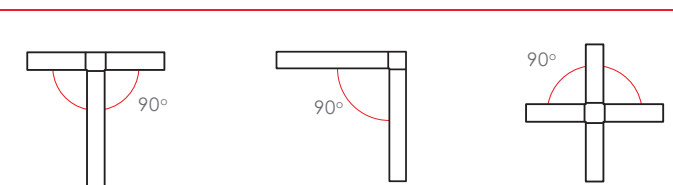
Mounting options



Downlight lens options



Multiple corners options





Need help?
Don't see what you need?
We know that having so many options can be overwhelming. Please reach out to our factory for any specific request or questions you have.

Our Design Assist
(designassist@alights.com)
team is here to make the process move smoothly.

96"

LIN	SERIES	FIXTURE TYPE	FIXTURE SIZE	LENGTH OR PATTERN TYPE	OUTPUT	LED CCT	CRI
LIN	3	Direct	WP 3" X 3"	M_ Nominal Length ^{1,4} PL_ Exact Length ^{2,4} PT_ "L" shape ³ PX_ "T" shape ³ PU_ "X" shape ³ CP_ "U" shape ³ Custom pattern ⁴	LVH Very High Output LH High Output LS Standard Output C_ Custom Output ¹	27 2700K 30 3000K 35 3500K 40 4000K DW Tunable White (27K to 50K) ¹ TW Dim-to-warm ²	90+ CRI CRI 90+ CRI
		¹ Mullion block mounting only		¹ Specify in feet to the nearest foot (i.e. 8) Minimum fixture length is 2'. For fixtures shorter than 8', specify if adjustable mounting is required. ² Specify in inches to the nearest 1/8 (i.e. 180.125). Minimum fixture length is 2'. ³ Specify in inches to the nearest 1/8. Corners are 90°. ⁴ Contact Design Assist for custom pattern or stand-alone with adjustable mounting point.	¹ If other output is needed, please contact Design Assist.	¹ Not available in dual 0-10V on catenary mount. ² Standard CCT range is 27-50K. Contact Design Assist for custom range.	

Lighting Mounting height is 8'-10" AFF - GC to coordinate length of rigid Stems accordingly

VOLTAGE	OPTICS	MOUNTING	FINISH	DIMMING
U 120-227V 3 347V*	HE HE Tech Flat Blade Louver ¹ ASY Asymmetric WG Wall Grazer BW Batwing	P Rigid Stem ¹ PM Ceiling Surface Mount ² F Channel Mount ³ R Wall Mount M Mullion block ⁴ CY Catenary ⁵	B Black O Other* CBD SFH SPN SDW SCY LME SMN	D Standard 0-10V dimming ¹ D4 DALI dim to off (EidoLED) NAIR nLight @AIR (dim-to-off) ²
* Not available with LEDcode or EM.		¹ Indicate stem length to nearest inch, 6" minimum. ² Available for ceiling and wall surface mounting. ³ Not available with corners. Not suitable for vertical mount. ⁴ Enter 1 for 1" depth. Enter 5 for 1/2" depth. 2 for 1.5" depth. ⁵ Specify power cord lengths to the nearest inch. Power feed to terminate at remote junction box for individual sections. Daisy-chain option not currently available but our team has it in development. Please consult factory for any projects requiring daisy-chaining.	*Specify RAL#	¹ 1% Dimming standard unless otherwise specified. ² Not offered with ceiling surface and channel mount.

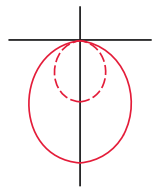
EMERGENCY	OPTIONS
ES_ Emergency - battery Single Electrical Panel ¹ ED_ Emergency - battery Dual Electrical Panel ¹ EC_ Emergency - circuit ²	TP Tamper resistant end caps LT Low temperature ²
¹ Factory-installed integral emergency battery pack. Specify desired quantity of batteries. Not available on fixtures <4' length. Not available for 347V. Not available with Low Temperature applications; EM must be provided by inverter in that case (provided by others). ² For dedicated LED sections being on emergency circuit contact Design Assist for details.	¹ See guide and contact Design Assist. Not compatible with Flat Blade Louvers ² Operating temperature up to -30°C. Only available in 0-10V dimming. Not available with emergency battery; must be remote inverter in that case (provided by others).

Photometric data - Lino SP

DIRECT HE TECH

LVH- 4FT- 3500K

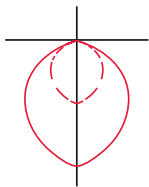
Lumens: 1262 lm/ft
Input watts: 12.5 W/ft
Efficacy: 101 lm/W



DIRECT FLAT BLADE LOUVERS

LVH- 4FT- 3500K- White finish

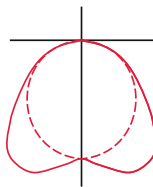
Lumens: 954 lm/ft
Input watts: 12.5 W/ft
Efficacy: 76 lm/W



DIRECT BATWING

LVH- 4FT- 3500K

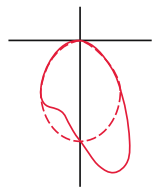
Lumens: 870 lm/ft
Input watts: 12.5 W/ft
Efficacy: 70 lm/W



DIRECT ASYMMETRIC

LVH- 4FT- 3500K

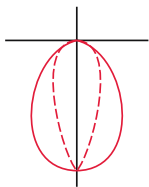
Lumens: 963 lm/ft
Input watts: 12.5 W/ft
Efficacy: 77 lm/W



DIRECT WALL GRAZER

LVH- 4FT- 3500K

Lumens: 935 lm/ft
Input watts: 12.5 W/ft
Efficacy: 75 lm/W

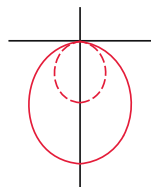


Photometric data - Lino WP

DIRECT HE TECH

LVH- 4FT- 3500K

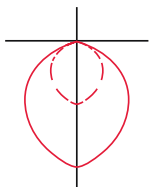
Lumens: 1300 lm/ft
Input watts: 12.5 W/ft
Efficacy: 104 lm/W



DIRECT FLAT BLADE LOUVERS

LVH- 4FT- 3500K- White finish

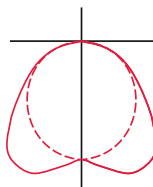
Lumens: 989 lm/ft
Input watts: 12.5 W/ft
Efficacy: 79 lm/W



DIRECT BATWING

LVH- 4FT- 3500K

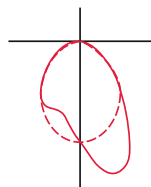
Lumens: 1016 lm/ft
Input watts: 12.5 W/ft
Efficacy: 81 lm/W



DIRECT ASYMMETRIC

LVH- 4FT- 3500K

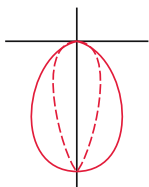
Lumens: 1016 lm/ft
Input watts: 12.5 W/ft
Efficacy: 81 lm/W



DIRECT WALL GRAZER

LVH- 4FT- 3500K

Lumens: 1102 lm/ft
Input watts: 12.5 W/ft
Efficacy: 88 lm/W



Light loss factor (LLF)

LINO SP													
OUTPUT	CCT	LLF RATIO		DIRECT									
				HE Tech		Flat Blade Louver		Batwing		Asymmetric		Wall Grazer	
		CRI 80+	CRI 90+	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +
LVH	4000k	102.1%	90.2%	1289 lm/ft	1138 lm/ft	974 lm/ft	861 lm/ft	888 lm/ft	785 lm/ft	983 lm/ft	869 lm/ft	955 lm/ft	843 lm/ft
	3500k	100.0%	87.3%	1262 lm/ft	1102 lm/ft	954 lm/ft	833 lm/ft	870 lm/ft	760 lm/ft	963 lm/ft	841 lm/ft	935 lm/ft	816 lm/ft
	3000k	96.2%	82.4%	1214 lm/ft	1040 lm/ft	918 lm/ft	786 lm/ft	837 lm/ft	717 lm/ft	926 lm/ft	794 lm/ft	899 lm/ft	770 lm/ft
	2700k	92.5%	78.1%	1167 lm/ft	986 lm/ft	882 lm/ft	745 lm/ft	805 lm/ft	679 lm/ft	891 lm/ft	752 lm/ft	865 lm/ft	730 lm/ft
LH	4000k	102.1%	90.2%	1050 lm/ft	927 lm/ft	793 lm/ft	701 lm/ft	723 lm/ft	639 lm/ft	800 lm/ft	707 lm/ft	777 lm/ft	686 lm/ft
	3500k	100.0%	87.3%	1028 lm/ft	897 lm/ft	777 lm/ft	678 lm/ft	708 lm/ft	618 lm/ft	784 lm/ft	684 lm/ft	761 lm/ft	664 lm/ft
	3000k	96.2%	82.4%	989 lm/ft	847 lm/ft	747 lm/ft	640 lm/ft	681 lm/ft	585 lm/ft	754 lm/ft	646 lm/ft	732 lm/ft	627 lm/ft
	2700k	92.5%	78.1%	951 lm/ft	803 lm/ft	719 lm/ft	607 lm/ft	655 lm/ft	553 lm/ft	725 lm/ft	612 lm/ft	704 lm/ft	594 lm/ft
LS	4000k	102.1%	90.2%	544 lm/ft	481 lm/ft	405 lm/ft	358 lm/ft	375 lm/ft	331 lm/ft	414 lm/ft	365 lm/ft	398 lm/ft	352 lm/ft
	3500k	100%	87.3%	533 lm/ft	465 lm/ft	397 lm/ft	347 lm/ft	367 lm/ft	320 lm/ft	405 lm/ft	354 lm/ft	390 lm/ft	340 lm/ft
	3000k	96.2%	82.4%	513 lm/ft	439 lm/ft	382 lm/ft	327 lm/ft	353 lm/ft	302 lm/ft	390 lm/ft	334 lm/ft	375 lm/ft	321 lm/ft
	2700k	92.5%	78.1%	493 lm/ft	416 lm/ft	367 lm/ft	310 lm/ft	339 lm/ft	287 lm/ft	375 lm/ft	316 lm/ft	361 lm/ft	305 lm/ft

LINO WP													
OUTPUT	CCT	LLF RATIO		DIRECT									
				HE Tech		Flat Blade Louver		Batwing		Asymmetric		Wall Grazer	
		CRI 80+	CRI 90+	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +
LVH	4000k	102.1%	90.2%	1327 lm/ft	1173 lm/ft	1010 lm/ft	892 lm/ft	1037 lm/ft	916 lm/ft	1037 lm/ft	916 lm/ft	1125 lm/ft	994 lm/ft
	3500k	100.0%	87.3%	1300 lm/ft	1135 lm/ft	989 lm/ft	863 lm/ft	1016 lm/ft	887 lm/ft	1016 lm/ft	887 lm/ft	1102 lm/ft	962 lm/ft
	3000k	96.2%	82.4%	1251 lm/ft	1071 lm/ft	951 lm/ft	815 lm/ft	977 lm/ft	837 lm/ft	977 lm/ft	837 lm/ft	1060 lm/ft	908 lm/ft
	2700k	92.6%	78.1%	1203 lm/ft	1015 lm/ft	915 lm/ft	772 lm/ft	940 lm/ft	793 lm/ft	940 lm/ft	793 lm/ft	1019 lm/ft	861 lm/ft
LH	4000k	102.1%	90.2%	1080 lm/ft	954 lm/ft	822 lm/ft	726 lm/ft	844 lm/ft	746 lm/ft	844 lm/ft	746 lm/ft	917 lm/ft	810 lm/ft
	3500k	100.0%	87.3%	1058 lm/ft	924 lm/ft	805 lm/ft	703 lm/ft	827 lm/ft	722 lm/ft	827 lm/ft	722 lm/ft	898 lm/ft	784 lm/ft
	3000k	96.2%	82.4%	1018 lm/ft	872 lm/ft	774 lm/ft	663 lm/ft	796 lm/ft	681 lm/ft	796 lm/ft	681 lm/ft	864 lm/ft	740 lm/ft
	2700k	92.6%	78.1%	979 lm/ft	826 lm/ft	745 lm/ft	629 lm/ft	765 lm/ft	646 lm/ft	765 lm/ft	646 lm/ft	831 lm/ft	701 lm/ft
LS	4000k	102.1%	90.2%	558 lm/ft	493 lm/ft	421 lm/ft	372 lm/ft	437 lm/ft	386 lm/ft	437 lm/ft	386 lm/ft	477 lm/ft	421 lm/ft
	3500k	100%	87.3%	547 lm/ft	478 lm/ft	412 lm/ft	360 lm/ft	428 lm/ft	374 lm/ft	428 lm/ft	374 lm/ft	467 lm/ft	408 lm/ft
	3000k	96.2%	82.4%	526 lm/ft	451 lm/ft	396 lm/ft	339 lm/ft	412 lm/ft	353 lm/ft	412 lm/ft	353 lm/ft	449 lm/ft	385 lm/ft
	2700k	92.5%	78.1%	506 lm/ft	427 lm/ft	381 lm/ft	322 lm/ft	396 lm/ft	334 lm/ft	396 lm/ft	334 lm/ft	432 lm/ft	365 lm/ft

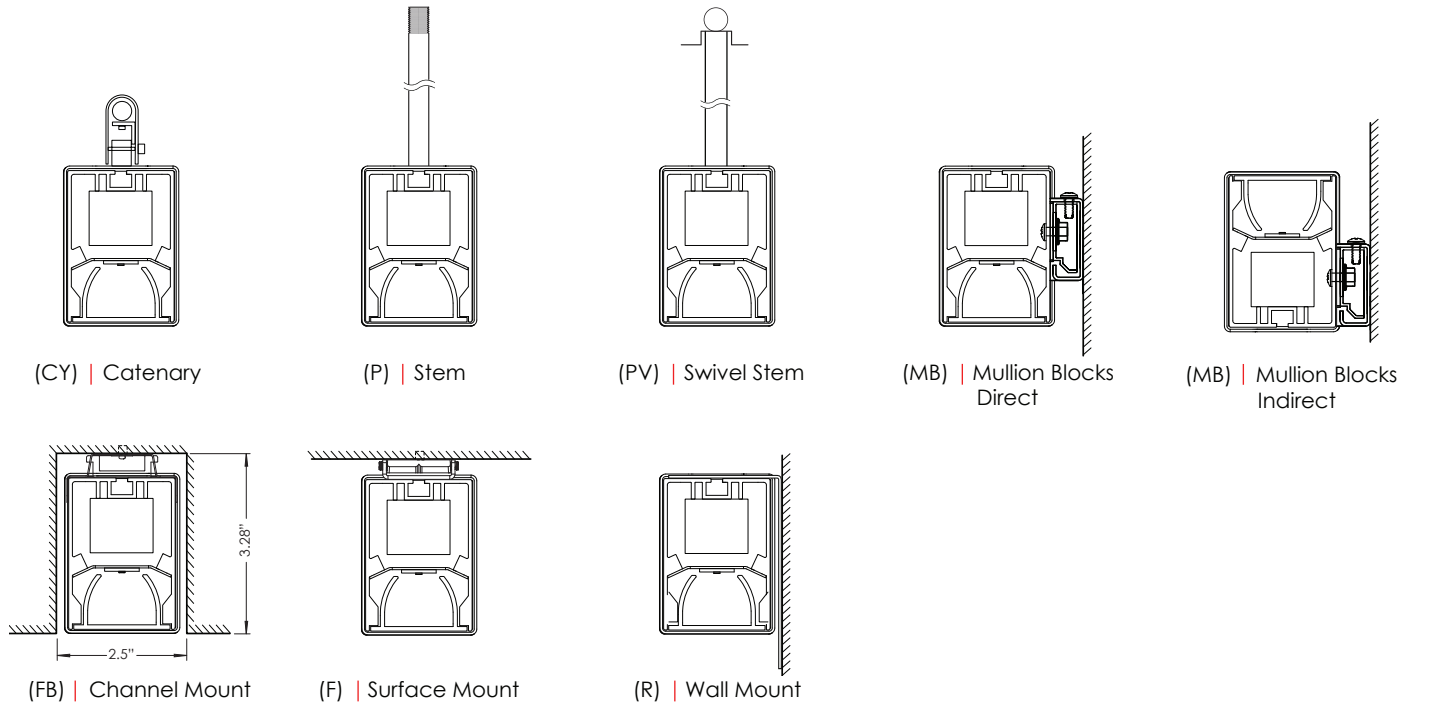
Tunable white - Light loss factor (LLF)

LINO SP							
OUTPUT	CCT	CRI 80+					
		%	OPTICS				
			HE Tech	Flat Blade Louver	Batwing	Wall Wash	Wall Grazer
LVH	5000k	100%	1262 lm/ft	954 lm/ft	870 lm/ft	963 lm/ft	935 lm/ft
	2700k	93.6%	1181 lm/ft	893 lm/ft	814 lm/ft	901 lm/ft	875 lm/ft
LH	5000k	100%	1028 lm/ft	777 lm/ft	708 lm/ft	784 lm/ft	761 lm/ft
	2700k	93.6%	962 lm/ft	727 lm/ft	663 lm/ft	734 lm/ft	712 lm/ft
LS	5000k	100%	533 lm/ft	397 lm/ft	367 lm/ft	405 lm/ft	390 lm/ft
	2700k	93.6%	499 lm/ft	372 lm/ft	344 lm/ft	379 lm/ft	365 lm/ft

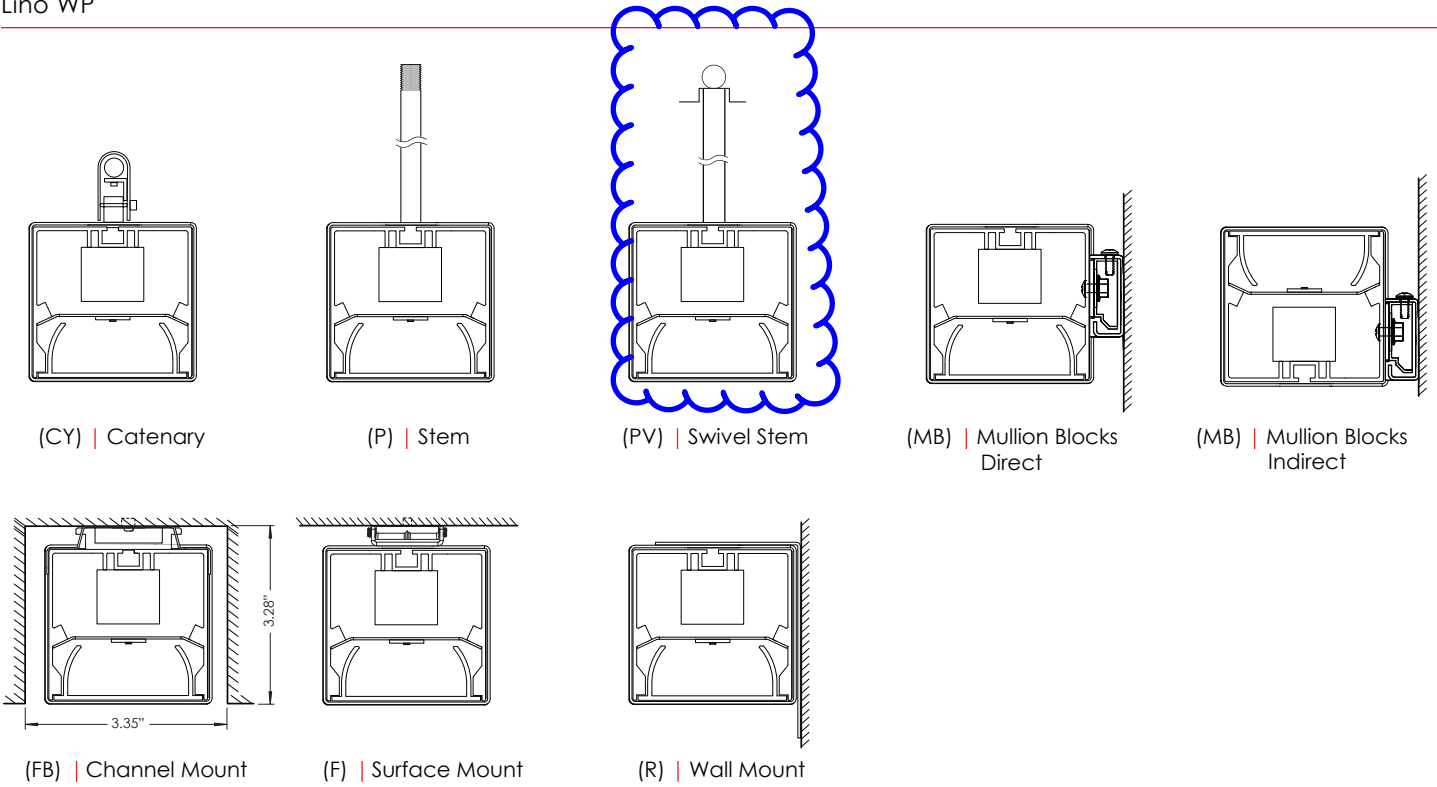
LINO WP							
OUTPUT	CCT	CRI 80+					
		%	OPTICS				
			HE Tech	Flat Blade Louver	Batwing	Wall Wash	Wall Grazer
LVH	5000k	100%	1300 lm/ft	989 lm/ft	1016 lm/ft	1016 lm/ft	1125 lm/ft
	2700k	93.6%	1217 lm/ft	926 lm/ft	951 lm/ft	951 lm/ft	1053 lm/ft
LH	5000k	100%	1058 lm/ft	805 lm/ft	827 lm/ft	827 lm/ft	898 lm/ft
	2700k	93.6%	990 lm/ft	753 lm/ft	774 lm/ft	774 lm/ft	841 lm/ft
LS	5000k	100%	547 lm/ft	412 lm/ft	428 lm/ft	428 lm/ft	467 lm/ft
	2700k	93.6%	512 lm/ft	386 lm/ft	401 lm/ft	401 lm/ft	437 lm/ft

For standard output (LS) -50%. Values are applicable for Tunable White and Dim-to-warm only.

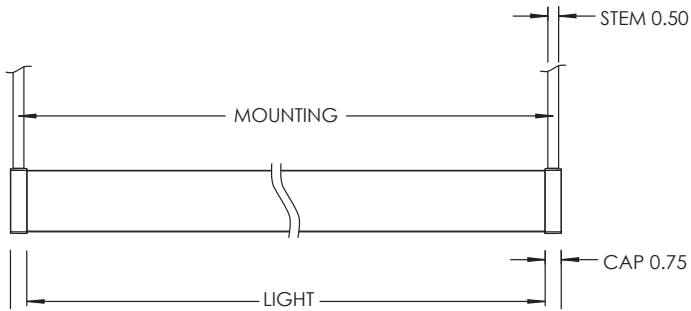
Lino SP



Lino WP



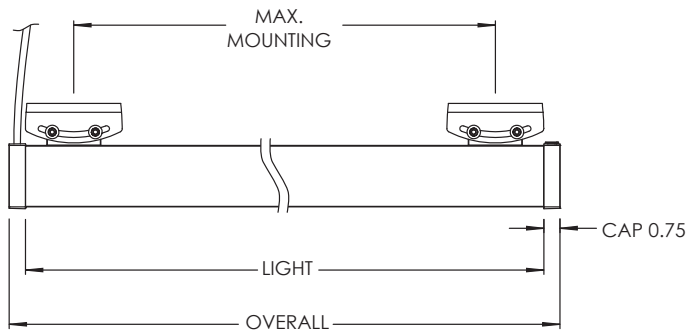
Rigid and swivel stem



	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING *	24.75"	36.75"	48.75"	60.75"	72.75"	84.75"	96.75"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

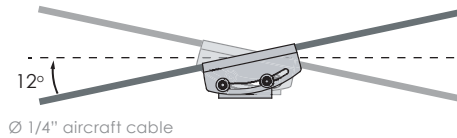
* Not adjustable

Catenary

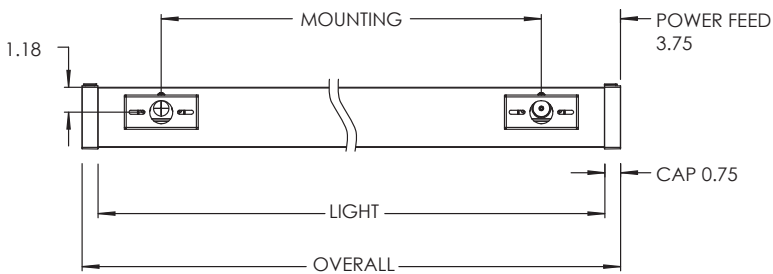


	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING (MAX.)	19.52"	31.52"	43.52"	55.52"	67.52"	79.52"	91.52"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

ANGLE ADJUSTMENT :



Mullion block (direct)



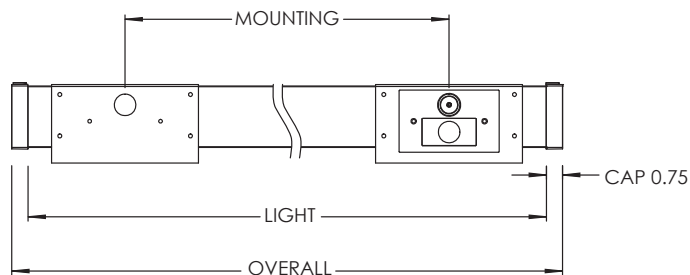
	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING*	18.00"	30.00"	42.00"	54.00"	66.00"	78.00"	90.00"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

*Max, specify otherwise.

*2,3,4,5,6' two Mullion blocks. 7 and 8', three mullions with the middle one centered.

*Power feed not adjustable, please specify position.

Wall mount



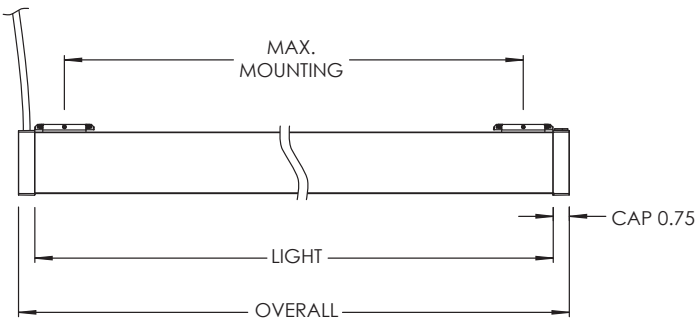
	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING*	15.00"	27.00"	39.00"	51.00"	63.00"	75.00"	87.00"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

*Max, specify otherwise.

*2,3,4,5,6' two brackets. 7 and 8', three brackets with the middle one centered.

*Power feed not adjustable, please specify position.

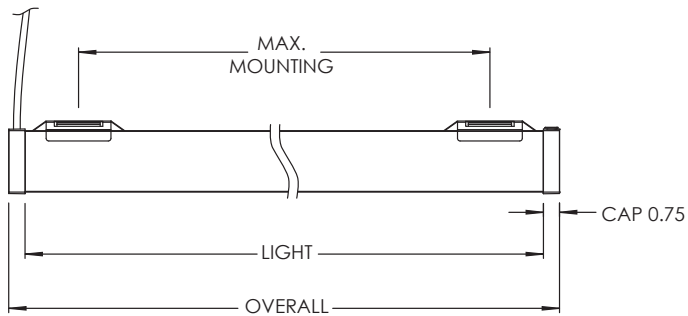
Ceiling surface mount



	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING (MAX.)	21.24"	33.24"	45.24"	57.24"	69.24"	81.24"	93.24"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

*Adjustable
 *2,3,4,5,6' two mounting brackets. 7 and 8', three mounting brackets with the middle one centered.
 *Power feed not adjustable, please specify position.

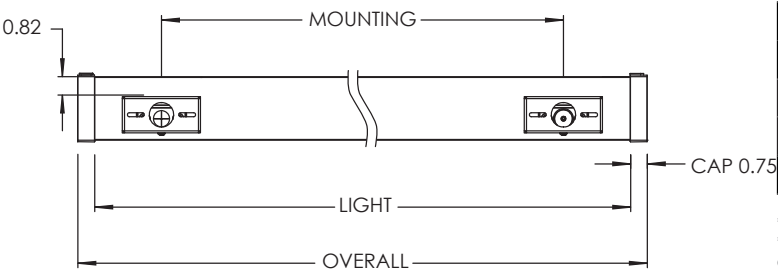
Channel mount



	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING (MAX.)*	19.05"	31.05"	43.05"	55.05"	67.05"	79.05"	91.05"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

*Adjustable
 *2,3,4,5,6' two mounting brackets. 7 and 8', three mounting brackets with the middle one centered.
 *Power feed not adjustable, please specify position.

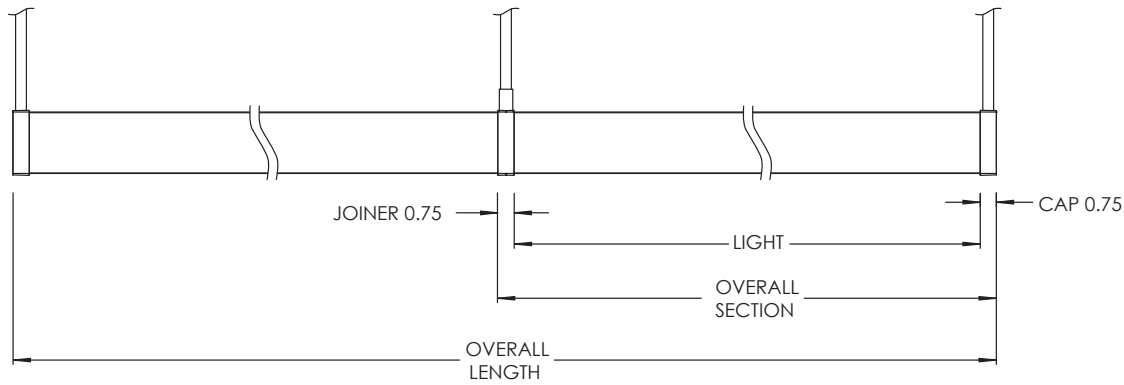
Mullion block mount (indirect)



	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
MOUNTING*	18.00"	30.00"	42.00"	54.00"	66.00"	78.00"	90.00"
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL	25.375"	37.375"	49.375"	61.375"	73.375"	85.375"	97.375"

*Max, specify otherwise.
 *2,3,4,5,6' two Mullion blocks. 7 and 8', three mullions with the middle one centered.
 *Power feed not adjustable, please specify position.

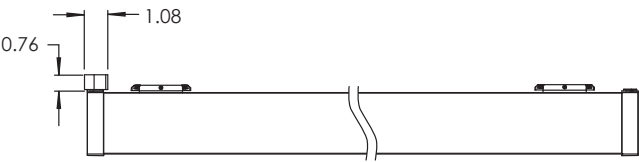
Bow mounting



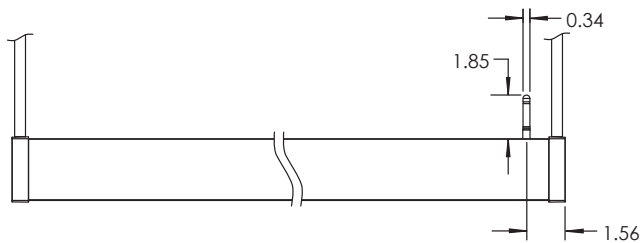
	DIMENSIONS (NOMINAL)						
	2'	3'	4'	5'	6'	7'	8'
LIGHT	24.00"	36.00"	48.00"	60.00"	72.00"	84.00"	96.00"
OVERALL SECTION	25.50"	37.50"	49.50"	61.50"	73.50"	85.50"	97.50"

	DIMENSIONS (NOMINAL)						
	10' (5'+5')	11' (6'+5')	12' (6'+6')	13' (7'+6')	14' (7'+7')	15' (8'+7')	16' (8'+8')
OVERALL LENGTH	122.00"	134.00"	146.00"	158.00"	170.00"	182.00"	194.00"

Armored cable

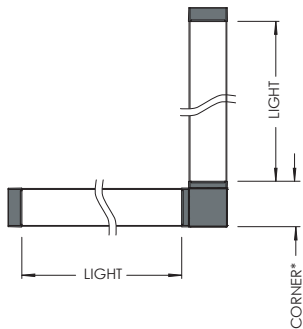
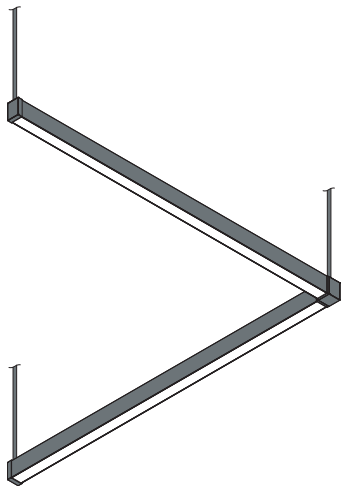


NLight air



*Not offered with surface and channel mount.

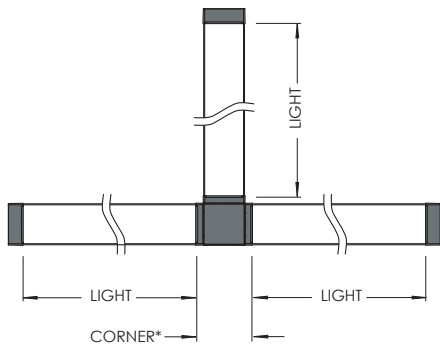
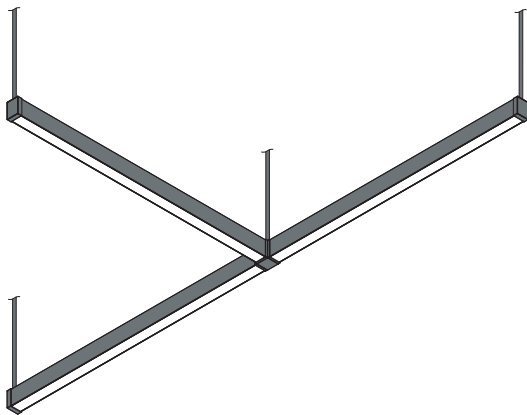
"L" shape



	DIMENSION CORNER
SP	2.52"
WP	3.52"

*Corner is unlit.

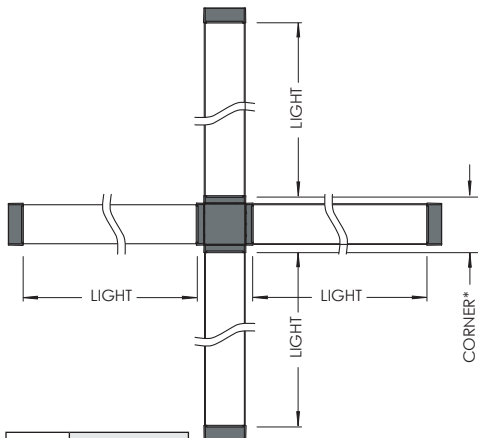
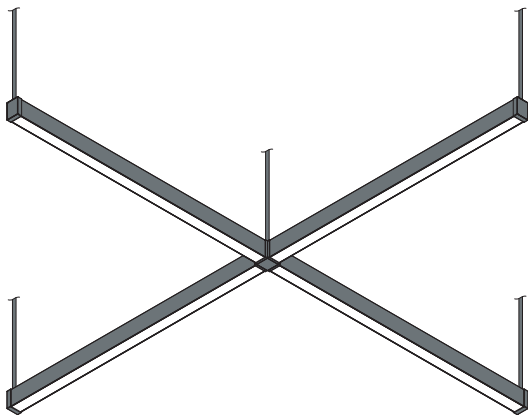
"T" shape



	DIMENSION CORNER
SP	2.895"
WP	3.895"

*Corner is unlit.

"X" shape



	DIMENSION CORNER
SP	2.895"
WP	3.895"

*Corner is unlit.

LINEAR DIMENSIONS

Nominal or exact lengths to the nearest 1/8th of an inch available as individual fixtures or joined to create continuous row lengths, minimum fixture lengths is 2 feet. Patterns comprised of 90° L, T and X corners provide a multitude of geometric options and architectural transitions.

Custom - Contact Design Assist for modifications to product not detailed within the specification sheets.

OPTICS

HE Tech patented extruded acrylic lens technology features high efficacy lumen outputs, UV-stability, an integrated opaque white reflector and an optimal uniform lens surface luminance for direct distribution and a TPU gasket for IP66 sealing.

Flat Blade Louvers are used to cut down on glare and better control the light source. This option includes the high efficacy extruded diffuse acrylic lens technology with integrated opaque white reflector (inserted between the louvers and the LEDs), that enhances glare control. The louvers standard finish matches the extrusion. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

Asymmetric, Wall grazer and Batwing are film optics that refract light along with an HE Tech co-extruded diffuse acrylic lens with integrated opaque white reflector.

LED LIGHT SOURCE

Custom manufactured linear board array uses high performance Nichia® LED in combination with a performance driven heat sink technology. Tested in accordance with LM79 and LM-80; L70>60,000hr; operated at reduced output for high efficacy and lumen maintenance. 2700K, 3000K, 3500K, and 4000K with 80+ CRI standard; other color temperatures and 90+ CRI available upon request, contact factory. LED color variation maintained at a 3-step MacAdam ellipse (SDCM 3x). LEDs are available in Standard, and High outputs. Refer to photometry for delivered lumens. Custom output available.

LED DIMMING DRIVER

Factory tuned constant current electronic 0-10V control dimming driver is standard. Specification grade dimming down to 1%. Driver life of 50,000 hrs with ambient operating temperature range of -20°C to 50°C, maximum case temperature of 80°C. Electrical specifications at maximum driver load: PF >0.9, THD <20%, >85% Efficiency. For low temperature option, minimum ambient operating temperature is -40°C.

EMERGENCY

This luminaire can be provided with a factory installed integral LED emergency lighting battery pack for both normal and emergency operation, 120-277v only (not available with 347v). This fixture integrated unit contains long-life Ni- Cad recyclable battery, 24 hour charger, and converter circuit. Test switch and charge indicator provided. Test button to be remote located within 3 feet of the luminaire, in accordance with local code. Emergency mode provides constant power to a nominal 12W LED load for a period of 90 minutes, delivering 1200 lumens of unwavering illumination throughout the full 90 minute emergency duration. Unless otherwise specified, the emergency battery pack will illuminate one 2 foot end in the direct portion of the fixture. Not available in fixtures <4ft'. Should the fixture be smaller than 4ft or require Low Temperature rating, must be wired to remote inverter (inverter provided by others).

Emergency circuiting provided as a separate circuit from normal power circuit according to NEC requirements, specify circuit length and location.

nLIGHT®

Integrated nLight® for networking wireless :

The integrated API smart sensor is part of each luminaire in the nLight® AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application. Optionally you can order nLight® AIR sensors for compatibility with an nLight Air wireless system. The rIO model are available for integration

nLight enabled, remote mounted controls provided by others. Please contact an Acuity controls representative for more information.

MOUNTING

Suspension with catenary system or pendant stems mounting available.

Catenary system set includes brackets to mount fixture directly to catenary cable. Black power cord provided for all other fixture finishes unless otherwise specified.

Rigid pendant stem-set includes 3/4" hollow threaded rod for suspension and power feed. Standard specification length 36", 6" minimum. 5" round mono point canopies that matches the fixture finish.

Swivel stem set includes 3/4" hollow threaded rod for suspension and power feed, standard specification length 36", 6" minimum. 5" round mono point canopies that matches the fixture finish 45-degree angle swivel stem.

Specify if another suspension length is required. Canopies provided as required for the quantity of power feed and non-

power feed locations (crossbar included). Specify if another shape, size, or color is required.

Wall mounting is ADA compliant. The top groove of the fixture is used to mount the fixture and provides a firm and flexible mounting option.

Surface ceiling is offered with die-cast mounting blocks with sheet metal brackets used to provide a firm flexible mounting option in any orientation the system might be installed in. Surface ceiling is ADA compliant when mounting on walls.

Channel mount is offered with similar hardware than regular surface ceiling but the brackets are altered so fixtures can be removed in tight, enclosed spaces where side access to the fixture is not available. Channel mount is also ADA compliant.

Mullion blocks are used to mount fixtures to a horizontal or vertical window mullion and can also be used to offset fixtures from the wall. ½" and 1" offsets are available standard. Custom offsets are also available upon request. (2) Mullion blocks are provided for fixtures less than 7ft. Fixtures longer than 7ft are provided with (3) blocks. The maximum distance between (2) mounting blocks is 7ft. Power feed holes are pre-drilled and mounting hardware is pre-installed at the factory to the fixture housing.

STRUCTURE

Robust, high quality 60% recycled aluminum extruded housing. 0.040" thick aluminum internal gear trays. Flat aluminum end caps. Aluminum joiner brackets. Approximate fixture weight for SP size is 2 lbs/ft and for WP size is 2.25 lbs/ft.

FINISH

Electrostatically applied powder coat finish. Standard finish options include titanium, white, and black. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

LISTING

Product is compliant and certified to CSA C22.2 No. 250.0 and UL 1598. Wet location as per the applicable standards. IP66 test report available upon request.

The Lino 1 and Lino 3 are assembled in the U.S.A. and comply with the Buy America(n) Act(BAA), Build American, Buy America (BABA), government procurement requirements under FAR, DFARS, and DOTS.

WARRANTY

Limited defect-free manufactured equipment warranty provided under normal use and proper storage for five (5) year. LED products (LED boards and drivers) will be covered for five (5) years. Please refer to the full terms and conditions on our website.

4- Ceiling Fans

★★★★☆ 3.7 | 3 Reviews

HAIKU COASTAL
CEILING FAN

The world's only true
marine grade fan.

\$1,750.00

SKU:
MK-HKC1-052506A824F824I1
0

Includes: 5-inch downrod
(52"), 10-in downrod (60"),
standard remote control, fan
stabilizer

0% APR or as low as \$100/mo
with [affirm](#). [See if you qualify](#).

CONFIGURE

Diameter 60 in. Medium
Rooms. Up to 15 x 15 ft.

52 in.	60 in.
Small Rooms. Up to 10 x 10 ft.	Medium Rooms. Up to 15 x 15 ft.

Airfoil Finish Matte White



Hardware Finish Matte White



Lighting No Light

Downlight	No Light
-----------	----------

QTY

-	1	+
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Please select all options.

ADD TO CART



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THE WORLD'S FIRST STORM-READY FAN.

Introducing Haiku® Coastal. Wet-rated, salt-resistant, corrosion-resistant, and wind-resistant. Our first-ever marine-grade ceiling fan is designed for the most extreme, unpredictable, and unforgiving coastal environments—as well as the most peaceful ones. We guarantee it.

KEY FEATURES

- Marine Grade 316 Stainless Steel—designed for extreme salt, sun, and wind
- Wet-rated and designed with sealed electronics, light kit, and mount cover
- Three hybrid resin airfoils featuring a retention system for added stability during high winds
- Seven speed settings to customize your comfort
- Use the Big Ass Fans app to control your fan
- Supports smart home integration with Apple HomeKit with Matter, Amazon Alexa, Google Home, and Ecobee
- Three-year warranty (with salt coverage)

ENGINEERED TO OUTLAST THE MOST EXTREME CONDITIONS

A survivor of the most rigorous testing we've ever conducted on a fan, the Haiku Coastal is in a league of its own when it comes to durable functionality. It exceeds all industry standards for performance, endurance, as well as airflow, with a top-tier CFM (Cubic Feet per Minute) rating.

WANT 10% OFF?

ENGINEERED TO ENDURE

[Overview](#)[Technical Documentation](#)[Reviews](#)

Haiku Coastal is built with materials that resist corrosion, battle against salt air, withstand harsh UV rays, and won't fall off or break due to powerful winds.



Rust Rebel

Sealed light kit built to withstand extreme salt exposure.



Storm Ready

IP56 rated for dust and water protection.



Fade Defiant

UV and temperature tested airfoils that won't discolor.

UNMATCHED AIRFLOW

Corrosion-resistant hardware and connectors promise uninterrupted performance—no matter the conditions. Combined with Haiku Coastal's sealed mount cover, optional light kit and electronics, your fan will fend off nature's wildest conditions with ease.

WANT 10% OFF?

HAIKU[®]

Enjoy the perfect blend of form and function with the expertly crafted Haiku from Big Ass Fans. With advanced features including automated SenseME™ technology, eight premium finishes, and available LED downlight and color-changing Chromatic Uplight, Haiku offers an unprecedented level of style, comfort, and control. Make the most of your favorite indoor and covered outdoor spaces with the whisper-quiet operation and world-class airflow from the world's most efficient smart fan.



KEY FEATURES

- ▶ **Three precision-balanced airfoils** in Moso bamboo or aircraft-grade aluminum
- ▶ **Built-in SenseME™ technology** for automated convenience and efficiency
- ▶ **LED downlight and Chromatic Uplight** available together or separately
- ▶ **Permanent-magnet motor** for whisper-quiet, energy-efficient airflow
- ▶ **Superior airflow control** with bluetooth remote, seven speed settings, mobile app, and more
- ▶ **Indoor and covered outdoor models** available

DIAMETER

52, 60, 84 IN
(132, 152, 213 CM)

MOUNTING

- UNIVERSAL
- LOW PROFILE

CONTROL

- BLUETOOTH REMOTE - 0-10V
- VOICE INTEGRATION - MOBILE APP
- OPTIONAL WIRED WALL CONTROL

WARRANTY

UP TO
5 YEARS
INDOOR

UP TO
3 YEARS
OUTDOOR



BIG ASS FANS[®]

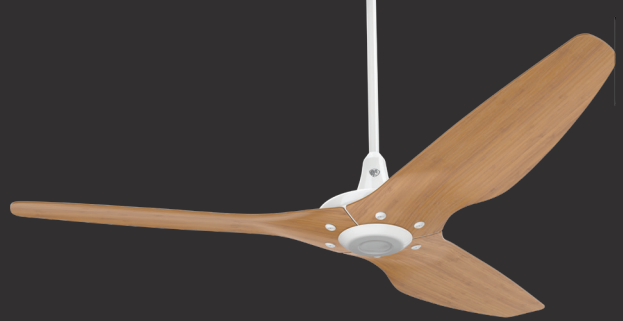
DISCOVER MORE ABOUT HAIKU

Learn more at bigassfans.com/fans/haiku/ or
call our comfort experts for a free custom quote.

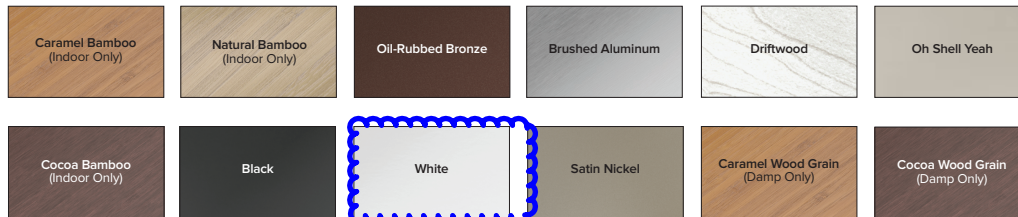
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HAIKU

THE WORLD'S SMARTEST FAN JUST GOT BRIGHTER.



Airfoil Finishes



Hardware Finishes



Construction Features

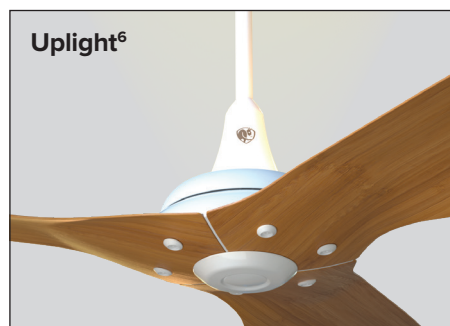
Airfoils	Motor ¹	Controls ²	Onboard Sensors ³	Mounting	Environment ⁴	Accessories
Bamboo (indoor only) or aircraft-grade aluminum	High-efficiency, brushless DC/EC motor Fan Eco Mode	Bluetooth remote Big Ass Fans mobile app Voice control 0–10 V (optional)	Temperature, humidity, and motion sensors enable SenseME Technology	Flat or sloped ceilings 8 ft (2.4 m) or taller Maximum slope: 33°	Indoor or covered damp locations	Haiku Light Kit Chromatic Uplight (indoor only) 0–10 V Module Extended downrod lengths Stabilizer Kit

Ordering Information

Diameter	Environment and Mounting ^{5,6}	Airfoil Material	Hardware Finish	Airfoil Finish ⁷	Motor	Downrod	Region	Downlight	Uplight ⁶
52 inch: MK-HK4-04 60 inch: MK-HK4-05 84 inch: MK-HK4-07	84 inch Indoor, Universal: 1806 Damp, Universal: 1906	Aluminum: Blank Bamboo: 01	Black: A258 White: A259 Satin Nickel: A470 Oil-Rubbed Bronze: A471 Good As Gold: A850	Black: F258 White: F259 Caramel Bamboo ⁷ : F221 Cocoa Bamboo ⁷ : F222 Natural Bamboo: F860 Caramel Wood Grain: F504 Cocoa Wood Grain: F654 Driftwood: F772 Satin Nickel: F470 Oil-Rubbed Bronze: F471 Brushed Aluminum: F531 Oh Shell Yeah: F277	US, CA, MX: G10 International: G11	12 inch: I12 20 inch: I20 32 inch: I32	US, CA, MX: Blank APAC: R03 GCC: R04	Downlight: S2	Uplight: S80
	52 and 60 inch Indoor, Low Profile: 2400 Damp, Low Profile: 2500 Indoor, Universal: 2406 Damp, Universal: 2506								

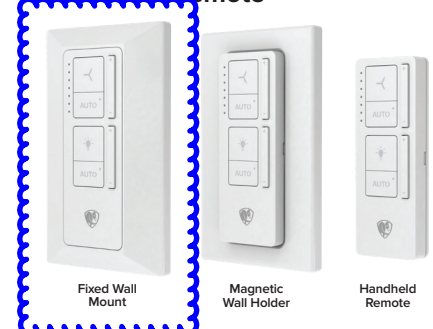


Shown with low profile mount



Compatible with universal mount only

Bluetooth Remote



¹ Activate Fan Eco Mode in Big Ass Fans app to fully leverage the energy savings from your ceiling fan.

² Voice control requires an Amazon Alexa-enabled device or the Google Assistant.

³ SenseME Technology and the Haiku mobile app are supported by Android[™] and iOS[®].

⁴ Damp-rated fans installed in covered outdoor locations must have fixed/permanent full overhead coverage extending at least two feet (61 cm) out from the airfoil tips on all sides. The included fan stabilizer must be installed. Not suitable for salt air environments. Fan must be installed at least 50 miles (80.5 km) inland from coast.

⁵ 52- and 60-inch indoor fans with the both the uplight and downlight must use the universal mount. Indoor only (1806). Low profile mount not available for 84-inch fans.

⁶ Uplight not available on damp-rated fans. Compatible with universal mount only. Light kits purchased separately.

⁷ Bamboo finishes are indoor use only.

Lead times may vary.
Warranty period and terms vary by country and application.



USA
BIGASSFANS.COM
877-244-3267

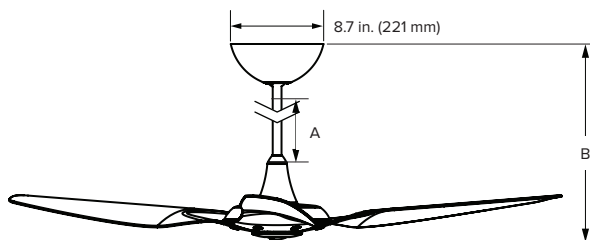
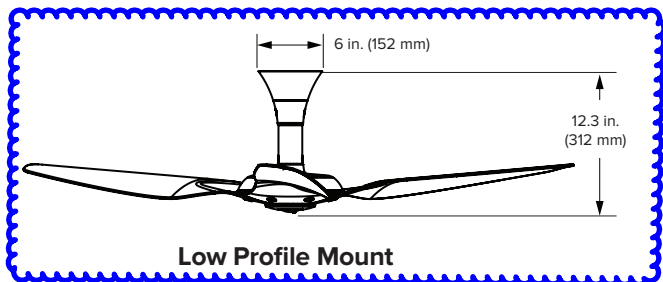
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HAIKU

THE WORLD'S SMARTEST FAN JUST GOT BRIGHTER.



Universal Mount

Universal Mount Downrod Lengths

Downrod (A) ¹	Included Downrod (Select at Time of Order)			Optional Downrods (Ordered Separately)		
Fan Height (B) ²	12 in. (305 mm)	20 in. (508 mm)	32 in. (813 mm)	7 in. (178 mm)	48 in. (1219 mm)	60 in. (1524 mm)
Ceiling Height	21 in. (533 mm)	29 in. (737 mm)	41 in. (1041 mm)	16 in. (406 mm)	57 in. (1448 mm)	69 in. (1753 mm)
	9–10.5 ft (2.7–3.2 m)	10.5–11 ft (3.2–3.4 m)	11–13 ft (3.4–4 m)	9–11 ft (2.7–2.9 m)	13–14 ft (4–4.3 m)	>14 ft (>4.3 m)

Fan Specifications — Aluminum Airfoils

Diameter	Mount	Weight ³	Max Speed	Airflow Min/Max	Watts Min/Max	Operating Voltage	Ambient Operational Temperature	Sound Level ⁴
52 in. (132 cm)	Low Profile	16.5 lb (7.5 kg)	177 RPM	427 / 5,172 cfm	2.4 / 15.1 W	100–240 VAC, 1 Φ, 50–60 Hz	32° to 104° F (0° to 40° C)	<35 dba at max speed
60 in. (152 cm)	Low Profile	18.5 lb (8.4 kg)	174 RPM	403 / 6,062 cfm	2.4 / 15.9 W			
84 in. (213 cm)	Universal	26 lb (11.8 kg)	128 RPM	2,768 / 17,369 cfm	3.8 / 42.3 W			

Fan Specifications — Bamboo Airfoils⁵

Diameter	Mount	Weight ³	Max Speed	Airflow Min/Max	Watts Min/Max	Operating Voltage	Ambient Operational Temperature	Sound Level ⁴
52 in. (132 cm)	Low Profile	14 lb (6.4 kg)	177 RPM	331 / 5,731 cfm	2.4 / 19.5 W	100–240 VAC, 1 Φ, 50–60 Hz	32° to 104° F (0° to 40° C)	<35 dba at max speed
60 in. (152 cm)	Universal	13 lb (5.9 kg)	200 RPM	371 / 6,973 cfm	3.5 / 28.92 W			
84 in. (213 cm)	Low Profile	16 lb (7.3 kg)	175 RPM	479 / 6,319 cfm	2.3 / 16.2 W			
	Universal	15 lb (6.8 kg)	199 RPM	596 / 7,632 cfm	2.6 / 25.1 W			



Automate your comfort with SenseME

SenseME automatically adjusts your fans and lights to keep your home feeling and looking exactly the way you want it to. Download the Big Ass Fans mobile app to group multiple fans and set your comfort preferences for hands-free control.

¹ Optional downrod lengths packaged separately. The 7 in. (178 mm) downrod is not available for 84-inch (2134 mm) fans. 60 in. (1524 mm) is the longest downrod available.

² Fan heights do not include the Haiku Light Kit. Add 0.8 in. (20 mm) for 84-inch (2134 mm) diameter fans.

³ The precise fan weight will vary based on individual component weights and finishing.

⁴ Actual results of sound measurements in the field may vary due to sound reflective surfaces and environmental conditions.

⁵ Bamboo airfoils must be installed in indoor, dry environments only.

Lead times may vary.
Warranty period and terms vary by country and application.



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5- Standing Seam Roof System

(See Specs)

Color Selection:

Sherwin Williams Cyberspace (SW 7076)

6- Steel Tube Coating



SHERWIN-WILLIAMS®

Pro Industrial™ Waterbased Alkyd Urethane Enamel

sets the standard for
high-performance
coatings

Semi Gloss
Color: SW 7076 Cyberspace



Effortlessly balance heavy traffic demands and performance standards with **Pro Industrial™ Waterbased Alkyd Urethane Enamel**.



Easy application and cleanup



Exceptional touch-up



Resistant to yellowing

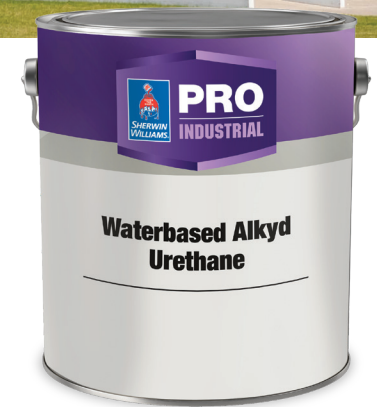


Excellent washability,
flow and leveling



Open your smartphone camera and scan over the code to learn more about the benefits of Pro Industrial™ Waterbased Alkyd Urethane Enamel. ►





Pro Industrial™ Waterbased Alkyd Urethane Enamel goes beyond expectations, combining durability and ease of use for an attractive, long-lasting impression.



Premium hybrid coating

This interior/exterior coating combines the durability of a urethane, the smooth surface and washability of an enamel, and the easy application and cleanup of a waterbased coating.



Maximizes productivity

Minimize repaints and reduce overall maintenance costs with a high-performance coating that suits multiple applications and adheres well to a variety of properly prepared substrates.



Multiple finishes and colors

Available in Low Sheen, Semi-Gloss and Gloss finishes, this advanced coating is designed to maintain a freshly painted look longer than typical enamel coatings and can be tinted to most colors. Gloss sheen also offers safety color bases for accident prevention.

COMPLIES WITH*:

OTC & OTC Phase II	Yes
SCAQMD	Yes
CARB, SCM 2007 & 2020	Yes
Canada	Yes
LEED® v4 & v4.1 Emissions	No
LEED® v4 & v4.1 VOC	Yes
EPD-NSF® Certification	Yes

*As of 01/01/2024



Industry-leading innovation from a name you can trust. Many hours of field testing, years of research and decades of experience go into developing coatings that are better for your business. Sherwin-Williams has been committed to quality for more than 150 years and has a complete line of extraordinary paints and stains, plus rich, beautiful colors to set your work apart.

Color Selection:

Sherwin Williams Cyberspace (SW 7076)

Pro Industrial™

Waterbased Alkyd Urethane Enamel Semi-Gloss

B53-1150/2150 Series


**SHERWIN
WILLIAMS®**

CHARACTERISTICS

Pro Industrial Waterbased Alkyd Urethane Enamel is a premium quality interior-exterior enamel formulated with a urethane modified alkyd resin system for high performance. It provides beauty and durability when applied to interior-exterior surfaces such as properly prepared drywall, wood, masonry and metal. It brings together the convenience and ease of use of a waterborne coating with the performance and coating characteristics of a traditional oil-based enamel.

- Excellent washability & flow & leveling
- Excellent touch up
- Easy application & cleanup
- Resistant to yellowing compared to traditional alkyds
- Suitable for use in USDA inspected facilities

For use on properly prepared:

Steel, Galvanized & Aluminum, Drywall, Concrete and Masonry, and Wood.

Finish: 50-70° @60°
Color: Most colors

Recommended Spreading Rate per coat:

Wet mils: 4.0-5.0
Dry mils: 1.4-1.7
Coverage: 320-389 sq.ft. per gallon
Theoretical Coverage: 545 sq. ft. per gallon @ 1 mil dry

Approximate spreading rates are calculated on volume solids and do not include any application loss.

Note: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils wet, @ 50% RH:

Drying, and recoat times are temperature, humidity, and film thickness dependent.

@77°F
To touch 1-2 hours
To recoat 4 hours

Tinting with CCE only:

Base	oz. per gallon	Strength
Extra White	0-6	SherColor
Deep Base	4-12	SherColor
Ultradeep Base	10-14	SherColor

Extra White B53W02151

(may vary by color)

V.O.C. (less exempt solvents):

less than 50 grams per litre; 0.42 lbs. per gallon

As per 40 CFR 59.406

Volume Solids: 34 ± 2%
Weight Solids: 51 ± 2%
Weight per Gallon: 10.94 lb
Flash Point: N/A
Vehicle Type: Urethane modified alkyd
Shelf Life: 36 months, unopened

COMPLIANCE

As of 03/10/2020, Complies with:

OTC	Yes
OTC Phase II	Yes
SCAQMD	Yes
CARB	Yes
CARB SCM 2007	Yes
Canada	Yes
LEED® v4 & v4.1 Emissions	No
LEED® v4 & v4.1 V.O.C.	Yes
EPD-NSF® Certification	No
MIR-Manufacturer Inventory	No
NSF® Certification	No
MPi®	No

APPLICATION

Temperature:

minimum 50°F / 10°C
maximum 100°F / 37.8°C
air, surface, and material
At least 5°F above dew point

Relative humidity: 85% maximum

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer: Water

Airless Spray:

Pressure 2000 p.s.i.
Hose 1/4 inch I.D.
Tip .013 - .017 inch
Filter 60 mesh

Reduction Not recommended

Brush Nylon-polyester

Roller Cover 1/4-1/2 inch woven

If specific application equipment is listed above, equivalent equipment may be substituted.

Apply paint at the recommended film thickness and spreading rate as indicated on front page. Application of coating below minimum recommended spreading rate will adversely affect coating performance.

No painting should be done immediately after a rain or during foggy weather.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. Apply coating evenly while maintaining a wet edge to prevent lapping.

SPECIFICATIONS

Steel:

1 coat Pro Industrial Pro-Cryl Primer
2 coats Pro Industrial Waterbased Alkyd Urethane

Aluminum and Galvanizing:

1 coat Pro Industrial Pro-Cryl Primer
2 coats Pro Industrial Waterbased Alkyd Urethane

Concrete Block (CMU):

1 coat Pro Industrial Heavy Duty Blockfiller or Loxon Acrylic Block Surfer
2 coats Pro Industrial Waterbased Alkyd Urethane

Concrete-Masonry:

1 coat Loxon Concrete & Masonry Primer (if needed)
2 coats Pro Industrial Waterbased Alkyd Urethane

Drywall:

1 coat ProMar 200 Zero V.O.C. Primer
2 coats Pro Industrial Waterbased Alkyd Urethane

Wood, exterior:

1 coat Exterior Wood Primer
2 coats Pro Industrial Waterbased Alkyd Urethane

Wood, interior:

1 coat Premium Wall & Wood Primer
2 coats Pro Industrial Waterbased Alkyd Urethane

The systems listed above are representative of the product's use, other systems may be appropriate.

Pro Industrial™

Waterbased Alkyd Urethane Enamel Semi-Gloss

SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

Do not use hydrocarbon solvents for cleaning.

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer/sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Iron & Steel - Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6. Primer recommended for best performance

Aluminum - Remove all oil, grease, dirt, oxide and other foreign material per SSPC-SP1. Prime the area the same day as cleaned.

Galvanizing - Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1. When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP16 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned.

Concrete Block - Surface should be thoroughly clean and dry. Air, material and surface temperatures must be at least 55°F (13°C) before filling. Use Pro Industrial Heavy Duty Block Filler or Loxon Acrylic Block Surfacer. The filler must be thoroughly dry before topcoating.

Masonry - All masonry must be free of dirt, oil, grease, loose paint, mortar, masonry dust, etc. Clean per SSPC-SP13/Nace 6/ ICRI No. 310.2R, CSP 1-3. Poured, troweled, or tilt-up concrete, plaster, mortar, etc. must be thoroughly cured at least 30 days at 75°F. Form release compounds and curing membranes must be removed by brush blasting. Brick must be allowed to weather for one year prior to surface preparation and painting. Prime the area the same day as cleaned. Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface. Apply one coat Loxon Conditioner, following label recommendations.

Wood - Surface must be clean, dry, and sound. Prime with recommended primer. No painting should be done immediately after a rain or during foggy weather. Knots and pitch streaks must be scraped, sanded and spot primed before full coat of primer is applied. All nail holes or small openings must be properly caulked.

SURFACE PREPARATION

Previously Painted Surface - If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Mildew- Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised.

Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/ water solution.

PERFORMANCE

System Tested: (unless otherwise indicated)

Substrate: Steel

Surface Preparation: SSPC-SP10

Finish:

1 coat Waterbased Alkyd Urethane, 5 W.F.T.

Adhesion:

Method: ASTM D3359 method B

Result: 4B

Pencil Hardness:

Method: ASTM D3363

Result: 4H

Flexibility:

Method: Method: ASTM D522,
180° bend, 1/4" mandrel

Result: Pass

Dry Heat Resistance:

Method: ASTM D2485

Result: 200°F

Block Resistance:

Lab assessment Excellent

Resistance to Yellowing:

Lab assessment Excellent

No painting should be done immediately after a rain or during foggy weather.

Do not paint on wet surfaces.

Check adhesion by applying a test strip to determine the readiness for painting.

SAFETY PRECAUTIONS

Before using, carefully read **CAUTIONS** on label.

Refer to the Safety Data Sheets (SDS) before use.

FOR PROFESSIONAL USE ONLY.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

CLEANUP INFORMATION

Clean spills, spatters, hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

HOTW 03/10/2020 B53W01153 09 39
FRC

7- Storage Room Wall Finish



Exterior Acrylic Stucco Finish

★★★★★
Not Yet Rated | [Write a Review](#)

Exterior Acrylic Flat Stucco Finish is a 100% Acrylic Exterior Coating designed for the professional painting contractor. Exterior Flat Stucco Finish has high solids and builds well on exterior applications. It is ideal for wood siding, composition board, Hardie, plywood, stucco and masonry and can be applied to stucco surfaces with pH up to 13.

Color	Options	Price
<div>Color Name or Number: <input type="text" value="Enter SW color name or number"/></div> <div><div><div>+</div><div>Add a Color</div></div></div>	<div>Container Size: 5 Gallon</div> <div>Sheen: Flat</div> <div>Base: Extra White Change Base</div> <div>Your options may be adjusted based on color selection.</div>	<div>Save 10% Every Day with PaintPerks®</div> <div>List Price: \$447.95 / \$89.59 Gal</div> <div>Register or sign in to confirm pricing & availability and checkout.</div> <div>Sales Number: 6501-67034 Product Number: B02WJ0851</div>

All prices displayed are for U.S. Sherwin-Williams locations and are in U.S. Dollars. Prices do not include taxes or other fees as applicable.



-1+

Add to Cart

+ Save

Color Selection:

SW 7006
Extra White
Interior / Exterior
Location Number: 257-C1


**SHERWIN
WILLIAMS.**

SWD

Exterior Acrylic Stucco Finish Flat

B02WJ0851 Extra White, B02WJ0853 Deep Base, B02TJ0854 Ultradeep Base

CHARACTERISTICS

SWD Exterior Acrylic Stucco Finish Flat is a 100% Acrylic Exterior Coating designed for the professional painting contractor. Exterior Flat Stucco Finish builds well on exterior applications. It is ideal for wood siding, cement composition siding, plywood, concrete, and masonry and can be applied to dry stucco surfaces with pH up to 13.

Color: Many Colors
To optimize hide and color development, always use the recommended P-Shade primer.

Coverage: 350-400 sq. ft. per gallon
@ 4 mils wet
1.4 mils dry

Drying Time, @ 77° F, 50% RH:

Touch: 1 Hour
Recoat: 4 Hours

Drying and recoat times are temperature, humidity, and film thickness dependent.

Finish: 0-5 units @ 85°

Tinting with CCE:

Base:	oz. per gallon:	Strength:
Extra White	0-6	SherColor
Deep Base	4-12	SherColor
Ultradeep base	10-12	SherColor

Extra White B02WJ0851

(may vary by color)

V.O.C.(less exempt solvents):

less than 50 grams per litre; 0.42 lbs. per gallon
As per 40 CFR 59.406

Volume Solids:	34 ±2%
Weight Solids:	52 ±2%
Weight per Gallon:	11.34 lbs
Flash Point:	N.A.
Vehicle Type:	100% Acrylic
Shelf Life:	36 months, unopened

COMPLIANCE

As of 4/21/2023, Complies with :

OTC	Yes
OTC Phase II	Yes
S.C.A.Q.M.D.	Yes
CARB	Yes
CARB SCM 2007	Yes
CARB SCM 2020	Yes
Canada	Yes
LEED® v4 & v4.1 Emissions	N.A.
LEED® v4 & v4.1 V.O.C.	Yes
EPD-NSF® Certified	N.A.
MIR-Manufacturer Inventory	N.A.
MPI®	No

APPLICATION

Do not apply at air or surface temperatures below 40°F or when air or surface temperatures may drop below 40°F within 48 hours. Avoid using if rain or snow is expected within 24 hours. No painting shall be done immediately after a rain or during foggy weather

No reduction needed.

Brush:

Use a nylon-polyester brush.

Roller:

Use a high quality 1/2-1 1/2 inch nap synthetic roller cover.

Spray - Airless:

Pressure	2000-2500 p.s.i.
Tip	.017-.023 inch

APPLICATION TIPS

Make sure product is completely agitated (mechanically or manually) before use.

SPECIFICATIONS

Aluminum & Aluminum Siding, Galvanized Steel:

2 coats SWD Exterior Acrylic Stucco Finish

Steel:

1 coat All Surface Enamel Latex Primer
2 coats SWD Exterior Acrylic Stucco Finish

Concrete Block, CMU, Split Face Block:

1 coat Conflex Block Filler
2 coats SWD Exterior Acrylic Stucco Finish

Brick, Cement, Concrete:

1 coat Loxon Concrete & Masonry Primer
Or
Loxon Conditioner
2 coats SWD Exterior Acrylic Stucco Finish

Stucco:

2 coats SWD Exterior Acrylic Stucco Finish

Wood, Plywood:

1 coat Exterior Latex Primer
Or
1 coat Exterior Oil-Based Wood Primer
2 coats SWD Exterior Acrylic Stucco Finish

If the wood has bleeding (such as tannin or knot-holes), prime with Multi-Purpose Primer. Prime all sides of bleeding woods.

Other primers may be appropriate.

When repainting involves a drastic color change, a coat of primer will improve the hiding performance of the topcoat color.

SWD

Exterior Acrylic Stucco Finish Flat

SURFACE PREPARATION

WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Remove all surface contamination by washing with a appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer-sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Aluminum: Wash to remove any oil, grease, or other surface contamination. All corrosion must be removed with sandpaper, wire brush, or other abrading method.

Caulking: Gaps between windows, doors, trim, and other through-wall openings can be filled with the appropriate caulk after priming the surface.

Cement Composition Siding-Panels: Remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. If the surface is new, test it for pH, if the pH is higher than 9, prime with Loxon Concrete & Masonry Primer.

Concrete, Masonry, Cement, Block: All new surfaces must be cured according to the supplier's recommendations—usually about 30 days. Remove all form release and curing agents. Rough surfaces should be filled to provide a smooth surface. If painting cannot wait 30 days, allow the surface to cure 7 days and prime the surface with Loxon Concrete & Masonry Prime-Sealer. Cracks, voids, and other holes should be repaired with an elastomeric patch or sealant. **Concrete Masonry Units (CMU)** - Surface should be thoroughly clean and dry. Air, material and surface temperatures must be at least 50°F (10°C) before filling. Use Loxon Acrylic Block Surfer. The filler must be thoroughly dry before topcoating.

Brick: Surfaces must be free from dirt, loose mortar and foreign matter. All brick should be allowed to weather at least one year followed by wire brushing to remove efflorescence. These surfaces should then be treated with one coat of Loxon Conditioner.

Stucco: Remove any loose stucco, efflorescence, or laitance. If recommended procedures are followed, and normal drying conditions prevail, the surface may be painted with a latex paint in 5 - 7 days. Otherwise allow new stucco to cure at least 30 days before painting. If painting cannot wait 30 days, allow the surface to dry 7 days and prime with Loxon Concrete and Masonry Primer. Repair cracks, voids, and other holes with an elastomeric patch or sealant.

SURFACE PREPARATION

Mildew:

Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised.

Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts clean water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach-water solution.

Previously Painted Surfaces: If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Steel: Rust and mill scale must be removed using sandpaper, wire brush, or other abrading method. Bare steel must be primed the same day as cleaned.

Galvanized Metal Surfaces: Allow to weather a minimum of six (6) months prior to coating. Solvent clean per SSPC-SP1, then prime if required. When weathering is not possible or the surface has been treated with chromates or silicates, first solvent clean per SSPC-SP1 and apply a test area, priming if required. Allow paint to dry one week before testing. If adhesion is poor, brush blasting is necessary to remove these treatments.

Wood, Plywood, Composition Board: Clean the surface thoroughly then sand any exposed wood to a fresh surface. Patch all holes and imperfections with a wood filler or putty and sand smooth. All new and patched areas must be primed. Knots and some woods, such as redwood and cedar, contain a high amount of tannin, a colored wood extract. If applied to these bare woods, it may show some staining. If staining persists, spot prime severe areas with 1 coat of Exterior Oil-Based Wood Primer prior to using.

CAUTIONS

For exterior use only.
Protect from freezing.
Non-Photochemically reactive.

Before using, carefully read **CAUTIONS on label**.

CRYSTALLINE SILICA, ZINC: Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (**NIOSH** approved) or leave the area. Adequate ventilation required when sanding or abrading the dried film. If adequate ventilation cannot be provided wear an approved particulate respirator (**NIOSH** approved). Follow respirator manufacturer's directions for respirator use. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage. **FIRST AID:** In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed, call Poison Control Center, hospital emergency room, or physician immediately. **DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE.** Abrading or sanding of the dry film may release crystalline silica which has been shown to cause lung damage and cancer under long term exposure.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.**

HOTW 4/21/2023 B02WJ0851 16 32

CLEANUP INFORMATION

Clean spills, spatters, hands and tools immediately after use with soap and warm clean water. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

8- Wall Tile

Model: DOVER MODERN LINE CALIZA 13"X39" approx.

Codes: 100291807

Water absorption: BIII - Revestimiento ($10\% \leq E \leq 20\%$)

Finish: Glazed / Standard

Tone variations: V3

Rectified: Yes



DIMENSIONAL FEATURES

Thickness	7/16" approx	+/-5%*
Width	13 1/8" approx	
Length	39 3/8" approx	
Length and width deviation	Below 0.15%	+/-0.3%*
Side straightness deviation	Below 0.15%	+/-0.3%*
Squareness deviation	Below 0.15%	+/-0.3%*
Surface flatness deviation	Below 0.15%	+/-0.4%*

FEATURES

- Natural-looking, non-glossy surface finish.
- General deshaded design with a degree of color and appearance variation.
- Name given to the finish of those tiles dimensionally improved after the firing process.
- Finish with clearly defined protrusions that give the surface a feeling of volume.
- Wall installation

MECHANICAL FEATURES

Breaking strength	>134.94 LBF	>125LBF*
Modulus of rupture	>3.37 LBF	>=3LBF*
Crazing resistance	Resists 3 cycles	

HYGIENIC FEATURES

Chemical resistance	Class "A" for swimming pools and cleaning products (resists attack). Minimum Class "B" for acids and bases	B Min.*
Stain resistance	Class 5. Easy cleaning with water	3 Min.*

PACKING

Sales units per box	14.34 SQF/CS	
Sales units per pallet	630.85 SQF/PAL	
Sales units per unit	3.58 SQF/ST	

SCOPE OF USE

Technical code-1	1 - Use on walls	
------------------	------------------	--

System Certification



Do not use cleaning agents containing hydrofluoric acid.

It is recommended to fix tiles with a minimum joint of 1,5 mm. Do not fix without joint.

For big sizes, it is recommended to fix with mortars containing polymeric additives and to use the double gluing technique.

Mosaic tiles must be grouted.

This document is only commercial and cannot be used as expert opinion, documentary evidence or in any legal or administrative procedure unless authorized by PORCELANOSA S.A.

9- "TV" By Owner

10- Cabinetry

FENIX NTM[®]

Introduced in 2013, is a technical and aesthetic answer to two interior design trends: smart materials and matte surfaces. Available now in 21 timeless colors for vertical and horizontal applications.

- Visual comfort (low light reflectivity, extremely matte surface)
- Soft touch
- Anti-fingerprint
- Thermal healing of superficial micro-scratches

FENIX NTM[®] is a material produced by simultaneous application of heat and pressure, in order to obtain a homogeneous non-porous high density product. The core structure is composed of paper, impregnated with thermosetting resins and where the outer surface is made of a paper substrate. The outer surface is made of a paper substrate treated with next generation acrylic resins applied to the substrate as a multilayer coating and subsequently, cured via an electron beam process.

fenixforinteriors.com
Rev09-E-30-04-2020

PROPERTIES			TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT	BLACK CORE ¹	MATCHED COLOUR CORE ¹
GENERAL PROPERTIES						VALUES	
Surface quality	EN 438-2:2019 cl.4	Spots, dirt and similar surface defects	mm ² /m ²	≤ 1			
		Fibres, hair and scratches	mm/m ²	≤ 10			
Dimensional tolerances	EN 438-2:2019 cl.5	Thickness tolerance	mm	4.0 ± 0.30	4.0 ± 0.40		
				6.0 ± 0.40	6.0 ± 0.50		
				8.0 ± 0.50	8.0 ± 0.70		
				10.0 ± 0.50	10.0 ± 0.70		
	12.0 ± 0.60	12.0 ± 0.80					
	EN 438-2:2019 cl.6	Length and width	mm	+ 10 / - 0			
EN 438-2:2019 cl.7	Straightness of edges	mm/m	≤ 1.5				
EN 438-2:2019 cl.8	Squareness	mm/m	≤ 1.5				
EN 438-2:2019 cl.9	Flatness (measured on full-size sheet)	mm/m	4.0 mm: ≤ 8.0	4.0 mm: ≤ 12.0			
			6.0 - 8.0 mm ≤ 5.0	6.0 - 8.0 mm ≤ 8.0			
			10.0 - 12.0 mm ≤ 3.0	10.0 - 12.0 mm ≤ 5.0			
SURFACE PROPERTIES							
Resistance to surface wear	EN 438-2:2019 cl.10	Initial Point	Revolutions	≥ 200			
Resistance to water vapour	EN 438-2:2019 cl.14	Appearance	Rating	5			
Resistance to dry heat (160 °C/20')	EN 438-2:2019 cl.16	Appearance	Rating	5			
Resistance to wet heat (100 °C/20')	EN 438-2:2019 cl.18	Appearance	Rating	5	n.a.		
Resistance to scratching	EN 438-2:2019 cl.25	Appearance	Rating	≥ 4			
Resistance to staining	EN 438-2:2019 cl.26	Appearance - Groups 1 and 2	Rating	5			
		Appearance - Group 3	Rating	≥ 4			
Light fastness (Xenon-arc)	EN 438-2:2019 cl.27	Contrast	Grey scale rating	≥ 4 surface	≥ 4 surface ≥ 3 core		
Surface specular reflectance	ISO 2813	Surface specular reflectance	Gloss unit	8 + 16 at 85°			
Acids resistance	SEFA 8-PL-2010 method 8.1	Chemical Spot Test	Suitability	Compliant			
PHYSICAL PROPERTIES							
Density	EN ISO 1183	Density	g/cm ³	≥ 1.35			
Resistance to immersion in boiling water	EN 438-2:2019 cl.12	Mass increase	%	4.0 mm: ≤ 5.0 6.0 + 12.0 mm: ≤ 2.0	4.0 mm: ≤ 5.0 6.0 + 12.0 mm: ≤ 3.0		
		Thickness increase	%	4.0 mm: ≤ 6.0 6.0 + 12.0 mm: ≤ 2.0	4.0 mm: ≤ 6.0 6.0 + 12.0 mm: ≤ 4.0		
		Appearance	Rating	5 surface ≥ 4 edge	5 surface ≥ 3 edge		
Dimensional stability at high temperatures	EN 438-2:2019 cl.17	Cumulative dimensional change	Longitudinal %	4.0 mm: ≤ 0.4 6.0 + 12.0 mm: ≤ 0.3	4.0 mm: ≤ 0.6 6.0 + 12.0 mm: ≤ 0.5		
		Cumulative dimensional change	Transversal %	4.0 mm: ≤ 0.8 6.0 + 12.0 mm: ≤ 0.6	4.0 mm: ≤ 1.0 6.0 + 12.0 mm: ≤ 0.8		
Resistance to impact with large diameter ball	EN 438-2:2019 cl.21	Drop height	mm	4.0 mm: ≥ 1400 6.0 + 12.0 mm: ≥ 2000	n.a.		
		Indentation diameter	mm	4.0 mm: ≤ 8 6.0 + 12.0 mm: ≤ 7	n.a.		
Resistance to crazing	EN 438-2:2019 cl.24	Appearance	Rating	≥ 4	≥ 4 surface ≥ 3 edge		
Flexural Modulus	EN ISO 178	Stress	Mpa	≥ 9000			
Flexural strength	EN ISO 178	Stress	Mpa	≥ 80			
Electrostatic property	EN 61340-4-1	Point to point resistance	Ω	1 x 10 ¹⁰ ÷ 1 x 10 ¹²			
		Vertical resistance	Ω	1 x 10 ¹⁰ ÷ 1 x 10 ¹²			
OTHER PROPERTIES							
ENVIRONMENTAL PROPERTIES							
Formaldehyde emission	EN 13986	Formaldehyde emissions	Rating	E1			
Volatile Organic Chemical Emissions	Greenguard Gold Certification Low Chemical Emission UL 2818	Volatile Organic Chemical emissions	Suitability	Greenguard Gold certified			
FOOD AND HYGIENE PROPERTIES							
Hygiene	NSF/ANSI 35	Suitability for use as work and nonwork surfaces of food service equipment on which direct food contact during normal preparation or holding operations is not intended, expected, or reasonable	Suitability	NSF certified			
Food contact	Regulation EU n° 10/2011 and following amendments	Food Contact Materials performance	Suitability	Compliant - conditions of use reported in the Declaration of conformity			
¹ For the current and up to date FENIX® delivery program in North America, visit www.fenixforinteriors-na.com . For the delivery program in the rest of the world, visit www.fenixforinteriors.com . Please contact your sales representative for more information.							
Note to FENIX sheets with adhesive protective film The protective film is designed to temporary protect the surface from dust, scratches and marks left by handling equipment; it does not protect from corrosion, dampness or chemical agents. Sheets covered with protective film should be stored in a clean dry atmosphere at room temperature (ideally 20 °C), avoiding exposure to atmospheric agents and UVA rays. The protective film should be removed from the sheets surface after application and before the final item. In case of thick sheets with protective film on both sides, the film should always be removed from both sides at the same time. In any case, the removal should take place within 6 months from the date of shipping by the Manufacturer(s) of the FENIX sheets. The Manufacturer(s) of the FENIX sheets shall not accept liability for improper use of sheets covered with a protective film, nor for any consequences of an incorrect application.							
Disclaimer The Material Properties Data Sheet provides technical information relevant to the performance of the product as tested by the Manufacturer(s) of FENIX sheets or certified testing body. Any information contained within this document must be verified and tested for suitability by the user for his or her particular purpose or specific application. Consideration needs to be given to local or specific circumstances. The content of this document reflects our knowledge and experience at the time of publication. The newest version of the document replaces all previous versions. We advise that the newest version may contain technical changes that must be taken into account when using the products. The latest version of the document may be consulted on our website www.fenixforinteriors.com . Customers should always check whether an updated version of the document is available. We have made every effort to ensure the accuracy of the information in this document, but it cannot be held liable for any oversights, inaccuracies or typographical errors. The Manufacturer(s) of FENIX sheets will not assume any liability if the end-user or customer refer to any other technical information of the products.							

11- Countertop

SEACOURT™

SIGNATURE SERIES



SLAB VIEW



DETAIL VIEW



As light as dawn mist, Seacourt is subtle swirls of cool grays and warm honey that rest softly on a gentle white background.

AVAILABLE IN BOTH POLISHED AND CAMBRIA MATTE® FINISHES

SLAB SIZE: JUMBO 132in x 65.5in

THICKNESS: 2cm, 3cm

Cambria's design samples are small selections cut from a slab and do not fully show all design characteristics of a slab or the final installed product. Prior to purchase, view a larger representation of a design at CambriaUSA.com. Variations in natural quartz stone color, pattern, size, shape, and shade are unique and inherent characteristics of Cambria products. Certain designs include natural free-flowing quartz crystals that may result in surface deviations to the touch and appearance. Color blotches are intended to enhance the natural beauty of many of Cambria's designs. These variations and characteristics do not affect performance and do not qualify for product replacement. Cambria products are not seamless when installed; seams are visible and design pattern and shade will change at seams. Surface markings are more visible on monotone colors than multicolored surfaces. Cambria Matte® finish will show surface markings caused during normal use, which are easily removed by simply washing with a soft cotton cloth and warm water; use a mild soap if desired. Cambria is durable and resistant to surface damage. However, all stone can be damaged by force, and no stone is chip- and scratch-proof. Objects hitting Cambria's surface, especially at edges near sinks or dishwashers, may chip the product. Sudden and/or rapid temperature change may damage the product. Direct or sustained heat transfer, for example, from pots, pans, and other cooking units such as griddles, slow cookers, and heat lamps, may damage Cambria's surface. Therefore the use of a solid trivet is always recommended. Cambria is not a structural support material and must be supported in every application. To learn more about Cambria, please visit CambriaUSA.com.



**FAMILY OWNED
AMERICAN MADE**

12- Wood Floor

(Same as "2- Wood Ceiling")

13- Metal Railing System

Color Selection:

Sherwin Williams Cyberspace (SW 7076)

www.HDIRailings.com



VERSA™ Square Streamlined elegance, universal appeal.

Versa™ Square post railing system is designed with mechanical threaded connections to ensure an exact, precise, and secure fitting. Available for both interior and exterior applications, this system is constructed with high-quality aluminum.

Top Rail dimensions are 1" x 3". Posts are 2" by 2" Square tubes. Surface and side mounting plates are available in powder coated aluminum to match guardrail.

Fastening and Finishes.

Versa™ Square is available with a variety of fastenings including surface, side, and core mounting.

Standard finishes are powder-coated in a selection of colors, with custom options available to match RAL standards.





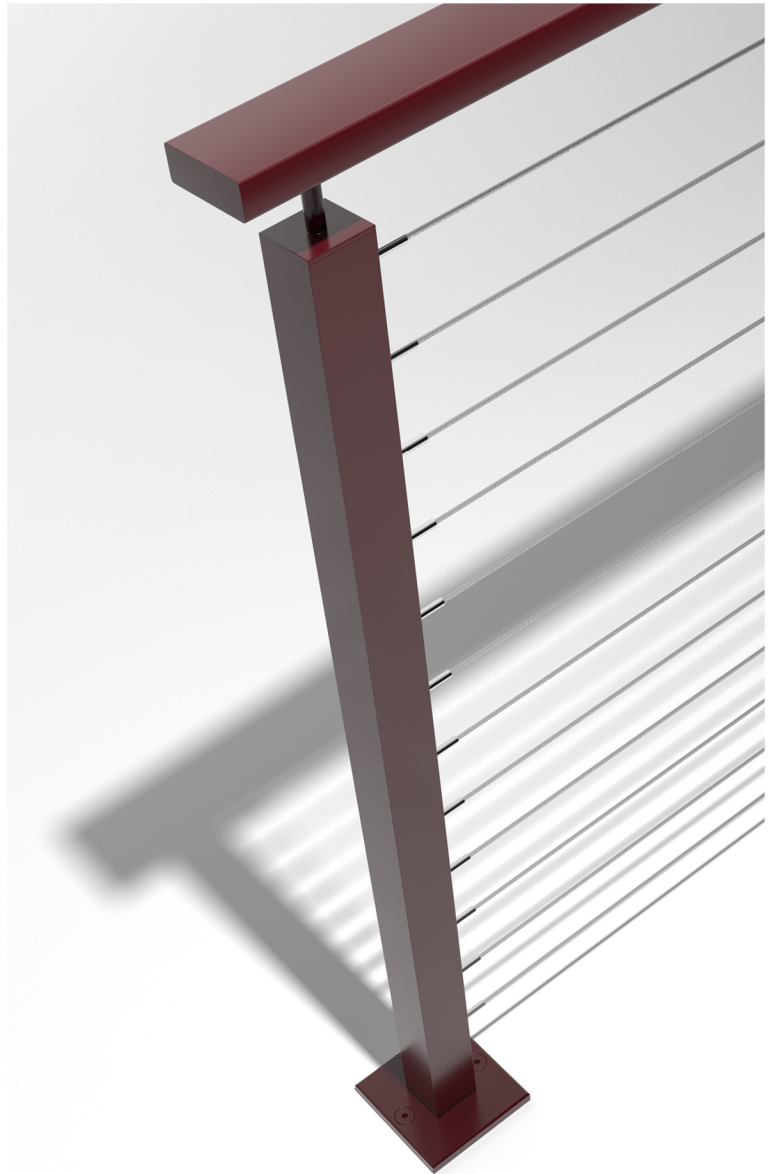
Midrail Infill



Picket Infill



Top Stem Close-up



316ss Cable Infill



Frosted Glass

Elevating Every Space

Crafting Clarity: Optik™ Shoe at 110 North Wacker



Location: Chicago, Illinois.

Sector: Corporate

"HDI was an integral part of the team, and I would certainly recommend the railing system to others with confidence."

— Davin Pirkola, Garnett Architects

Circum™ Elevates Covenant Commons



Location: Dallas, Texas.

Sector: Education

"We chose HDI for its striking appearance, ease of construction, and the unparalleled value it added to the project."

— Gary Oliver, MPI Architects

Poolside Perfection at The Metropolitan



Location: Atlanta, Georgia.

Sector: Hospitality

"HDI's Circum round railing system provided a high finish, flexible and affordable railing design."

— David Hale, CNNA Architects

Kubit™ Enhances Lee Healthnut Point



Location: Estero, Florida.

Sector: Healthcare

"The space flows wonderfully up the stairs and around the second story openings, which the elegant look of the railing system helps to highlight."

— Pat Moffett, Flad Architects

HDI Railing Systems

Handrail Design Inc.
3905 Continental Drive
Columbia, PA 17512

Phone: 717-285-4088
Fax: 717-285-5083

E-mail: info@hdirailings.com
Internet: www.hdirailings.com

HDI Railing Systems provides a full range of architectural and contractor services including site visits for dimensions, drawings and turn key installation services including infill panel material.

For pricing information contact us today.

Colors and finishes may vary from those shown.
Please contact HDI for actual samples.

The specification of HDI Railing Systems may be helpful in earning LEED® credits in the following areas including but not limited to: recycled content, redirect panel program, indoor air quality, local/regional materials, daylight and views.

Please contact HDI for their LEED Statement; information is intended for general use; please verify LEED credit eligibility with a certified LEED AP.

14- "C" Channel (See Struct)

Color Selection:

Sherwin Williams Cyberspace (SW 7076)

15- Stone Planter

(See Specs)

15- Stone Planter

(See Specs)

17- Ground Hydrant



Z1360

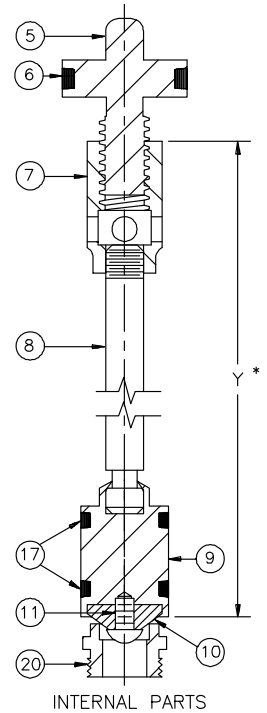
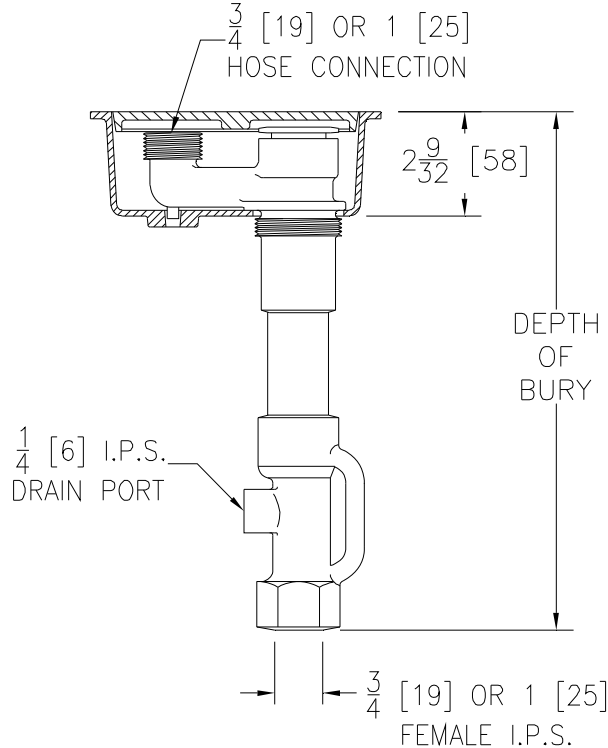
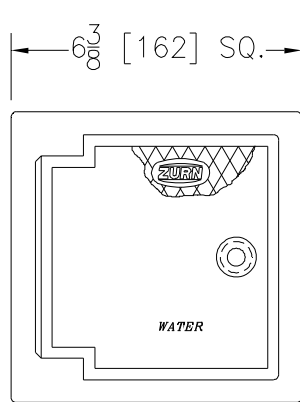
GROUND HYDRANT

Encased, Flush Type, Non-Freeze

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Depth of Bury Feet	Approx. Wt. Lbs. [kg]
2 [610]	17 [8]
3 [914]	21 [10]
4 [1219]	25 [11]
5 [1524]	33 [15]
6 [1829]	39 [18]
7 [2134]	43 [20]
8 [2438]	47 [21]
9 [2743]	52 [24]
10 [3048]	56 [25]

ENGINEERING SPECIFICATION: ZURN Z1360 Encased, non-freeze ground hydrant, for flush with grade or finished (non-traffic) floor installation. Complete with galvanized steel casing, all bronze interior parts, bronze seat and replaceable seat washer, non-turning operating rod with free-floating compression closure valve with 3/4 [19] or 1 [25] connection. Plain bronze box and hinged scoriated cover with operating key lock and "WATER" cast on cover. Hydrant is equipped with a tapped 1/4 [6] drain port in valve housing.

Note:

- IMPORTANT** Hydrant must be opened one turn minimum to seal drain port during use.

CONNECTION TYPE:

- ____ 3/4 [19] Hose Connection
____ 1 [25] Hose Connection

OPTIONS (Check/specify appropriate options)**SUFFIXES**

____ -BC	Bronze Casing
____ -CI	D.C.C.I. Box and Cover
____ -DP12	1/2 [13] IP Drain Port in Box
____ -DP14	1/4 [6] IP Drain Port in Box
____ -DP38	3/8 [10] IP Drain Port in Box
____ -HD	Heavy Duty Cover (-CI and -NB only)
____ -K	Flashing Flange only
____ -KC	Flashing Flange with Clamp Collar
____ -NB	Polished Nickel Bronze Face
____ -PB	Polished Bronze Face
____ -RK	Hydrant Parts Repair Kit
____ -VB	3/4 [19] Adapter Vacuum Breaker (Requires deeper box to accommodate vacuum breaker)

PARTS LIST

Item	Name	Quan.
5	Operating Screw	1
6	O-Ring	1
7	Operating Coupling	1
8	Operating Rod	1
9	Washer Guide	1
10	Washer (neoprene)	1
11	Screw	1
17	O-Ring	2
20	Removable Seat	1

*WHEN ORDERING REPLACEMENT PARTS SPECIFY Y DIM.

REV. J DATE: 10/22/10 C.N. NO. 111947

DWG. NO. 58878 PRODUCT NO. Z1360

ZURN INDUSTRIES, LLC. ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514

Phone: 814/455-0921 ♦ Fax: 814/454-7929 ♦ World Wide Web: www.zurn.com

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

18- Epoxy Grout

Kerapoxy

Premium, Epoxy Grout and Mortar



DESCRIPTION

Kerapoxy is a premium-grade, water-cleanable, 100%-solids, high-strength, chemical-resistant, nonsagging, epoxy grout and mortar that offers excellent stain and chemical resistance. This versatile product is ideal for a wide range of projects, from countertops to shopping malls to airport terminals.

FEATURES AND BENEFITS

- Stain-free*
- No sealer required
- Water-cleanable

** With immediate cleaning and proper maintenance, Kerapoxy stain-free grout is resistant to staining when exposed to most common household goods and cleaning agents. Long-term exposure to any material can increase the potential for staining grout.*

INDUSTRY STANDARDS AND APPROVALS

- ANSI: Meets A118.3 requirements
- ISO 13007: Classification R2/RG

Green certifications

- Living Building Challenge (LBC) Red List Free: This product has been verified per the most current Red List on the LBC's Website.

WHERE TO USE

For use as a grout

- For grouting most ceramic, porcelain and quarry tiles; acid-resistant floor brick; pavers; and natural-stone tile**
- For grouting interior residential and commercial floor/wall applications
- For grouting exterior residential and commercial floor applications (contact MAPEI's Technical Services Department)
- For industrial, commercial and institutional installations with high-strength, chemical-resistant and nonsagging grout requirements, see the "Chemical Resistance" chart below. For extreme industrial or commercial applications such as dairies, breweries and high-volume food kitchens, *Kerapoxy IEG CQ* is recommended.
- For heavy traffic areas such as subway stations, shopping malls and airport terminal buildings
- For areas requiring stain-resistant grout such as countertops, vanities and laboratory tabletops

For use as a mortar

- For setting interior floors and walls
- For exterior installations (contact MAPEI's Technical Services Department)
- For setting most ceramic, porcelain and quarry tiles, acid-resistant floor brick, pavers and natural-stone tile**
- For the installation of moisture-sensitive natural stone and their agglomerates. When setting light-colored marble, which can be stained by epoxy, use white *Granirapid*®, white *Ultraflex*® RS, white *Ultracontact*™ RS or white *Ultraflex LFT*™ *Rapid*.**
- For residential wall, floor and countertop installations
- For installations in areas subject to high water use or submerged conditions (such as gang showers, pools, spas and fountains)
- For industrial, commercial and institutional installations with high mortar requirements, see the "Chemical Resistance" chart below.

*** Marble, granite and slate are products of nature made from a vast combination of minerals and chemicals that may cause the material to behave or react in a manner beyond our control. Likewise, we do not have control over any of the materials or processes used in the manufacturing of agglomerates. Therefore, determine the suitability of all the materials before proceeding with the installation. To ensure desired results, a mockup installation is required before the actual installation.*

LIMITATIONS

For use as a grout

- Joint width should be between 1/16" and 3/8" (1.5 and 10 mm).
- Do not use for grouting white or translucent marble.
- Do not use in areas subject to excessive heat. Once cured, *Kerapoxy* will resist temperatures up to 212°F (100°C).

- When used as a grout on exterior installations, color variations may occur over time, especially with lighter shades due to ultraviolet rays or environmental contaminants.
- Do not use *Kerapoxy* for extreme industrial or commercial applications such as dairies, breweries and high-volume food kitchens. Instead, *Kerapoxy IEG CQ* is recommended.

Note: Some types of glazed ceramic tiles, marble and granite as well as marble agglomerates can be permanently stained, scratched, dulled or damaged when grouted with pigmented, sanded and epoxy grout formulas. Take all the necessary precautions to ensure that the marble, granite or tiles are compatible with colored grouts. To determine the suitability of the product with colored and/or sanded grouts, check the tile or marble manufacturer's literature and test grout on a separate sample area before grouting.

For use as a mortar

- Do not install over substrates containing asbestos.
- Do not exceed 1/4" (6 mm) in epoxy mortar thickness under the tile.
- Do not apply over particleboard, presswood, oriented strand board (OSB), Masonite, chipboard, Luaun, gypsum floor-patching compounds or similar dimensionally unstable substrates.
- Do not install over peel-and-stick crack-isolation membranes or cutback adhesive residue.

SUITABLE SUBSTRATES

For use as a mortar

- Fully cured concrete (at least 28 days old)
- Cement block and brick masonry
- Cement mortars and leveling coats
- Exterior-grade plywood (interior residential floor and countertop applications in dry areas only)
- Cement backer units (CBUs)
- Existing ceramic tile
- Cement and epoxy terrazzo

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

The temperature of the substrate or tilework must be between 60°F and 90°F (16°C and 32°C) while grouting for best results. For proper curing, maintain this temperature range for 24 to 72 hours after application.

For use as a grout

- The application of a grout release over certain types of porcelain or textured surface tiles or stone may be advantageous where a fine surface porosity might trap fine cement particles or color pigments. Seek the advice of the tile or stone manufacturer and site-test (mock up) on separate samples before grouting.
- Before grouting, make sure that the tiles or stones are firmly set and that the adhesive or mortar is completely dry.
- Remove all spacers, pegs, ropes and strings.
- Grout joints must be clean and free of standing water, dust, dirt and foreign matter. Remove excess adhesive or mortar from the joint area so that 2/3 of the tile depth is left available for grouting.

- Clean the tile or stone surface to remove dust, dirt, mortar, adhesive and other contaminants that may cause grout discoloration.

For use as a mortar

- All substrates should be structurally sound, stable, dry, clean and free of any substance or condition that may reduce or prevent proper adhesion.

See the “Surface preparation requirements” reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. Parts A and B are packaged to exact quantity ratios for proper curing.
2. Pour out all material from the Part B container(s) into Part A. To improve flowability, allow enough time for the material to flow completely out of the container. Always mix complete units. Do not add other materials to this mixture. For the 2-gallon (7.57-L) kit, use both bottles of Part B that are included in the kit.
3. Use a slow-speed mixer (at about 300 rpm), or manually mix smaller kits with a margin trowel.
4. Avoid prolonged mixing, which will trap air and shorten the pot life.
5. Mix thoroughly until a homogenous, consistent color is obtained.
6. Wash tools immediately with water before the epoxy hardens. *Kerapoxy* is extremely difficult to remove once cured.
7. Do not place the lid on the container after the material has been mixed.

PRODUCT APPLICATION

For use as a grout

1. Remove mixed product from the container and place it in small piles. (If grouting a wall, place on kraft paper laid on the floor.) *Kerapoxy* is a thermosetting product, so that it sets up faster in a container or in a large mass.
2. Use a hard-rubber float with a sharp edge to force the grout into the joints in a continuous manner, leaving it flush with the tile edge.
3. Be certain that all joints are well-compacted and free of voids/gaps. Fill the joints with the maximum amount of grout possible.
4. Thoroughly remove excess *Kerapoxy* from the face of the tile before it loses its plasticity or begins to set. This is most easily accomplished by holding the rubber float at a 90-degree angle to the tile surface and dragging the float across the tile surface diagonally to the grout lines, leaving as little epoxy grout on the tile surface as possible.
5. Clean tiles immediately after applying each unit of *Kerapoxy*. Grout and clean in small areas. Do not attempt to use more than one *Kerapoxy* unit before cleaning tiles. Do not allow *Kerapoxy* to harden on the tile surface. On large projects, working in teams of 2 to 3 people will simplify the installation.
6. a. For horizontal surfaces:
 - Apply a liberal amount of cold water to the freshly grouted area. Scrub the tile surface diagonally to the joint line using a nonwoven, nylon, white scouring pad (use a more aggressive pad if the tile has an abrasive surface). Apply enough pressure on the pad to loosen any film without removing grout from the joints. Rinse pads frequently while cleaning. Be careful not to get any water in the ungrouted joints.
 - To remove the loosened epoxy residue and water, drag a clean sponge diagonally across the tile surface.

Use one side of the sponge for each pass over the tile, rinsing the sponge following the second pass and regularly changing water in the buckets to avoid residue buildup.

- Do not allow excess water to remain on the tile surface, which would allow a film to form on the surface that would be difficult to remove once hardened.
- In certain applications, a short-nap terry-cloth towel may be substituted for the sponge, which may work more effectively for removing the loosened epoxy residue and water. Using the “towel drag” method, hold the towel by two corners and drag it diagonally across the grout joints. Rinse the towel often and keep changing water in the buckets to avoid residue buildup.
- Do not step on freshly cleaned tiles, as this could permanently damage the grout.

b. For vertical surfaces:

- Mist the surface using a spray bottle in small workable areas. Use a non-abrasive nylon scrubpad and apply enough pressure on the pad to loosen any film without removing grout from the joints. Rinse pads frequently while cleaning. Be careful not to get any water into the ungrouted joints.
- To touch up grout joint imperfections during initial rinsing, the grout joint can be smoothed with a sharp-edged cellulosic sponge.

7. Perform a final wash within 15 to 20 minutes for best results. To aid in the cleaning process, 1 U.S. oz. (29.6 mL) of a clear dishwashing soap may be added (if needed) to a 3-gallon (11.4-L) pail of clean water. Use a clean, white scrubpad to loosen any remaining residue left on the tile from the first wash. Then follow the same cleaning process as referenced in the section above.
8. Check the installation the following day to make sure it is completely clean. If a tacky residue is found within 24 hours of installation, follow the above instructions for the cleaning removal process.
9. Use only fresh material to fill any voids discovered while cleaning.
10. Check the installation the same day before leaving the jobsite to make sure it is completely clean. If the tile surface has any shiny or tacky residue, remove it with the solution of liquid detergent and water mentioned in Step 7. For more severe cases of epoxy grout haze, use MAPEI's *UltraCare*® Epoxy Grout Haze Remover.

For use as a mortar

1. Remove the mixed product from the container and place it in piles on the floor. *Kerapoxy* is a thermosetting product, so it sets faster in a container or a large mass.
2. Choose a notched trowel (see the “Approximate Coverage” chart below) with sufficient depth to achieve more than 80% mortar contact to both the tile and substrate for interior applications, and more than 95% contact for exterior installations, commercial floor installations and wet applications. All edges of the tile or stone must be supported by the mortar. It may be necessary to back-butter tiles in order to reach these requirements. (Refer to ANSI A108.5 specifications and TCNA guidelines.)
3. With pressure, apply a coat by using the trowel's flat side to key mortar into the substrate.
4. Apply additional mortar, combing it in a single direction with the trowel's notched side.
5. Spread only as much mortar as can be tiled before the product hardens and loses its ability to transfer to the tile. Open time can vary with jobsite conditions.
6. Place the tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between the mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage (see TCNA adhesive placement guidelines).
7. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting (see ANSI A108.10 guidelines).
8. Provide for expansion and control joints as specified per TCNA Detail EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ.
9. Clean tools immediately with fresh water.

10. Check the installation the same day before leaving the jobsite to make sure it is completely clean. If the tile surface has any shiny or tacky residue, remove it with a solution of 1 U.S. oz. (29.6 mL) of a clear dishwashing soap added (if needed) to a 3-gallon (11.4-L) pail of clean water. Do not leave excess water on the tile or grout surface after the cleaning process.

PROTECTION

- Protect grout installations for at least 7 days, and wait at least 3 days before checking hardness.
- The optimum curing temperature is 73°F (23°C). Cooler temperatures may require extended protection times.
- Do not disturb grout or walk over installed tiles for at least 24 hours after setting. Do not allow heavy traffic over installed tiles for at least 48 hours after setting. Cardboard, plywood or Kraft paper can be used for protection. Do not cover the installation using plastic.
- Because propane gas heaters will yellow epoxy, refrain from using such heaters or properly vent all exhaust.
- *Kerapoxy* should be cured for at least 10 to 14 days at 73°F (23°C) before water immersion or exposure to chemicals. Longer times will be needed for colder temperatures.
- Do not allow any activity in the area that will cause dirt or debris to become embedded in the grout joints as they are curing.

MAINTENANCE

- *Kerapoxy* should be cured for at least 3 days before routine cleaning.
- When cleaning *Kerapoxy* as grout, keep steam-cleaning wands 6" to 12" (15 to 30 cm) above the tile surface.
- MAPEI grout products are produced to the highest standards of quality. To maintain a clean tile surface, use a neutral-pH cleaner for maintaining the floor, followed by a clean-water rinse.
- Do not use harsh chemicals to maintain the tile surface. Before proceeding with cleaning, consult the cleaner's manufacturer for compatibility, use and application instructions. Remove or rinse fatty acid residue from the grout surface to avoid potential grout deterioration caused by prolonged exposure.

CHEMICAL RESISTANCE

(tested according to ISO 13007)

Resistance to chemicals depends on the concentration, temperature and duration of exposure. For long-term durability and improved grout appearance, clean up spills immediately after they occur.

Laboratory tests reveal variable resistance to certain chemicals. The following table may be considered as a general guide for *Kerapoxy* applications at 73°F (23°C).

For recommendations regarding chemicals not listed or concentrations exceeding the levels stated, contact MAPEI's Technical Services Department.

Legend

- ++ Excellent resistance
- + Good resistance; long exposure could cause some deterioration; clean surface rapidly with water
- Poor or no resistance

Product Types	Concentration	Laboratory	Long Time	Short Time
ACIDS				
Vinegar	2.5%	++	++	++



	5%	++	+	++
	10%	—	—	—
Hydrochloric acid	10%	++	++	++
Chromic acid	20%	—	—	—
Citric acid	10%	++	++	++
Formic acid	2.5%	++	++	++
	10%	—	—	—
Lactic acid	2.5%	++	++	++
	5%	++	+	++
	10%	+	—	+
Nitric acid	10%	++	+	++
	50%	—	—	—
Phosphoric acid	50%	++	++	++
	75%	+	—	+
Sulfuric acid	1.5%	++	++	++
	10%	++	++	++
	96%	—	—	—
Tannic acid	10%	++	++	++
Oxalic acid	10%	++	++	++
Oleic acid		—	—	—
BASE AND SALT SOLUTIONS				
Ammonia solution	25%	++	++	++
Caustic soda	50%	++	++	++
Hypochlorite solution				
• Act. CL 6.4 g/L		++	+	++
• Act. CL 165 g/L		—	—	—
Sodium hyposulfite		++	++	++
Calcium chloride		++	++	++
Iron chloride		++	++	++
Sodium chloride		++	++	++
Sodium chromate		++	++	++
Sugar		++	++	++
Aluminum sulfate		++	++	++
Potassium permanganate				
	5%	++	+	++
	10%	+	—	+
Caustic potash	50%	++	++	++
Hydrogen peroxide	1%	++	++	++
	10%	++	++	++
	25%	++	++	++
Sodium bisulfite		++	++	++
OILS AND COMBUSTIBLE PRODUCTS				
Gasoline		++	++	++
Turpentine		++	++	++
Diesel fuel		++	++	++
Peanut oil		++	++	++
Tar		++	+	+
Olive oil		++	++	++

Heating oil		++	++	++
SOLVENTS				
Acetone		–	–	–
Ethylene glycol		++	++	++
Glycerol		++	++	++
Methylcellosolve		–	–	–
Perchloroethylene		–	–	+
Carbon tetrachloride		+	–	+
Chloroform		–	–	–
Methylene chloride		–	–	–
Toluene		–	–	+
Carbon disulfide		+	–	+
Mineral spirits		++	++	++
Benzene		–	–	+
Trichloroethane		–	–	–
Xylene		–	–	–

ISO 13007 Classification

Classification Code	Test Characteristic	Classification Requirement
RG (reaction resin grout)	Abrasion resistance [†]	≤ 0.015 cu. in. (250 mm ³)
	Flexural strength [†]	Greater than 4,350 psi (30 MPa)
	Compressive strength [†]	Greater than 6,525 psi (45 MPa)
	Shrinkage [†]	Less than 0.06 in./3.28 ft. (1.5 mm/m)
	Water absorption [†]	Less than 0.0002 lb. (0.1 g)
R2 (reaction resin adhesive, improved)	Shear adhesion strength	≥ 2 N/mm ²
	Shear adhesion strength after water immersion	≥ 2 N/mm ²
	Open time: tensile adhesion strength	≥ 0.5 N/mm ² after not less than 20 minutes
	Shear adhesion strength after thermal shock	≥ 2 N/mm ²

[†] 28-day cure

ANSI Specifications

Test Method	Specification Standard	Test Results
ANSI A118.3 (5.1) – water cleanability	80 minutes	Pass
ANSI A118.3 (5.2)		
Initial setting time	> 2 hours	Pass
Service setting time	< 7 days	Pass
ANSI A118.3 (5.3) – shrinkage	< 0.25%	Pass
ANSI A118.3 (5.4) – sag	No change	Pass
ANSI A118.3 (5.5) – quarry shear bond	> 1,000 psi (6.90 MPa)	Pass
ANSI A118.3 (5.6) – compressive strength	> 3,500 psi (24.1 MPa)	Pass
ANSI A118.3 (5.7) – tensile strength	> 1,000 psi (6.90 MPa)	Pass
ANSI A118.3 (5.8) – thermal shock	> 500 psi (3.45 MPa)	Pass

Shelf Life and Product Characteristics

before mixing

Shelf life	2 years when stored in original, unopened packaging at 73°F (23°C)
Physical state	Resin (Part A) and hardener (Part B)
Colors	For available colors, refer to MAPEI's grout/caulk color chart at www.mapei.com . Sample color chips are available upon request.
VOC content (SCAQMD Rule 1168)	< 65 g per L
Typical VOC content per SCAQMD Rule 1168 testing methods	7 g per L

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Application Properties

at 73°F (23°C) and 50% relative humidity

Pot life^{††}	45 to 60 minutes
Full cure^{††}	14 days
Application temperature range	60°F to 90°F (16°C to 32°C)

^{††} Pot life and curing time will vary depending on ambient temperature, substrate temperature and humidity.

Packaging

Size
Kit: 1 U.S. qt. (946 mL) – includes Part A and Part B
Kit: 1 U.S. gal. (3.79 L) – includes Part A and Part B
Kit: 2 U.S. gals. (7.57 L) – includes Part A and 2 bottles of Part B (available in U.S. only)

Approximate Coverage*

• For use as a grout**

Coverage per 1 U.S. qt. (946 mL)				
Tile Size	Grout Joint Width			
	1/16" (1.5 mm)	1/8" (3 mm)	1/4" (6 mm)	3/8" (10 mm)
1" x 1" x 1/4" (25 x 25 x 6 mm)	14 sq. ft. (1.30 m ²)	8 sq. ft. (0.74 m ²)	4 sq. ft. (0.37 m ²)	3 sq. ft. (0.28 m ²)
2" x 2" x 1/4" (50 x 50 x 6 mm)	27 sq. ft. (2.51 m ²)	14 sq. ft. (1.30 m ²)	8 sq. ft. (0.74 m ²)	6 sq. ft. (0.56 m ²)
3" x 3" x 1/4" (75 x 75 x 6 mm)	40 sq. ft. (3.72 m ²)	20 sq. ft. (1.86 m ²)	11 sq. ft. (1.02 m ²)	8 sq. ft. (0.74 m ²)
4" x 4" x 3/8" (100 x 100 x 10 mm)	35 sq. ft. (3.25 m ²)	18 sq. ft. (1.67 m ²)	9 sq. ft. (0.84 m ²)	7 sq. ft. (0.65 m ²)
4" x 8" x 1/2" (100 x 200 x 12 mm)	35 sq. ft. (3.25 m ²)	18 sq. ft. (1.67 m ²)	9 sq. ft. (0.84 m ²)	6 sq. ft. (0.56 m ²)
4" x 8" x 3/4" (100 x 200 x 19 mm)	23 sq. ft. (2.14 m ²)	12 sq. ft. (1.11 m ²)	6 sq. ft. (0.56 m ²)	4 sq. ft. (0.37 m ²)
4" x 8" x 1-1/8" (100 x 200 x 29 mm)	15 sq. ft. (1.39 m ²)	8 sq. ft. (0.74 m ²)	4 sq. ft. (0.37 m ²)	3 sq. ft. (0.28 m ²)

4" x 8" x 1-3/8" (100 x 200 x 35 mm)	13 sq. ft. (1.21 m ²)	6 sq. ft. (0.56 m ²)	3 sq. ft. (0.28 m ²)	2 sq. ft. (0.19 m ²)
4-1/4" x 4-1/4" x 1/4" (108 x 108 x 6 mm)	56 sq. ft. (5.20 m ²)	28 sq. ft. (2.60 m ²)	15 sq. ft. (1.39 m ²)	10 sq. ft. (0.93 m ²)
6" x 6" x 1/4" (150 x 150 x 6 mm)	78 sq. ft. (7.25 m ²)	40 sq. ft. (3.72 m ²)	20 sq. ft. (1.86 m ²)	14 sq. ft. (1.30 m ²)
6" x 6" x 1/2" (150 x 150 x 12 mm)	39 sq. ft. (3.62 m ²)	20 sq. ft. (1.86 m ²)	10 sq. ft. (0.93 m ²)	7 sq. ft. (0.65 m ²)
8" x 8" x 3/8" (200 x 200 x 10 mm)	69 sq. ft. (6.41 m ²)	35 sq. ft. (3.25 m ²)	18 sq. ft. (1.67 m ²)	12 sq. ft. (1.11 m ²)
10" x 10" x 3/8" (250 x 250 x 10 mm)	86 sq. ft. (7.99 m ²)	44 sq. ft. (4.09 m ²)	22 sq. ft. (2.04 m ²)	15 sq. ft. (1.39 m ²)
12" x 12" x 1/2" (300 x 300 x 12 mm)	78 sq. ft. (7.25 m ²)	39 sq. ft. (3.62 m ²)	20 sq. ft. (1.86 m ²)	13 sq. ft. (1.21 m ²)
16" x 16" x 3/8" (406 x 406 x 10 mm)	138 sq. ft. (12.8 m ²)	69 sq. ft. (6.41 m ²)	35 sq. ft. (3.25 m ²)	24 sq. ft. (2.23 m ²)

Approximate Coverage*

• For use as a grout**

Coverage per 1 U.S. gal. (3.79 L)				
Tile Size	Grout Joint Width			
	1/16" (1.5 mm)	1/8" (3 mm)	1/4" (6 mm)	3/8" (10 mm)
1" x 1" x 1/4" (25 x 25 x 6 mm)	56 sq. ft. (5.20 m ²)	31 sq. ft. (2.88 m ²)	18 sq. ft. (1.67 m ²)	14 sq. ft. (1.30 m ²)
2" x 2" x 1/4" (50 x 50 x 6 mm)	108 sq. ft. (10.0 m ²)	56 sq. ft. (5.20 m ²)	31 sq. ft. (2.88 m ²)	22 sq. ft. (2.04 m ²)
3" x 3" x 1/4" (75 x 75 x 6 mm)	159 sq. ft. (14.8 m ²)	82 sq. ft. (7.62 m ²)	43 sq. ft. (3.99 m ²)	31 sq. ft. (2.88 m ²)
4" x 4" x 3/8" (100 x 100 x 10 mm)	140 sq. ft. (13.0 m ²)	72 sq. ft. (6.69 m ²)	37 sq. ft. (3.44 m ²)	26 sq. ft. (2.42 m ²)
4" x 8" x 1/2" (100 x 200 x 12 mm)	139 sq. ft. (12.9 m ²)	71 sq. ft. (6.60 m ²)	37 sq. ft. (3.44 m ²)	25 sq. ft. (2.32 m ²)
4" x 8" x 3/4" (100 x 200 x 19 mm)	93 sq. ft. (8.64 m ²)	47 sq. ft. (4.37 m ²)	24 sq. ft. (2.23 m ²)	17 sq. ft. (1.58 m ²)
4" x 8" x 1-1/8" (100 x 200 x 29 mm)	62 sq. ft. (5.76 m ²)	32 sq. ft. (2.97 m ²)	16 sq. ft. (1.49 m ²)	11 sq. ft. (1.02 m ²)
4" x 8" x 1-3/8" (100 x 200 x 35 mm)	51 sq. ft. (4.74 m ²)	26 sq. ft. (2.42 m ²)	13 sq. ft. (1.21 m ²)	9 sq. ft. (0.84 m ²)
4-1/4" x 4-1/4" x 1/4" (108 x 108 x 6 mm)	223 sq. ft. (20.7 m ²)	114 sq. ft. (10.6 m ²)	59 sq. ft. (5.48 m ²)	41 sq. ft. (3.81 m ²)
6" x 6" x 1/4" (150 x 150 x 6 mm)	313 sq. ft. (29.1 m ²)	159 sq. ft. (14.8 m ²)	82 sq. ft. (7.62 m ²)	56 sq. ft. (5.20 m ²)

6" x 6" x 1/2" (150 x 150 x 12 mm)	156 sq. ft. (14.5 m ²)	79 sq. ft. (7.34 m ²)	41 sq. ft. (3.81 m ²)	28 sq. ft. (2.60 m ²)
8" x 8" x 3/8" (200 x 200 x 10 mm)	277 sq. ft. (25.7 m ²)	140 sq. ft. (13.0 m ²)	72 sq. ft. (6.69 m ²)	49 sq. ft. (4.55 m ²)
10" x 10" x 3/8" (250 x 250 x 10 mm)	345 sq. ft. (32.1 m ²)	174 sq. ft. (16.2 m ²)	89 sq. ft. (8.27 m ²)	60 sq. ft. (5.57 m ²)
12" x 12" x 1/2" (300 x 300 x 12 mm)	310 sq. ft. (28.8 m ²)	156 sq. ft. (14.5 m ²)	79 sq. ft. (7.34 m ²)	54 sq. ft. (5.02 m ²)
16" x 16" x 3/8" (406 x 406 x 10 mm)	551 sq. ft. (51.2 m ²)	277 sq. ft. (25.7 m ²)	140 sq. ft. (13.0 m ²)	94 sq. ft. (8.73 m ²)

Approximate Coverage*

• For use as a mortar

Trowel Size	Coverage per 1 U.S. qt. (946 mL)	Coverage per 1 U.S. gal. (3.79 L)	Coverage per 2 U.S. gals. (7.57 L)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm), square-notch	4.5 sq. ft. (0.42 m ²)	18 sq. ft. (1.67 m ²)	36 sq. ft. (3.34 m ²)
5/32" x 5/32" (4 x 4 mm), V-notch	10 sq. ft. (0.93 m ²)	40 sq. ft. (3.72 m ²)	80 sq. ft. (7.43 m ²)

* Trowel dimensions are width/depth/space. Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to actual tile size and thickness, exact joint width, job conditions and grouting methods.

** When grouting abrasive or slip-resistant floor tiles, anticipated coverage can be dramatically decreased. Alternatives to the traditional grouting technique, such as a grout bag or commercial sealant gun, may be of assistance. Consult MAPEI's Technical Services Department for approximate coverage not shown in the above tables or use the grout calculator at www.mapei.com.

RELATED DOCUMENTS

- Reference Guide: "Surface preparation requirements" for tile and stone installation systems***
- Grout Troubleshooting Guide***

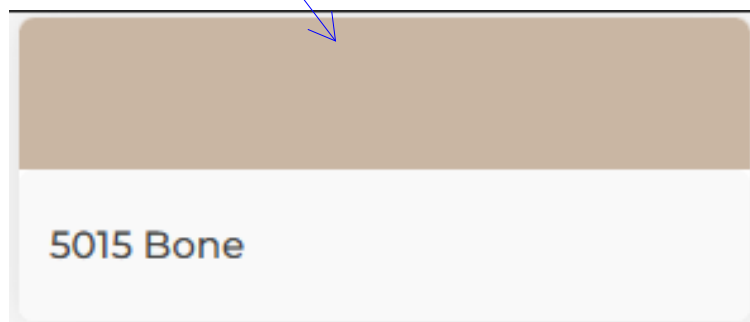
*** At www.mapei.com

ADDITIONAL INFORMATION

Refer to the SDS for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

Color Selection



LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

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1-800-361-9309

Customer Service

1-800-42-MAPEI (1-800-426-2734)

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For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.

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19- Cabinetry Door Pulls

15 answered questions



Description

A timeless and distinctive drawer pull design that's easy to apply and goes well with all furniture and cabinetry. DP3 is our most popular series. It's now available in thirteen standard lengths as well as in a beefier profile [DP3-DB series](#) for use on a door. Custom tab pull lengths are easy and economical to manufacture so you can have the perfect size for your application.

Drawer Pulls:

QUESTIONS & ANSWERS

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No, the DP3 pulls are made of Brass.
[^](#) [v](#)

[View all https://www.mockett.com/answerbase/Topic/Tab-Drawer-Pull-1-1-2-Profile/5912416](https://www.mockett.com/answerbase/Topic/Tab-Drawer-Pull-1-1-2-Profile/5912416)

	Overall Length	On Center	Projection	No. of Holes
DP3	1 1/2"	1/2"	1 1/2"	2
DP3-6	3"	2"	1 1/2"	2
DP3-8	4"	3"	1 1/2"	2
DP3-10	6"	5"	1 1/2"	3
DP3-12	8"	3"	1 1/2"	3
DP3-14	10"	4"	1 1/2"	3
DP3-16	12"	3 7/16"	1 1/2"	4
DP3-18	14"	4"	1 1/2"	4
DP3-20	16"	4 7/16"	1 1/2"	4
DP3-22	18"	5 1/16"	1 1/2"	4
DP3-24	20"	6"	1 1/2"	4
DP3-26	22"	6 7/16"	1 1/2"	4
DP3-28	24"	7 1/16"	1 1/2"	4

* Tolerance +/- 1/32"

Comes standard with 1/2" wood screws.

Finishes: Matte Black, Polished Brass, English Antique, Satin Nickel, Black Chrome, Polished Chrome and Satin Chrome.

Also available with a 2" profile: [DP3-2](#)

Need help deciding on a finish? Sample chips available at no charge to preview finish options. [Click here](#)

Custom Options

We can customize this item to suit your specific needs, including but not limited to:

- *Custom Lengths up to 8"
- *Custom Finish
- *Finished All Sides

Please [contact us](#) for further information on pricing and lead times.



REVIEWS

Highest to Lowest

All Ratings

No Reviews Found

20- Storage Room Ceiling

(See Specs)