

This Typical Arrangement for Product Certification applies to finished assemblies:
 TCR 014 0000US, TCR 014 1000US
 TCR 014 0000USE0, 0000USE1, 1000USE0

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DIMENSIONS ARE IN MM GENERAL TOLERANCES: ANGULAR: ±1 ONE PLACE DECIMAL: ±0.5 FINISH:	NOTE:	VELUX	SKY-PRM 1418 Evans Pond Road PO Box 5001 Greenwood, South Carolina 29648-5001
SPECIFICATION	STANDARDS	Residential TCR SUN TUNNEL Product Certification Basic Arrangement	
MATERIAL	SPECIFICATION	SIZE	COMMODITY NO. REV. SCALE: C/D/DRAWN/DATE MR/DH 06/16/21 D 21.304745.000.52 03 1:1 SHEET 1 OF 2

REVISIONS	
NO.	DESCRIPTION
1	Update joint tape description
2	Update for 2018 re-certification

PART/COMPONENT SCHEDULE									
ITEM	QTY.	PART/COMPONENT	COMPONENT NO.	DESCRIPTION	DRAWING NO.			COMMENTS	
					Category	Commodity No.	Rev.		
A	1	Dome	30355014	Acrylic Dome Acrylic 309038.64	21	309038	--6402	Material Specification (Same as Item L, M, P)	
			30355814	Polycarbonate Dome Polycarbonate 309039.64	21	303550	00000007	Commodity drawing	
					21	309039	--6401	Material Specification	
B	1	Pivot ring	30371714	Black PP impact co-polymer	21	303717	00000005	Commodity drawing	
C	1	Insect guard	30359414	41 grade PVN (ASTM 01056 2 A1)	21	303594	00000002	Commodity drawing	
					21	304230	00005105	Placement drawing	
D	1	Intermediate ring	30354614	Black PP co-polymer +UV	21	303546	00000008	Commodity drawing	
E	1	Alignment O-ring	30316814	Santoprene 101-64' (black color)	21	303168	00000006	Commodity drawing	
F	1	Flashing	3045941434	G-90 Steel Lacq. Steel Sheet with Al-Zn coating Cool grey powder coat	21	302167	0223409	Forming drawing	
					21	302167	0A05202	Curb foam gasket placement	
H	1	Curb foam gasket	303200	Closed cell PVC foam with PSA	21	303200	00000009	Commodity drawing	
* I	2	Elbow	30464914	High Reflectance Material on tubular 0.020" (0.51mm)	21	304649	01400003	14" Elbow (Same as Item A9)	
					21	304649	0145202	14" Elbow Punching (Same as Item A9)	
J	1	Tube	30464614	High Reflectance Material on tubular 0.016" (.41mm)	21	304646	00005204	Tube (Same as Item A11, See Note 5.)	
V	1	Ceiling diffuser complete	30483614	Ceiling diffuser complete with all parts	21	304836	00005103	Part assembly drawing	
L	1	Screw-in Diffuser	30381414	Acrylic	21	303814	01400002	Commodity drawing	
					21	309038	--6402	Material Specification (Same as Item A, M, P)	
M	1	Diffuser-upper	30381814	Acrylic - Frosted	21	303815	00000006	Commodity drawing (Same as Item M, N, Q)	
					21	309049	--6403	Material Specification	
R	1	Ceiling ring	30381614	White - ABS	21	303816	01400002	14" Ceiling Ring Commodity drawing	
S	4	Swingout	306107	White - nylon 10% glass	21	306107	00000003	Commodity drawing	
T	4	Screw	306238	#8 Phillips drive screw, 2 1/4" length, pan head, mat'l-clear zinc	--	-----	-----	Screw fastens swingout and flipper to ceiling ring	

TCR Beipack P/N 304845 Drawing No. 21.304845.00.52.02									
G	1	Pivot ring foam gasket	303519	Polyurethane foam (open-cell) with PSA	21	303519	00000003	Commodity drawing	
U	1	Cover tape	306242	White tape strip	--	-----	-----	Cosmetic hide of screw head (Item T)	
A7	-	Joint tape	30469336	Aluminum tape, 36 ft.	21	309066	--6402	Tape (See Note 5)	
K	12	Flexi loc clip	302329	302 spring tempered stainless steel (Ø1.4mm)	21	302329	00000008	Pull Clip (See Note 5)	
RR	14	Screw	306056	#8 x 1 1/2" PH, SS Black	21	306056	00000013	Commodity drawing (Mounting fastener)	
SS	8	Screw	306119	Screw, Truss HD, #8 x 3/4 SST (Visible)	21	306119	00000006	Commodity drawing (Dome screws)	
V	SS.1	Washer	308027	#8 SST washer w/bonded EPDM seal	21	308027	00000002	Commodity drawing (Washers for Dome Screws)	
V*	BB	Screw	306050	#6 x 3/8" Phillips, PH Self drilling	21	306099	00000010	Commodity drawing (Screws for tubes)	
V	CC	Screw	306118	#6 x 3/8" Phillips, PH	21	411135	00000008	Commodity drawing (Screws for stung)	

FASTENER SCHEDULE										
ITEM	QTY.	PART/COMPONENT	COMPONENT NO.	DESCRIPTION	DRAWING NO.			EXPOSED		COMMENTS
					Category	Commodity No.	Rev.	V	NV	
* UU	N/A	Semi-Tubular Rivet	306123	Steel, Clear Zinc Finish	21	306123	00000003	-	-	Rivet
NV * WW	5	Screw	306096	#10x1/2" SS, Phillips FH, Self-tapping	21	306096	00000003	-	-	Flat 82° Undercut head

Residential Energy Kit (Optional for models with codes ending in E0 or E1)										
N	1	Diffuser-middle	30381914	Acrylic - crackle						
Q	1	Pivot ring lens	30382114	Acrylic - Prismatic (US)	21	303815	00000006			Commodity drawing
Q.1	1	Pivot ring lens	30382014	Acrylic - Clear (Canada)						

V = Visible
NV = Non-Visible

GENERAL NOTES:

- * Designates a PART/COMPONENT not shown on the Basic Arrangement cross-sections.
- Reference Drawings include :
21.TCR014.OA0.63.11 for "TCR 014 0000USG, List of parts, Commodity drawing" (PROPRIETARY)
21.304417.000.63.30 for "Fastener bags, List of parts"(PROPRIETARY)
- A copy of these drawings plus any other supplemental documentation regarding these skylight models will be maintained at the Skylight Technical Database in the following category location -Technical Data/Submittal Data/
- The TCR 014 is furnished with 1-Tube, however a final assembly can use additional tube lengths.
- Item (K) has a maximum of (12) Flexi loc clips in the cross section configuration shown - longer tube installations will require more clips and tape (Item (A7))

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DIMENSIONS ARE IN MM GENERAL TOLERANCES: ANGULAR: ±1 ONE PLACE DECIMAL : ±0.5	NOTE:	VELUX SKY-PRM 1418 Evans Pond Road PO Box 5001 Greenwood, South Carolina 29648-5001																
<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Update joint tape description</td> </tr> <tr> <td>2</td> <td>Update for 2018 re-certification</td> </tr> </tbody> </table>		REVISIONS		NO.	DESCRIPTION	1	Update joint tape description	2	Update for 2018 re-certification	Residential TCR Sun Tunnel Product Certification Basic Arrangement								
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D	21.304745.000.52	04	1:1	01/18/23														

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina	Drawn up by: BJB	Date: 12/11/2017	Page: 1/3		
	PRODUCT INSTRUCTION NO.				
<u>MATERIAL SPECIFICATION</u> Plastic material for injection molded tubular skylights components (domes and diffusers).	Classification: A	Cat	Commodity No.	Opr.	Ed.
	Copy to:	2 1	3 0 9 0 3 8	6 4	0 2

1. General description

1.1 Material:

An ACRYLIC with good optical clarity, brilliance and dimensional stability, such as Arkema Plexiglas HFI7 or equivalent.

1.2 Application:

The material is used to allow light to travel through the tubular skylight and prevent air and debris from entering the interior space of the room.

1.3 Applicable codes:

Exposed interior ceiling component must meet Class C requirements of ASTM E-84.

2. Properties

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2.1 Material properties:

No.	Testing	VELUX requirements	Testing acc. to
1	Ultimate Tensile Strength	> 68 MPa	ASTM D-638
2	Specific Gravity	1.17 ±.2	ASTM D-792
3	Flexural Modulus	> 3.0 GPa	ASTM D-790
4	Notched Izod Impact 23°C	> 30 J/m (.6 ft-lb/in)	ASTM D-256
5	Hardness Rockwell M	65 ± 5	ASTM D-785
6	Refractive Index N _D @ 73°C	1.49 ± 0.05	ASTM D-542
7	Light Transmission	91 ± 2 %	ATSM D-1003
8	Water Absorption after 24 h submersion	Max 0.4%	ASTM D-570
9*	Standard Rate of Burning	CC1 or CC2	ASTM D635
10*	Self-Ignition Temperature	Min 343 °C	ASTM D1929
11*	Smoke Density rating or Smoke Developed Index	Max 75 rating or Max 450 index	ASTM D2843 or ASTM E-84

*= Required for ceiling mounted components.

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina	Drawn up by:	Date:	Page:		
	BJB	12/11/2017	2/3		
<u>MATERIAL SPECIFICATION</u> Plastic material for injection molded tubular skylights components (domes and diffusers).	Classification:	PRODUCT INSTRUCTION NO.			
	A	Cat	Commodity No.	Opr.	Ed.
	Copy to:	2 1	3 0 9 0 3 8	6 4	0 2

2.2 Thermal Properties

	Properties	VELUX requirements	Testing acc. to
1	Softening temperature (Vicat B/50)	> 80 °C	ASTM D1525
2	Stability of shape method A (1.8 MPa)	> 80 °C	ASTM D648

2.3 Liquid resistance

No attack of the following after 1 hour of influence

- 3% aqua ammonia
- 3% acid of vinegar
- 3% chlorine water
- 3% liquid soft soap
- 100% sulphonic soap
- 98% alcohol, benzene, turpentine

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3. Technical Material Approval

The supplier must along with a sample forward documentation for the properties mentioned under point 2. Information for the supplier: The tests mentioned under point 3.1 and 3.2 are carried out by and at VELUX in accordance with the internal VELUX procedure.

3.1 Process related requirements:

It must be possible to use the product in the customer's production plant without any remarks from the customer.

3.2 Product related requirements:

No.	Testing	VELUX requirements	Testing acc. to
1	UV-resistance	Max. 50% reduction of tensile strength	1000h QUV-A. Samples according to DS/EN ISO 527-2
2	UV-resistance	Change of Color max $\Delta E^*_{ab} 7$	168h QUV-A

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina	Drawn up by:	Date:	Page:		
	BJB	12/11/2017	3/3		
<u>MATERIAL SPECIFICATION</u> Plastic material for injection molded tubular skylights components (domes and diffusers).	Classification:	PRODUCT INSTRUCTION NO.			
	A	Cat	Commodity No.	Opr.	Ed.
	Copy to:	2 1	3 0 9 0 3 8	6 4	0 2

4. General Requirements

4.1 **Accept from Supplier:**

A supplier cannot deliver to the customer before the requirements in the material specification are certified in writing as accepted.

4.2 **Change of Product:**

The supplier informs the customer in writing about changes in the composition of the material, including the effect of such changes.

4.3 **Documentation:**

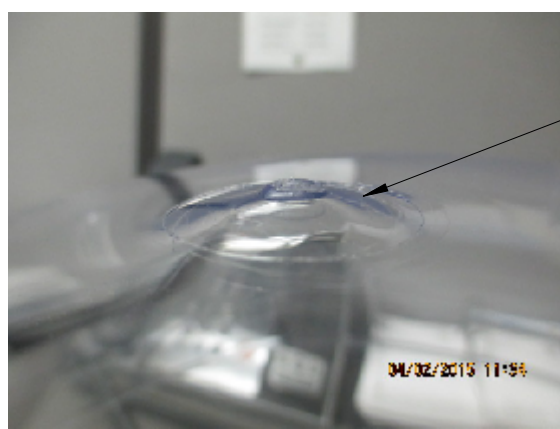
If required from the purchase department, the supplier shall be able to forward documentation for the properties of point 2 in a certificate or otherwise.

5. Delivery

Delivery per agreement with the purchasing department.

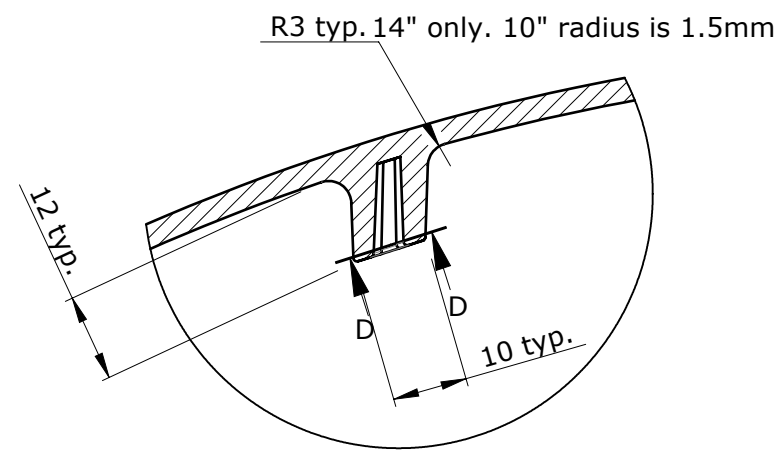
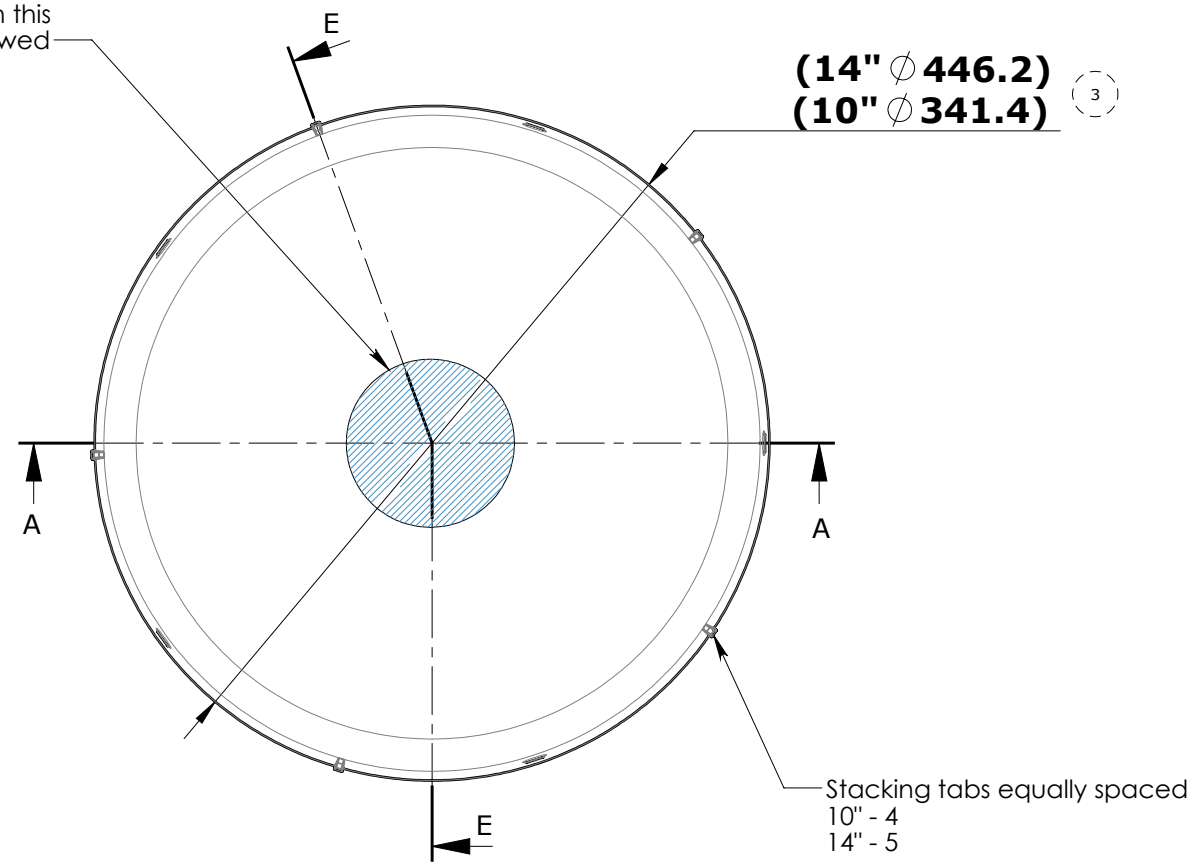
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Edition	Description of change	Date
02	Added qty. of stacking tabs	5/20/13
03	Added chamfer to lower ID	8/27/13
04	Added pictures for screw holes	1/28/14
05	Added radius dimension	4/14/14
06	Added material spec.	5/28/15
07	Removed 22in dome from drawing	7/28/15

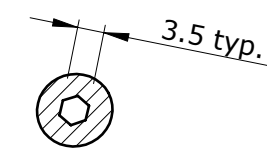


Unacceptable mold mark

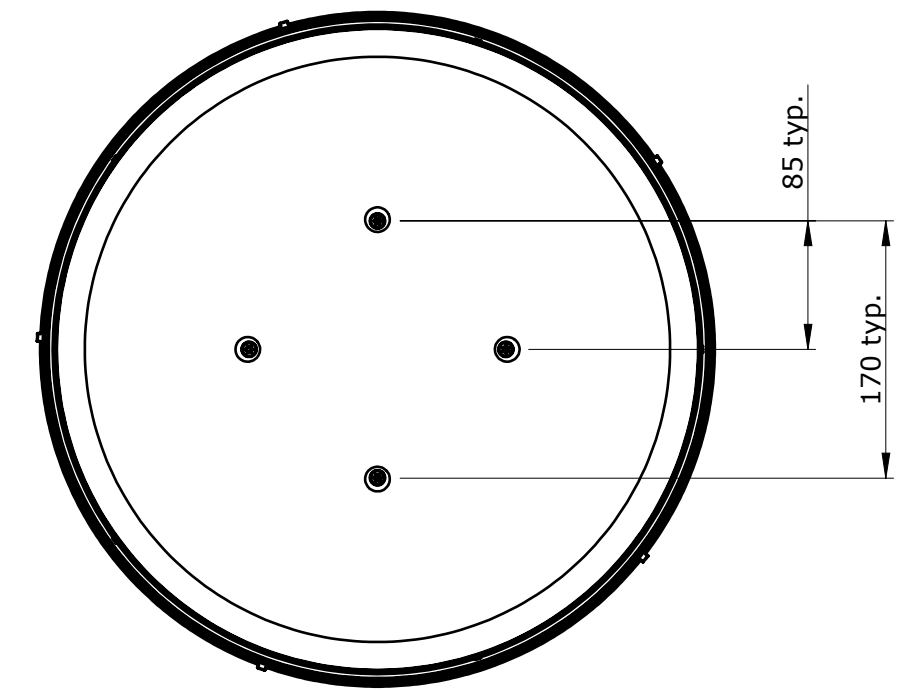
Mold marks in this area are allowed



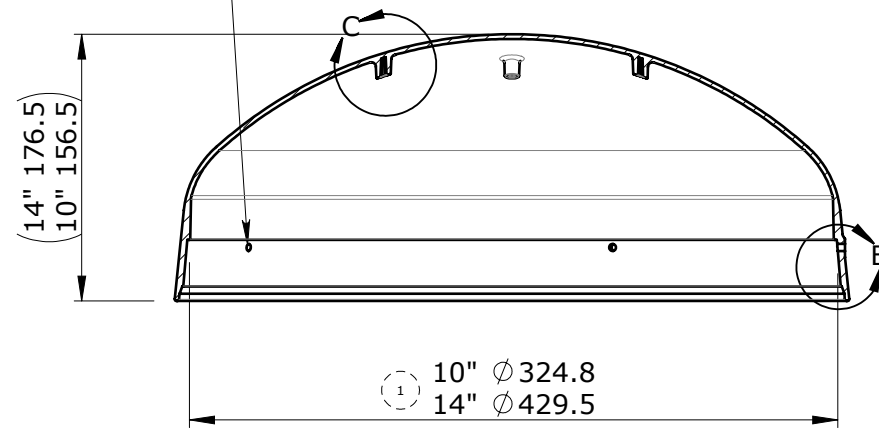
C 1:1



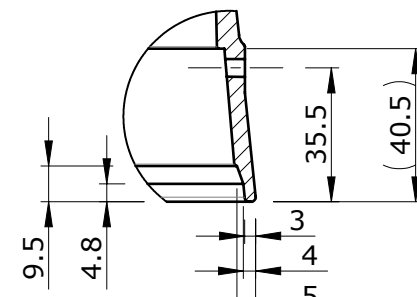
D-D 1:1



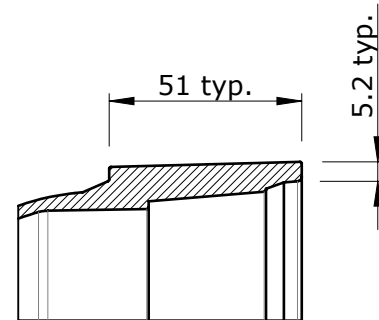
2 $\phi 4.5$ equally spaced holes that line up to intermediate ring



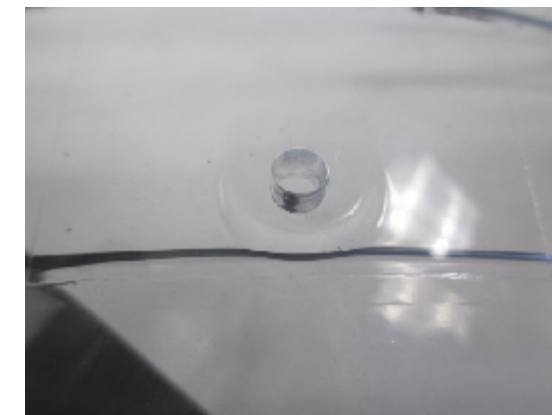
A-A



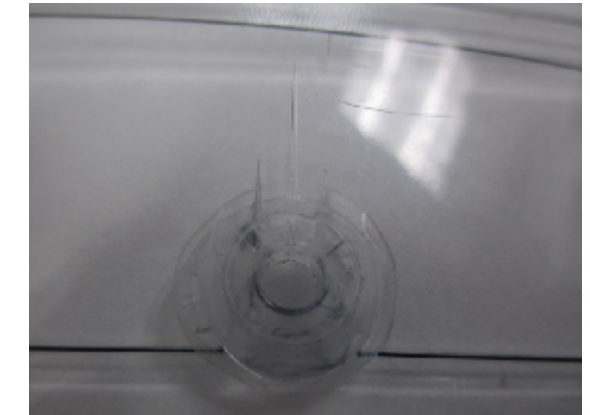
B 1:2



E-E 1:2



Acceptable screw hole



Unacceptable screw hole

Part number	Size	Material
30355010	10"	Acrylic
30355810	10"	Polycarbonate
30355014	14"	Acrylic
30355814	14"	Polycarbonate

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VELUX SKY-PRS
 450 Old Brickyard Rd., Greenwood, South Carolina 29648

Approvals
 TMA-A
 Checked by/drawn by/date
 /REC/28.07.2015

Scale
 1:5

Unspec. meas.
 mm

General tolerance
 ± 0.5

Size
 C

Specifications - generally			
Material for tubular skylights domes	309038.64		
Material/high impact skylight dome	309039.64		
TGR/F, TMR/F, TCR, T-C, TTK			
Dome			
Commodity drawing			
Product instructions no.			
Category	21	303550	000
Operation	00	00	07
Edition			

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina		Drawn up by: JRM	Date: 8/15/03	Page: 1/3		
<u>MATERIAL SPECIFICATION</u> Plastic material for high Impact tubular skylights dome		Classification: A	PRODUCT INSTRUCTION NO.			
		Copy to:	Cat	Commodity No.	Opr.	Ed.
			2 1	3 0 9 0 3 9	6 4	0 1

1. General description

1.1 Material:

A Polycarbonate with good optical clarity, brilliance, dimensional stability and Ultraviolet light inhibitors.

1.2 Application:

The material is used to allow light to travel through the opening of the tubular skylight and prevent water and debris from traveling into the opening.

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2. Properties

2.1 Material properties:

No.	Testing	VELUX requirements	Testing acc. to
1	Ultimate Tensile Strength	> 65 MPa	ASTM D-638
2	Specific Gravity	1.19 ±.2	ASTM D-792
3	Flexural Modulus	> 2.4 GPa	ASTM D-790
4	Notched Izod Impact (23°C)	> 900 J/m	ASTM D-256
5	Hardness Rockwell R	118 ± 10	ASTM D-785
6	Refractive Index N _D @ 73°C	1.58 ± 0.05	ASTM D-542
7	Light Transmission	89 ± 1 %	ATSM D-1003
8	Coefficient of expansion -40°C to 80°C	6.8x10 ⁻⁵ mm/mm/°C	ASTM D-696
9	Water Absorption after 24 h submersion	Max 0.2%	ASTM D-570

2.2 Thermal Properties

	Properties	VELUX requirements	Testing acc. to
1	Softening temperature (Vicat B/50)	Min. 145°C	ASTM D1525
2	Stability of shape method A (1.8 MPa)	Min. 130 °C	ASTM D648

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina	Drawn up by:	Date:	Page:		
	JRM	8/15/03	2/3		
<u>MATERIAL SPECIFICATION</u> Plastic material for high Impact tubular skylights dome	Classification :	PRODUCT INSTRUCTION NO.			
	A	Cat	Commodity No.	Opr.	Ed.
	Copy to:	2 1	3 0 9 0 3 9	6 4	0 1

2.5 Liquid resistance

No attack of the following after 1 hour of influence

- 3% aqua ammonia
- 3% acid of vinegar
- 3% chlorine water
- 3% liquid soft soap
- 100% sulphonic soap
- 98% alcohol, benzene, turpentine



3. Technical Material Approval

The supplier must along with a sample forward documentation for the properties mentioned under point 2. Information for the supplier: The tests mentioned under point 3.1 and 3.2 are carried out by and at VELUX in accordance with the internal VELUX procedure.

3.1 Process related requirements:

It must be possible to use the product in the customer's production plant without any remarks from the customer.

3.2 Product related requirements:

No.	Testing	VELUX requirements	Testing acc. to
1	UV-resistance (Pending)	Max. 50% reduction of tensile strength	1000h QUV-A. Samples according to DS/EN ISO 527-2
2	Salt fog test (Pending)	<u>700h Neutral</u> Max. 50% reduction of tensile strength	ASTM B 117
3	UV-resistance (Pending)	Change of Color max E* _{ab} 7	168h QUV-A

4. General Requirements

4.1 Accept from Supplier:

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4.2 Change of Product:

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<p align="center">VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina</p>	Drawn up by: JRM	Date: 8/15/03	Page: 3/3		
<p><u>MATERIAL SPECIFICATION</u> Plastic material for high Impact tubular skylights dome</p>	Classification: A	PRODUCT INSTRUCTION NO.			
	Copy to:	Cat	Commodity No.	Opr.	Ed.
	2 1	3 0 9 0 3 9	6 4	0 1	

4.3 Documentation:

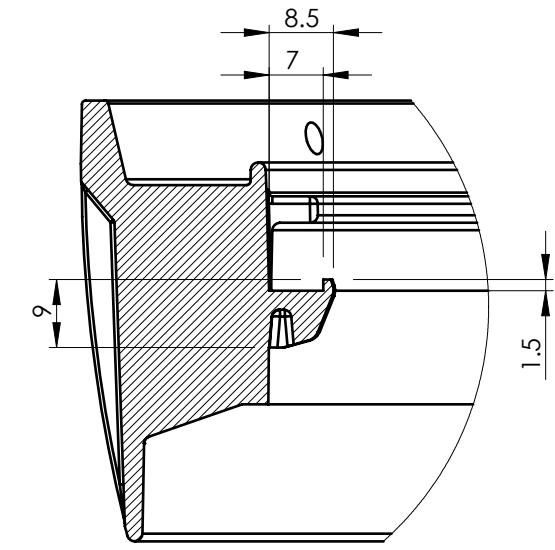
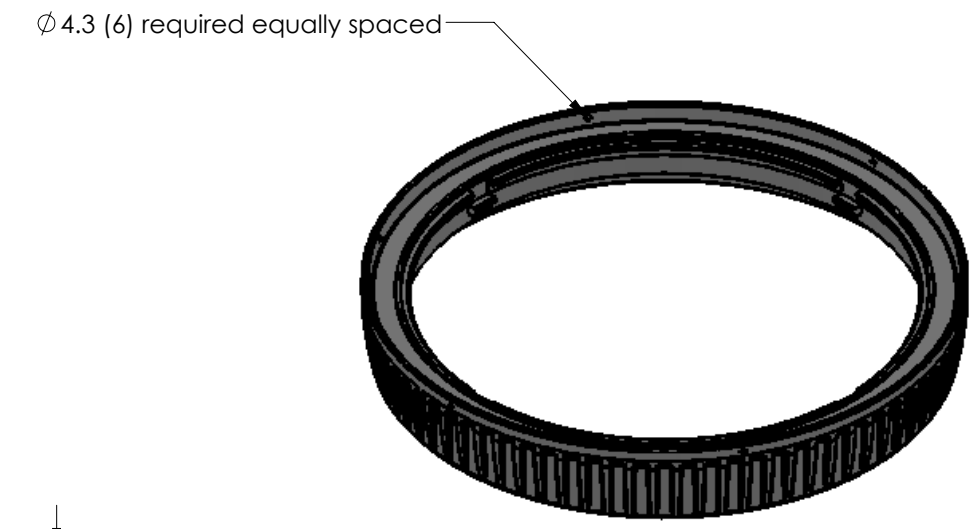
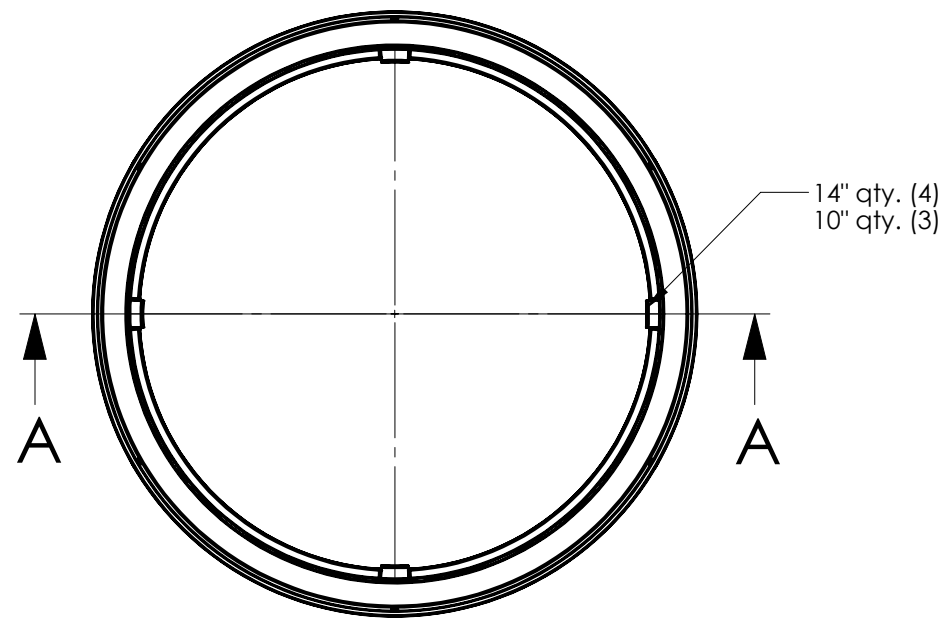
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5. Delivery

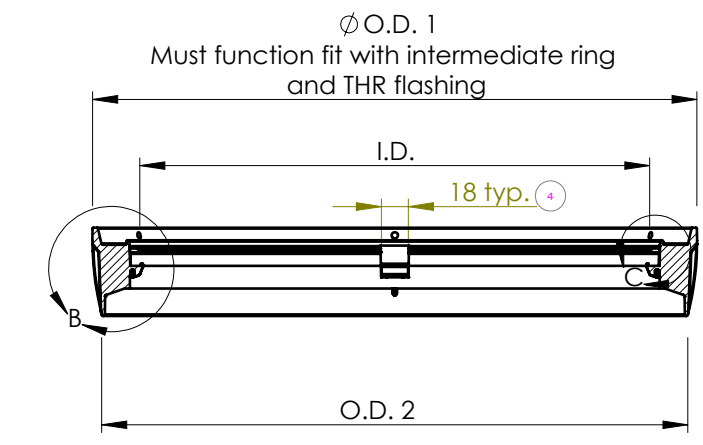
Delivery according to agreement with the purchasing department.

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Edition	drawn by/checked by/date	Description of change
03	7/27/16	Added THR part numbers
04	8/22/16	Added 22" pivot ring/ and OD1
05	MM/CBB/6/24/19	Updated inner ring on 10"&14"

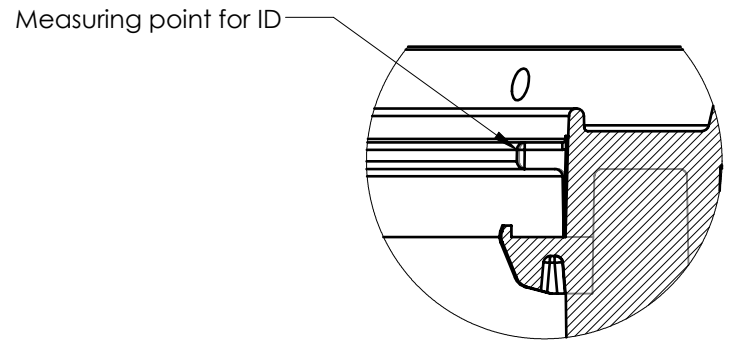


DETAIL B
SCALE 1 : 1



SECTION A-A

Dia.	I.D. (1)	O.D. 1 (2)	O.D. 2 (3)	Part number	THR part number
10"	Ø 234 ± 1	(Ø 296)	Ø 279 ± 1	30371710	30371710-THR
14"	Ø 337 ± 1	(Ø 400)	Ø 387.5 ± 1	30371714	30371714-THR
22"	Ø 535 ± 1	(Ø 601)	Ø 591 ± 1	30371722	-



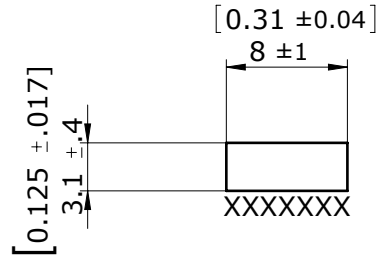
DETAIL C
SCALE 1 : 1

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Note: Surface finish to be SPI-C3

Material				Specifications - generally			
PP impact copolymer Color: Black				Plastic material 309051.64			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				T-R			
Approvals TMA-A				10", 14", 22" Rigid pivot ring Commodity drawing			
Checked by/drawn by/date /REC/22.08.2016				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance ±0.5	Size B	Category 21	303717	000	00 05

Edition	Description of change	Date
02	Added material description	4/28/15



***NOTE:**

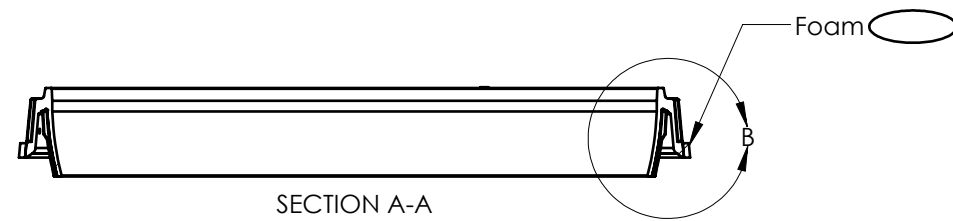
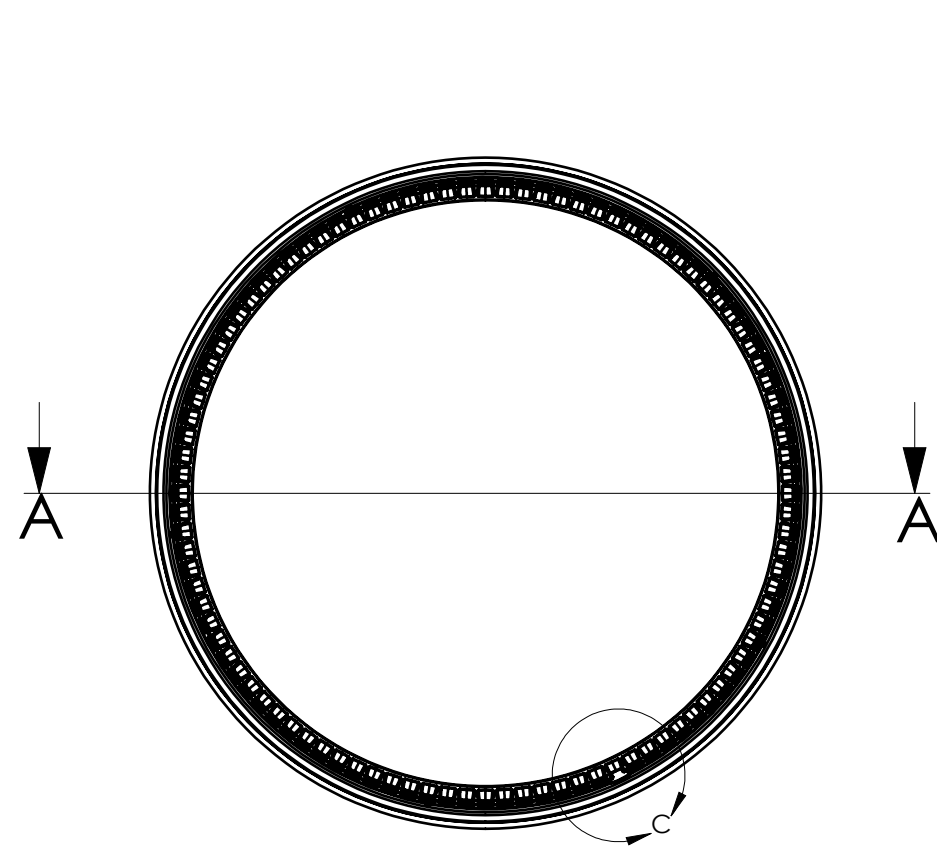
- 1.Part is supplied in rolls from supplier and cut to length in production by VELUX.
- 2.Material - 41 grade PVN (ASTM D1056 2 A1) - closed-cell expanded rubber
- 3.Adhesive - AD381 (ASTM D903 PP Min. 175 N/m)
- 4.XXXX=PSA attached.

Diameter	Length
10"	1020[40.2"]
14"	1360[53.5"]
22"	2000[78.7"]

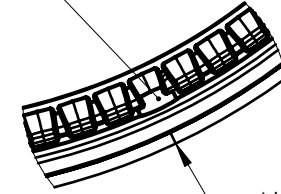
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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>TGR/F, TMR/F and TCR</u>							
Approvals TMA-A				Insect guard foam gasket							
Checked by/drawn by/date /REC/28.04.2015				Commodity drawing							
Scale 2:1				Unspec. meas. mm				General tolerance ± 1		Size A	
Product instructions no.				Category 21		303594		Operation 000 00		Edition 02	

Edition	Description of change	Date
04	Added alignment note	3/12/13
05	Removed foam part number	4/27/15

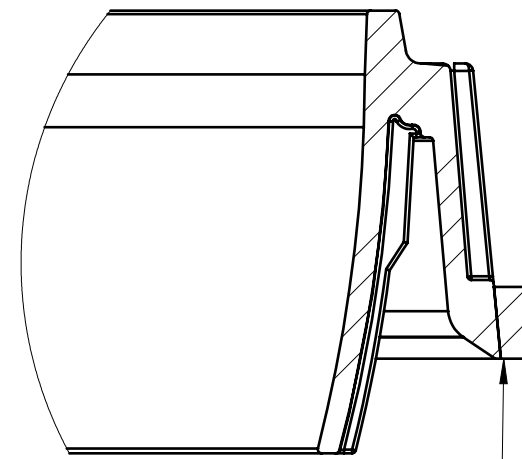


Align start of foam with alignment tab



DETAIL C
SCALE 2 : 5

No gap allowed where foam meets.
Max. 25mm overlap



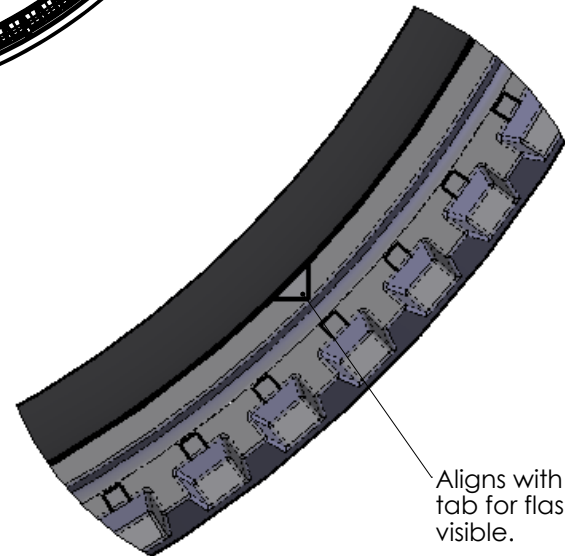
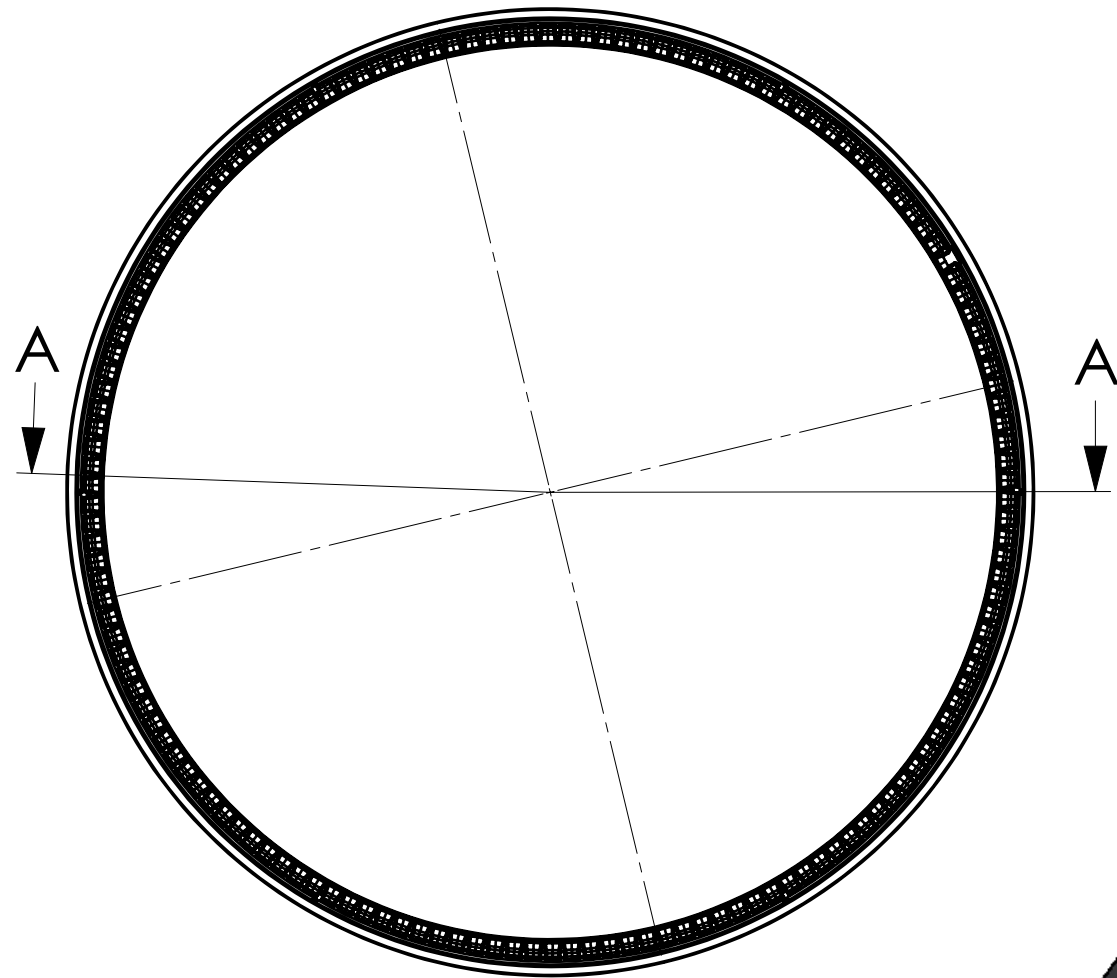
DETAIL B
SCALE 1 : 1

Edge of foam must be parallel with edge of intermediate ring within 3mm.

Regardless of tolerance bottom of condensation groove should always be covered by foam.

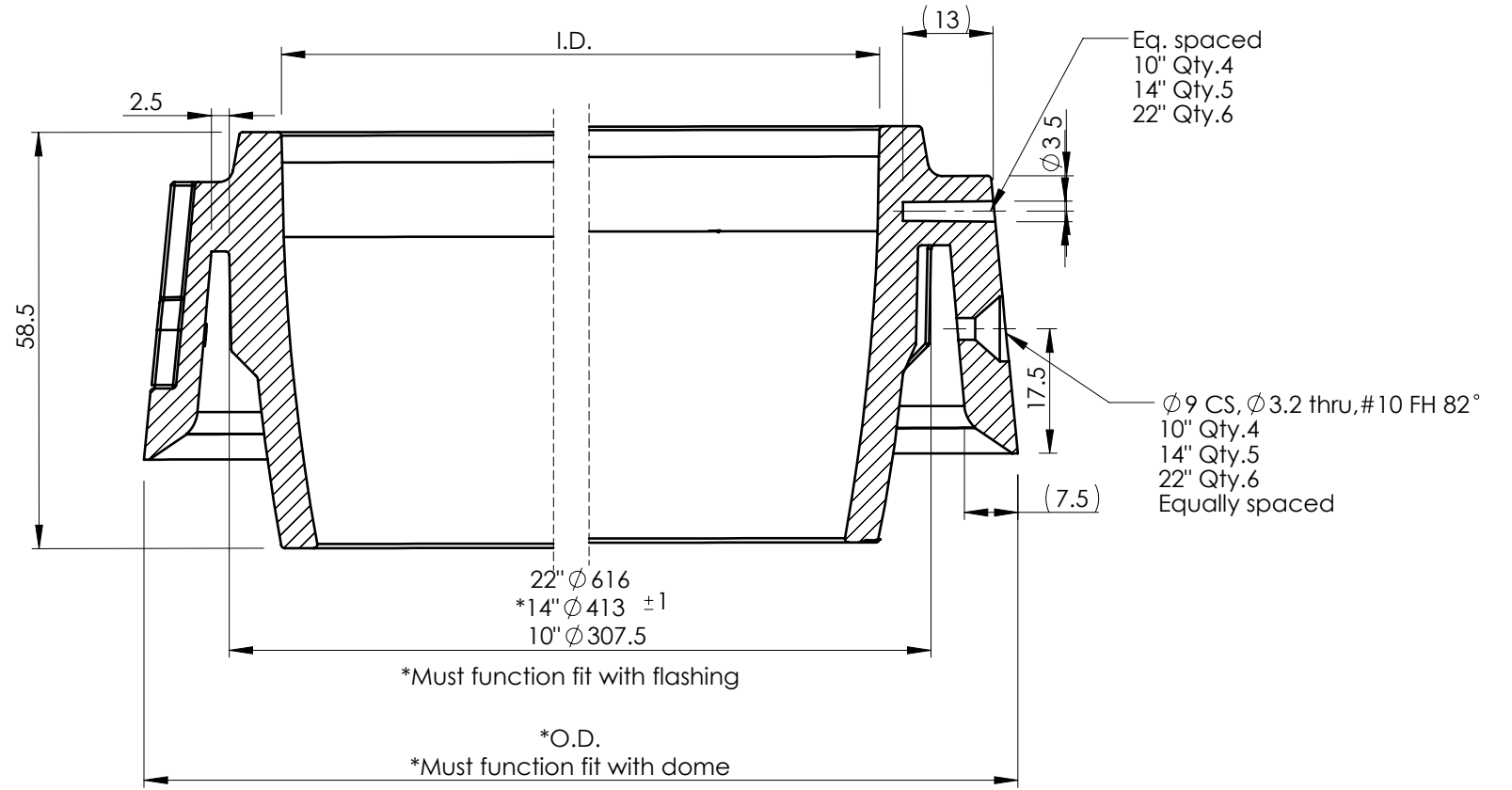
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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TGF/TGR/TMF/TMR			
Approvals				Intermediate ring, foam Placement drawing			
Checked by/drawn by/date /REC/27.04.2015				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance ±	Size B	Category 21	304230	000	51 05



Aligns with alignment tab for flashing. Must be visible.

Edition	Description of change	Date
02	Corrected O.D.	03/28/13
03	Changed ID and OD	04/04/13
04	Added surface finish spec.	04/15/13
05	Added view to better define 2.5mm dimension	04/25/13
06	Added function fit note, added new OD and ID measuring point	07/1/13
07	Increased depth of countersink, added visual alignment for flashing	09/18/13
08	Added the word "stabilizer" to material description	4/27/15



SECTION A-A
SCALE 1 : 1

Dia.	Part #	I.D.	O.D.
10"	30354610	Ø 296 ±1	Ø 331 ±1
14"	30354614	Ø 400 ±1	Ø 436 ±1
22"	30354622	Ø 601 ±1	Ø 640 ±1

Note: Surface finish to be SPI-C3

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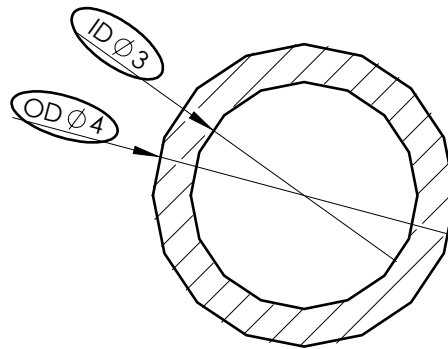
Material			
Black PP co-polymer +UV stabilizer			
VELUX SKY-PRS			
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals			
TMA-A			
Checked by/drawn by/date			
/REC/27.04.2015			
Scale	Unspec. meas.	General tolerance	Size
1:5	mm	±0.5	B

TGR/F/C, TMR/F/C and TCR

Intermediate ring
Commodity drawing

Product instructions no.					
Category	21	303546	000	00	08

Edition	Description of change	Date
06	Increased ID and OD by 1mm	11/11/13



Note:
 Acceptance of O'ring is dependent upon fit with the flashing and intermediate ring.
 To obtain length, cut O'ring and measure end to end.

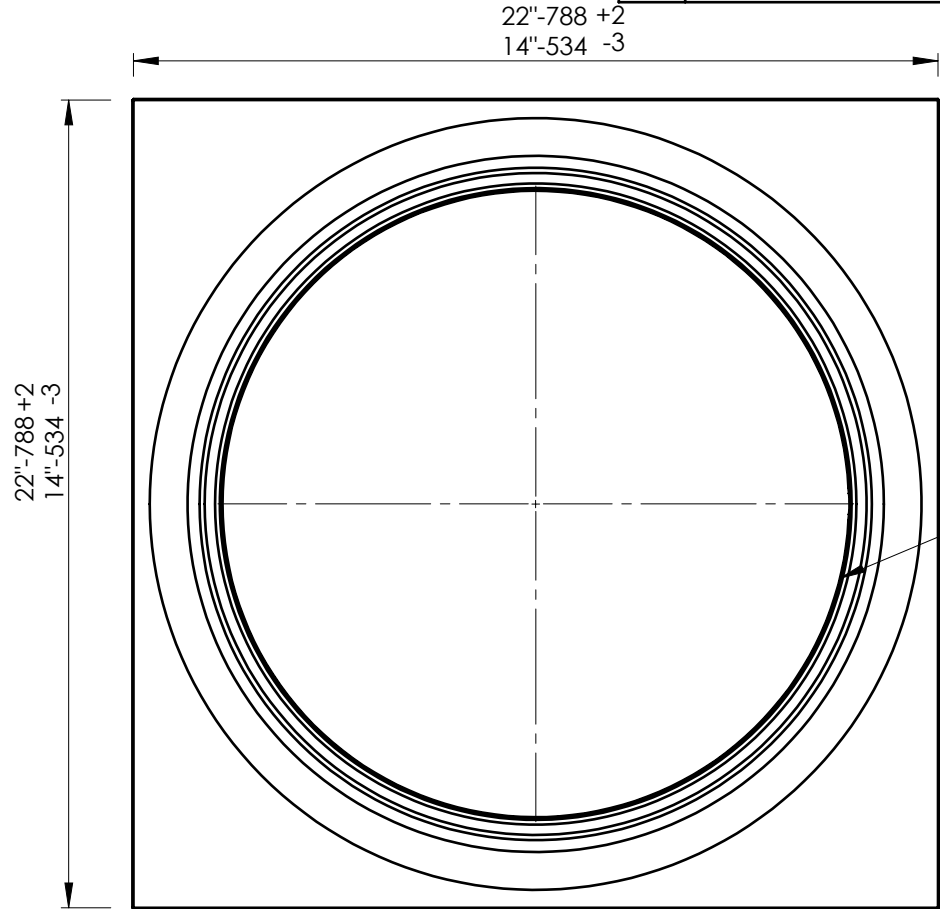
⊙
 1:1

Size	Cut length ⁺⁰ / _{-6.5}
10"	984.2
14"	1320.8
22"	1950.7

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Material				Specifications - generally						
Santoprene 101-64° (black color)				Material for TPE		309033.64				
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TG-, TM-						
Approvals TMA-A				Alignment O'ring Commodity drawing						
Checked by/drawn by/date /REC/11.11.2013				Product instructions no.						
Scale 10:1	Unspec. meas. mm	General tolerance See table	Size A	Category 21	303168	000	00	06	Operation	Edition

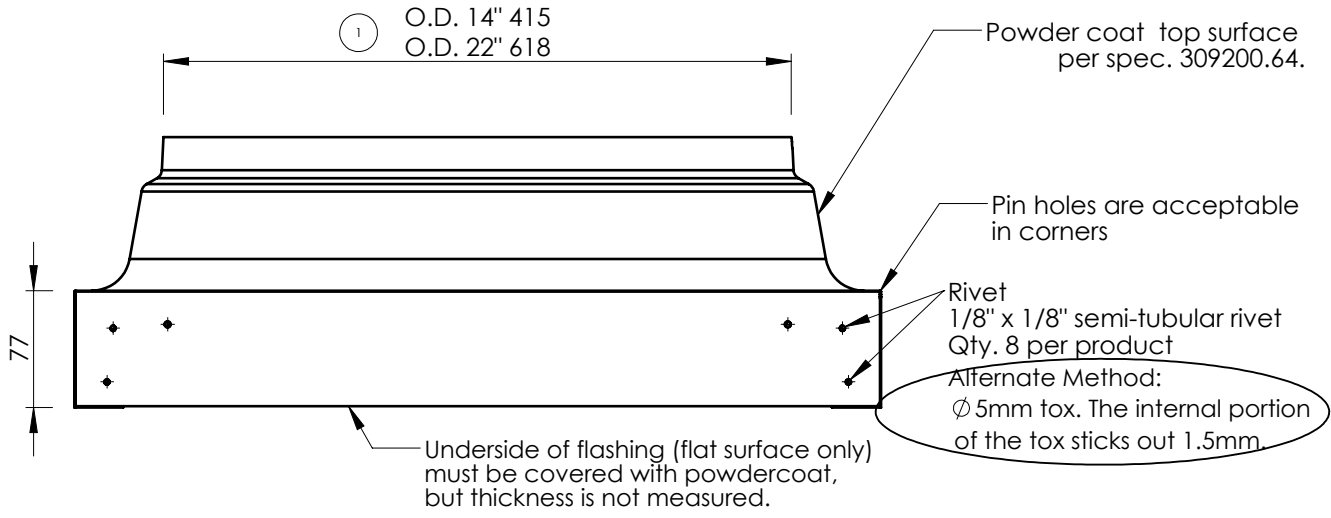
Edition	drawn by/checked by/date	Description of change
07	10/3/16	Added reference diameter dimensions
08	CBB/MM/6/7/21	Added O.D. control measure & note
09	MM/REC/1/3/22	Added Tox info



Note main inspection points:
*Fit and function between flashing,
O-ring and Intermediate ring

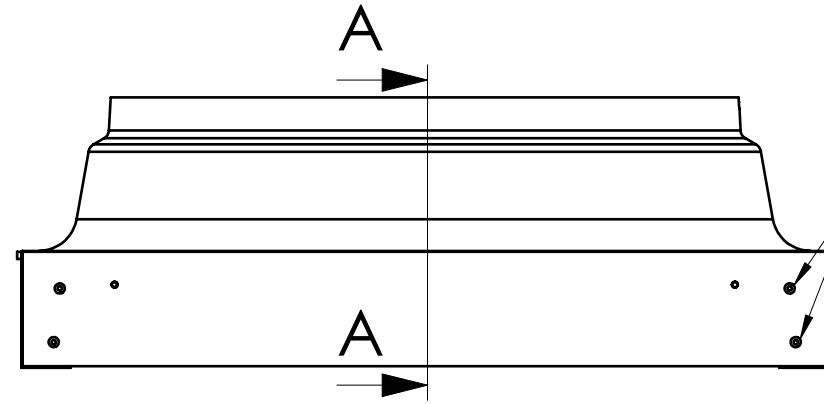
(14" I.D. 414.5)
(22" I.D. 617.5)

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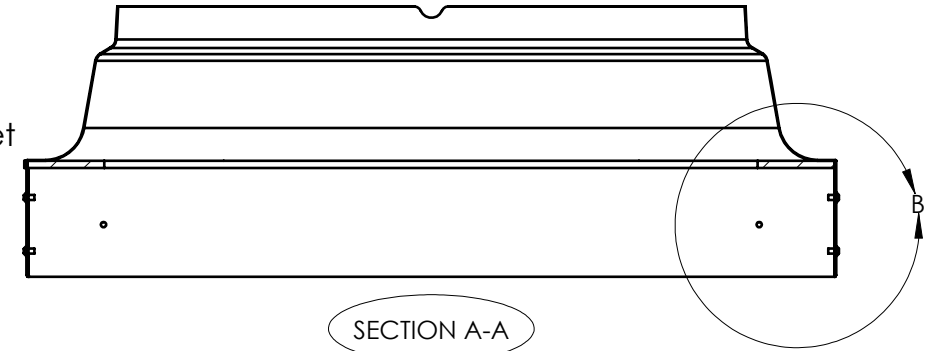


Material				Specifications - generally			
G-90 steel				Powder coating		309200.64	
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TCR/TCC 022, 014			
Approvals TMA-A				Low-profile flashing Forming drawing			
Checked by/drawn by/date /REC/03.10.2016				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance ±0.5	Size A	Category 21	302167	022	34 09

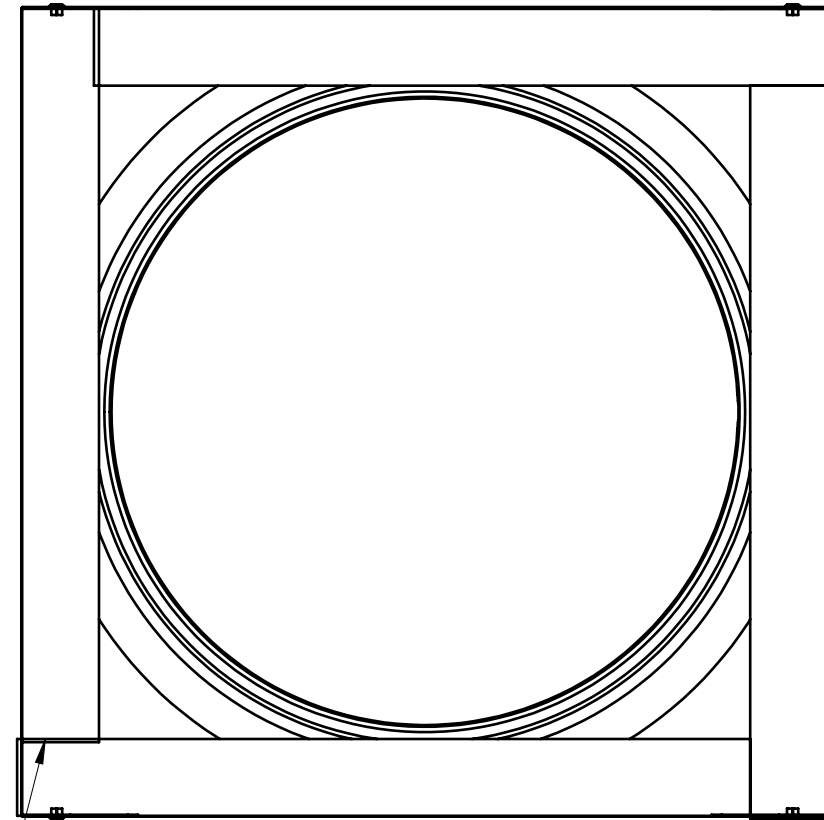
Edition	Description of change	Date
02	Added detail B and cross section A	7/25/18



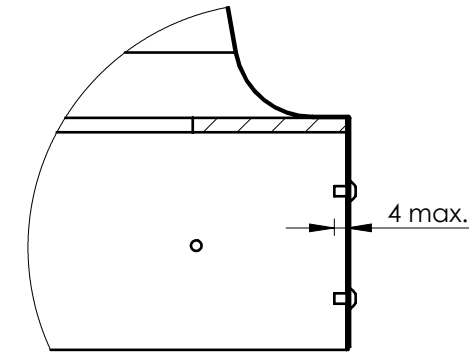
Rivet
1/8" x 1/8" semi-tubular aluminum rivet
Qty. 8 per product



SECTION A-A



Place curb foam gasket in a chasing pattern as shown. Gap tolerance ± 1

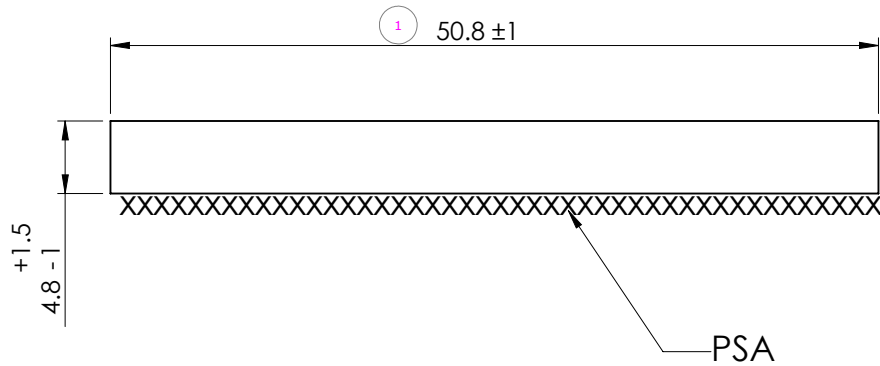


DETAIL B
SCALE 2 : 5

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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				Low profile flashing			
Approvals				Curb foam gasket and rivet placement Assembly drawing			
Checked by/drawn by/date BBK/CBB/25.07.2018				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance ± 1	Size B	Category 21	302167	0A0	52 02

Edition	drawn by/checked by/date	Description of change
09	CBB/MM/11/8/18	Added cert to approvals & VCS to title

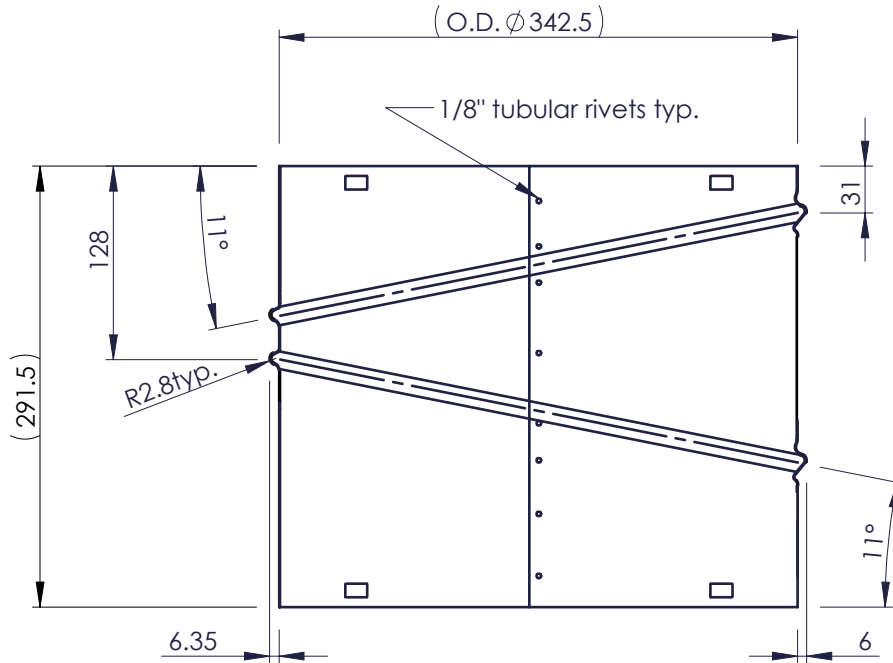


Size	Length ± 1
22	622
30	825
34	927
46	1231

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Material				Specifications - generally					
Closed cell PVC foam with PSA				Foam sealing material		309098.64			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648 Approvals TMA_A/Cert				Standards - generally					
				Symbol explanations		880006.68			
Checked by/drawn by/date /REC/27.02.2012				VCM/E(S)TCC/TCR Foam Commodity drawing					
				Product instructions no.					
Scale	Unspec. meas.	General tolerance	Size	Category	303200	000	00	09	
2:1	mm	±1	A	21					

Edition	Description of change	Date
02	Made O.D. a reference dimension	4/8/13
03	Added TMA-A/SI to approvals	8/6/13



Notes:

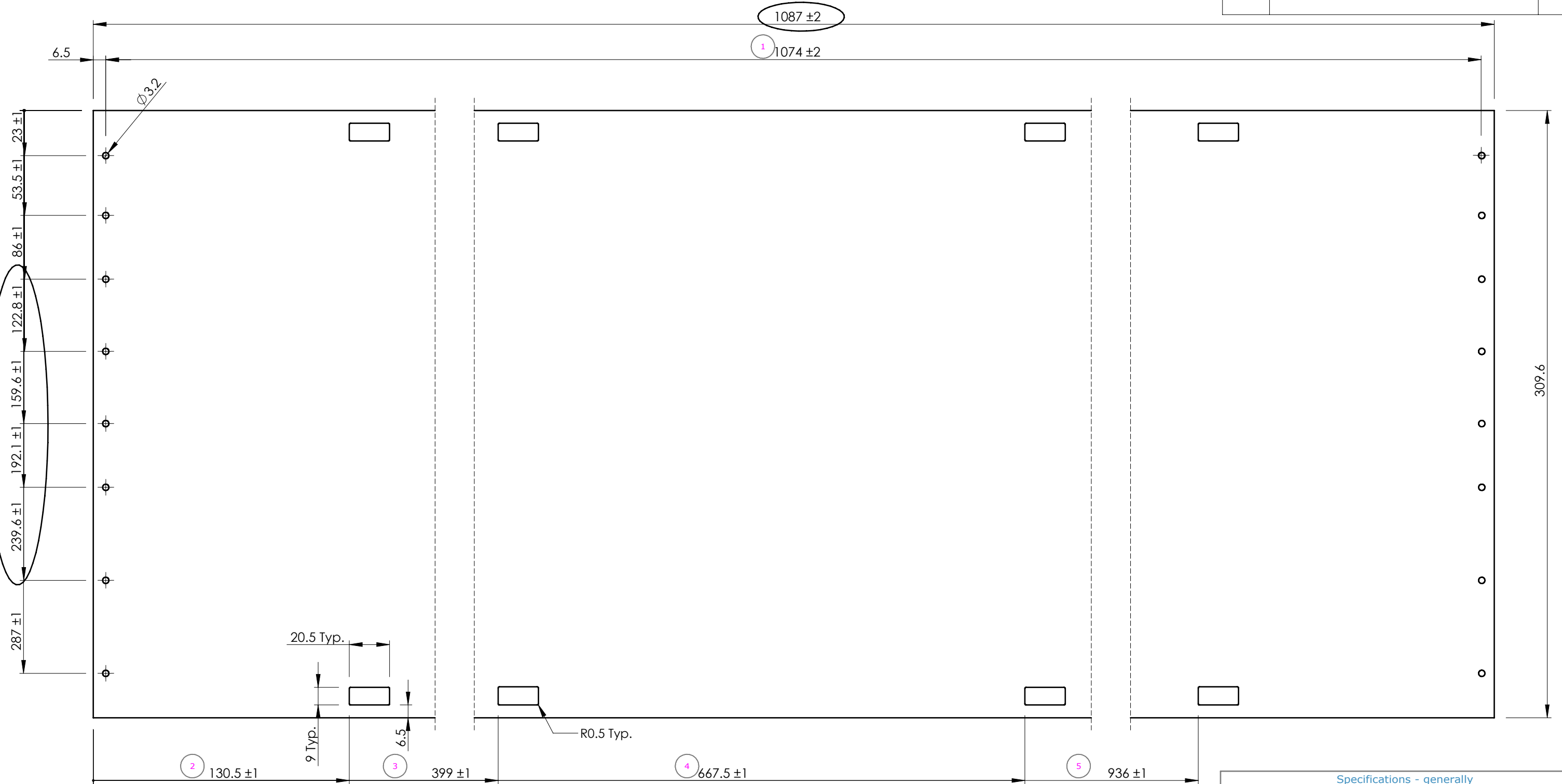
1. Elbow must be able to rotate and not easily pull apart.
2. Gore detail is determined by tooling provided by supplier.

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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TGR, TMR, TSR, TTK			
Approvals TMA-A/SI				14" Elbow			
Checked by/drawn by/date /REC/28.08.2013				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance ± 0.5	Size A	Category 21	304649	014	00 03

Edition	Description of change	Date
02	revised dimensions to match vendor supplied part	1/21/13

A21



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Strip width = 12.19"

VELUX SKY-PRS
 450 Old Brickyard Rd., Greenwood, South Carolina 29648

Approvals
 TMA-A

Checked by/drawn by/date
 /REC/28.08.2013

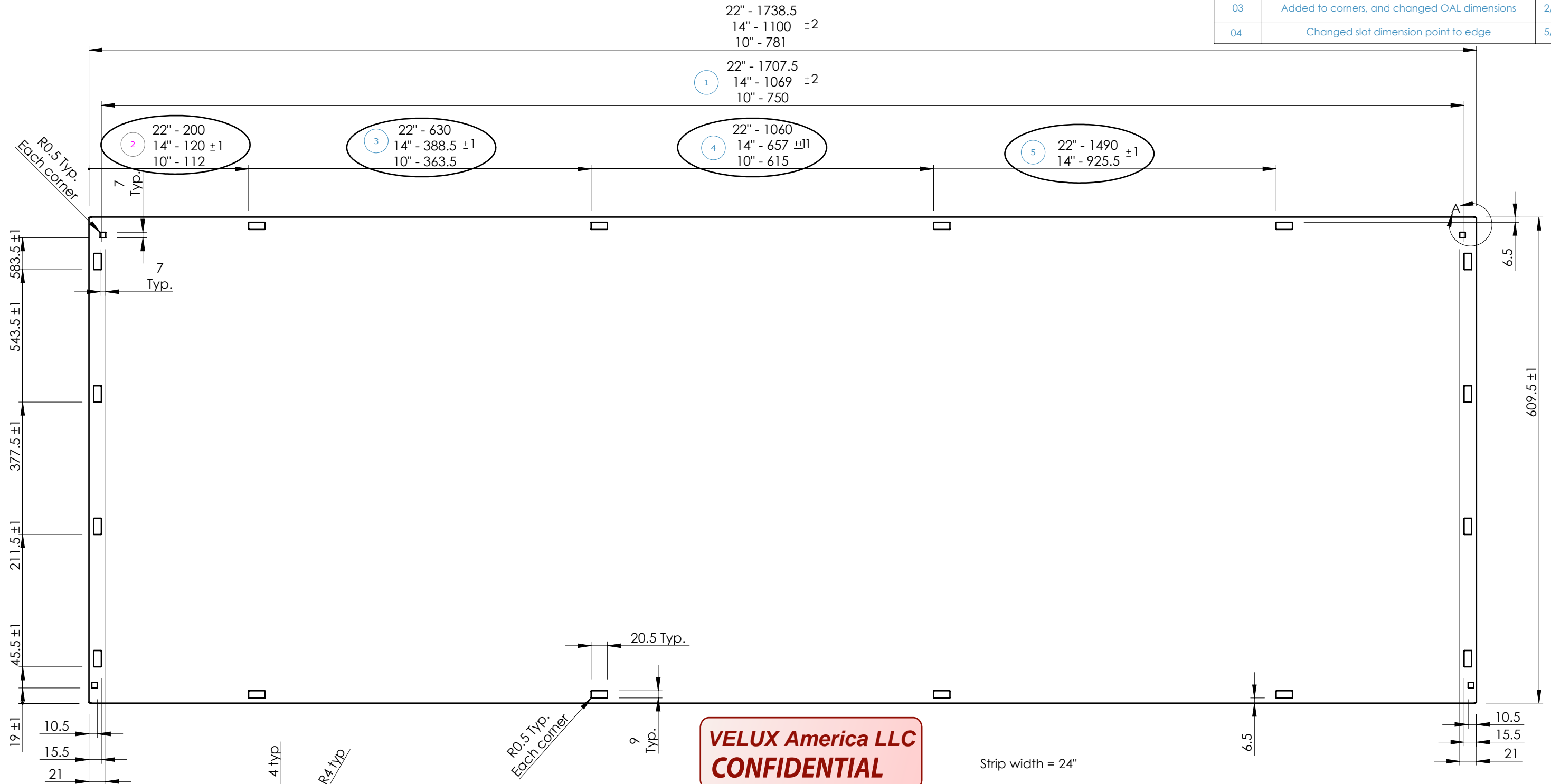
Scale	Unspec. meas.	General tolerance	Size
1:5	mm	±0.5	B

Specifications - generally
 High Reflectance Material for tubular 309048.64
 TGR, TMR, TSR, TTK

14" Elbow
Punching

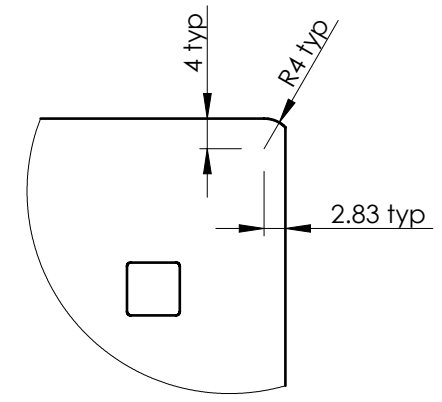
Product instructions no.				
Category			Operation	Edition
21	304649	014	52	02

Edition	Description of change	Date
02	Added rolled radius dimensions	1/16/13
03	Added to corners, and changed OAL dimensions	2/4/13
04	Changed slot dimension point to edge	5/9/18

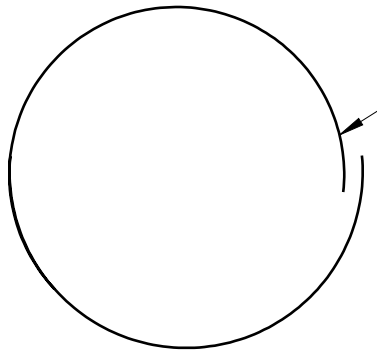


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Strip width = 24"



DETAIL A
SCALE 1:1

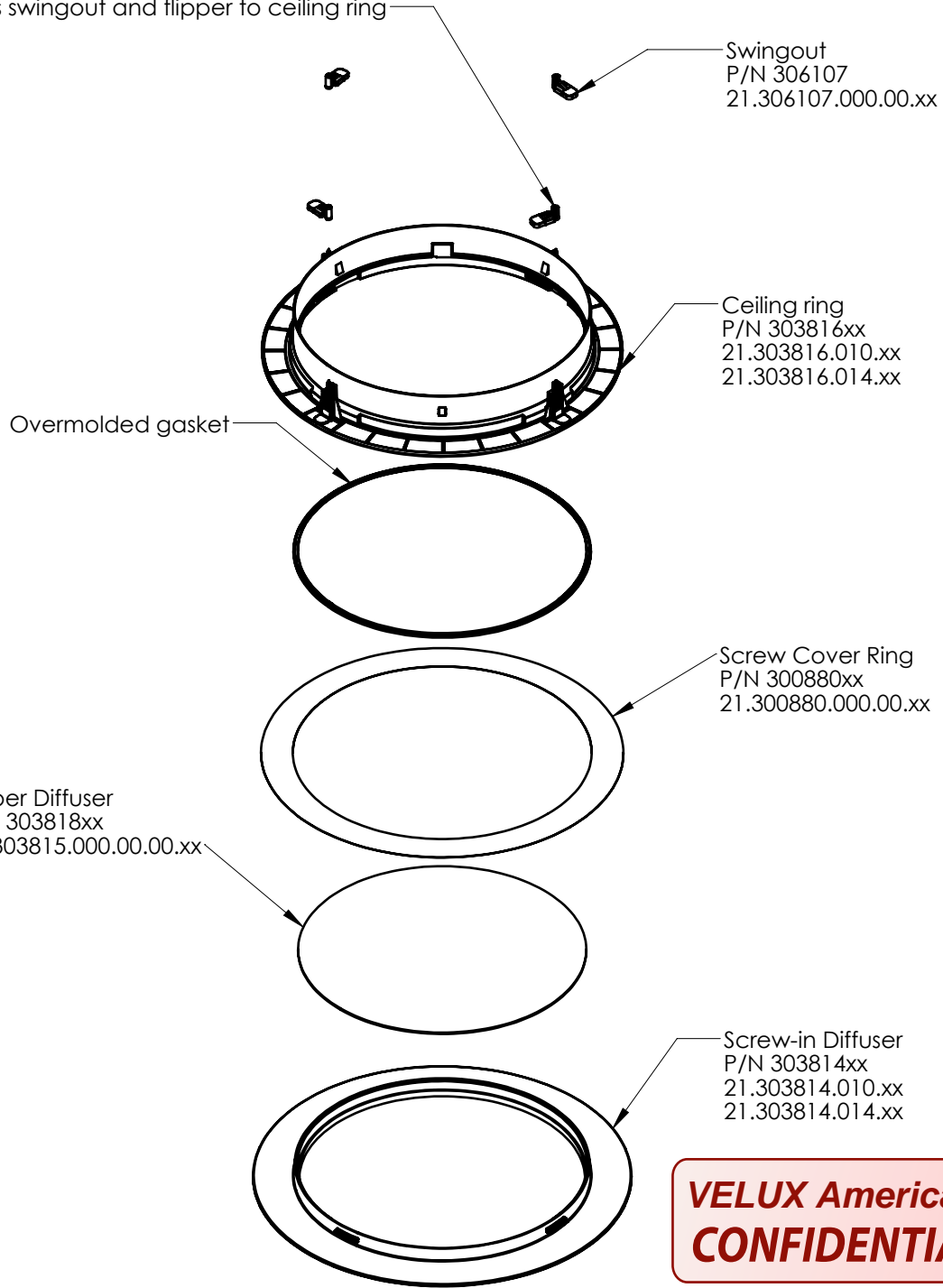


Roll to radius
R122mm 10"
R173mm 14"
R274mm 22"

Material				Specifications - generally			
.016" (.41mm) Aluminum				High Reflectance Material for tubular 309048.64			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TMR, TGR, TLR, TSR			
Approvals TMA-A				Tube Punching			
Checked by/drawn by/date /REC/09.05.2018				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance ±0.5	Size B	Category 21	304646	000	Operation Edition 52 04

Edition	drawn by/checked by/date	Description of change
02	MM/CBB/6/24/19	Added screw cover ring
03	MM/BBK/5/29/20	Updated drawing to show upper diffuser

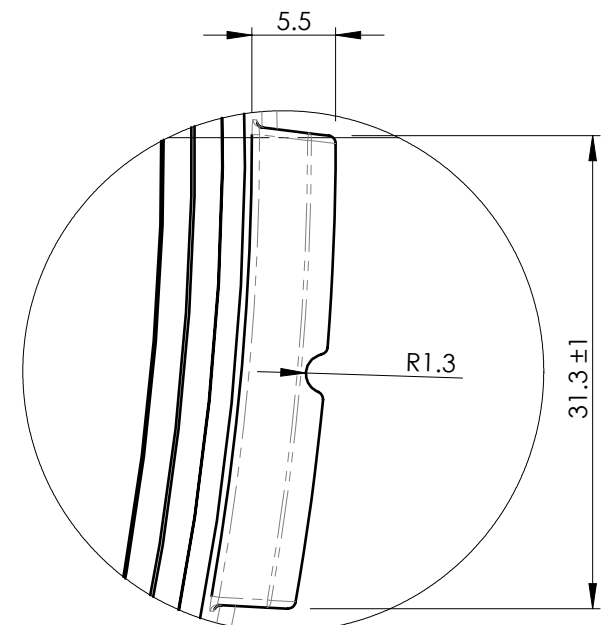
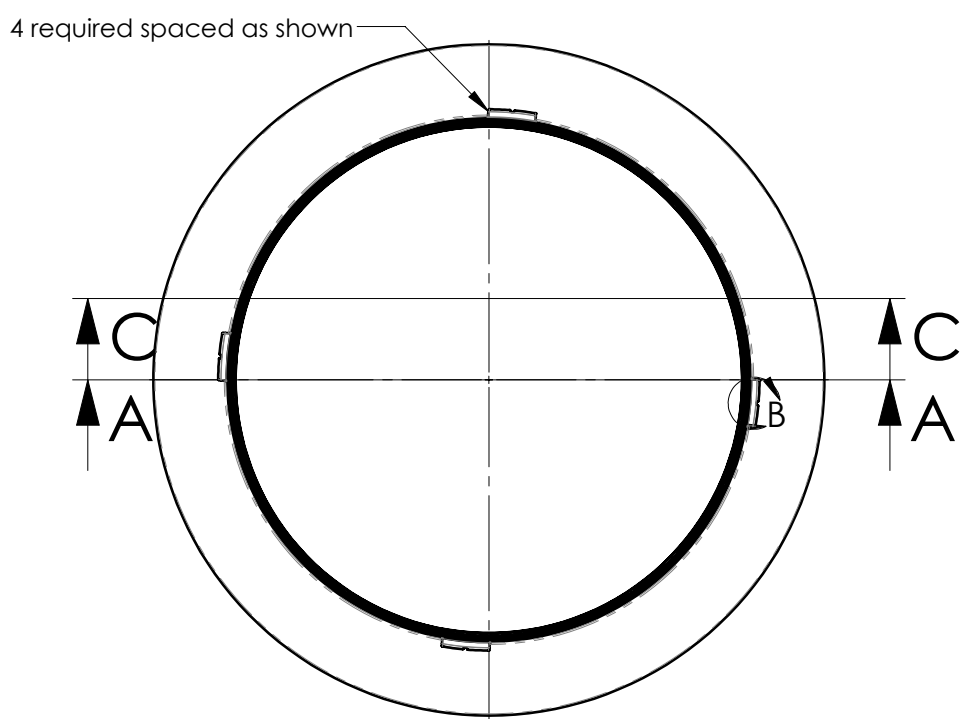
Placement of screw
P/N 306238
#8 Phillips drive screw, 2 1/4" length
pan head, mat'l - clear zinc.
Screw fastens swingout and flipper to ceiling ring



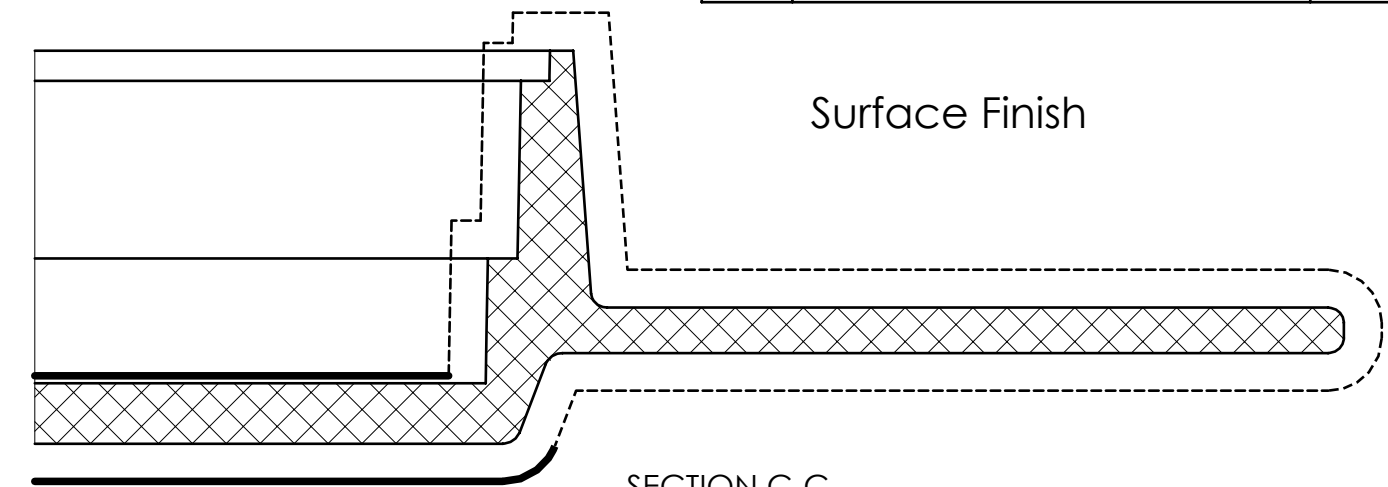
VELUX		SKY-PRS	
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals			
Checked by/drawn by/date		BBK/CBB/22.09.2017	
Scale	Unspec. meas.	General tolerance	Size
1:8	mm	± 0.5	A

<u>ST13-G</u>			
Ceiling diffuser complete Part assembly drawing			
Product instructions no.			
Category	304836	000	51 03
21			

Edition	Description of change	Date
02	Changed height and surface finish	6/19/18

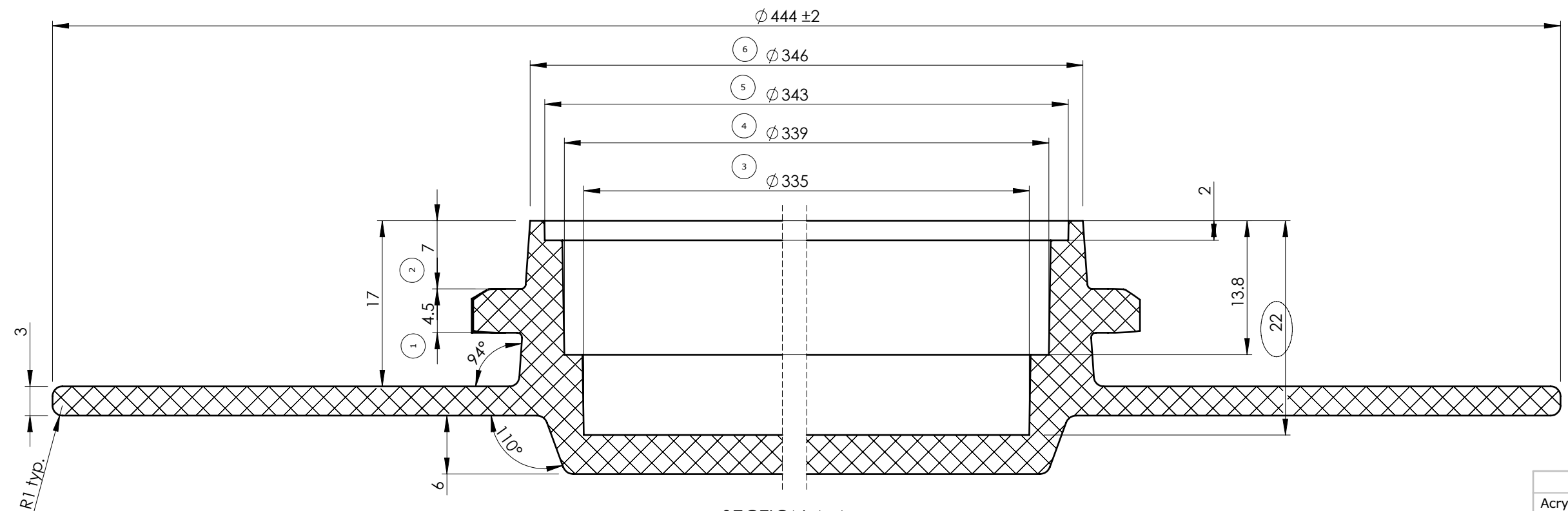


DETAIL B
SCALE 2 : 1



SECTION C-C
SCALE 2 : 1

----- = MT 11006
 ————— = SFI A-2



SECTION A-A
SCALE 2 : 1

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Notes:
 1. Manufacture of tooling is by supplied digital file from VELUX greenwood inc. 30381414.01.sldprt
 2. Acceptance of part is dependant upon fit and function with ceiling ring.

Material			
Acrylic			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals TMA-A			
Checked by/drawn by/date BBK/CBB/19.06.2018			
Scale 1:5	Unspec. meas. mm	General tolerance ±0.5	Size B

Specifications - generally				
Acrylic	309038.64			
Standards - generally				
Symbol explanations	880006.68			
ST13-G				
14" Screw-in Diffuser Commodity drawing				
Product instructions no.				
Category	21	303814	014	00
Edition	02			

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina	Drawn up by: BJB	Date: 12/11/2017	Page: 1/3		
	PRODUCT INSTRUCTION NO.				
<u>MATERIAL SPECIFICATION</u> Plastic material for injection molded tubular skylights components (domes and diffusers).	Classification: A	Cat	Commodity No.	Opr.	Ed.
	Copy to:	2 1	3 0 9 0 3 8	6 4	0 2

1. General description

1.1 Material:

An ACRYLIC with good optical clarity, brilliance and dimensional stability, such as Arkema Plexiglas HFI7 or equivalent.

1.2 Application:

The material is used to allow light to travel through the tubular skylight and prevent air and debris from entering the interior space of the room.

1.3 Applicable codes:

Exposed interior ceiling component must meet Class C requirements of ASTM E-84.

2. Properties

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2.1 Material properties:

No.	Testing	VELUX requirements	Testing acc. to
1	Ultimate Tensile Strength	> 68 MPa	ASTM D-638
2	Specific Gravity	1.17 ±.2	ASTM D-792
3	Flexural Modulus	> 3.0 GPa	ASTM D-790
4	Notched Izod Impact 23°C	> 30 J/m (.6 ft-lb/in)	ASTM D-256
5	Hardness Rockwell M	65 ± 5	ASTM D-785
6	Refractive Index N _D @ 73°C	1.49 ± 0.05	ASTM D-542
7	Light Transmission	91 ± 2 %	ATSM D-1003
8	Water Absorption after 24 h submersion	Max 0.4%	ASTM D-570
9*	Standard Rate of Burning	CC1 or CC2	ASTM D635
10*	Self-Ignition Temperature	Min 343 °C	ASTM D1929
11*	Smoke Density rating or Smoke Developed Index	Max 75 rating or Max 450 index	ASTM D2843 or ASTM E-84

*= Required for ceiling mounted components.

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina	Drawn up by:	Date:	Page:		
	BJB	12/11/2017	2/3		
<u>MATERIAL SPECIFICATION</u> Plastic material for injection molded tubular skylights components (domes and diffusers).	Classification:	PRODUCT INSTRUCTION NO.			
	A	Cat	Commodity No.	Opr.	Ed.
	Copy to:	2 1	3 0 9 0 3 8	6 4	0 2

2.2 Thermal Properties

	Properties	VELUX requirements	Testing acc. to
1	Softening temperature (Vicat B/50)	> 80 °C	ASTM D1525
2	Stability of shape method A (1.8 MPa)	> 80 °C	ASTM D648

2.3 Liquid resistance

No attack of the following after 1 hour of influence

- 3% aqua ammonia
- 3% acid of vinegar
- 3% chlorine water
- 3% liquid soft soap
- 100% sulphonic soap
- 98% alcohol, benzene, turpentine

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3. Technical Material Approval

The supplier must along with a sample forward documentation for the properties mentioned under point 2. Information for the supplier: The tests mentioned under point 3.1 and 3.2 are carried out by and at VELUX in accordance with the internal VELUX procedure.

3.1 Process related requirements:

It must be possible to use the product in the customer's production plant without any remarks from the customer.

3.2 Product related requirements:

No.	Testing	VELUX requirements	Testing acc. to
1	UV-resistance	Max. 50% reduction of tensile strength	1000h QUV-A. Samples according to DS/EN ISO 527-2
2	UV-resistance	Change of Color max $\Delta E^*_{ab} 7$	168h QUV-A

<p align="center">VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina</p>	Drawn up by: BJB	Date: 12/11/2017	Page: 3/3		
<p><u>MATERIAL SPECIFICATION</u> Plastic material for injection molded tubular skylights components (domes and diffusers).</p>	Classification: A	PRODUCT INSTRUCTION NO.			
	Copy to:	Cat	Commodity No.	Opr.	Ed.
	2 1	3 0 9 0 3 8	6 4	0 2	

4. General Requirements

4.1 Accept from Supplier:

A supplier cannot deliver to the customer before the requirements in the material specification are certified in writing as accepted.

4.2 Change of Product:

The supplier informs the customer in writing about changes in the composition of the material, including the effect of such changes.

4.3 Documentation:

If required from the purchase department, the supplier shall be able to forward documentation for the properties of point 2 in a certificate or otherwise.

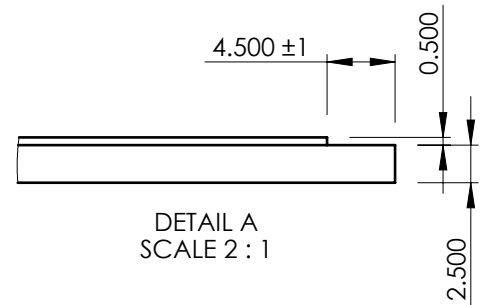
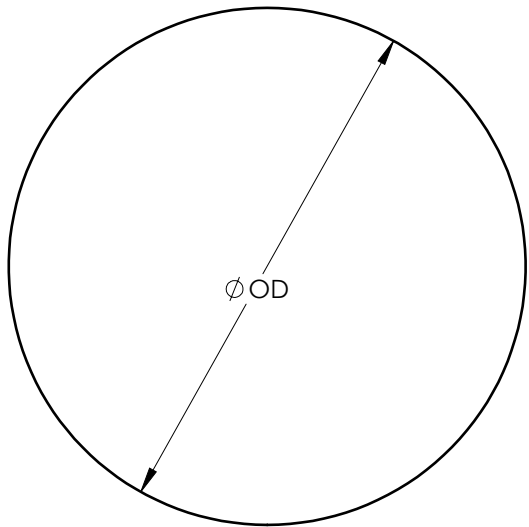
5. Delivery

Delivery per agreement with the purchasing department.

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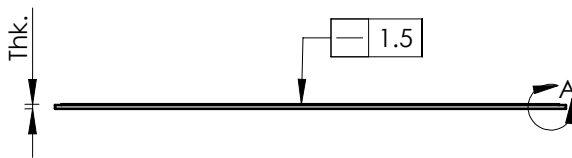
Edition	drawn by/checked by/date	Description of change
04	CBB/BBK/12/10/19	Added frosted 3mm part numbers
05	CBB/BBK/01/16/20	Added new lines for 3mm thickness
05	CBB/BBK/10/01/20	Added detail on milled edges

Size	OD mm/(in)	Thk. mm/(in)	Clear(Cl) P/N	Frosted(F) 2mm P/N	Frosted(F) 3mm P/N	Crackle(Cr) P/N	Prismatic (P) P/N
10" middle	236 (9.291")	1.5 (0.059")	30381510	--	--	30381910	--
14" middle	338 (13.307")	1.5 (0.059")	30381514	--	--	30381914	--
10" upper	241 (9.488")	2 (0.079")	--	30381810	--	--	--
14" upper	342 (13.465")	2 (0.079")	--	30381814	--	--	--
10" upper	241 (9.488")	3 (0.118")	--	--	32003610	--	--
14" upper	342 (13.465")	3 (0.118")	--	--	32003614	--	--
10" pivot ring lens	243 (9.567")	1.5 (0.059")	30382010	--	--	--	30382110
14" pivot ring lens	375 (14.764")	1.5 (0.059")	30382014	--	--	--	30382114



DETAIL A
SCALE 2 : 1

Note:
Edges are to be milled down to 2.5mm only on 320036xx.



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Material			
Acrylic			
VELUX		SKY-PRS	
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals TMA-A			
Checked by/drawn by/date BBK/CBB/19.04.2018			
Scale 1:5	Unspec. meas. mm	General tolerance ±0.3	Size A

Specifications - generally					
Material for clear diffuser		309038.64			
Specifications - generally					
Material for prismatic diffuser		309050.64			
Specifications - generally					
Material for frosted diffuser		309049.64			
Standards - generally					
Symbol explanations		880006.68			
ST13-G					
Diffuser					
Commodity Drawing					
Product instructions no.					
Category				Operation	Edition
21	303815	000	00	06	

VELUX Greenwood Inc. 450 Old Brickyard Road - Greenwood - South Carolina		Drawn up by: REC	Date: 4/29/2014	Page: 1/3
<u>MATERIAL SPECIFICATION</u> Acrylic material for tubular skylights diffuser Frosted		PRODUCT INSTRUCTION NO.		
Copy to:		Cat 2 1	Commodity No. 3 0 9 0 4 9	Opr. 6 4
			Ed. 0 3	

**VELUX America LLC
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1. General description

1.1 Material:

An Acrylic with good optical clarity, brilliance, and dimensional stability.

1.2 Application:

The material is used to diffuse light that travels through the opening of tubular skylights

1.3 Applicable codes:

Exposed interior ceiling component must meet Class C requirements of ASTM E-84.

2. Properties

2.1 Material properties:

No.	Testing	VELUX requirements	Testing acc. to
1	Tensile Strength at Yield	> 68 MPa	ASTM D638
2	Flexural Modulus	> 3.0 GPa	ASTM D790
3	Izod Impact, Milled Notched +73°F 6.4-mm sample	Min. 0.10 J/cm	ASTM D256
4	Specific Gravity	1.19 ± 2	ASTM D792
5	Refractive Index N_D @ 73°C	> 1.49	ASTM D542
6	Light Transmission	Min > 86	ASTM D1003
7	Water Absorption after 24 h submersion	Max 0.4%	ASTM D570
8	Standard Rate of Burning	CC1 or CC2	ASTM D635
9	Self-Ignition Temperature	Min 343 °C	ASTM D1929
10	Smoke Density rating or Smoke Developed Index	Max 75 rating or Max 450 index	ASTM D2843 or ASTM E-84

VELUX Greenwood Inc. 450 Old Brickyard Road - Greenwood - South Carolina		Drawn up by: REC	Date: 4/29/2014	Page: 2/3
<u>MATERIAL SPECIFICATION</u> Acrylic material for tubular skylights diffuser Frosted		PRODUCT INSTRUCTION NO.		
		Cat	Commodity No.	Opr.
Copy to:		2 1	3 0 9 0 4 9	6 4
			Ed.	0 3

2.2 Thermal Properties

	Properties	VELUX requirements	Testing acc. to
1	Softening temperature (Vicat B/50)	Min 104 °C	ASTM D1525
2	Stability of shape method A (1.8 MPa)	95°C	ASTM D648
3	Max. application temp.	Min. 77 °C	
4	Coefficient of linear expansion 23 °C	$\leq 7.5 \times 10^{-5}$ per mm/mm/°C	ASTM D-696

2.3 Liquid resistance

No attack of the following after 1 hour of influence

- 3% aqua ammonia
- 3% acid of vinegar
- 3% chlorine water
- 3% liquid soft soap
- 100% sulphonic soap
- 98% alcohol, benzene, turpentine

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3. Technical Material Approval

The supplier must along with a sample forward documentation for the properties mentioned under point 2. Information for the supplier: The tests mentioned under point 3.1 and 3.2 are carried out by and at VELUX in accordance with the internal VELUX procedure.

3.1 Process related requirements:

It must be possible to use the product in the customer's production plant without any remarks from the customer.

3.2 Product related requirements:

No.	Testing	VELUX requirements	Testing acc. to
1	UV-resistance (Pending)	Max. 50% reduction of tensile strength	1000h QUV-A. Samples according to DS/EN ISO 527-2
2	UV-resistance (Pending)	Change of Color max E* _{ab} 7	168h QUV-A

<p align="center">VELUX Greenwood Inc. 450 Old Brickyard Road - Greenwood - South Carolina</p>	Drawn up by: REC	Date: 4/29/2014	Page: 3/3		
<p><u>MATERIAL SPECIFICATION</u></p> <p>Acrylic material for tubular skylights diffuser Frosted</p>	Copy to:	PRODUCT INSTRUCTION NO.			
		Cat	Commodity No.	Opr.	Ed.
		2 1	3 0 9 0 4 9	6 4	0 3

4. General Requirements

4.1 Accept from Supplier:

A supplier cannot deliver to the customer before the requirements in the material specification are certified in writing as accepted.

4.2 Change of Product:

The supplier informs the customer in writing about changes in the composition of the material, including the effect of such changes.

4.3 Documentation:

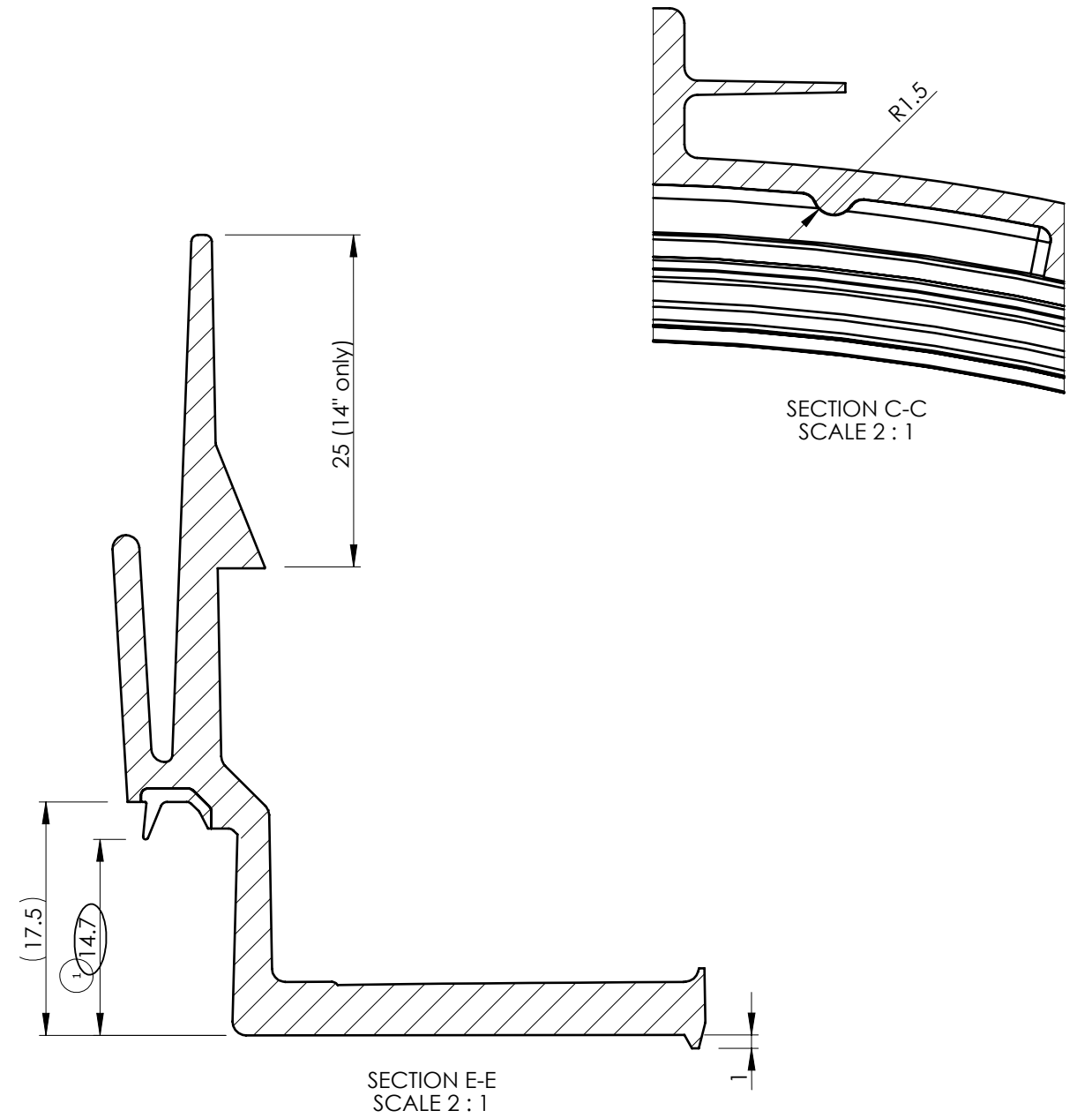
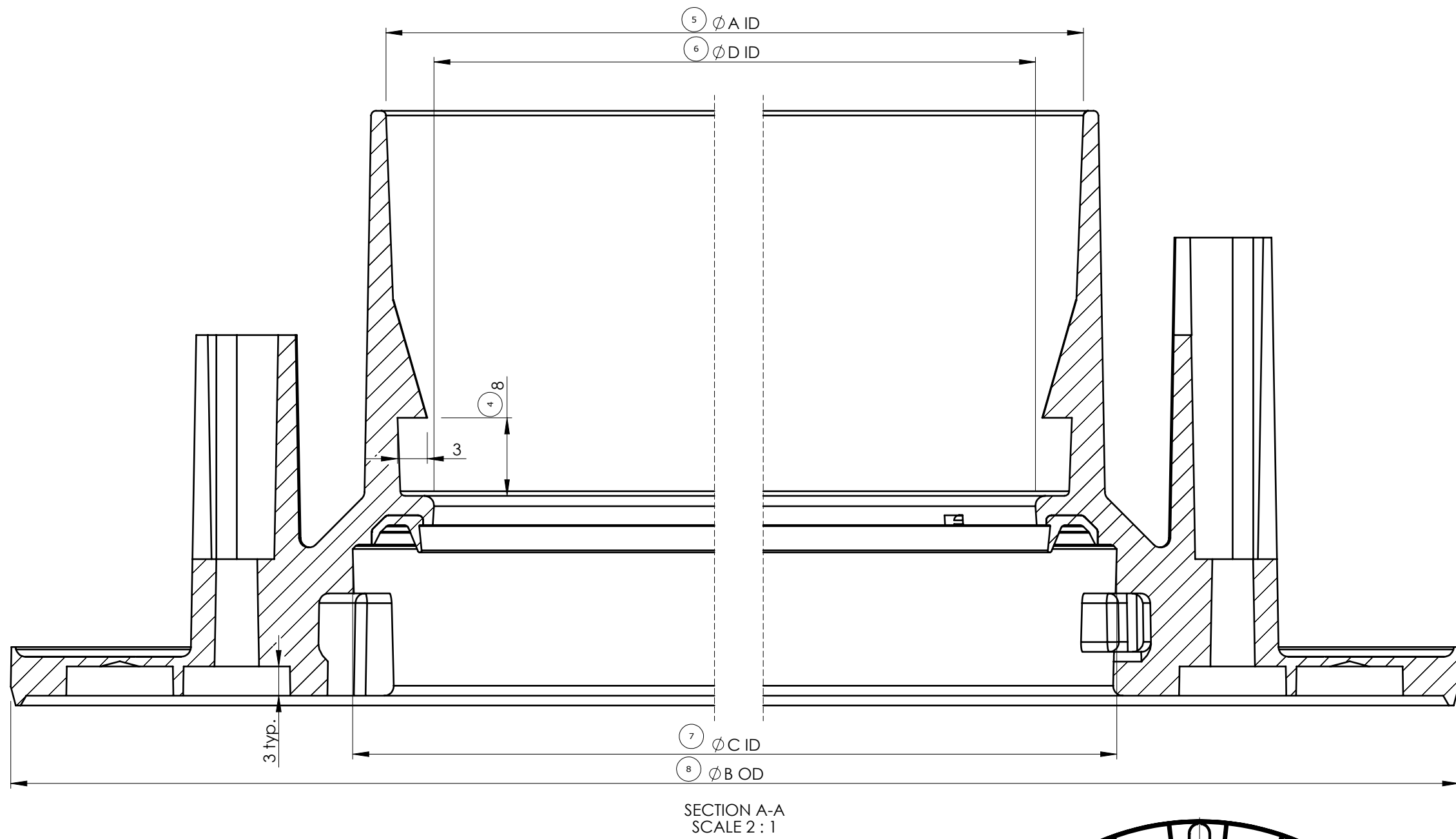
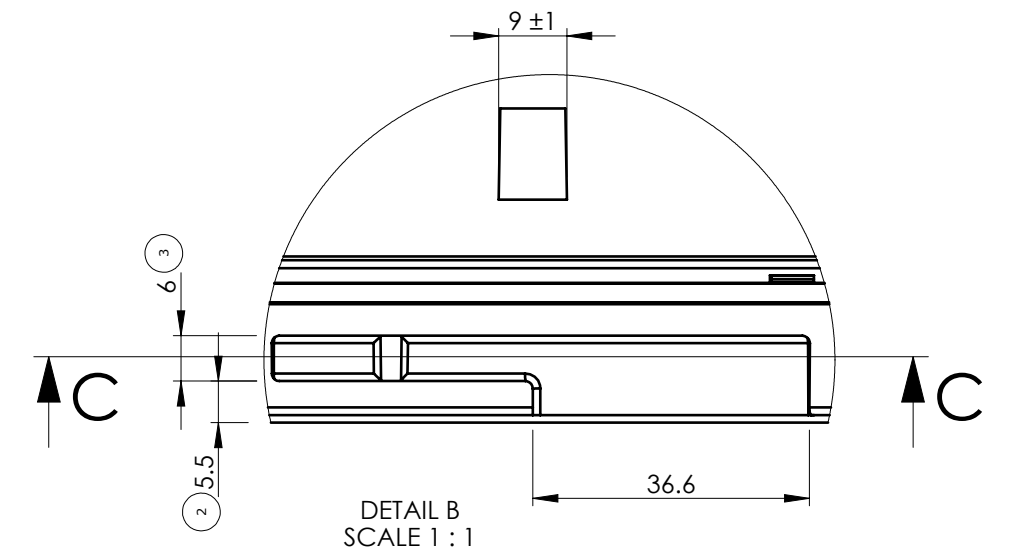
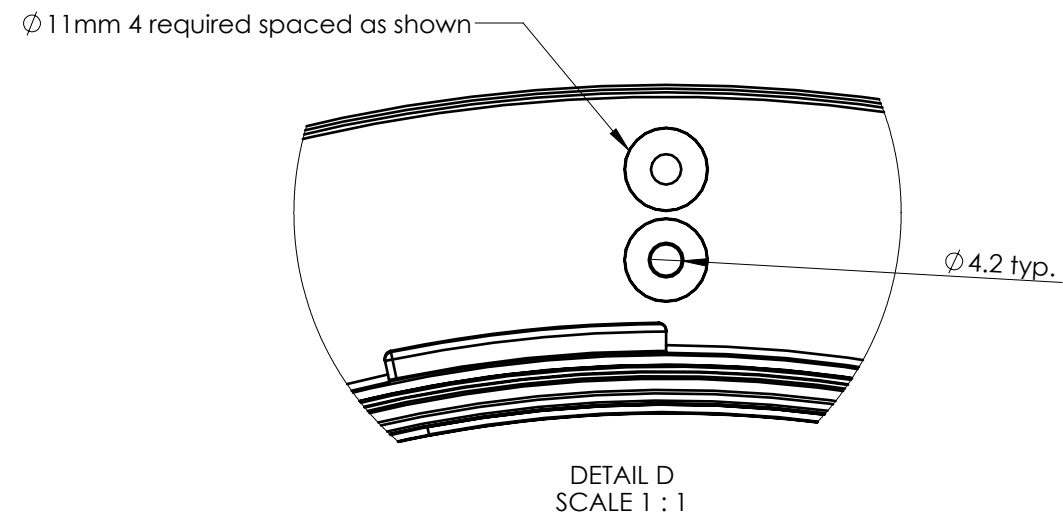
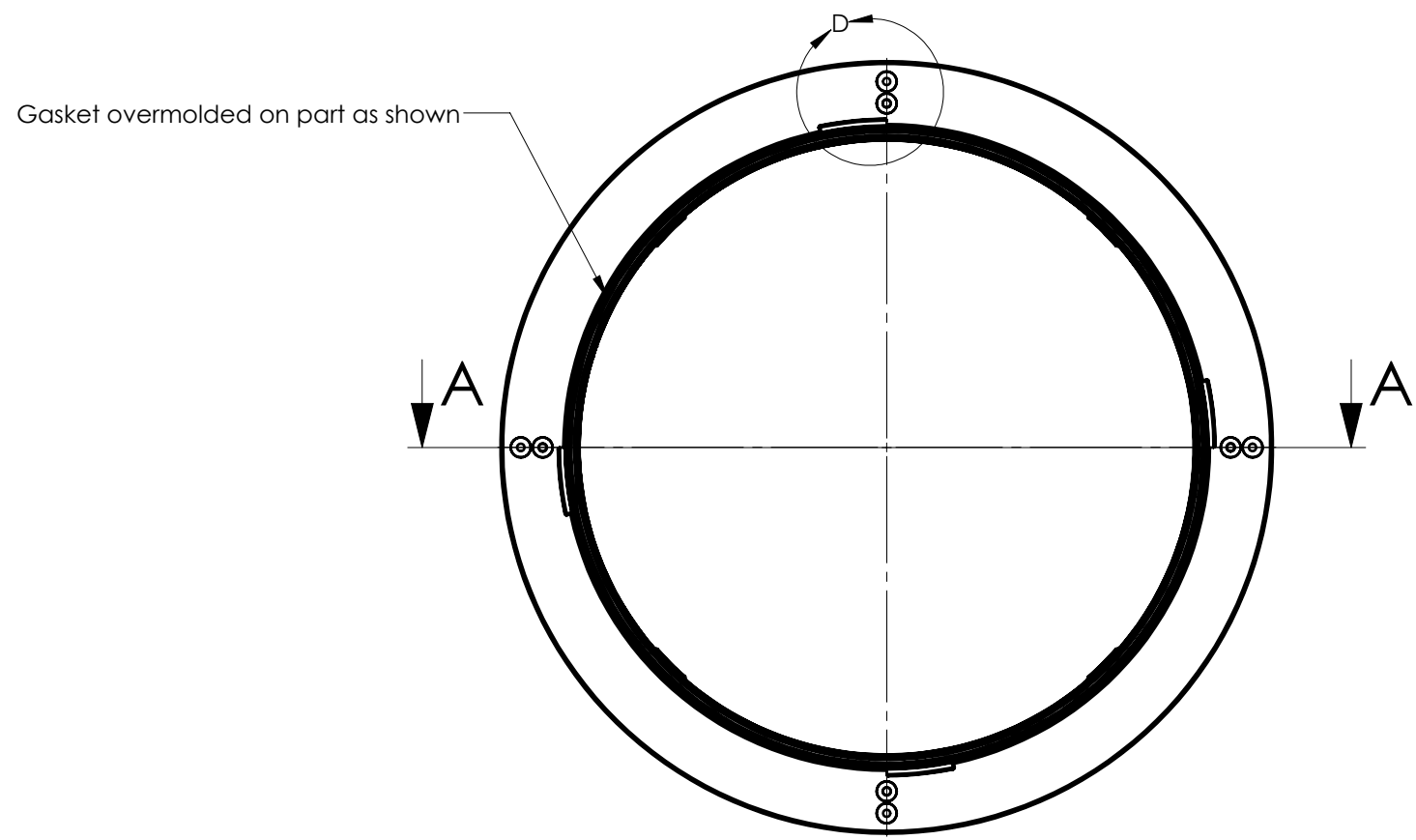
If required from the purchase department, the supplier shall be able to forward documentation for the properties of point 2, in a certificate or otherwise.

5. Delivery

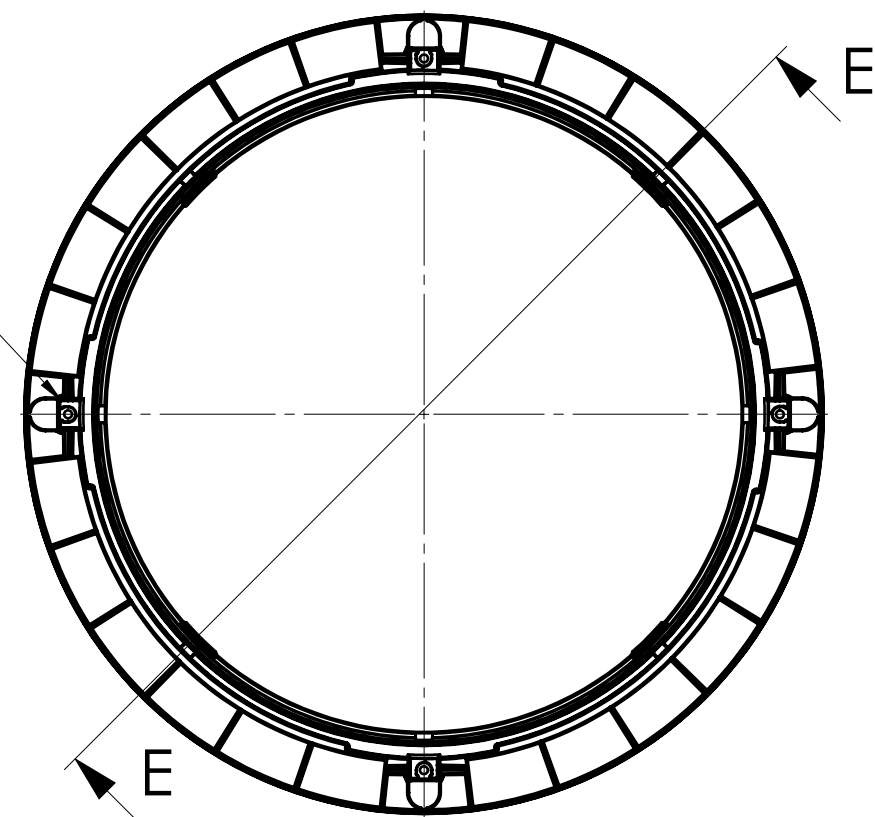
Delivery according to agreement with the purchasing department.

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Edition	drawn by/checked by/date	Description of change
02	MM/REC/2/1/22	Updated overmolded gasket detail



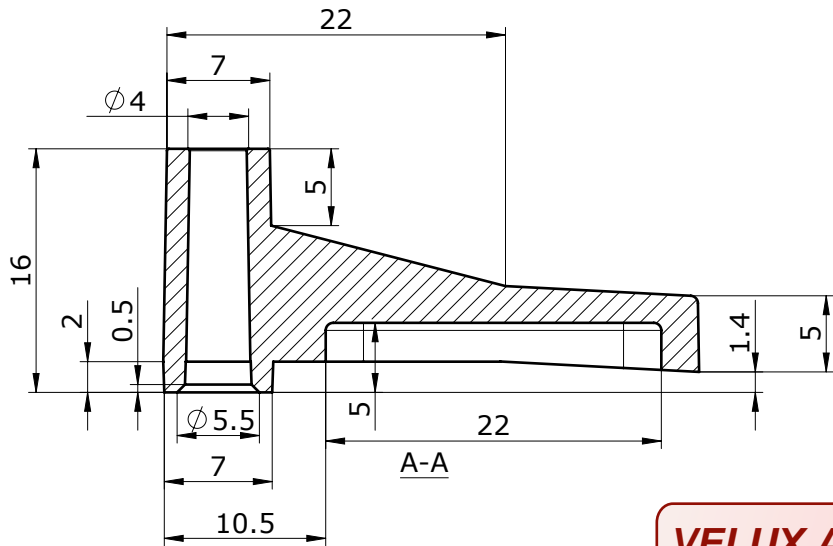
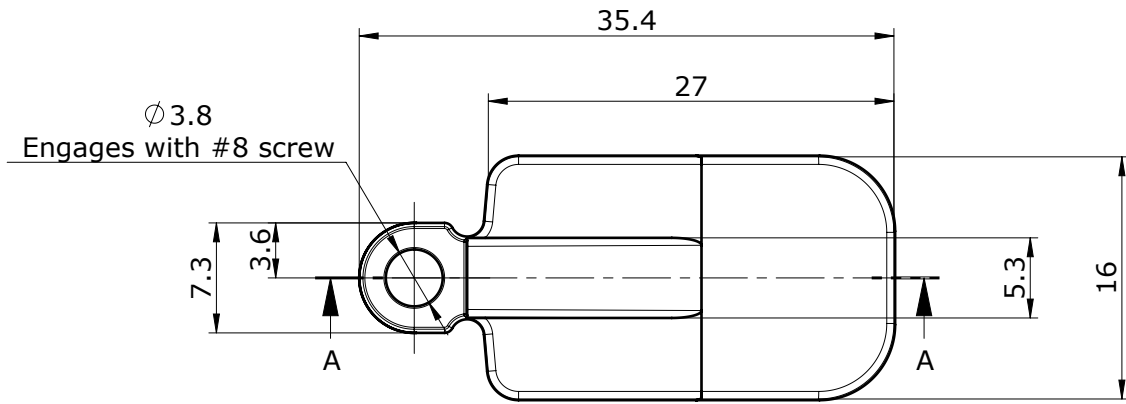
Size	Ø A ±0.5	Ø B ±0.5	Ø C ±0.3	Ø D ±0.5
14"	346	423	352.8	336



- NOTES:
1. Manufacture of tooling is by supplied digital file from VELUX greenwood inc. 30381614.01.SLDPR1.
 2. Surface finish to be SPI C-3
 3. Acceptance of part is dependent upon fit and function with the screw-in diffuser. (30381414)

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Material				Specifications - generally			
Ceiling Ring: White ABS				Ceiling Ring: White ABS			
VELUX SKY-PRS				309043.64			
450 Old Brickyard Rd., Greenwood, South Carolina 29648				Standards - generally			
Approvals				Symbol explanations			
TMA-A				880006.68			
Checked by/drawn by/date				ST13-G			
BBK/CBB/29.11.2017				14" Ceiling Ring			
Scale				Commodity drawing			
1:4	Unspec. meas.	General tolerance	Size	Product instructions no.			
mm		±0.5	C	Category	21	303816	014
				Operation	00	02	02



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Note:
Swingout must move freely inside ceiling ring

Material										
White - nylon 10% glass										
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TGR/TGF/TMR/TMF/TLR/TCR/TLR/TSR						
Approvals				Swingout Commodity drawing						
Checked by/drawn by/date /REC/30.03.2011				Product instructions no.						
Scale 2:1	Unspec. meas. mm	General tolerance ±.5	Size A	Category 21	306107	000	00	03	Operation	Edition



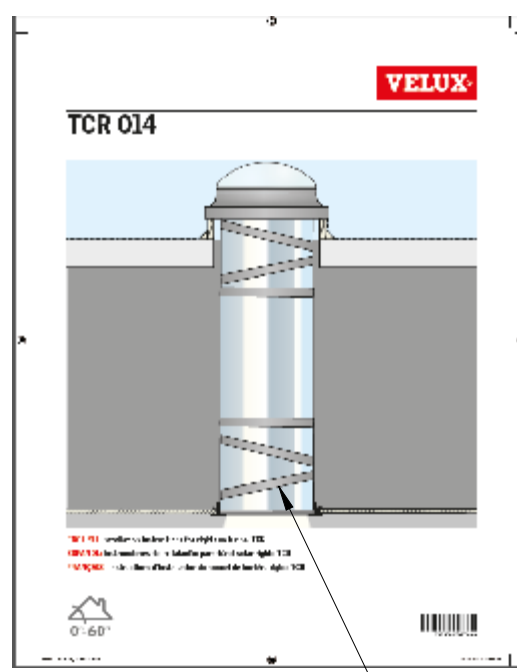
Ziplock poly bag
P/N 303404



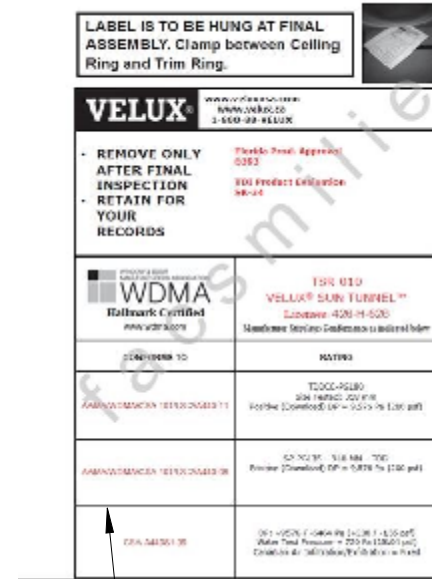
Aluminum tape
P/N 30469336
21.309066.64.xx



Flexi loc clips
P/N 304672
21.304417.000.63.xx

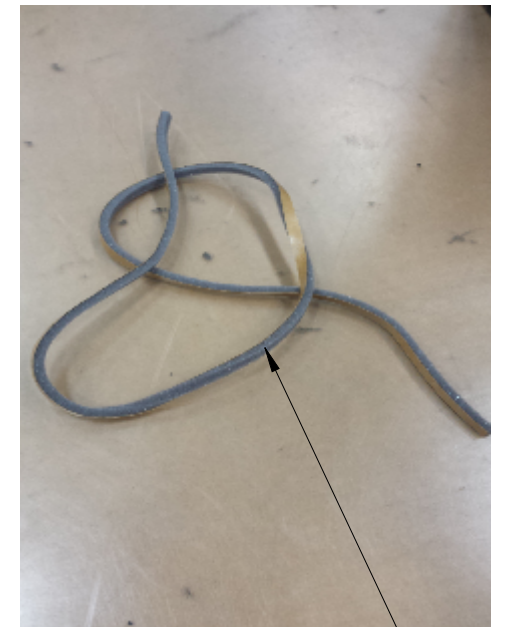


TCR 014 instructions
P/N 454063
21.454063.000.00.xx

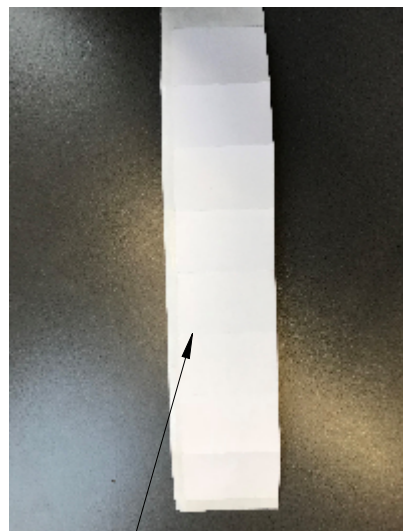


Label with ratings data
on orange paper
P/N 445416

Edition	Description of change	Date
02	Added foam gasket, label, and updated instructions	6/8/18



Foam gasket
P/N 303519
21.303519.000.00.xx



Cover tape
P/N 306242



Bag of dome screws
P/N 304484
21.304417.000.63.xx



Bag of screws for tubes
P/N 304174
21.304417.000.63.xx



Mounting fastener bag
P/N 304011
21.304417.000.63.xx



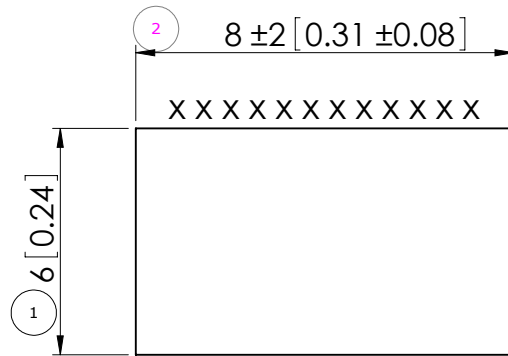
Bag of screws for stung
P/N 304420
21.304417.000.63.xx

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VELUX				SKY-PRS	
450 Old Brickyard Rd., Greenwood, South Carolina 29648					
Approvals					
Checked by/drawn by/date BBK/CBB/05.06.2018					
Scale 1:1	Unspec. meas. mm	General tolerance ±	Size B		

ST13-G TCR 014				
Beipack Assembly drawing				
Product instructions no.				
Category 21	304845	000	52	02

Edition	Description of change	Date
03	Changed width from 11mm to 8mm	2/1/16



Note: Maximum nominal width 1/2" or 12.7mm

x x x = PSA attached

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Material				Specifications - generally						
Polyurethane foam (open-cell) with PSA				Vinyl glazing tape		309086.64				
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>T-R, T-C, & THR</u>						
Approvals TMA-A				Pivot ring foam gasket Commodity drawing						
Checked by/drawn by/date /REC/01.02.2016				Product instructions no.						
Scale 1:10	Unspec. meas. mm	General tolerance ±1	Size A	Category 21	303519	000	00	03	Operation	Edition

VELUX Greenwood Inc.

Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina

Drawn up by:

RC

Date:

10.11.06

Page:

1/2

MATERIAL SPECIFICATION**Aluminum Tape for Fixation of Skylight Tubing**

Classification:

A

PRODUCT INSTRUCTION NO.

Cat

Commodity No.

Opr.

Ed.

Copy to:

2 1

3 0 9 0 6 6

6 4

0 1

1. General description**1.1 Material:**

Aluminium foil tape with liner.

1.2 Application field:

The tape is used to create a seal between seams on tubing material.

**VELUX America LLC
CONFIDENTIAL****2. Properties****2.1 Material properties:**

No.	Properties	VELUX requirements	Testing acc. to
1	Tensile Strength	$\geq 20 \text{ N / 10-mm}$	ASTM D 3715M
2	Attachment	$\geq 3.8 \text{ N / 10-mm on SS}$	ASTM D 3330M
3	Thickness	0.109-mm ± 0.03	ASTM D 3652M
4	Elongation	Max 4%	ASTM D 3715M
5	Thermal Stability	-15°C – 65°C	

The international standards mentioned are the standards valid at the time of issue of this specification.

3. Technical Material Approval

The supplier must along with a sample forward documentation for the properties mentioned under point 2. Information for the supplier: The tests mentioned under point 3.1 and 3.2 are carried out by and at VELUX in accordance with the internal VELUX procedure.

3.1 Process related requirements:

It must be possible to use the product in the customer's production plant without any remarks from the customer.

3.1.1 Application:

The tape is applied and must be able to be cut with a standard hand operated dispenser.

VELUX Greenwood Inc. Drawing Office - 450 Old Brickyard Road - Greenwood - South Carolina		Drawn up by: RC	Date: 10.11.06	Page: 2/2
<u>MATERIAL SPECIFICATION</u> Aluminum Tape for Fixation of Skylight Tubing		Classification: A	PRODUCT INSTRUCTION NO.	
		Copy to:	Cat 2 1	Commodity No. 3 0 9 0 6 6

3.2 Product requirements:

No.	Properties	VELUX requirements	Testing acc. to
1	UV (Pending)	After exposure the tape must remain intact.	Tape attached to the metal mentioned in the requirements is exposed for 4 hours to UV-B light 313 nm
2	Heat and humidity (Pending)	After exposure the tape must remain intact.	Tape attached to the metal mentioned in the requirements is exposed for 72 hours in 60°C and 50% RH
3	Cold (Pending)	After exposure the tape must remain intact.	Tape attached to the metal mentioned in the requirements is exposed for 24 h at -20°C.

4. General Requirements

4.1 Accept from Supplier:

A supplier cannot deliver to the customer before the requirements in the material specification are certified in writing as accepted.

4.2 Change of Product:

The supplier informs the customer in writing about changes in the composition of the material, including the effect of such changes.

Submission of information will in no way imply a limitation in the supplier's responsibility for any defect or deficiency of the material.

4.3 Documentation:

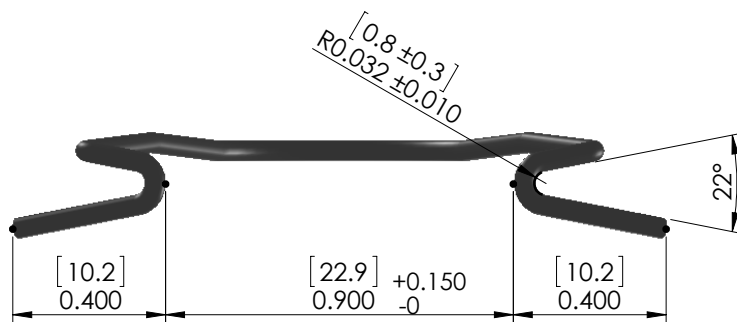
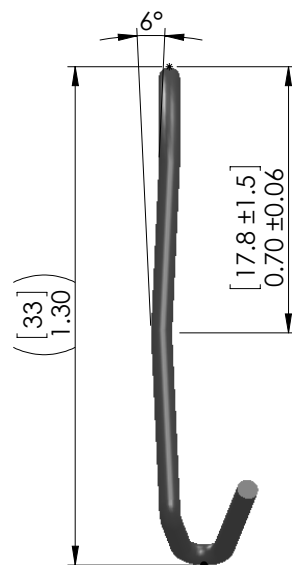
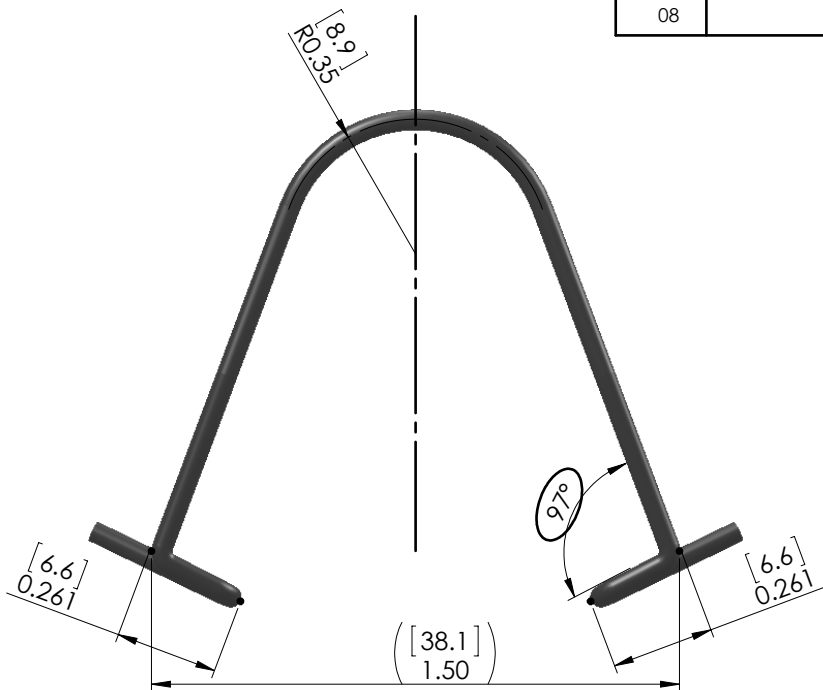
If required from the purchase department, the supplier shall be able to forward documentation for the properties of point 2., in a certificate or otherwise.

5. Delivery

Delivery according to agreement with the purchase department.



Edition	Description of change	Date
04	Added SI to the approvals	8/6/13
05	Revised tol. for .900 dim. & changed .38 to .400	11/18/13
06	Added material back to drawing	2/27/14
07	Added dual dimensions	5/21/14
08	97° angle was 90°	7/16/14



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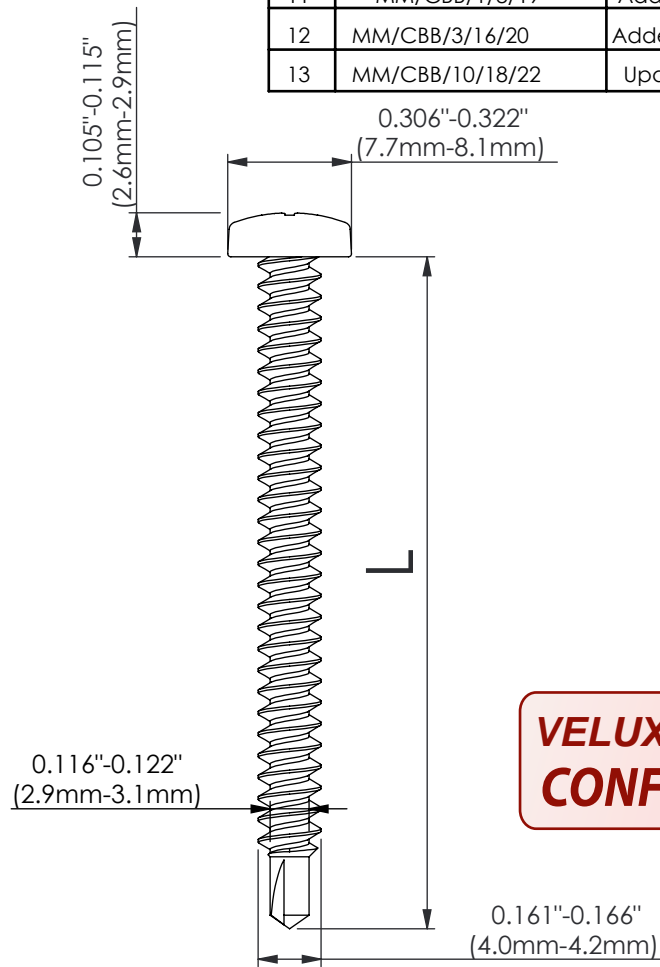
General angle tolerance $\pm 3^\circ$



Material							
302 spring tempered stainless steel (\varnothing 1.4mm)							
VELUX		SKY-PRS		TMR, TGR, TLR, TTK, ZTE, ZTR			
450 Old Brickyard Rd., Greenwood, South Carolina 29648				Pull Clip			
Approvals				Product instructions no.			
TMA-A/SI							
Checked by/drawn by/date				Category			
/REC/16.07.2014				21			
Scale		Unspec. meas.		General tolerance		Size	
2:1		inches		$\pm .025"/.6mm$		A	
				302329		000	
				00		08	

Edition	drawn by/checked by/date	Description of change
11	MM/CBB/1/8/19	Added material specs
12	MM/CBB/3/16/20	Added new screw
13	MM/CBB/10/18/22	Updated screw spec

NOTE:
Phillips #2 drive



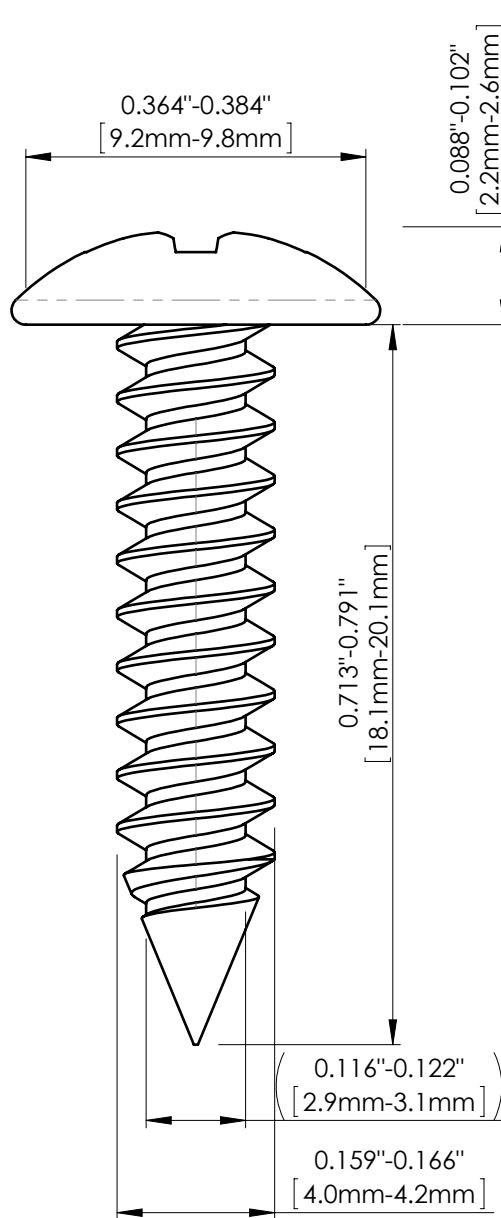
**VELUX America LLC
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Part number	L	Drill point
306056	1.5" ±0.05" (36.8mm-39.4mm)	#3
306081	2" ±0.05" (49.5mm-52.07mm)	#3
306136	1.75" ±0.05" (43.18mm-45.72mm)	#3
306140	0.5" ±0.05" (12.5mm-14mm)	#3
320096	.75" ±0.10" (16.5mm-21.6mm)	#2

VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				Material	
				18-8 Stainless steel, black	414010.64
Approvals TMA-A/SI/Cert				Screw (Type BSD) Pan head with self drill point #8	
Checked by/drawn by/date /RC/16.03.2020				Commodity drawing	
Scale 2:1				Product instructions no.	
Unspec. meas. mm	General tolerance ± 0.5	Size A	Category 21	306056	000 00 13

Edition	Description of change	Date
05	Added TMA-A/SI approvals	8/7/13
06	Added material specification chart	7/7/17

Phillips Redess T1 DR2



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VELUX SKY-PRS
450 Old Brickyard Rd., Greenwood, South Carolina 29648

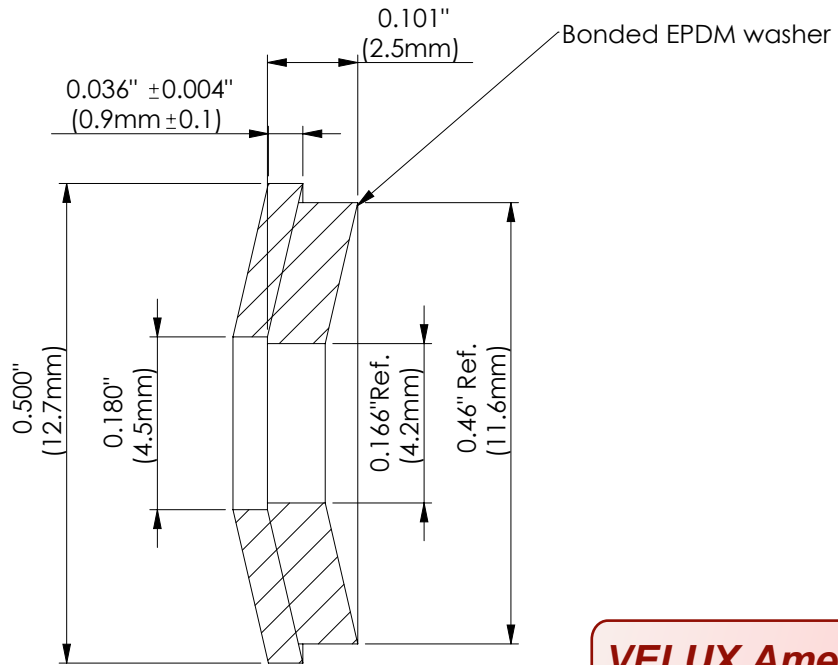
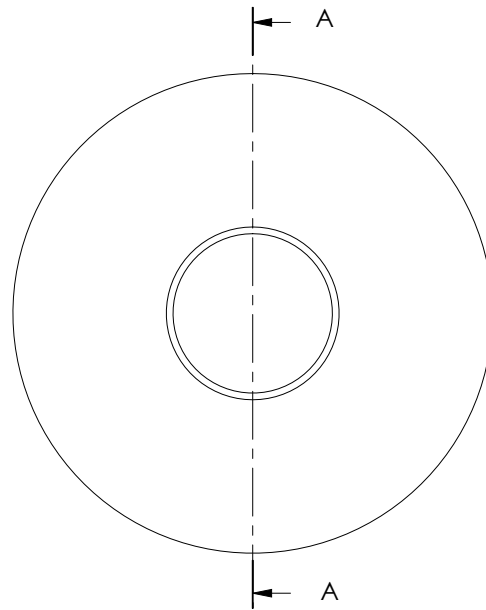
Approvals
TMA-A/SI

Checked by/drawn by/date
/CB/07.07.2017

Scale 2:1	Unspec. meas. mm	General tolerance ±.05	Size A
--------------	---------------------	---------------------------	-----------

Specifications - generally				
Stainless Steel Screw		414010.64		
<u>Truss head screw</u>				
#8 X 3/4 1/1 SS Phillips				
Product instructions no.				
Category	21	306119	000	00 06

A21

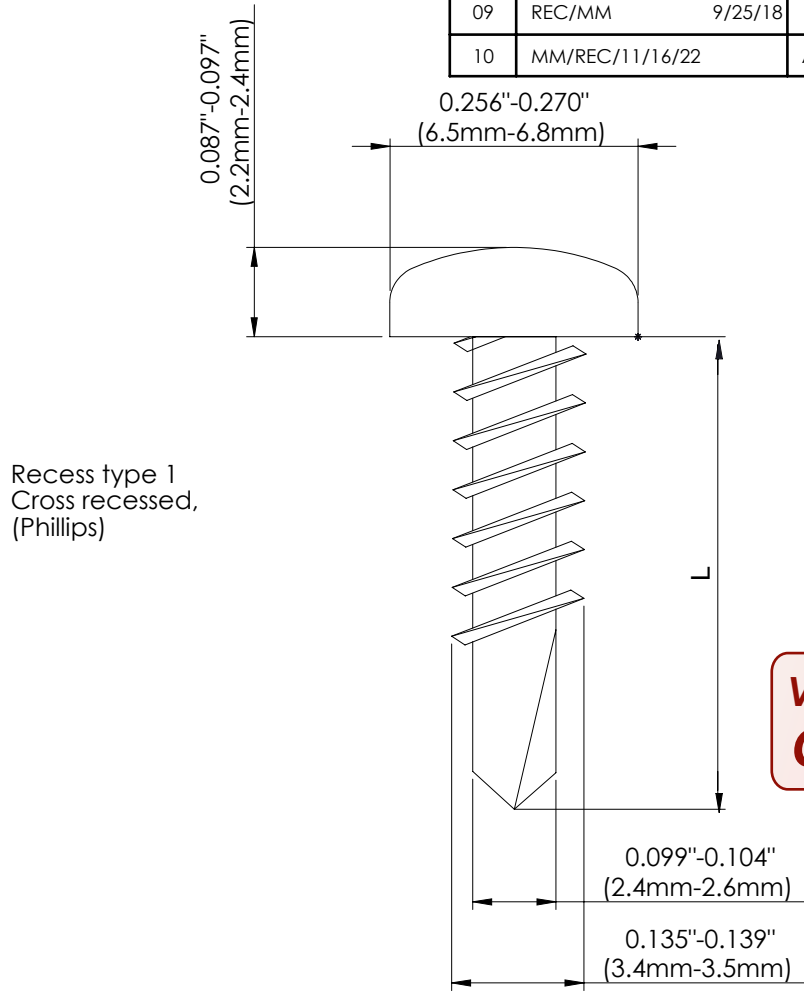


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SECTION A-A

Material				Specifications - generally				
							414010.64	
AISI 20ga SST w/bonded EPDM washer				Bonded EPDM washer		309097.64		
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				#8 Bonded washer Commodity drawing				
Approvals								
Checked by/drawn by/date /REC/26.01.2010				Product instructions no.				
Scale	Unspec. meas.	General tolerance	Size	Category	308027	000	00	02
5:1	mm	±.4	A	21				

Edition	drawn by/checked by/date	Description of change
08	1/9/14	Added SI
09	REC/MM 9/25/18	Added screw P/N 306211
10	MM/REC/11/16/22	Added note for P/N 306050



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Part #	L	Material
306109	1/2" ±0.03 (12.7mm ±0.7mm)	AISI 18-8 SST w/clear passivated finish
306050 *	3/8" ±0.03 (8.7mm-10.3mm)	Steel w/clear zinc
306121	3/8" ±0.03 (8.7mm-10.3mm)	AISI 410 SST w/clear passivated finish
306211	3/4" ±0.03 (19 ±0.7mm)	AISI 410 SST w/clear passivated finish

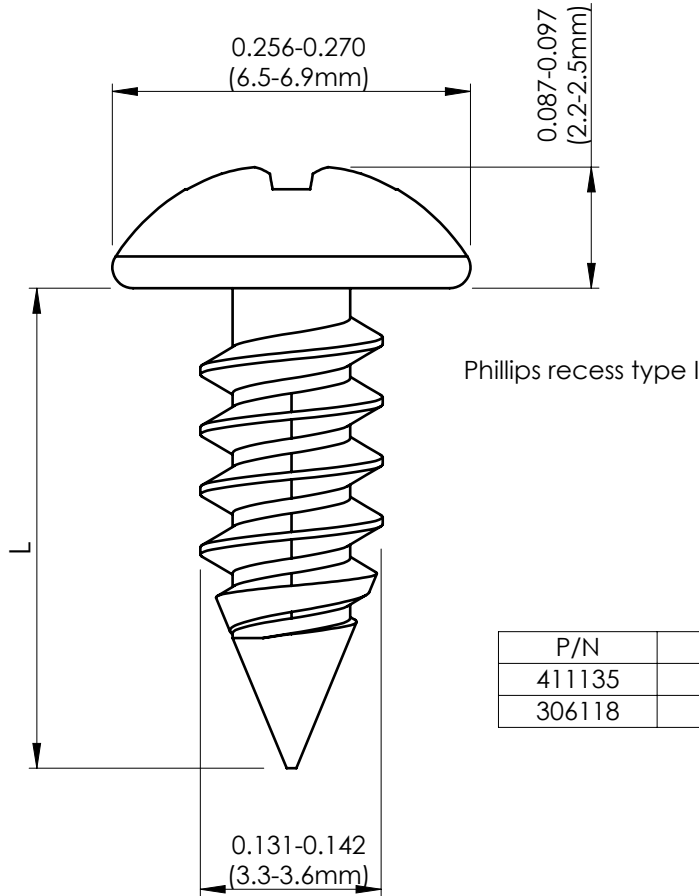


1:1

* 72 hours with no red rust for neutral salt spray

Standards - generally				Specifications - generally					
Terminology for screws		880012.68		Steel screws	411010.64				
				SST screws	414010.64				
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>Self-drilling screw (type BSD)</u>					
Approvals TMA-A/CERT				Pan head #6					
Checked by/drawn by/date /REC/25.09.2018				Product instructions no.					
Scale 1:1	Unspec. meas. mm	General tolerance ±0.5	Size A	Category 21	306099	000	00	Operation	Edition 10

Edition	drawn by/checked by/date	Description of change
06	8/7/13	Added TMA-A/SI to approvals
07	12/17/14	Changed dimension location for "L"
08	MM/CBB/11/25/19	Added note for salt spray test



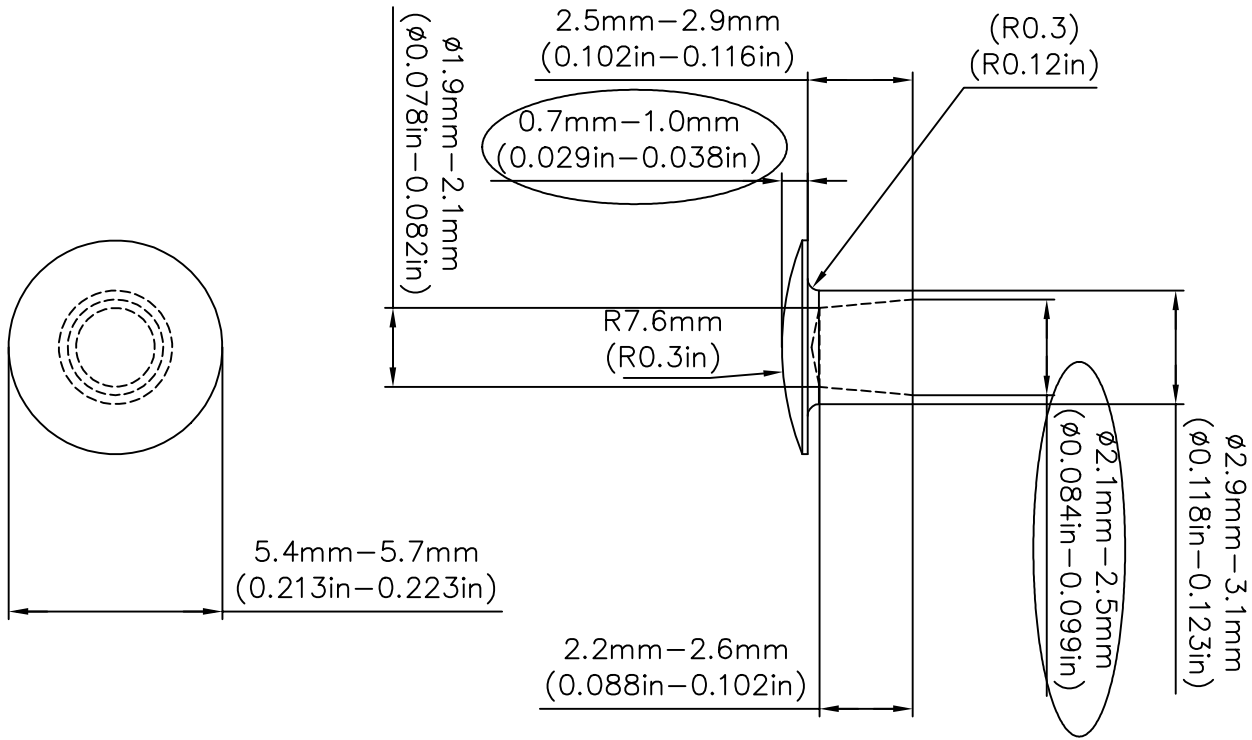
P/N	L±0.03"	Mat'l/finish
411135	3/4"	Steel/Yellow zinc
306118	3/8"	Steel/Clear zinc

Note:

1. Salt spray requirement: 12 hrs. without white rust, 24 hrs. without red rust.
2. Single lead rolled thread

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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>Wood screw</u>			
Approvals TMA-A/SI				#6 Pan head			
Checked by/drawn by/date /REC/17.12.2014				Product instructions no.			
Scale 5:1	Unspec. meas. mm	General tolerance See chart	Size A	Category 21	411135	000	00 08



Part Number (Manufacturer Number)	Material	Finish
306123 (R-3479-014-0.1094)	Steel	Clear Zinc

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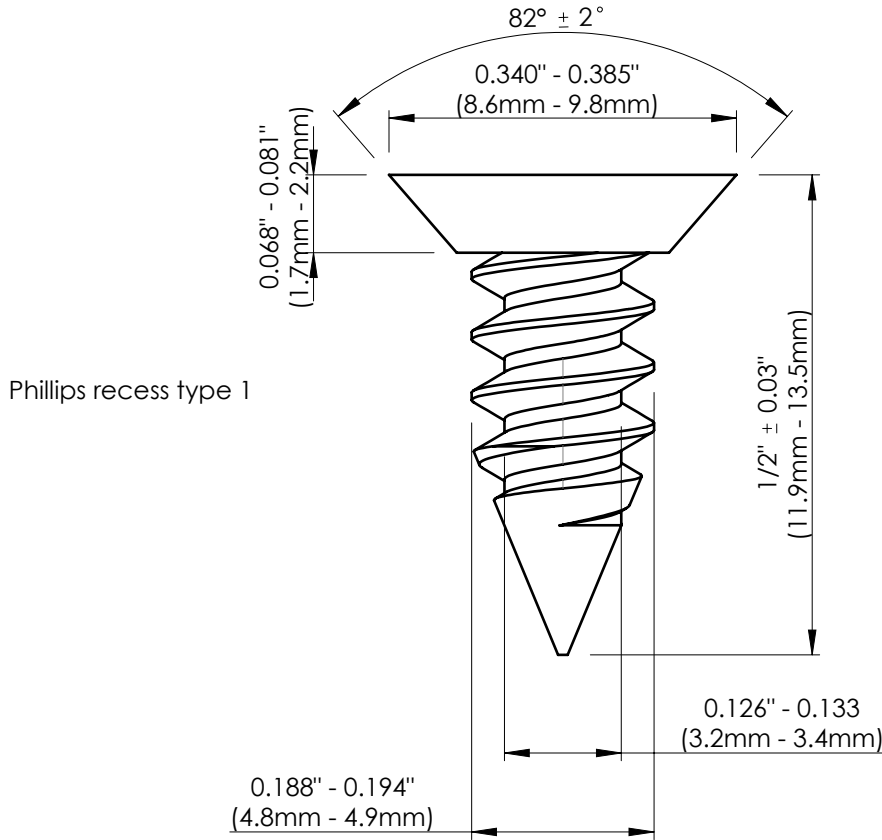
Approvals: TMA-A



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VELUX Greenwood Inc. Drawing office . 450 Old Brickyard Road . Greenwood . South Carolina		Material													
<u>Semi-Tubular Rivet</u> Commodity drawing		General tolerance					Specification								
		Size	Units	Scale	Checked by/drawn by/date										
		A	mm	5:1,1:1	REC/09.09.11										
		File No.		DRAWING NO.											
		Copy to		Category	Commodity No.				Operation	Edition					
		2	1	3	0	6	1	2	3	0	0	0	0	0	3

Edition	Description of change	Date
03	Removed chart from drawing	6/26/17



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Single lead rolled thread type A

Specifications - generally	
Stainless steel screw	414010.64
Steel screw	411010.64

VELUX SKY-PRS
450 Old Brickyard Rd., Greenwood, South Carolina 29648

Screw
Flat 82 deg. Undercut head
Self-Tapping thread #10-12

Approvals
TMA-A

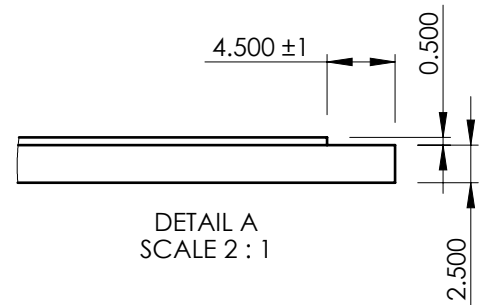
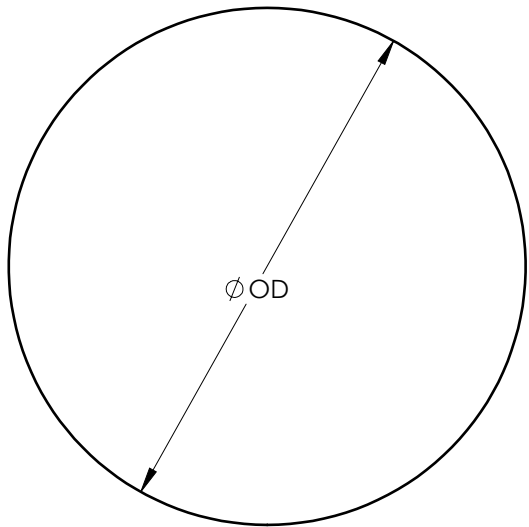
Checked by/drawn by/date
/CB/26.06.2017

Product instructions no.					
Category			Operation	Edition	
21	306096	000	00	03	

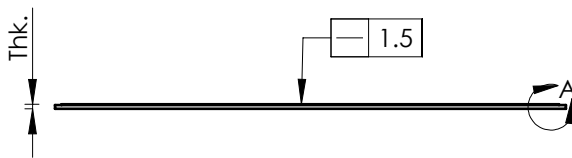
Scale 5:1	Unspec. meas. mm	General tolerance ±0.5	Size A
--------------	---------------------	---------------------------	-----------

Edition	drawn by/checked by/date	Description of change
04	CBB/BBK/12/10/19	Added frosted 3mm part numbers
05	CBB/BBK/01/16/20	Added new lines for 3mm thickness
05	CBB/BBK/10/01/20	Added detail on milled edges

Size	OD mm/(in)	Thk. mm/(in)	Clear(CI) P/N	Frosted(F) 2mm P/N	Frosted(F) 3mm P/N	Crackle(Cr) P/N	Prismatic (P) P/N
10" middle	236 (9.291")	1.5 (0.059")	30381510	--	--	30381910	--
14" middle	338 (13.307")	1.5 (0.059")	30381514	--	--	30381914	--
10" upper	241 (9.488")	2 (0.079")	--	30381810	--	--	--
14" upper	342 (13.465")	2 (0.079")	--	30381814	--	--	--
10" upper	241 (9.488")	3 (0.118")	--	--	32003610	--	--
14" upper	342 (13.465")	3 (0.118")	--	--	32003614	--	--
10" pivot ring lens	243 (9.567")	1.5 (0.059")	30382010	--	--	--	30382110
14" pivot ring lens	375 (14.764")	1.5 (0.059")	30382014	--	--	--	30382114



Note:
Edges are to be milled down to 2.5mm only on 320036xx.



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Material			
Acrylic			
VELUX		SKY-PRS	
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals TMA-A			
Checked by/drawn by/date BBK/CBB/19.04.2018			
Scale 1:5	Unspec. meas. mm	General tolerance ±0.3	Size A

Specifications - generally					
Material for clear diffuser		309038.64			
Specifications - generally					
Material for prismatic diffuser		309050.64			
Specifications - generally					
Material for frosted diffuser		309049.64			
Standards - generally					
Symbol explanations		880006.68			
ST13-G					
Diffuser					
Commodity Drawing					
Product instructions no.					
Category				Operation	Edition
21	303815	000	00	06	