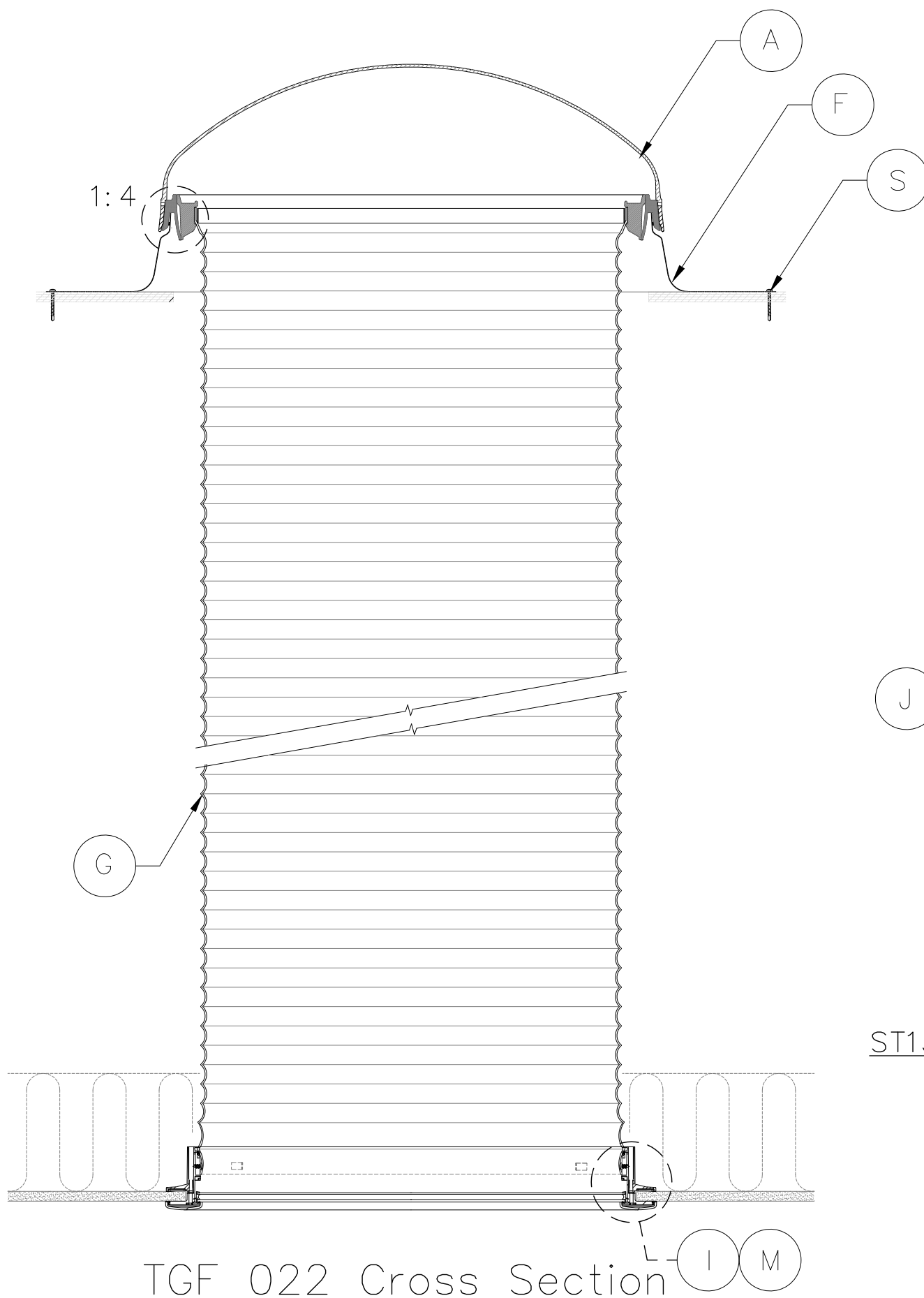
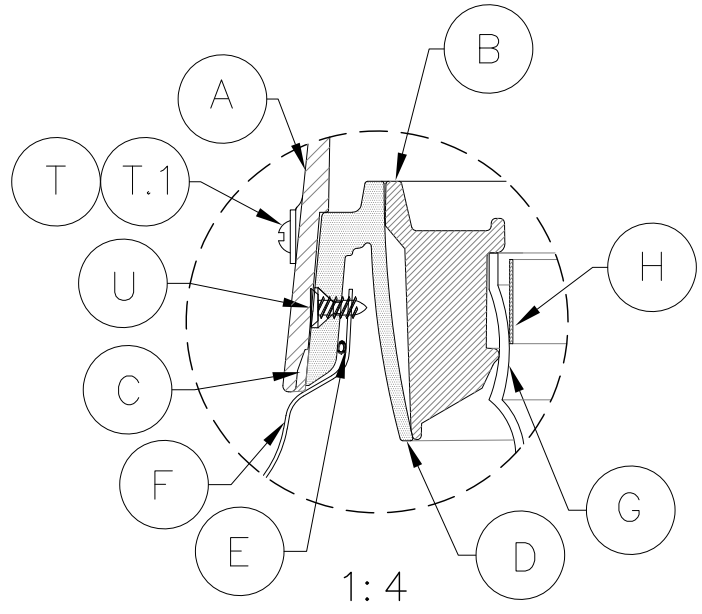
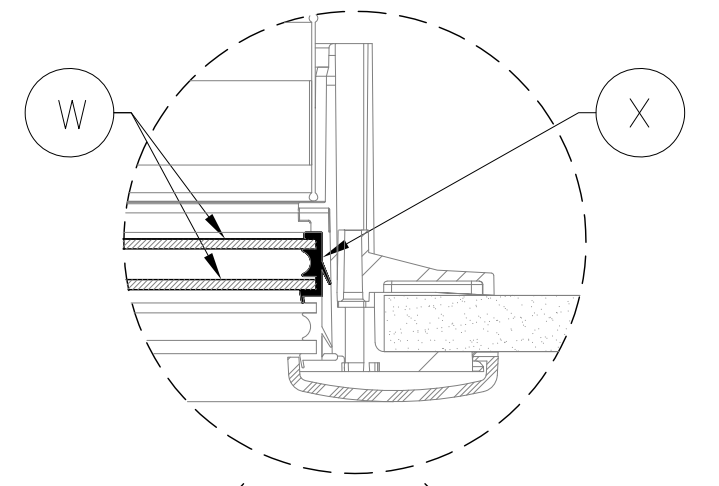


Maximum/Minimum Slope

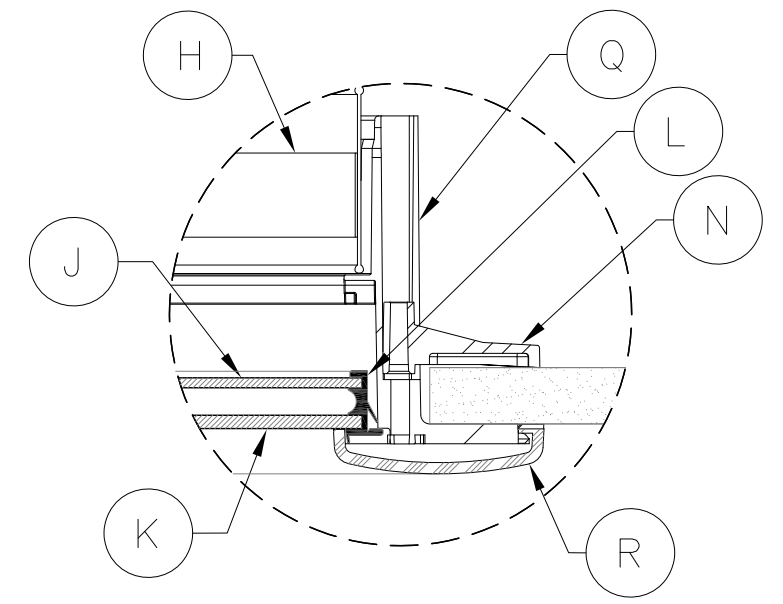


TGF 022 Cross Section



(Optional)
Residential Energy Kit

ZTC 022 0041
1:4



ITEM I & M

ST13 DCR kit/Ceiling ring complete

Item I, DCR kit complete (P/N 30475622)
Item M, Ceiling ring complete (P/N 30468722)
1:4

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		SKY-PRM 1418 Evans Pond Road PO Box 5001 Greenwood, South Carolina 29648-5001	
TGF 022 Residential Sun Tunnel Product Certification Typical Arrangement		SIZE: D COMMODITY NO: 21.304865.000.52	REV: 02 SCALE: 1:1 OKD/DRAWN/DATE MR/DH 06/25/21 SHEET 1 OF 2

PART/COMPONENT SCHEDULE									
ITEM	QTY.	PART/COMPONENT	COMPONENT NO.	DESCRIPTION	DRAWING NO.			COMMENTS	
					Category	Commodity No.	Rev.		
A	1	Dome	30355022	Acrylic Dome Acrylic 309038.64	21	309038	---	6402	Material Specification
			30355822	Polycarbonate Dome Polycarbonate 309039.64	21	303558	0220	0001	Commodity drawing
					21	309039	---	6401	Material Specification
B	1	Pivot ring	30371822	PP Impact polymer Color:Black	21	303718	0000	0004	Commodity drawing
C	1	Insect guard (gasket)	30359422	Intermediate ring, foam gasket (supplied in rolls)	21	303594	0000	0002	Commodity drawing
					21	304230	0000	5105	Placement drawing
D	1	Intermediate ring	30354622	Black PP co-polymer +UV	21	303546	0000	0008	Commodity drawing
E	1	Alignment O-ring	30316822	Santoprene 101-64' (black color)	21	303168	0000	0006	Commodity drawing
F	1	Low profile flashing	30459422	G-90 Steel Lacq. Steel Sheet with Al-Zn coating Cool grey powder coat	21	302141	0220	0011	Commodity drawing
					21	302139	0000	3903	Powder coating
G	1	Flex tubing	30234408	8' High reflectance flexible tube	21	302343	0000	3102	Cutting drawing
H	2	Spring steel snap ring	30865622	Tempered spring steel AISI 301 Stainless Steel 0.025"/0.020"	21	304172	0000	5112	Commodity drawing
* H.1	4	Rivet	306123	.097" rivet for Spring steel snap ring (Item H)	21	306123	0000	0003	Commodity drawing

ST13 DCR Kit (P/N 30475622)									
I	1	ST13 22" DCR Kit	30475622	ST13 DCR Kit Frosted/Crackle	21	304756	0A05	0101	LOP
J	1	Diffuser	30357822	Acrylic - Crackle	21	303090	0000	0020	Commodity drawing (Same as Item W)
K	1	Diffuser	30357922	Acrylic - Frosted					
L	1	Diffuser gasket	30355422	Santoprene, TPE for gasket - Stung	21	303554	0000	0004	Commodity drawing
M	1	Ceiling ring assembly	30468722	Ceiling ring complete	21	304687	0000	5103	Part assembly drawing
N	4	Swingout	306107	White - nylon 10% glass	21	306107	0000	0003	Commodity drawing
* O	4	Screw	306108	#8 Phillips drive screw, 3" length, pan head, mat'l-steel, finish-clear zinc	---	---	---	---	Screw fastens swingout and flipper to ceiling ring
* P	4	Flippers	303556	Nylon 6 10% glass, Color: white	21	303556	0000	0001	Commodity drawing
Q	1	Ceiling ring	30354322		21	303543	0220	0004	Commodity drawing
R	1	Trim ring	30331122	Acrylic	21	303311	0000	0011	Commodity drawing


TGF Beipack									
ITEM	QTY.	PART/COMPONENT	COMPONENT NO.	DESCRIPTION	DRAWING NO.			COMMENTS	
					Category	Commodity No.	Rev.		
N/A	1	Beipack	30469022	ST13 TGF Acrylic/Poly Beipack	21	304798	0000	5201	Beipack, Assembly drawing
S	14	Screw	306056	#8x1 1/2", PH, SS black	21	306232	0000	0003	Commodity drawing (Mounting fastener)
T	6	Screw	306119	#8x3/4" 1/1 SS Phillips	21	306119	0000	0006	Commodity drawing (Dome screws)
T.1	6	Washer	308027	#8 SS washer w/ bonded EPDM seal	21	308027	0000	0002	Commodity drawing (Washer for Item T)
U	5	Screw	306118	#6 Pan head Wood screw x3/4" Steel/Yellow zinc	21	411135	0000	0008	Commodity drawing (Stung)
* V	1	Joint tape	30469306	Aluminum tape, 6 ft.	21	309066	---	6402	For sealing all joints

Residential Energy Kit (Optional)									
W	1	Diffuser	30358022	Acrylic - clear	21	303090	0000	0020	Commodity drawing (Same for Item J&K)
X	1	Diffuser gasket	30355422	Santoprene, TPE for gasket - Stung	21	303554	0000	0004	Commodity drawing (Modified version of Item L)

GENERAL NOTES:

- * Designates a PART/COMPONENT not shown on the Typical Arrangement cross-sections.
- Reference Drawings include :
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 PRM - Product Compliance/Certification Submittals folder.

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DIMENSIONS ARE IN MM GENERAL TOLERANCES: ANGULAR: ±1 ONE PLACE DECIMAL : ±0.5					NOTE:				
MATERIAL:					 SKY-PRM 1418 Evans Pond Road PO Box 5001 Greenwood, South Carolina 29648-5001				
SPECIFICATION:					TGF 022 Residential Sun Tunnel				
FINISH:					Product Certification				
SPECIFICATION:					Product List of Parts				
STANDARDS:					SIZE COMMODITY NO. REV. SCALE: CKD/DRAWN/DATE MR/DH 6/25/21 D 21.304866.000.52 02 1:1 SHEET 2 OF 2				

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:

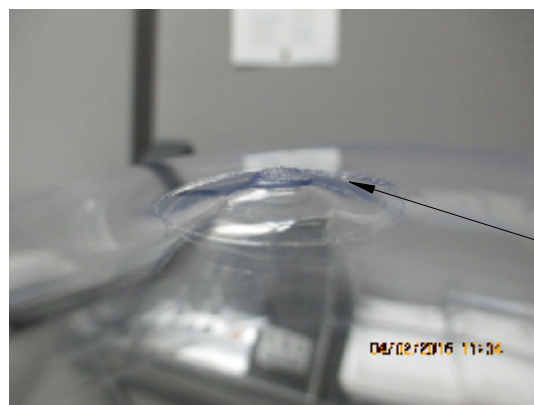
If required from the purchase department, the supplier shall be able to forward documentation for the properties of point 2 in a certificate or otherwise.

5. Delivery

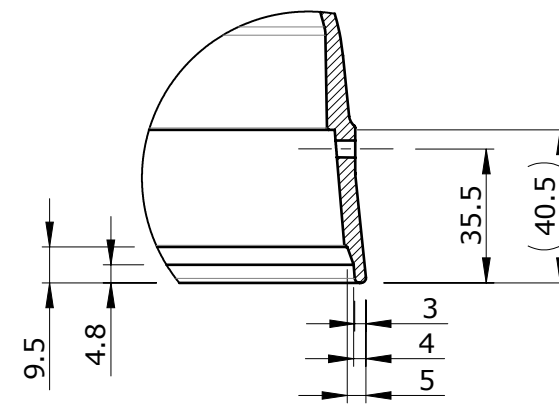
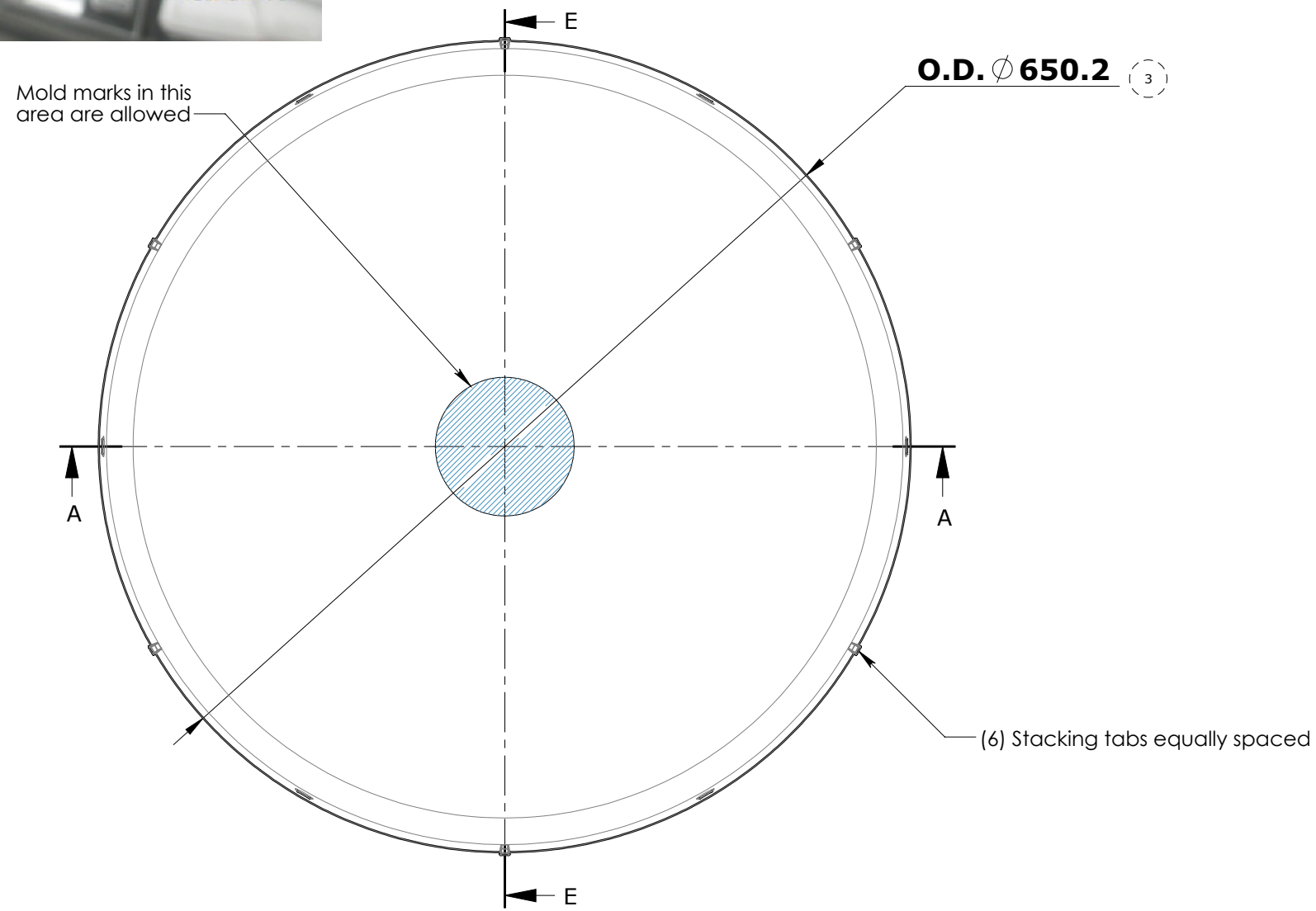
Delivery per agreement with the purchasing department.

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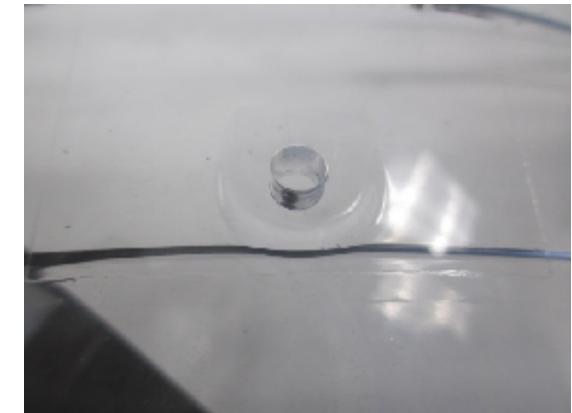
Edition	Description of change	Date



Unacceptable mold mark

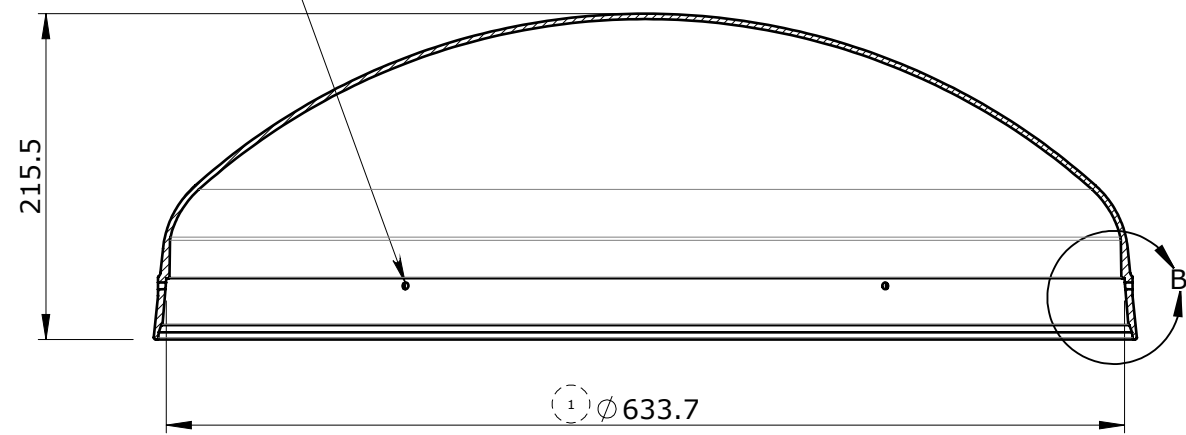


B 1 : 2

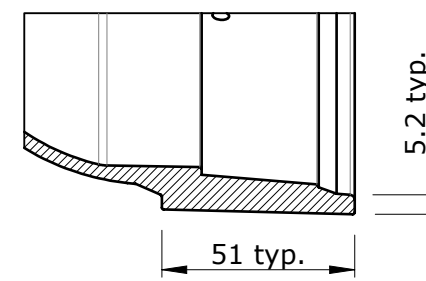


Acceptable screw hole

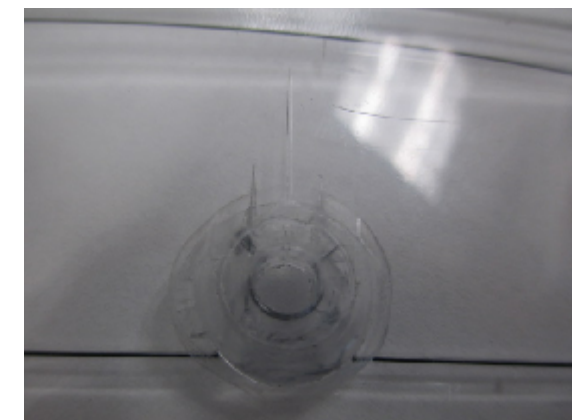
2 Ø4.5 equally spaced holes that line up to intermediate ring 22" Qty. 6



A-A



E-E 1 : 2



Unacceptable screw hole

Part number	Size	Material
30355022	22"	Acrylic
30355822	22"	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			
22in Dome			
Commodity drawing			
Product instructions no.			
Category	21	303558	022
Operation	00	01	
Edition			

VELUX Greenwood Inc.

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

Drawn up by:

JRM

Date:

8/15/03

Page:

1/3

MATERIAL SPECIFICATION**Plastic material for high Impact tubular skylights dome**

Classification

A

Copy to:

Cat

2 1

PRODUCT INSTRUCTION NO.

Commodity No.

3 0 9 0 3 9

Opr.

6 4

Ed.

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.

**VELUX America LLC
CONFIDENTIAL****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

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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	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:

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.

<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:

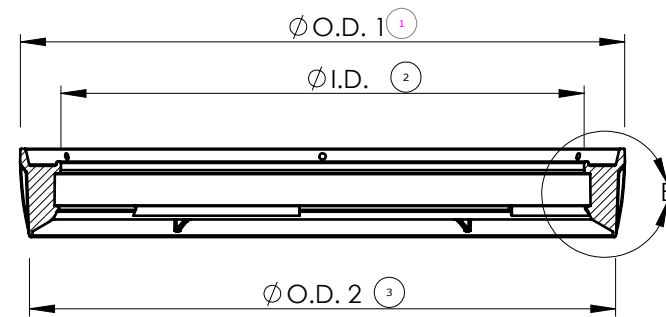
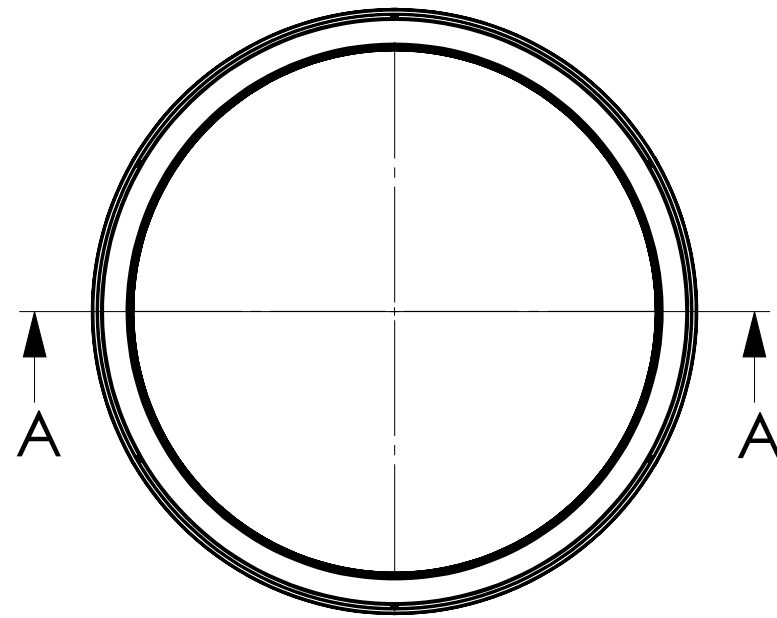
If required from the purchase department, the supplier shall be able to forward documentation for the properties of point 2., in a certificate or otherwise.

5. Delivery

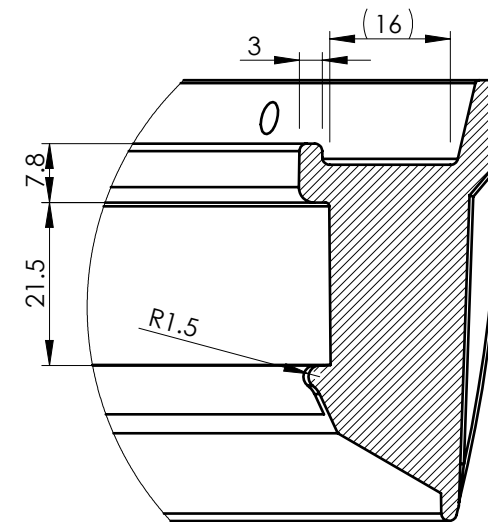
Delivery according to agreement with the purchasing department.

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Edition	Description of change	Date
02	Added 22" pivot ring	8/22/16
03	Corrected 22" ID from $\phi 535$	4/6/17
04	Corrected 14" ID from $\phi 333$	10/13/17

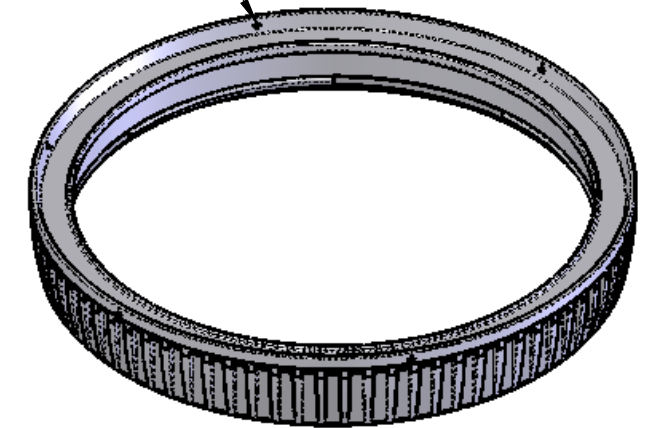


SECTION A-A



DETAIL B
SCALE 1 : 1

$\phi 4.3$ (6) required equally spaced

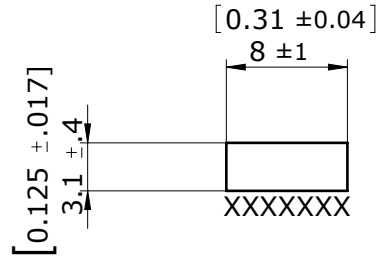


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Dia.	I.D.	O.D. 1	O.D. 2	Part number
14"	$\phi 343 \pm 1$	$\phi 400 \pm 1$	$\phi 387.5 \pm 1$	30371814
22"	$\phi 545 \pm 1$	$\phi 601 \pm 1$	$\phi 591 \pm 1$	30371822

Material				Specifications - generally					
PP Impact copolymer Color: Black				Plastic material 309051.64					
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				I-F 14", 22" Flex pivot ring					
Approvals TMA-A				Product instructions no.					
Checked by/drawn by/date /CBB/13.10.2017				Category	21	303718	000	00	04
Scale	Unspec. meas.	General tolerance	Size						
1:5	mm	± 0.5	B						

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



***NOTE:**

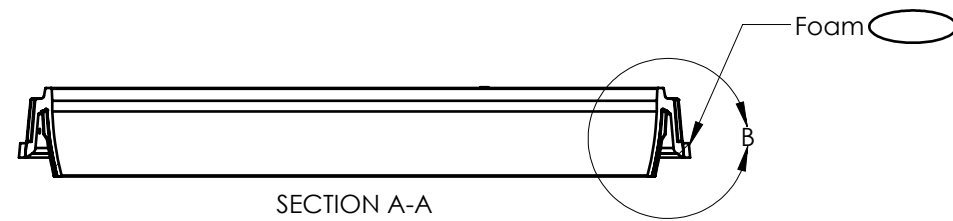
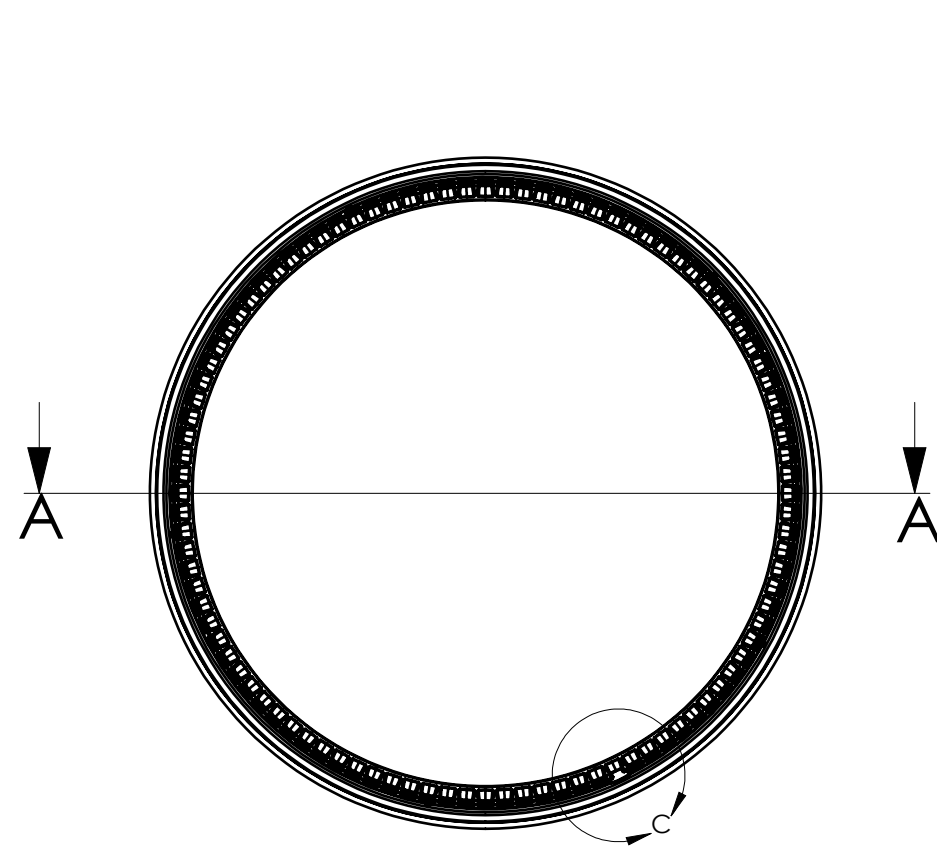
- 1.Part is supplied in rolls from supplier and cut to length in production by VELUX.
- 2.Material - 41 grade PVN (ASTM D1056 2 A1) - closed-cell expanded rubber
- 3.Adhesive - AD381 (ASTM D903 PP Min. 175 N/m)
- 4.XXXX=PSA attached.

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

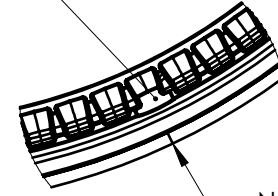
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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>TGR/F, TMR/F and TCR</u>				
Approvals TMA-A				Insect guard foam gasket				
Checked by/drawn by/date /REC/28.04.2015				Commodity drawing				
				Product instructions no.	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

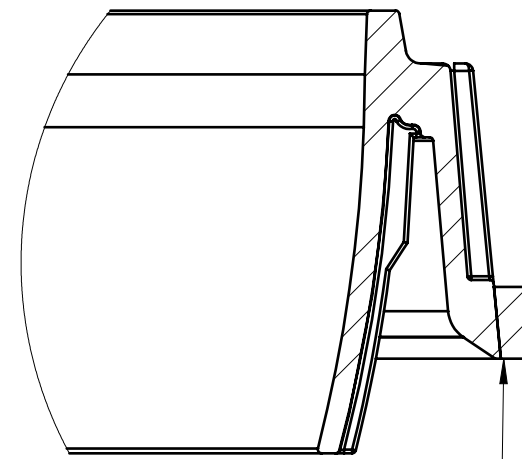
Edition	Description of change	Date
04	Added alignment note	3/12/13
05	Removed foam part number	4/27/15



Align start of foam with alignment tab



DETAIL C
SCALE 2 : 5



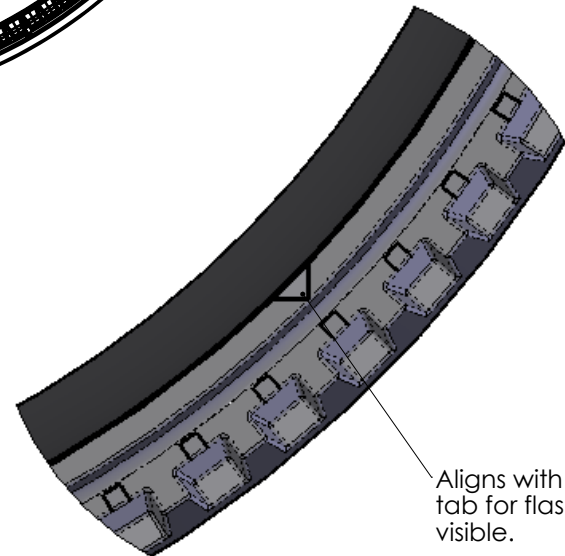
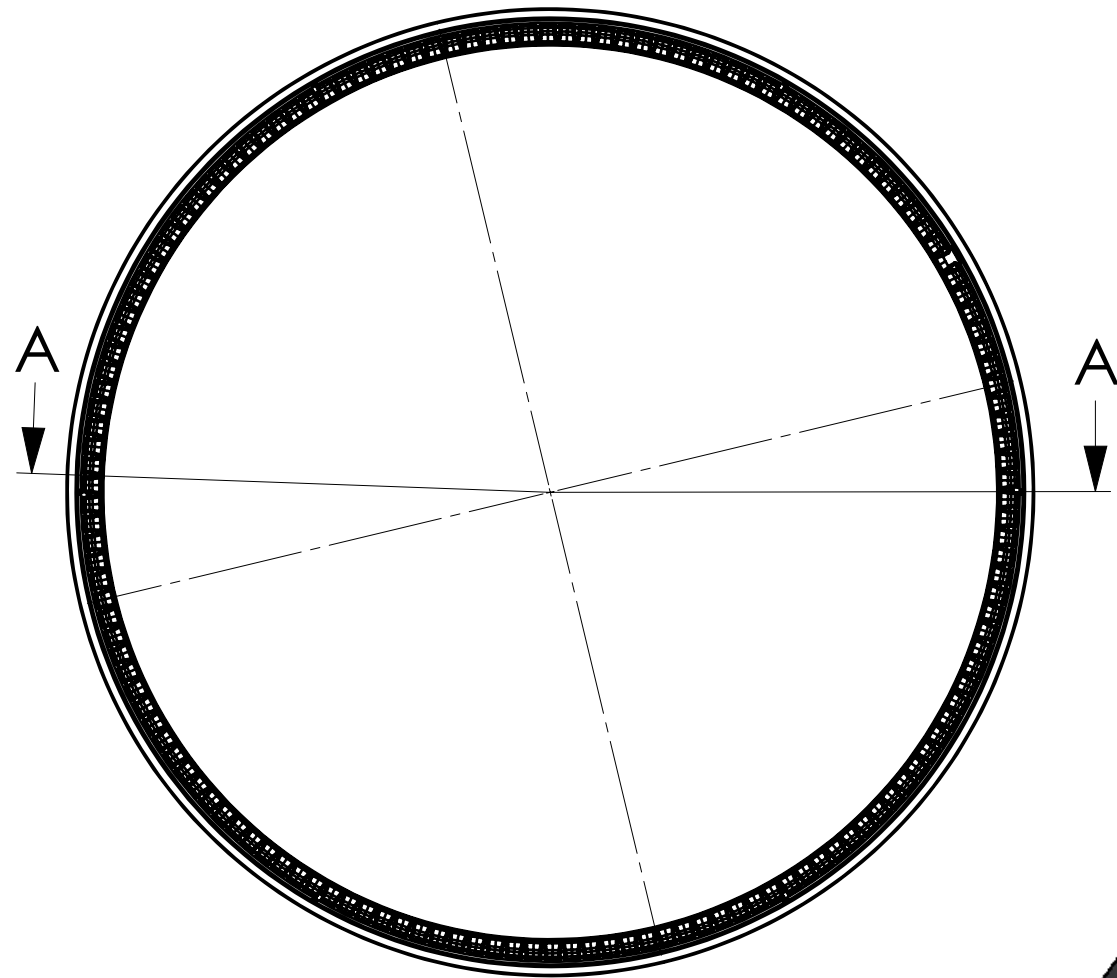
DETAIL B
SCALE 1 : 1

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

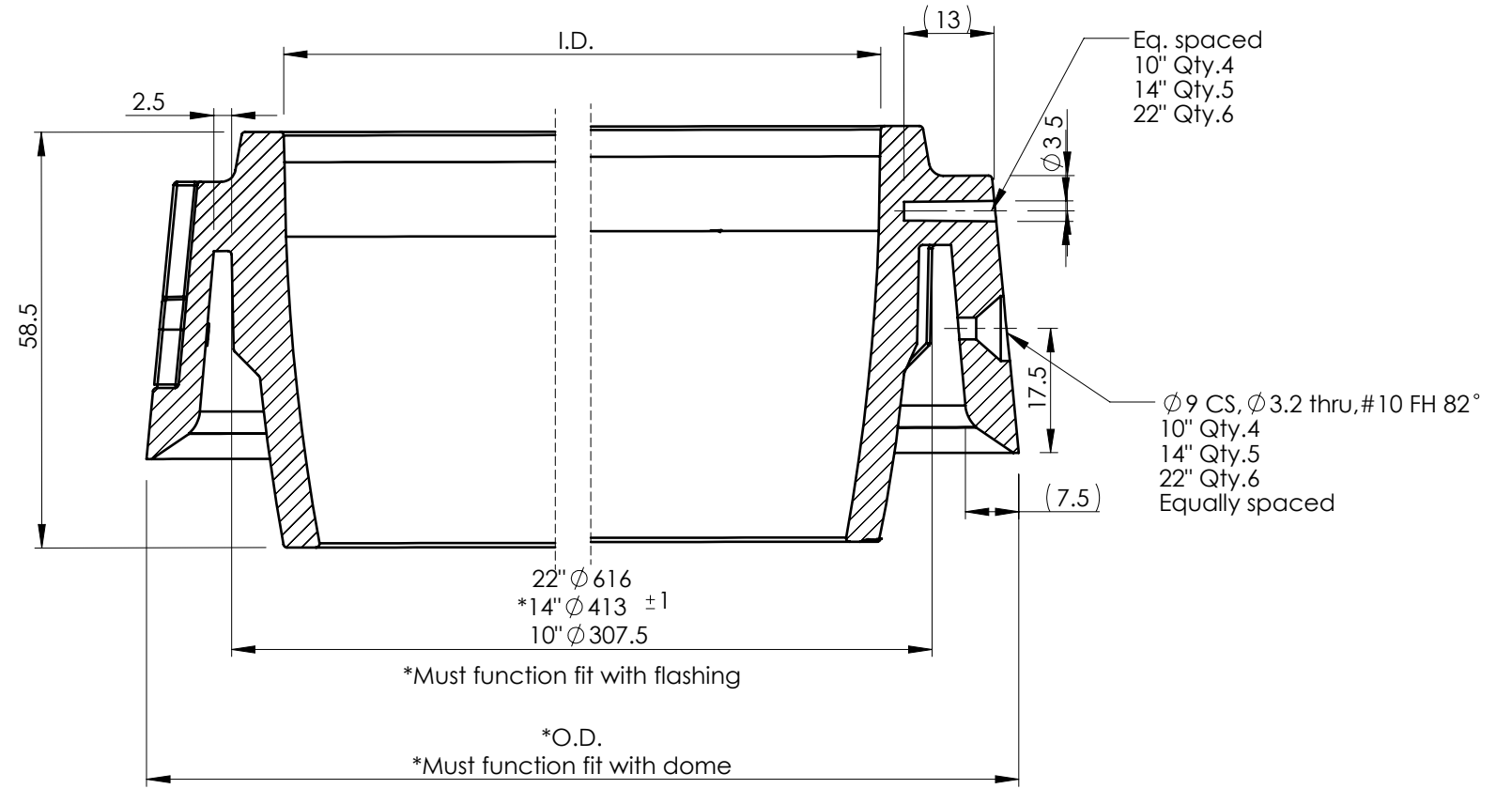
Regardless of tolerance bottom of condensation groove should always be covered by foam.

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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



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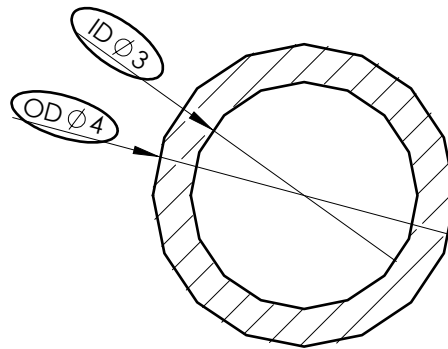
Material			
Black PP co-polymer +UV stabilizer			
VELUX SKY-PRS			
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals			
TMA-A			
Checked by/drawn by/date			
/REC/27.04.2015			
Scale	Unspec. meas.	General tolerance	Size
1:5	mm	±0.5	B

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

Intermediate ring
Commodity drawing

Product instructions no.				
Category	21	303546	000	00
Edition				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.

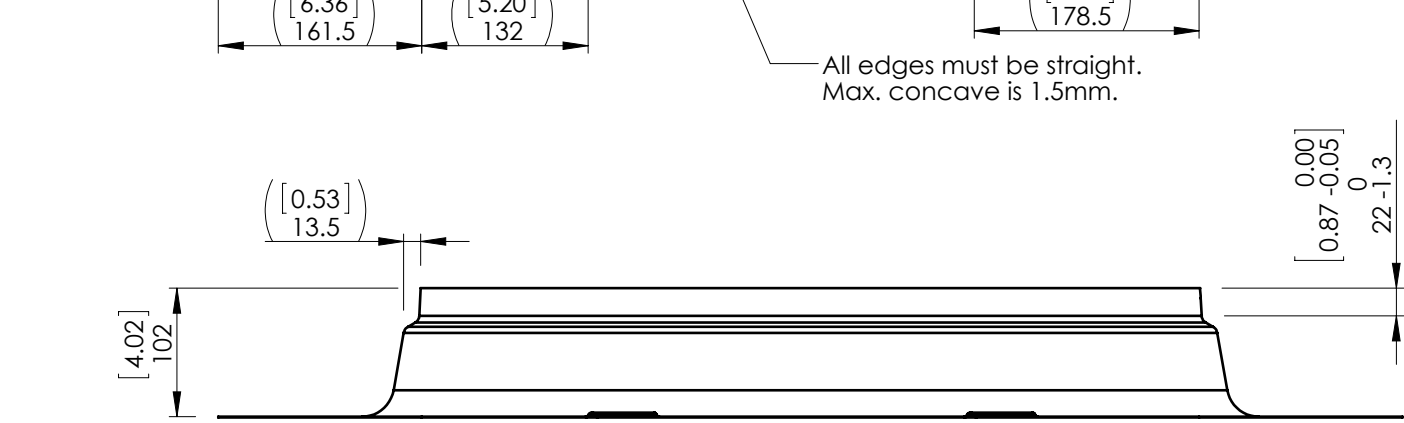
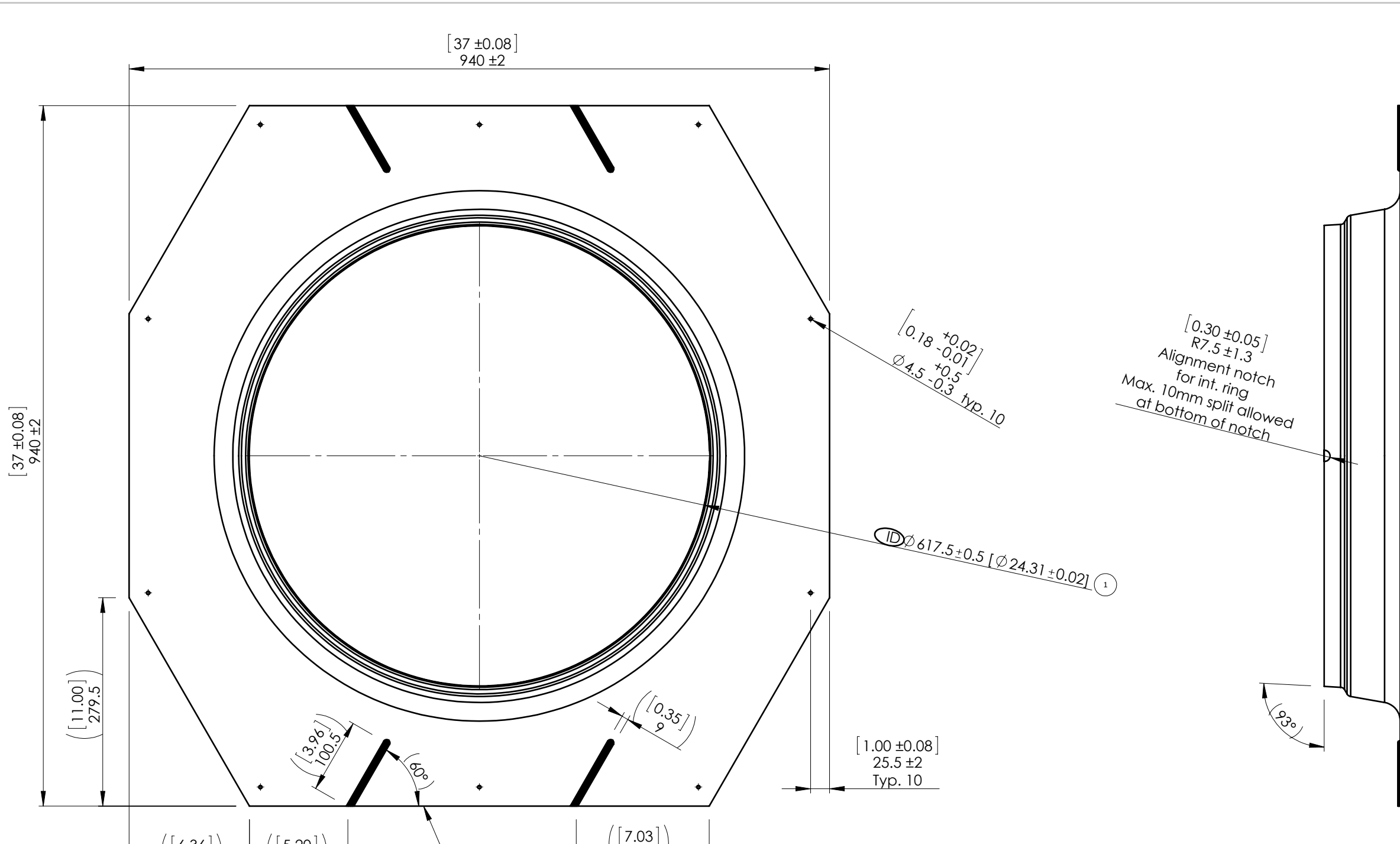
⊙
1:1

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-							
				Alignment O'ring Commodity drawing							
Approvals TMA-A				Product instructions no.							
Checked by/drawn by/date /REC/11.11.2013				Category		21		303168		000 00 06	
Scale 10:1	Unspec. meas. mm	General tolerance See table	Size A	Operation		000		00		06	

Edition	Description of change	Date
11	Added ID to the $\varnothing 617.5$ dimension	11/12/13

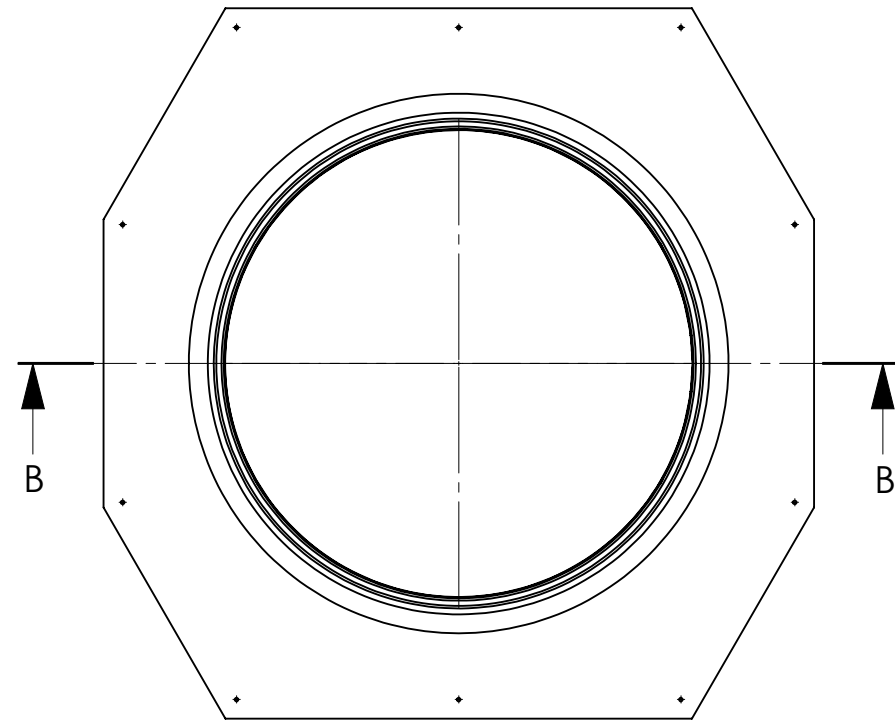


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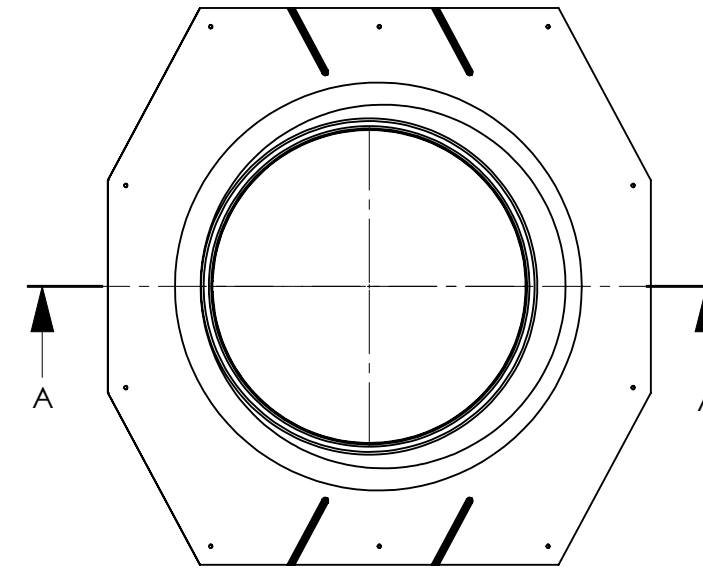
Note main inspection points:
 *Underside of flashing (flat surfaces only) must be covered with powdercoat, but thickness is not measured.
 *Fit and function between flashing, O'ring and intermediate ring.

Material				Specifications - generally			
G90 stl .023"(.6mm) +/- .006"(.15mm) thk.				Lacq. Steel Sheet with Al-Zn Coating		309042.64	
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TGF 022			
Approvals TMA-A				Low-profile flashing Commodity drawing			
Checked by/drawn by/date /REC/12.11.2013				Product instructions no.			
Scale 1:6	Unspec. meas. mm	General tolerance ±0.5	Size B	Category 21	302141	022	00
				Edition 11			

Edition	Description of change	Date
03	Added photos and notes on ripples	11/20/13
02	Added additional powder coat notes	11/20/13



Low profile flashing



Pitched flashing

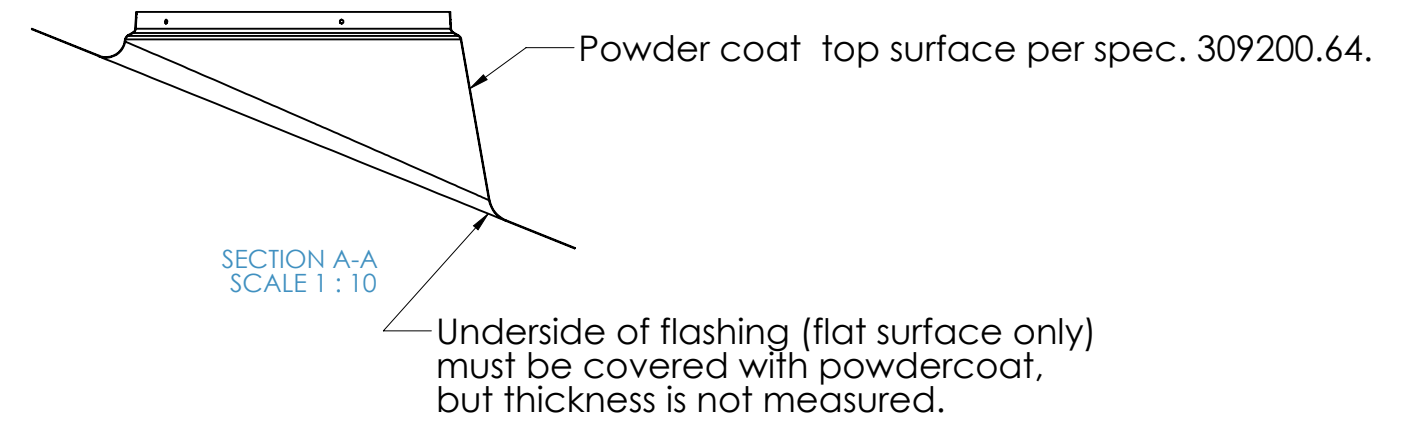
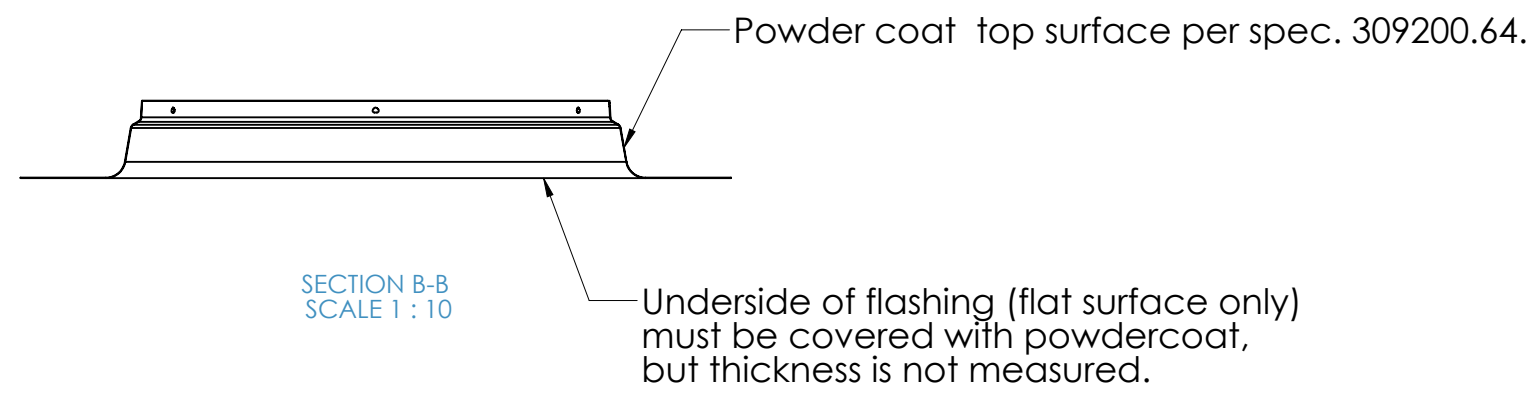


Image A



Image B

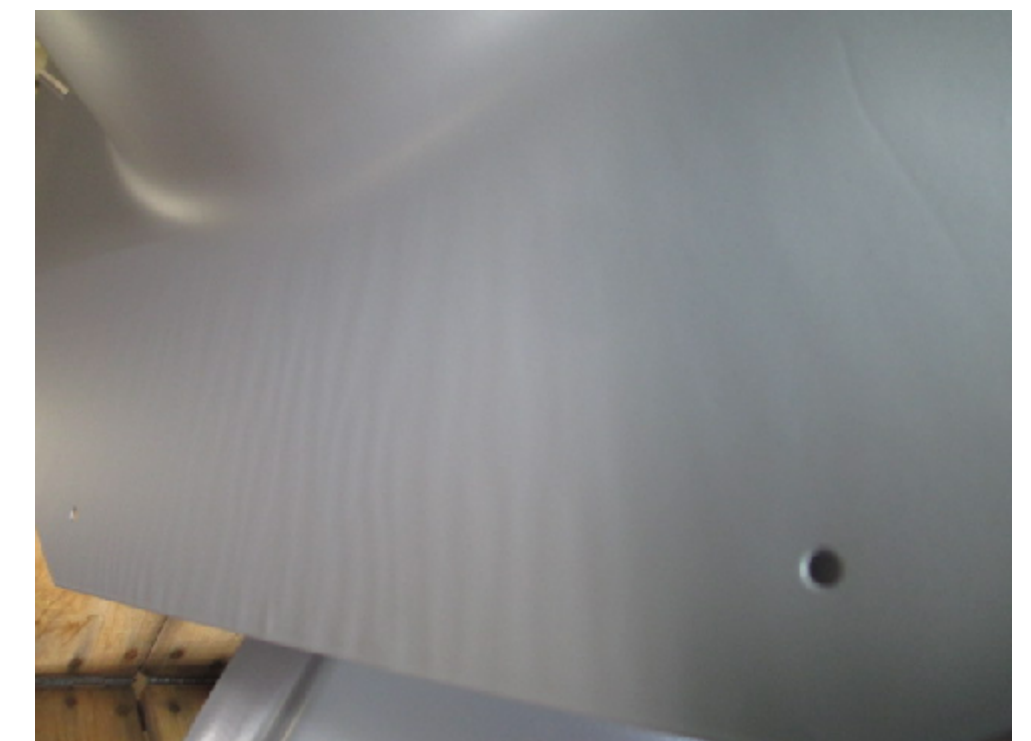


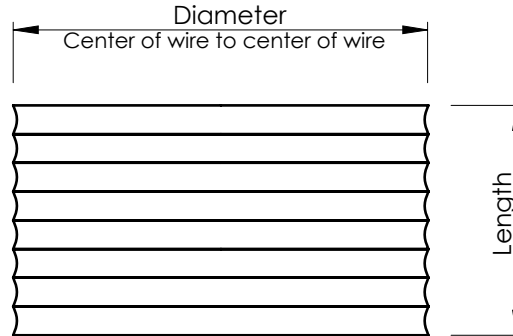
Image C

NOTE:
Image A is unacceptable ripples on flashing. Image B and C are acceptable.

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Material				Specifications - generally			
G-90 steel				Powder coat 309200.64			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				TGF/TGR, TMF/TMR			
Approvals				Powder coating			
Checked by/drawn by/date /CBB/22.05.2018				Product instructions no.			
Scale 1:10	Unspec. meas. mm	General tolerance ±	Size C	Category 21	302139	000	Operation Edition 39 03

Edition	Description of change	Date
02	Replaced 30234463 with 30234408	8/6/13



Part number	Diameter	Length
30234325	352.5mm(13.88")	25'
30234308	352.5mm(13.88")	8.33'
30234310	352.5mm(13.88")	12.5'
30234425	555.7mm(21.88")	25'
30234408	555.7mm(21.88")	8.33'
30234412	555.7mm(21.88")	12.5'
30234402	555.7mm(21.88")	2'
30207621	522mm(20.55")	25'
30210021	522mm(20.55")	6.25'
3021002112	522mm(20.55")	12.5'

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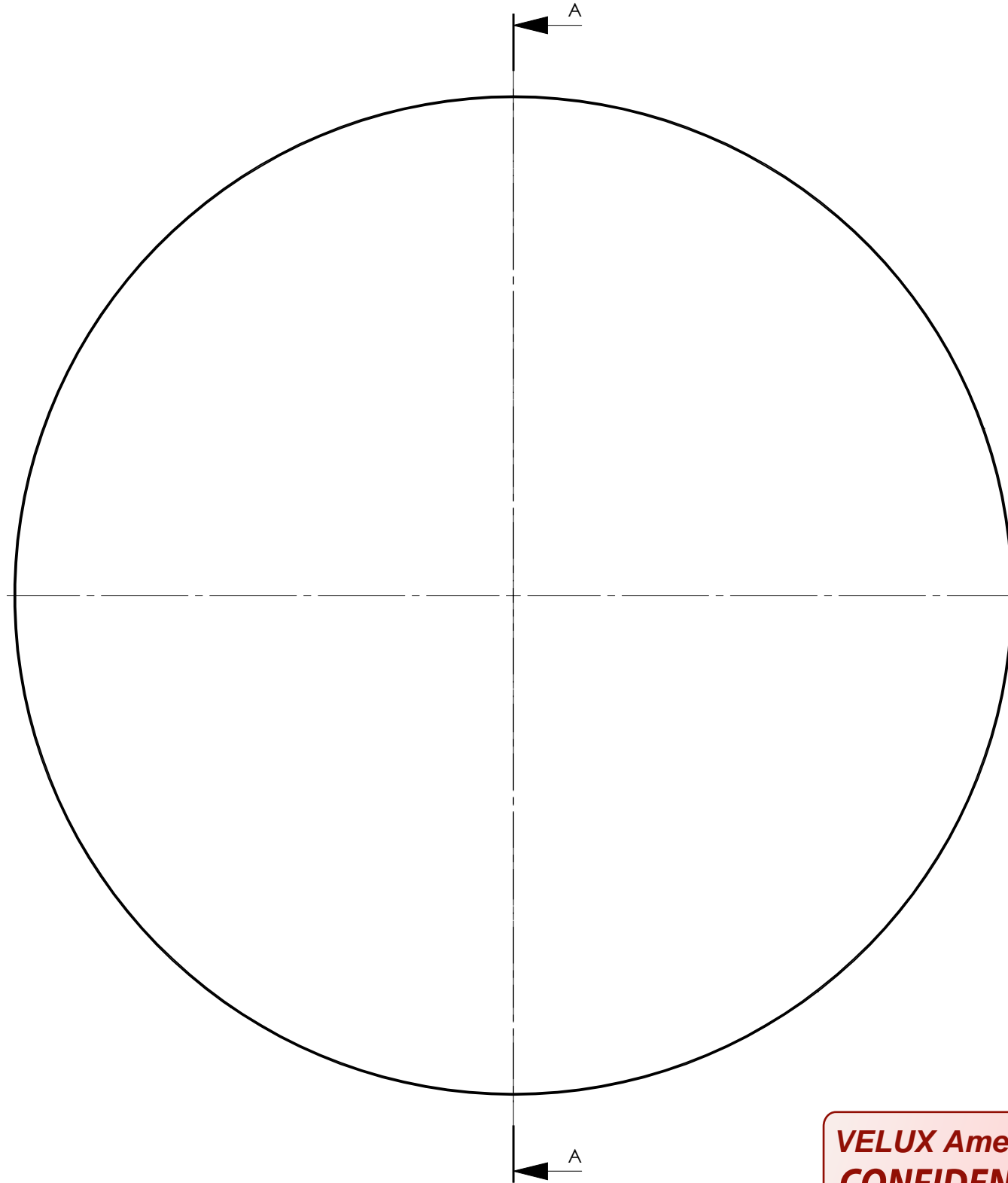
Specifications - generally			
High Reflectance Flexible Tube		309053.64	
VELUX		SKY-PRS	
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals TMA-C			
Checked by/drawn by/date /REC/06.08.2013			
Scale 1:10	Unspec. meas. mm	General tolerance +2"/-3/4"	Size A

Sun tunnel

Flexible tubing
Cutting drawing

Product instructions no.				
Category			Operation	Edition
21	302343	000	31	02

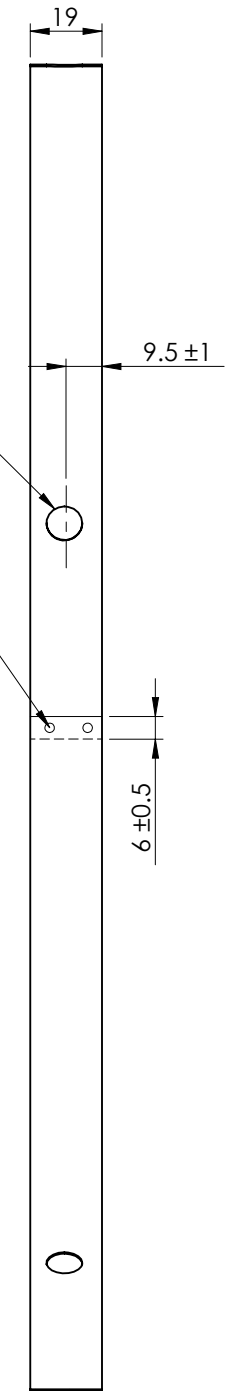
Edition	Description of change	Date
12	Added note stating holes are for P2 only	5/15/14



Ø 5mm ± 1mm hole
5 holes equally spaced

Note: holes are only used on 22" P2 spare parts

Riveted w/.097" rivets



SECTION A-A

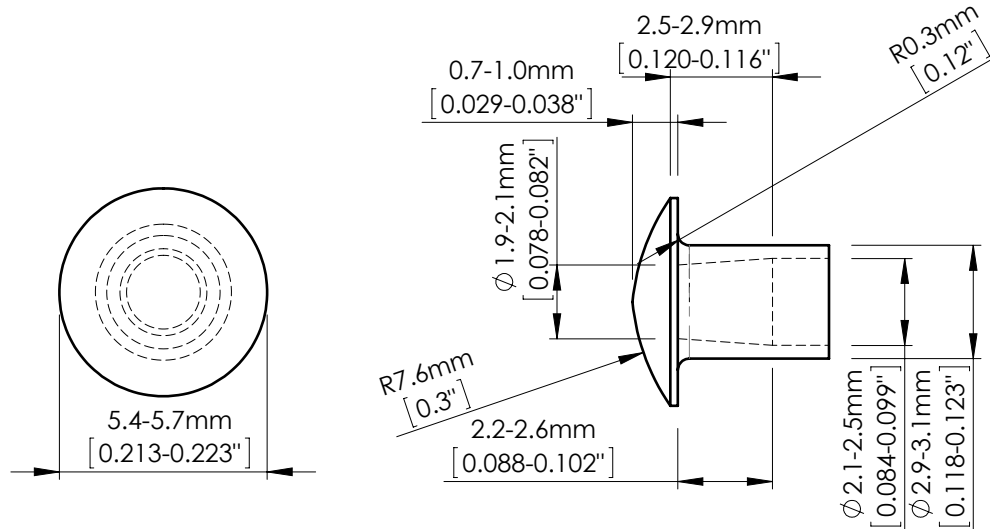
Size	Outside diameter	CTC dimension	Material thickness	P/N	Holes
14"	351 +1/-0	43-27/64" +1/8 -0	0.020"	30865514	No
22"	552 +1/-0	68-17/64" +1/8 -0	0.025"	30865622	No
22" (P2)	552 +1/-0	68-17/64" +1/8 -0	0.025"	30438722	Yes

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- Notes:
1. Part must be as close to circular as possible
 2. Diameter to be measured with a diameter tape measure.

Specifications - generally				Material			
Tempered Spring steel for Sun Tunnel		309054.64		AlSI 301 Stainless steel 0.025"/0.020"			
VELUX		SKY-PRS		<u>TMF/TGF/TCR (P2)</u>			
450 Old Brickyard Rd., Greenwood, South Carolina 29648		Approvals		Snap ring			
TMA-A		Checked by/drawn by/date		Commodity drawing			
/REC/15.05.2014		Scale		Product instructions no.			
1:2		Unspec. meas.		Category		Operation	
mm		General tolerance		21		51	
±.5		Size		304172		Edition	
B		Scale		000		12	

Edition	Description of change	Date



Part Number (Manufacturing Number)	Material	Finish
306123 (R-3479-014-0.01094)	Steel	Clear Zinc

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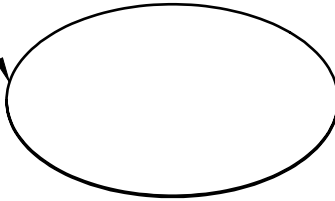


1:1

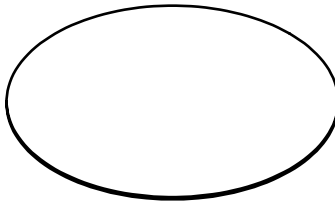
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>Semi-Tubular Rivet</u>				
Approvals TMA-A				Commodity drawing				
Checked by/drawn by/date /CB/31.07.2017				Product instructions no.				
Scale 5:1	Unspec. meas. mm	General tolerance ±.5	Size A	Category 21	306123	000	00	03

Edition	Description of change	Date

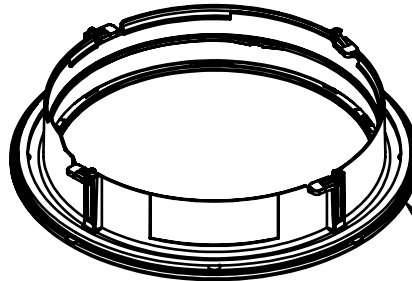
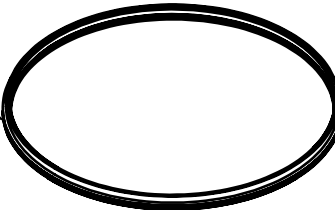
Crackle diffuser
P/N 303578xx
21.303090.000.00.xx



Frosted diffuser
P/N 303579xx
21.303090.000.00.xx



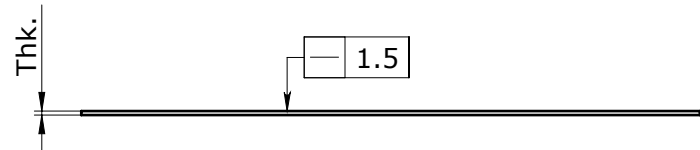
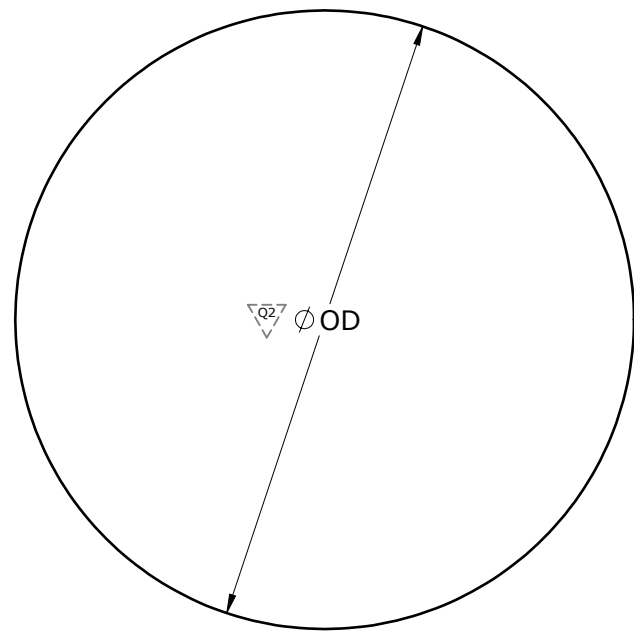
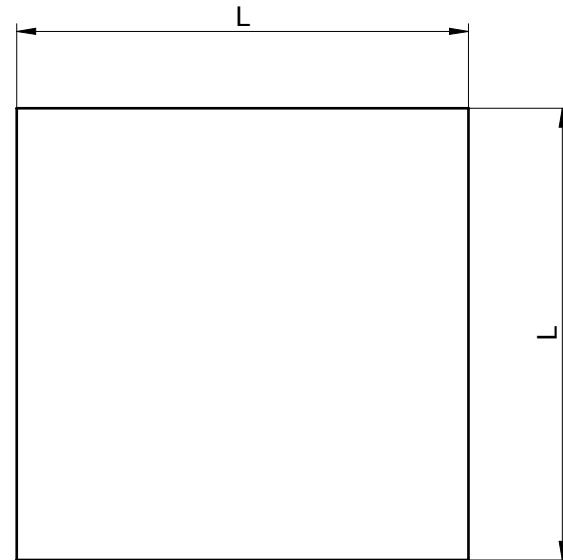
Diffuser gasket
P/N 303554xx
21.303554.000.00.xx



Ceiling ring complete
P/N 304687xx
21.304687.000.51.xx

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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>ST13 DCR kit</u>			
Approvals				LOP			
Checked by/drawn by/date /REC/19.02.2015				Product instructions no.			
Scale 1:20	Unspec. meas. mm	General tolerance N/A	Size A	Category 21	304756	0A0	51 01



Edition	Description of change	Date
14	Added additional 10",14", & 22" frosted diffusers Also added square diffusers	6/4/13
15	Added OCD table	9/26/13
16	Added material thickness for clear and prismatic	10/10/13
17	Added clear square diffuser P/N 30359522	1/21/14
18	Changed 546mm to 542mm	3/7/14
19	Added 21" round P/N 30357921	4/8/14
20	Added 21" round crackle P/N 30321021	8/10/16

Square

Size	Clear P/N	Frosted P/N	Prismatic P/N	L	Tolerance	Thickness
22"		30356122		538mm	±1.5mm	F-3mm(0.118")
22"			30357522	538mm	±1.5mm	P-3mm(0.118")
22"	30359522			538mm	±1.5mm	Cr/Cl-1.5mm(0.059")

Round

Size	Crackle(Cr) P/N	Frosted(F) P/N	Prismatic(P) P/N	Clear(CI) P/N	Ø OD mm(in)	Tolerance OD mm/(in)	Thk. mm/(in)
10"	30357810	30357910	30357710	30358010	245.5(9.671")	±0.5(±0.020")	Cr/Cl-1.5mm(0.059") F/P-3mm(0.118")
14"	30357814	30357914	30357714	30358014	350.5(13.793")	±0.5(±0.020")	Cr/Cl-1.5mm(0.059") F/P-3mm(0.118")
22"	30357822	30357922	30357722	30358022	551(21.695")	±0.5(±0.020")	Cr/Cl-1.5mm(0.059") F/P-3mm(0.118")
21"	30321021	30357921			520.5(20.492")	±0.5(±0.020")	3mm(0.118")
10"(.30/.30)	--	--	--	30345010	235(9.250")	±0.5(±0.020")	Cl-1.5mm(0.059")
10"(.30/.30)	--	--	--	30345110	235(9.250")	±0.5(±0.020")	Cl-3.1mm(0.125")
14"(.30/.30)	--	--	--	30345014	338(13.312")	±0.5(±0.020")	Cl-1.5mm(0.059")
14"(.30/.30)	--	--	--	30345114	338(13.312")	±0.5(±0.020")	Cl-3.1mm(0.125")

ZTC upper diffusers

Size	Clear P/N	Ø OD mm(in)	Tolerance OD mm/(in)	Thickness mm/(in)
14"	30357614	340(13.4")	±0.5(±0.020")	1.5mm(0.059")
22"	30357622	542(21.3")	±0.5(±0.020")	1.5mm(0.059")

OCD

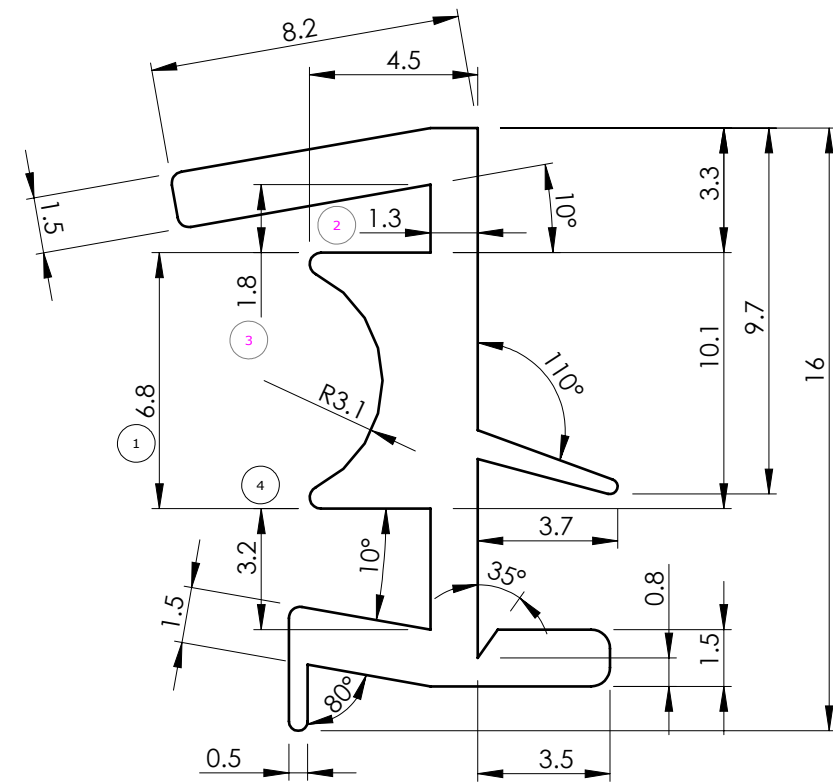
Size	Prismatic P/N	Frosted P/N	Ø OD	Tol.	Th'k
14"	30359214	30359314	328	±.5	3mm(0.118")
22"	30359222	30359322	533	±.5	3mm(0.118")

Note: Crackle finish to be MT-11430
Frosted finish to be MT-11155

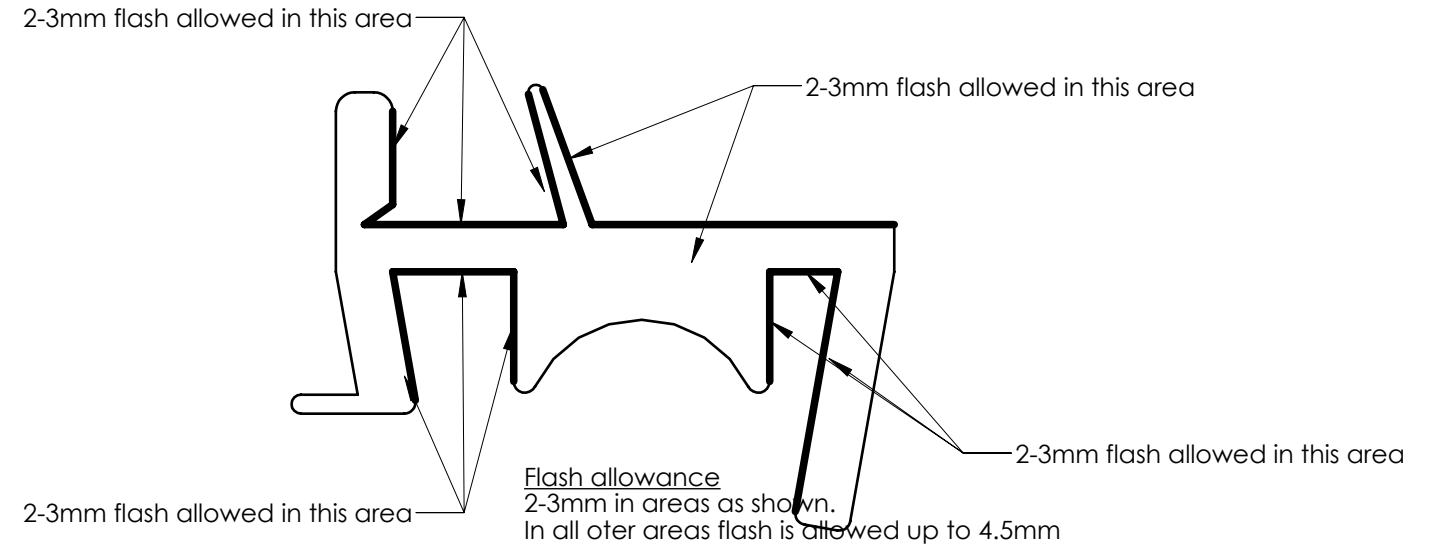
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Material				Specifications - generally			
Acrylic				Material for diffuser			
Standards - generally				309049.64			
Symbol explanations				Material prismatic difuser			
880006.68				309050.64			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				ST13 TGR/F, TMR/F, TLR, TSR and TCR			
Approvals				Diffuser			
TMA-A				Commodity drawing			
Checked by/drawn by/date				Product instructions no.			
/RC/10.08.2016				Category			
Scale		Unspec. meas.		General tolerance		Size	
1:3		mm		±0.3		B	
21				303090			
000				00			
20				Edition			

Edition	drawn by/checked by/date	Description of change
02	03/06/14	Added material and spec.'s
03	06/21/17	Changed gasket length & gasket leg length
04	CBB/BBK/06/12/19	Changed OCD energy kit gasket length



Measures	Tolerance ±
0.0 - 13	0.4
13.1 - 51	0.5
Walls	10%
Angles	3°



Size	*Length ±3	Part Number
10"	755	30355410
14"	1085	30355414
22"	1700	30355422
OCD energy kit gasket		
14"	1050	30356714
22"	1685	30356722

* Gasket is measured by cutting gasket and laying out straight.

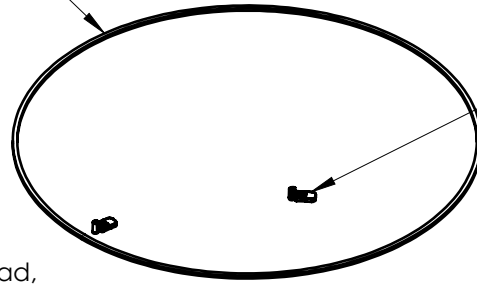
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Material			
Santoprene			
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals TMA-A			
Checked by/drawn by/date /REC/21.06.2017			
Scale 5:1	Unspec. meas. mm	General tolerance See chart	Size B

Standards - generally				
Symbol explanations		880006.68		
Specifications - generally				
TPE for Gaskets - Stung		309085.64		
<u>Diffuser gasket</u>				
Commodity drawing				
Product instructions no.				
Category	21	303554	000	00
Operation				04
Edition				

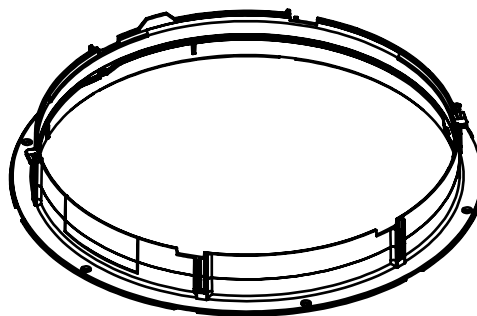
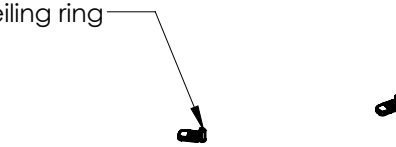
Edition	drawn by/checked by/date	Description of change
02	03/29/19	Removed 10" & 14" references
03	CBB/REC/09/09/19	Removed flippers

Foam gasket
P/N 303182
21.303182.000.00.xx

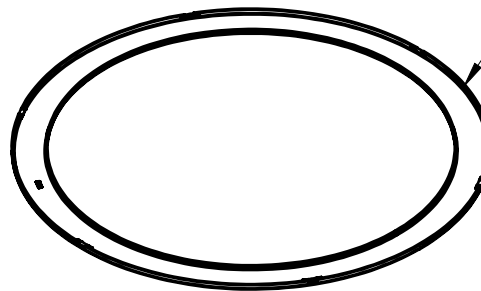


Swingout
P/N 306107
21.306107.000.00.xx

Placement of screw
P/N 306108
#8 Phillips drive screw, 3" length, pan head,
mat'l - steel, finish - clear zinc.
Screw fastens swingout and flipper to ceiling ring



Ceiling ring
P/N 303543xx
21.303543.022.00.xx

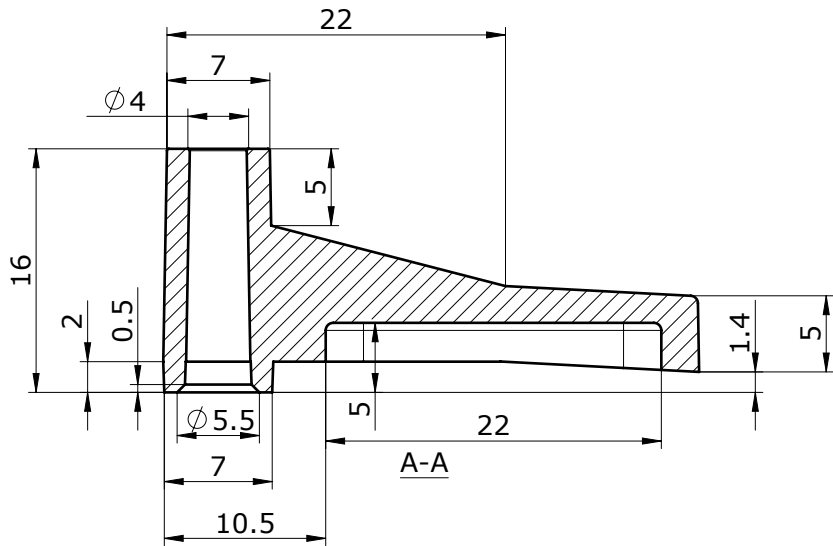
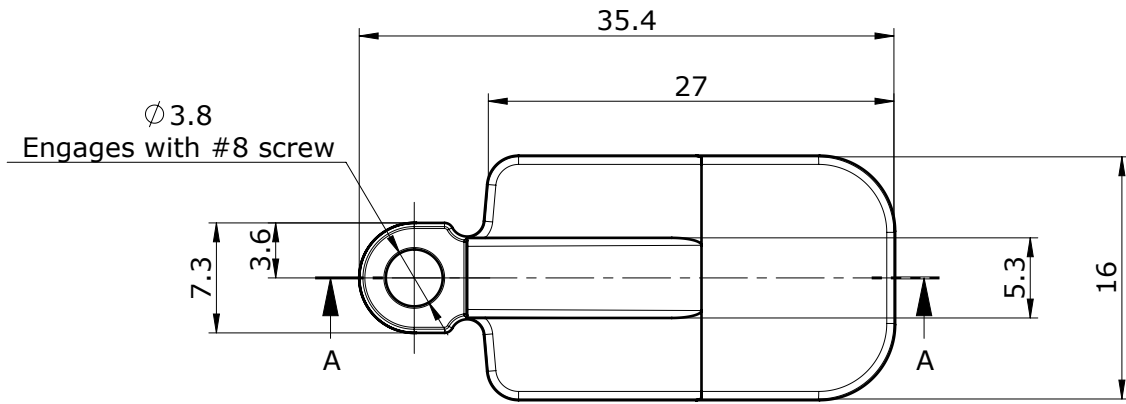


Trim ring
P/N 30331122 (22")
21.303311.000.00.xx

Note: foam should be placed
max. 10mm from edge of ceiling ring

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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>Suntunnel</u>			
Approvals				22" Ceiling ring complete Part assembly drawing			
Checked by/drawn by/date /REC/29.03.2018				Product instructions no.			
Scale 1:5	Unspec. meas. mm	General tolerance N/A	Size A	Category 21	304687	000	51 03

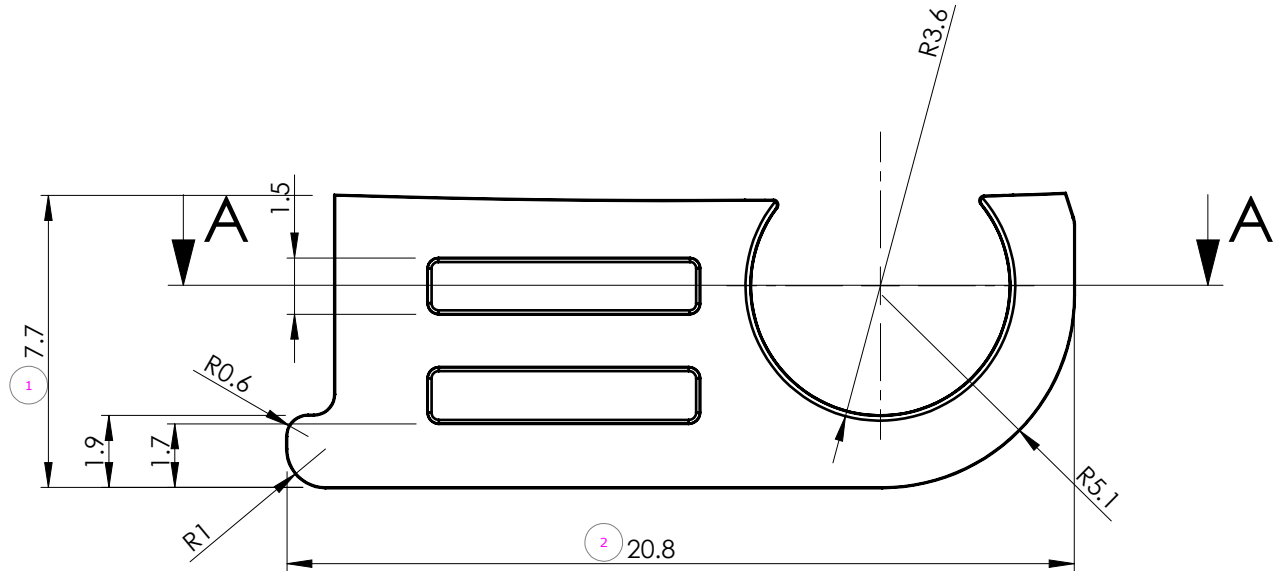


Note:
Swingout must move freely inside ceiling ring

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Material				TGR/TGF/TMR/TMF/TLR/TCR/TLR/TSR				
White - nylon 10% glass								
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				Swingout Commodity drawing				
Approvals								
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

Edition	Description of change	Date



SECTION A-A

NOTES:
Surface finish to be SPI-C3

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Material			
Nylon 6 10% glass, color:white			
VELUX		SKY-PRS	
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals TMA-A			
Checked by/drawn by/date /RC/27.08.2013			
Scale 5:1	Unspec. meas. mm	General tolerance ±0.5	Size A

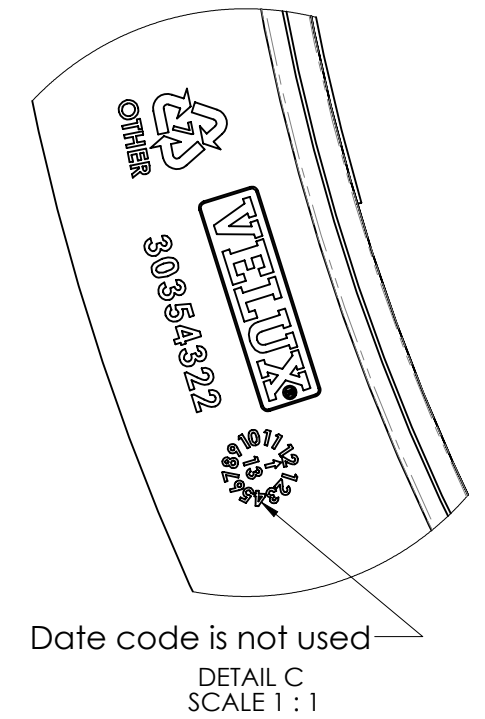
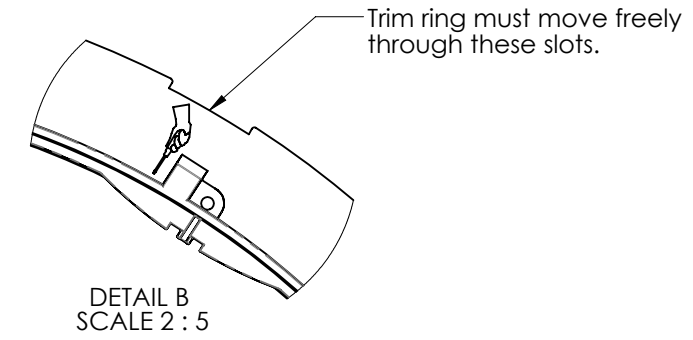
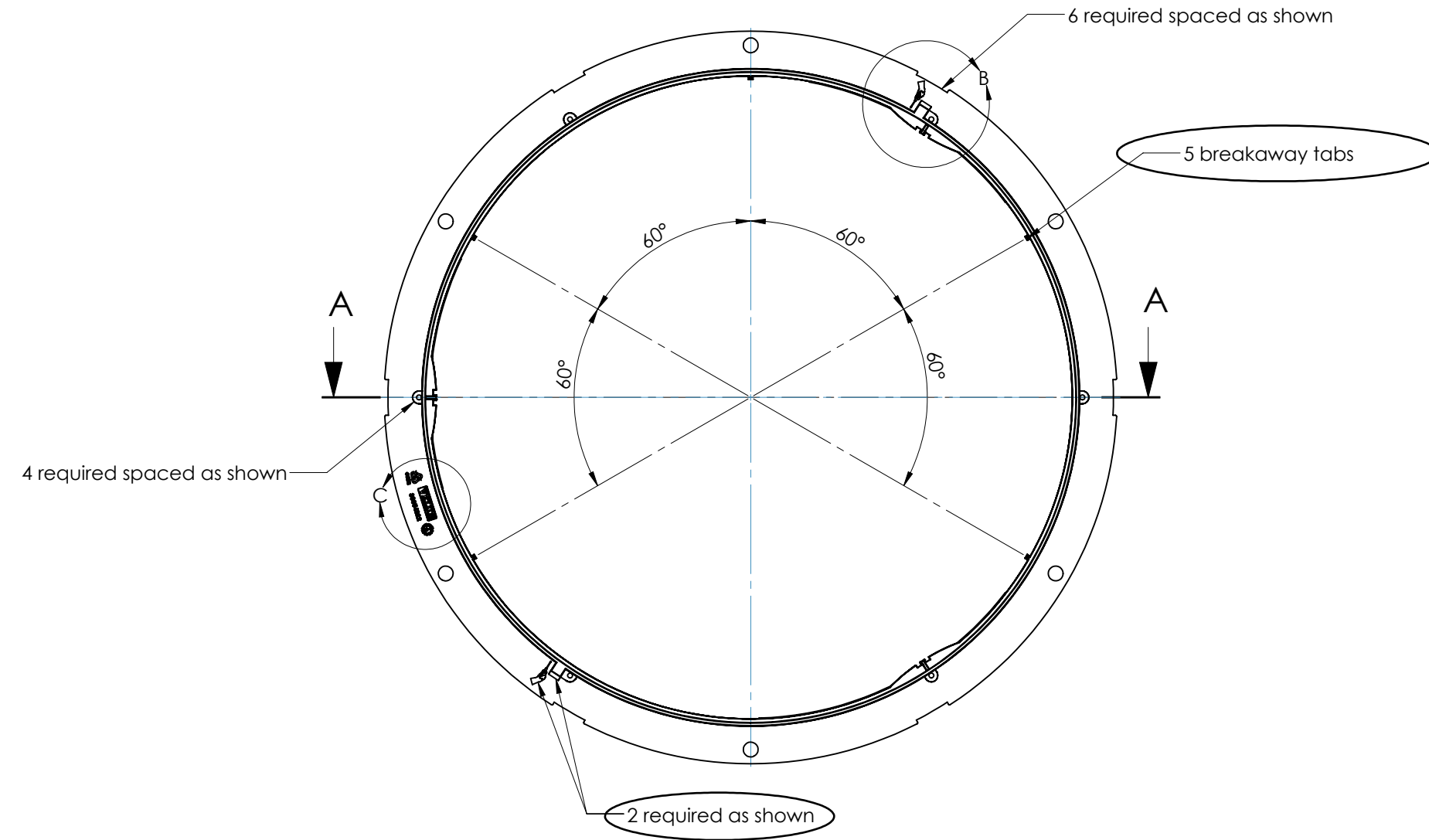
TGR/F, TMR/F, TSR, TLR

Diffuser flipper

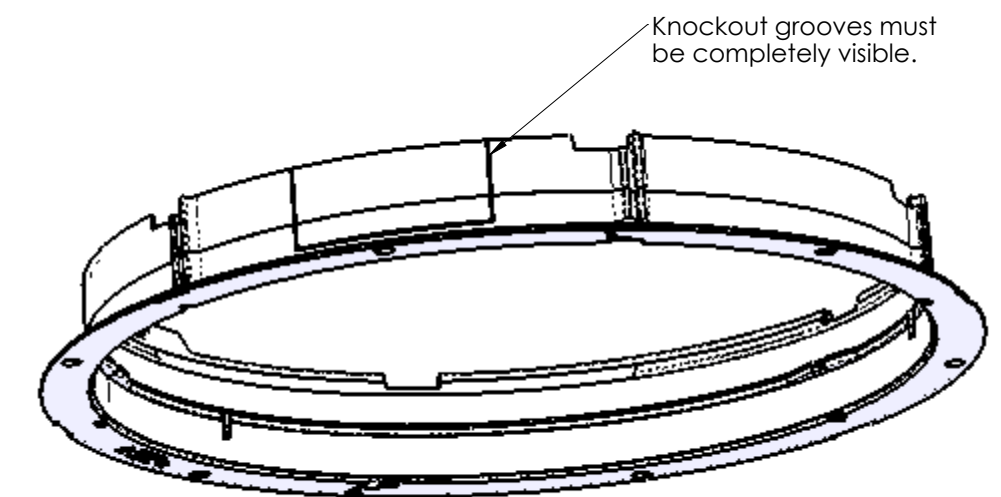
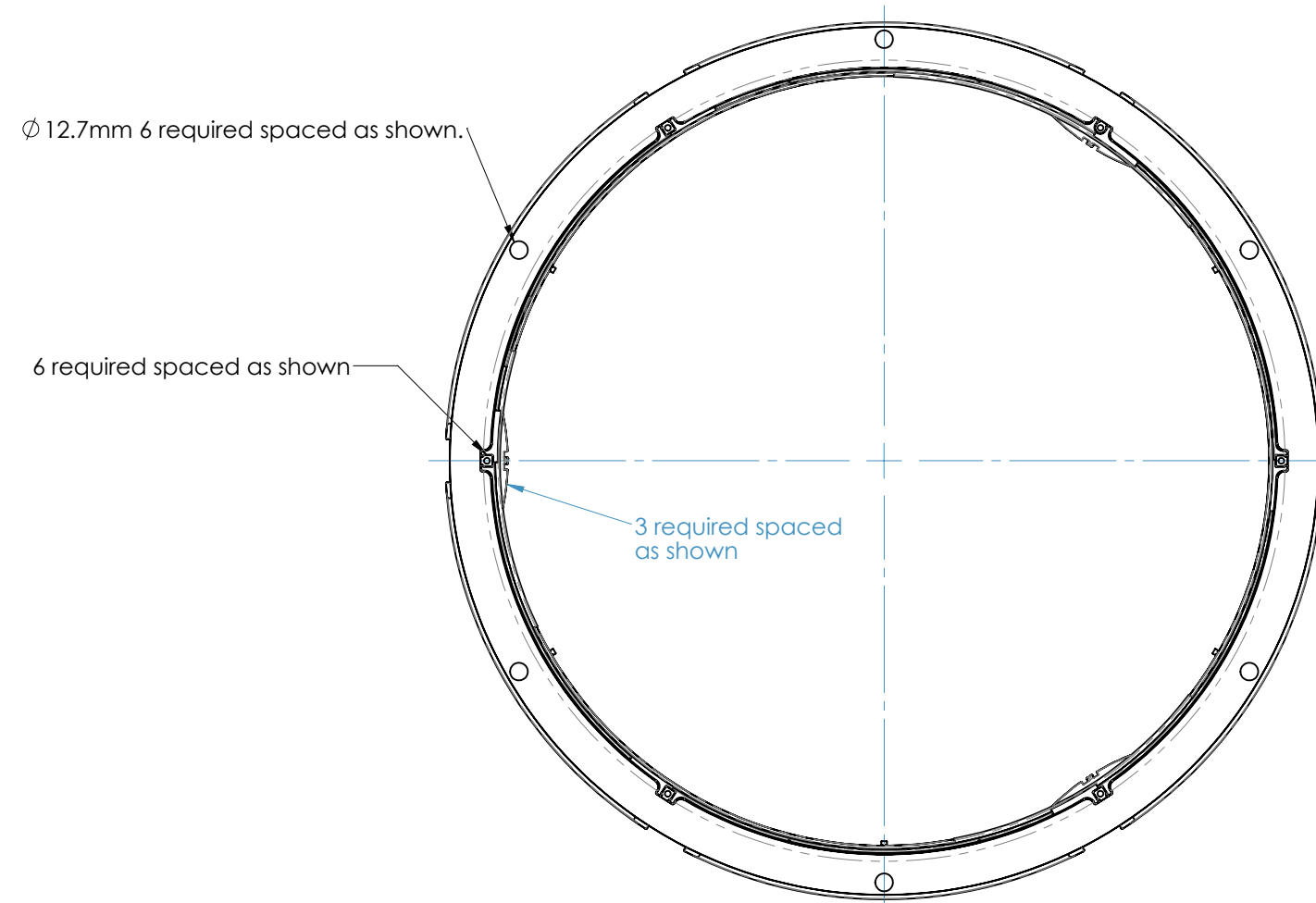
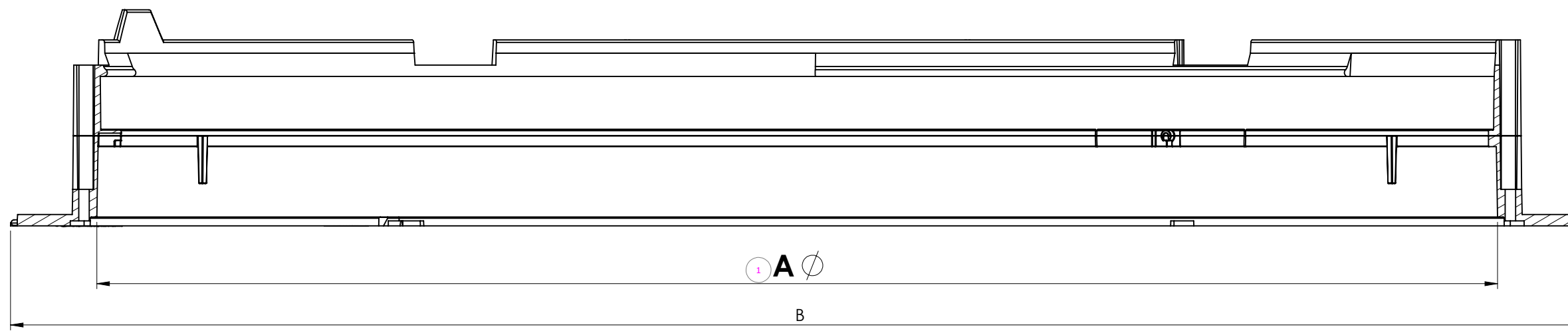
Commodity drawing

Product instructions no.					
Category			Operation	Edition	
21	303556	000	00	01	

Edition	Description of change	Date
02	Added gasket cutout, added tube supports	04/08/13
03	Changed hole diameter from $\varnothing 9.5$ to $\varnothing 12.7$	05/09/13
04	Added breakaway tabs and slot w/symbol	4/9/15



Size	$\varnothing A \pm 0.3$	$\varnothing B \pm 0.3$
22"	557.5	627

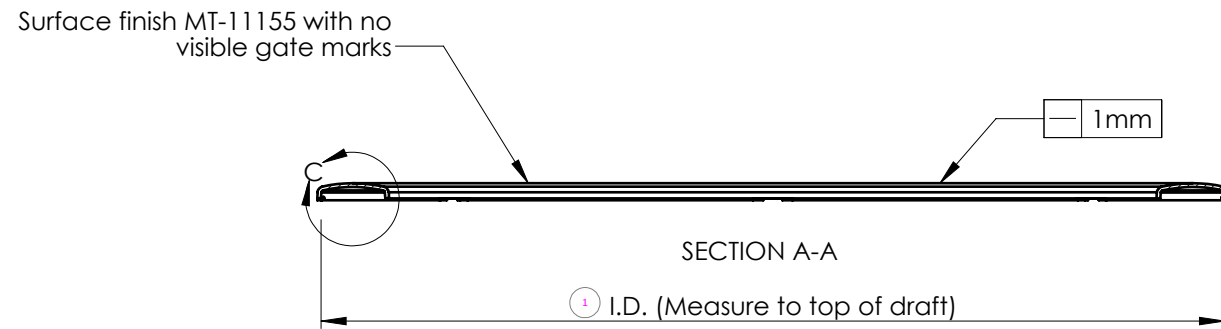
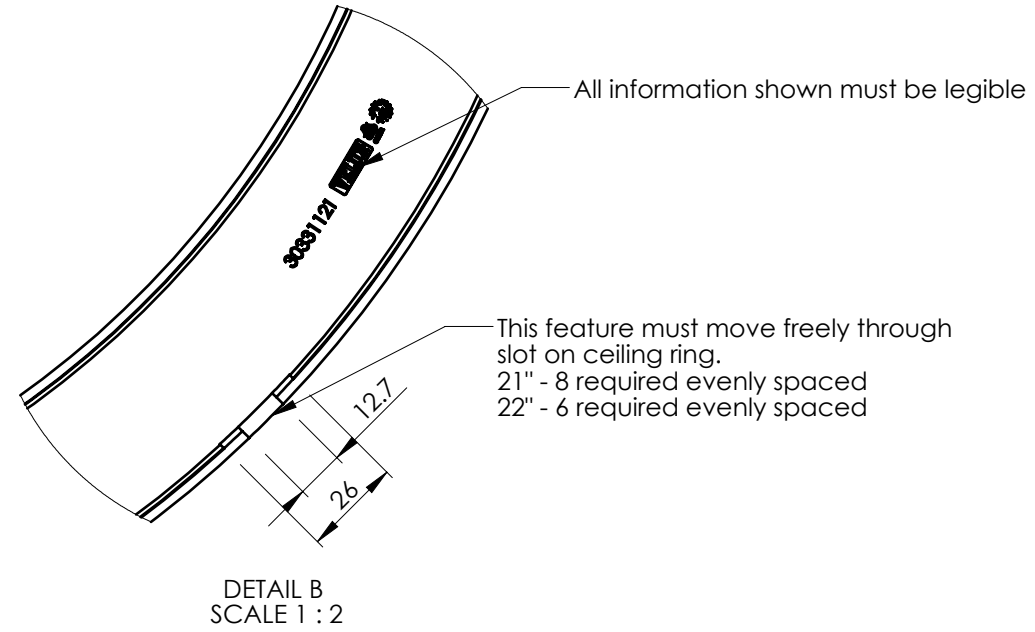
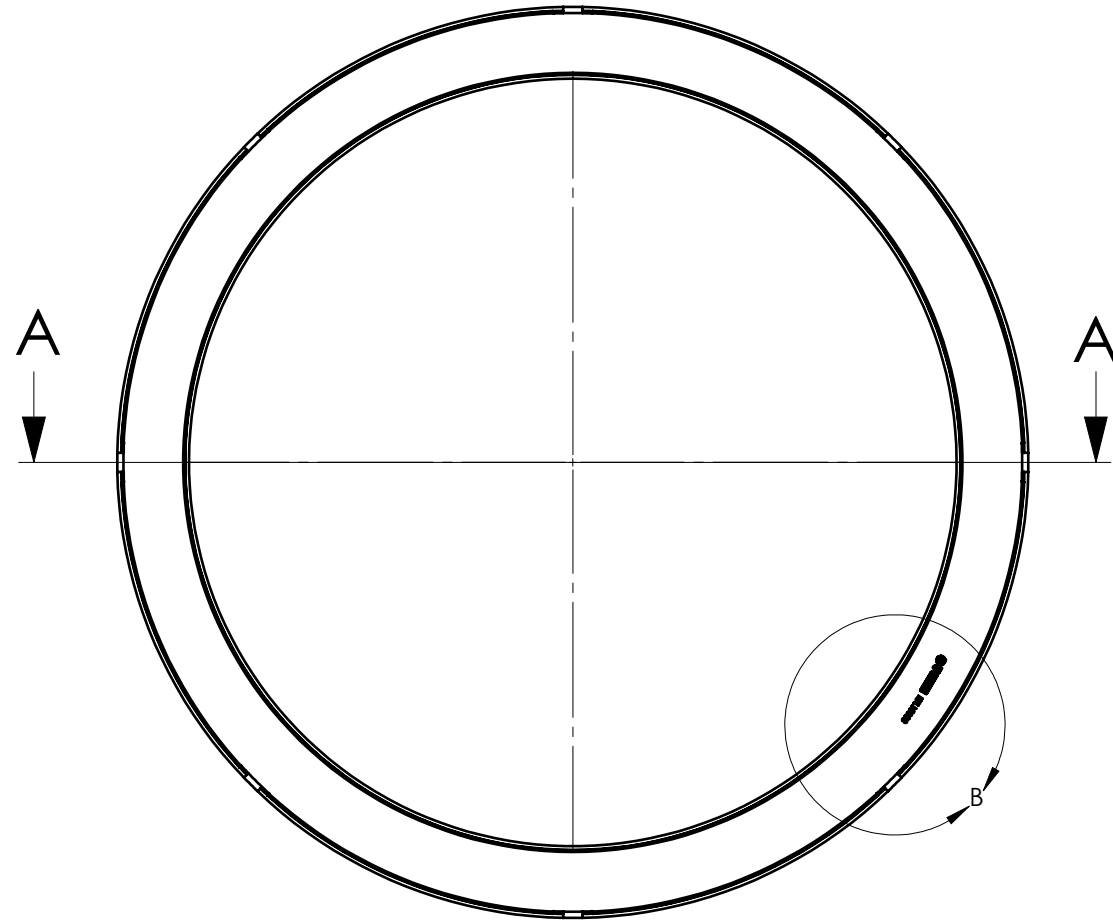


NOTES:
 1. For dimensions not shown on drawing please use solid model ST13.30354322.Ceiling ring.xx.SLDPRT.
 2. Surface finish to be SPI C-3

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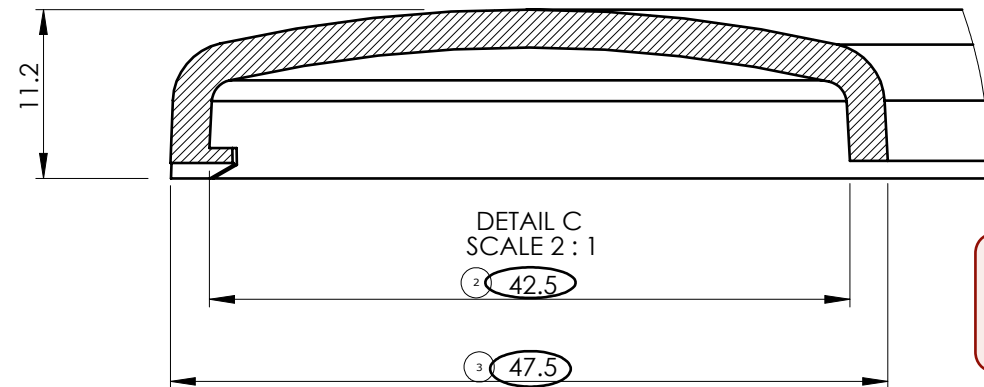
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648		TGR/F	
Approvals TMA-A		22" Ceiling ring Commodity drawing	
Checked by/drawn by/date /REC/07.05.2015		Product instructions no.	
Scale 1:5	Unspec. meas. mm	General tolerance ± 0.5	Size C
Category 21	303543	022	00 04

Edition	Description of change	Date
10	Removed 10" and 14" trim rings from drawing	1/23/13
11	Revised dimensions to be in line with 10&14" rings	4/8/15



- Notes:
- Drawing is for quality control use only. Manufacture of tooling is by supplied digital file from VELUX greenwood inc.
30331121 - 21trimring-S4.sldprt
30331122 - 22trimring-S3.sldprt
 - Acceptance of part is dependant upon fit and function with ceiling ring.
 - 21" trimring shown.

Size	Part #	Diameter ± 0.25
21"	30331121	$\phi 597.5$
22"	30331122	$\phi 628$

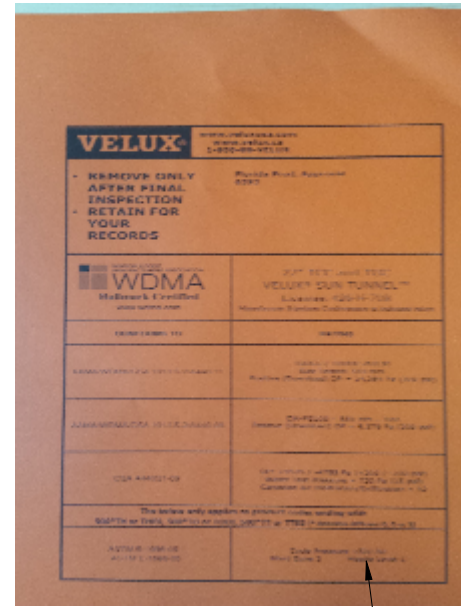


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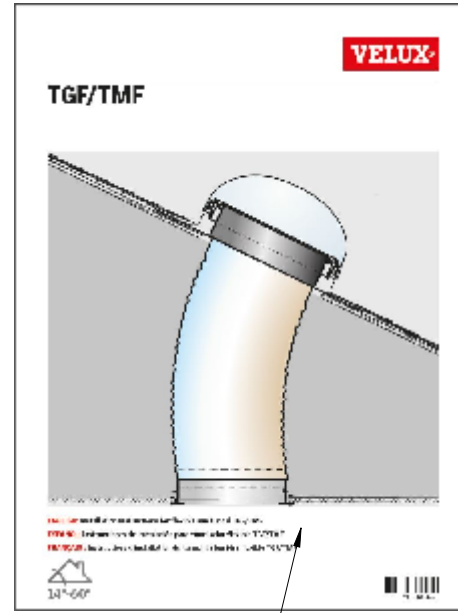
Material			
Acrylic	Material		
VELUX	SKY-PRS		
450 Old Brickyard Rd., Greenwood, South Carolina 29648			
Approvals			
TMA-A			
Checked by/drawn by/date			
/REC/08.04.2015			
Scale	Unspec. meas.	General tolerance	Size
1:5	mm	± 0.5	B

Specifications - generally				
Polycarbonate/Acrylic Alloy	309079.64			
Standards - generally				
Trim Ring Standard	885407.68			
TGR/F, TMR/F, TCR, & TSR				
21", 22" Trim ring Commodity drawing				
Product instructions no.				
Category	303311	000	00	Edition
21	303311	000	00	11

Edition	Description of change	Date



Neon orange 8-1/2X11 paper.
W/NFRC data printed
P/N 445416



Instructions
Part #454065
21.454065.000.00.xx



VCI label
Part #445133
21.VG6530.68.xx

Ziplock poly bag
Part #303404

Mounting fastner bag
Part #304797
21.304417.000.63.xx

Bag of dome screws
Part #304376
21.304417.000.63.xx



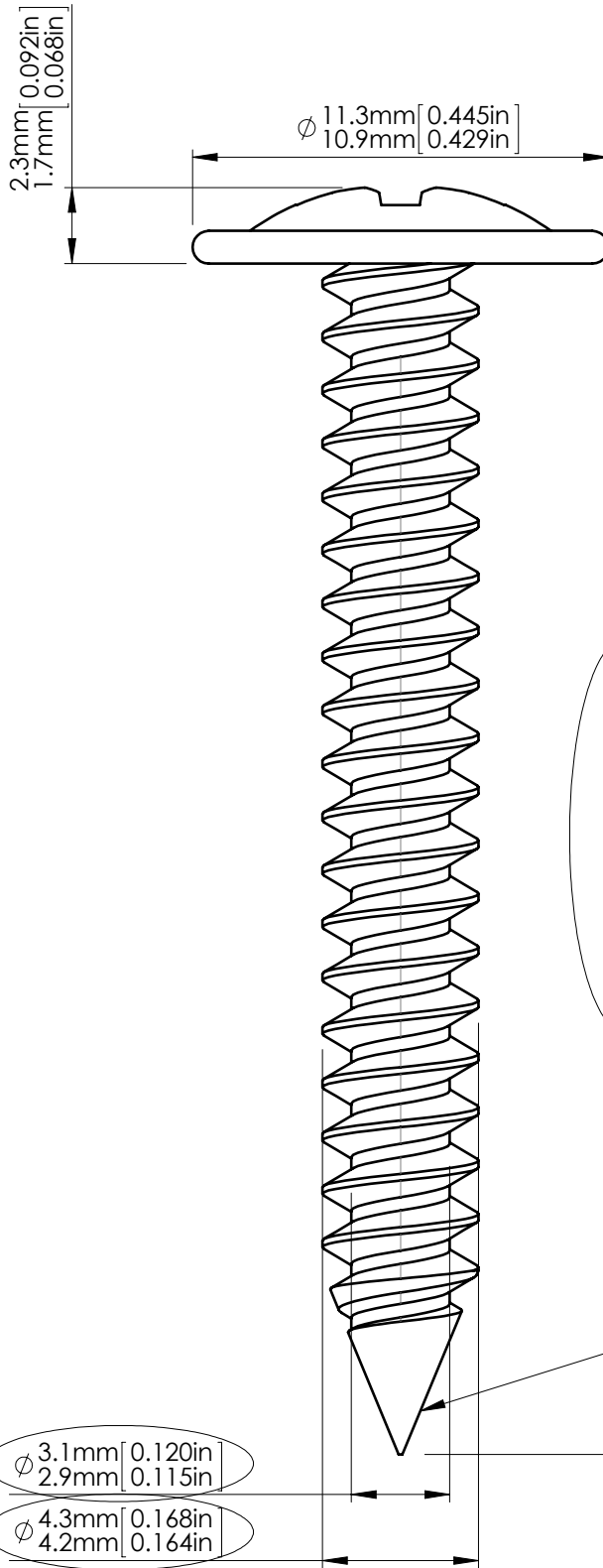
Bag of screws for stung
Part #304420
21.304417.000.63.xx



Aluminum tape
Part #30469306
21.309066.64.xx

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VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				<u>TGF/TMF</u>		
Approvals				Beipack Assembly drawing		
Checked by/drawn by/date /REC/24.05.2016				Product instructions no.		
Scale 1:1	Unspec. meas. mm	General tolerance N/A	Size B	Category 21	304798	000
				Operation 52	Edition 01	



Edition	Description of change	Date
02	Added SI to the approvals	7/22/16
03	Updated length, diameter, notes and title block	5/31/18

- Notes:
1. Phillips #2 drive.
 2. 8-15 type "A."
 3. Penetration gaging depth
1.9mm (.076")/ 1.5mm (.06")
 4. Wobble max of 8°.
 5. Major ϕ 4.3mm (0.168")/ 4.2mm (0.164")
Minor ϕ 3.1mm (0.120")/ 2.9mm (0.115").

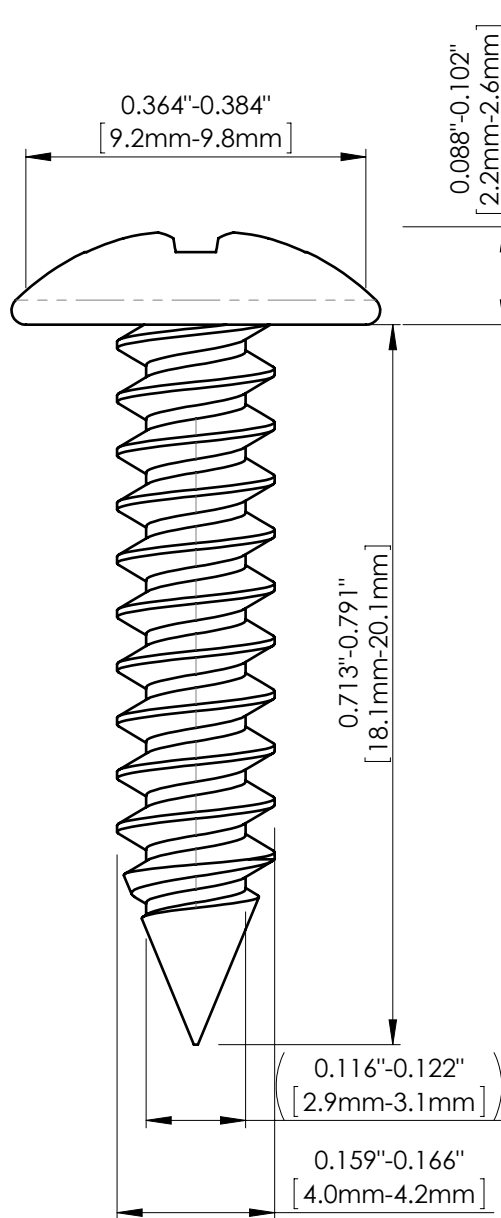
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- Note:
1. Must have sharp point.
 2. Type 17 point.

Material				Standards - generally			
300 series SST				Stainless steel screws		414010.64	
VELUX SKY-PRS 450 Old Brickyard Rd., Greenwood, South Carolina 29648				#8 x 1.25 modified truss screw			
Approvals TMA-A/SI				Type 17 point #2 Phillips			
Checked by/drawn by/date BBK/CBB/18.07.2018				Product instructions no.			
Scale 5:1	Unspec. meas. mm	General tolerance ±0.5	Size A	Category 21	306232	000	00 03

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
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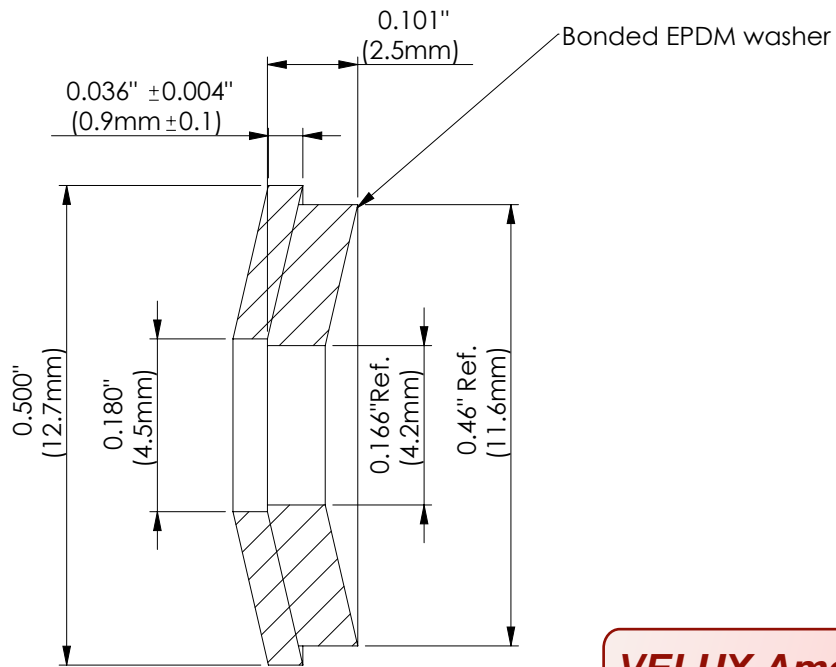
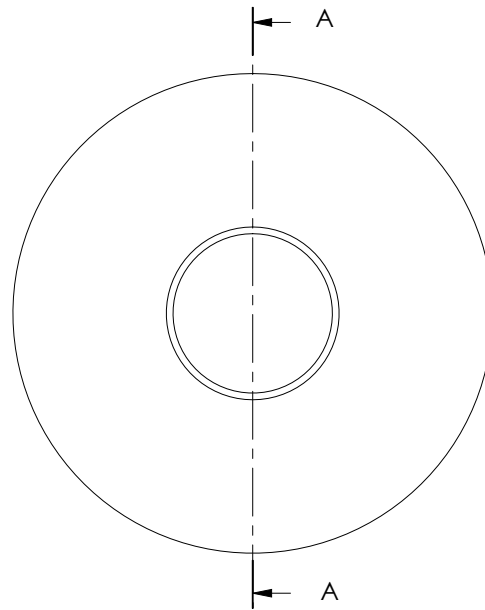
Specifications - generally
Stainless Steel Screw 414010.64

Truss head screw

#8 X 3/4 1/1 SS Phillips

Product instructions no.			
Category		Operation	Edition
21	306119	000	00 06

A21

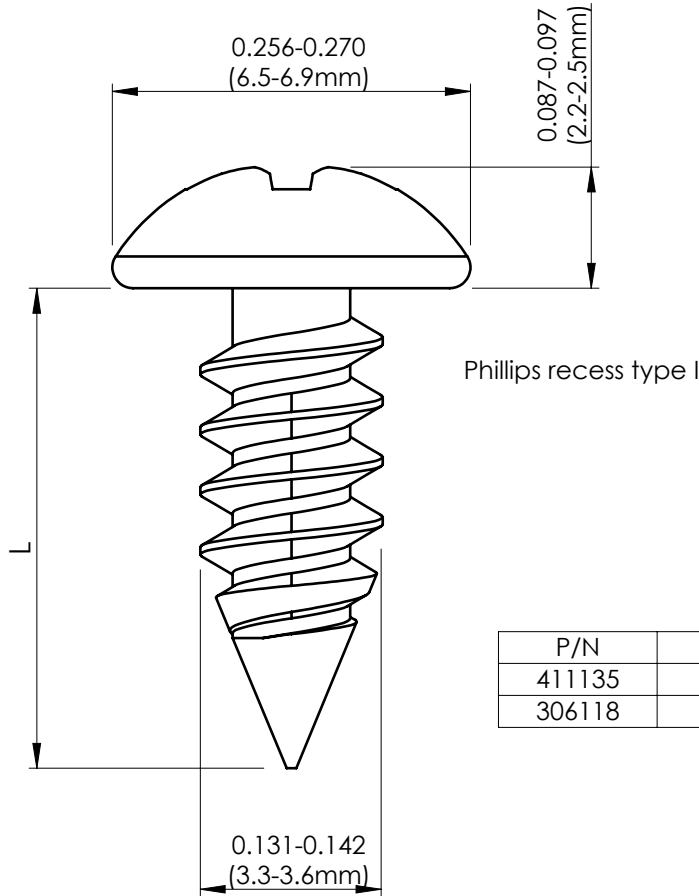


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SECTION A-A

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
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

VELUX Greenwood Inc.

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

Drawn up by:

MM

Date:

04.17.20

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 2

1. General description**1.1 Material:**

Aluminium foil tape with liner.

**VELUX America LLC
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The tape is used to create a seal between seams on tubing material.

2. Properties**2.1 Material properties:**

No.	Properties	VELUX requirements	Testing acc. to
1	Tensile Strength	≥ 20 N / cm	ASTM D 1000
2	Attachment	≥ 3.8 N / 10-mm on SS	ASTM D 3330M
3	Thickness	0.089 mm ±0.03	ASTM D 1000
4	Elongation	Max 4%	ASTM D 3715M
5	Thermal Stability	-37°C – 127°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: MM	Date: 04.17.20	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.

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