

COEUR D'ALENE WINDOW CO TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON
6800 SERIES SLIDING DOOR - 96 X 96

REPORT NUMBER

L3358.02-901-44

TEST DATES

12/01/20 - 12/10/20

ISSUE DATE

03/12/21

RECORD RETENTION END DATE

12/10/30

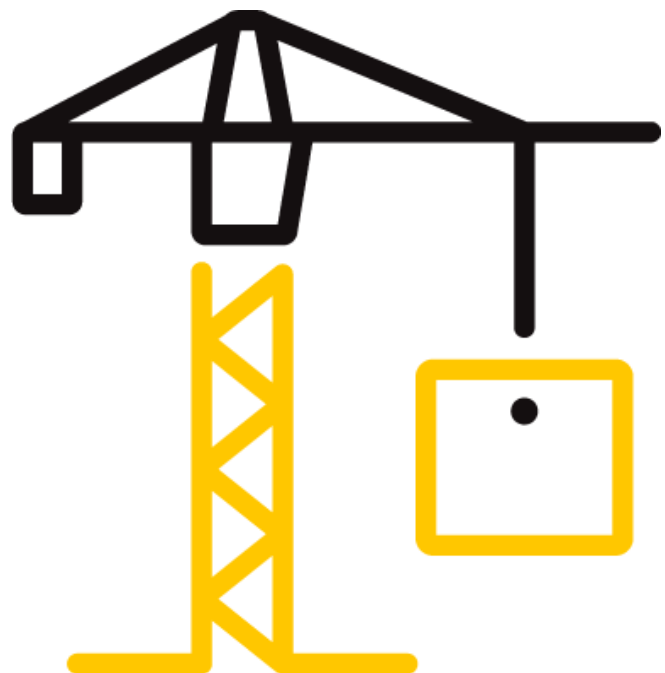
PAGES

25

DOCUMENT CONTROL NUMBER

RT-R-AMER-Test-2804 (04/17/18)

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TEST REPORT FOR COEUR D'ALENE WINDOW CO

Report No.: L3358.02-901-44

REPORT ISSUED TO

COEUR D'ALENE WINDOW CO

115 N. Sycamore
Spokane, WA 99202

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by ENERGI Fenestration Solutions Ltd. to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17 on their 425 ENERGI 2-track XO / 2498 Sash - Sliding Door - 96 x 96. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Kent, Washington. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

This product was originally tested as the ENERGI Fenestration Solutions Ltd. Series/Model 425 ENERGI 2-track XO / 2498 Sash - Sliding Door - 96 x 96 and is a reissue of the original Report No. L3358.01-901-44. This report is reissued in the name of Coeur D'Alene Window Co through written authorization by ENERGI Fenestration Solutions Ltd.

SECTION 2

SUMMARY OF TEST RESULTS

TITLE	RESULTS
AAMA/WDMA/CSA 101/I.S.2/A440-17	Class LC-PG35: Size tested 2438 x 2438 mm (96 x 96 in) – Type SD
Design Pressure	±1680 Pa (±35.09 psf)
Canadian Air Infiltration/Exfiltration Level	A2
Air Infiltration	0.56 L/s/m ² (0.11 cfm/ft ²)
Air Exfiltration	0.51 L/s/m ² (0.10 cfm/ft ²)
Cyclic Water Test Pressure	260 Pa (5.43 psf)

Reference must be made to Intertek B&C Report No. L3358.02-901-44, dated 03/12/21 for complete test specimen description and detailed test results.

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TEST REPORT FOR COEUR D'ALENE WINDOW CO

Report No.: L3358.02-901-44

For INTERTEK B&C:

COMPLETED BY:	Arbind Raj	REVIEWED BY:	Brian Rasmussen
TITLE:	Laboratory Supervisor	TITLE:	Laboratory Manager
SIGNATURE:		SIGNATURE:	
DATE:	03/12/21	DATE:	03/12/21

AR/CR/BLR:pac

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TEST REPORT FOR COEUR D'ALENE WINDOW CO

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SECTION 3

TEST SPECIFICATION(S)/METHOD(S)

The specimens were evaluated in accordance to AAMA/WDMA/CSA 101/I.S.2/A440-17.

The following test methods were used during testing:

ASTM E283-04(2012), *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*

ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

ASTM E547-00(2016), *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference*

ASTM F842-17, *Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies, Excluding Glazing Impact*

ASTM E987-88(2017), *Standard Test Methods for Deglazing Force of Fenestration Products*

ASTM E2068-00(2016), *Standard Test Method for Determination of Operating Force of Sliding Windows and Doors¹*

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimens were installed into a Douglas-Fir wood buck. The rough opening allowed for 1/4" opening and the exterior perimeter of the specimen was sealed with polyurethane to the test buck. Installation of the tested product was performed by the Intertek B&C.

LOCATION	ANCHOR DESCRIPTION	ANCHOR SPACING
Nail flange - full perimeter	#8 X 1" screws	3" from corners and every 8" OC

SECTION 5

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Arbind Raj	Intertek B&C
Bob Gillespie	ENERGI Fenestration Solutions Ltd.

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Report No.: L3358.02-901-44

SECTION 6

TEST SPECIMEN DESCRIPTION

Product Type: XO Sliding Door

Series/Model: 425 ENERGI 2-Track / 2498 Sash

Product Size:

OVERALL AREA: 5.95 m ² (63.99 ft ²)	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
Overall size	2438	96	2438	96
Panel (x2)	1235	48-5/8	2375	93-1/2

Frame Construction:

MEMBER	MATERIAL	DESCRIPTION
Head, Sill and Jambs	PVC	Extrusion

	JOINERY TYPE	DETAIL
All corners	Mitred	Thermally welded
Interlock	Mechanical	The interlock is snapped into place and fastened to the sash with (4) #8 x 1 PPH screws at approximately 8" and 24" OC
Fixed panel	Mechanical	Set into panel pocket and secured with #8 x 1-1/2" screws applied through the head and jamb stops
Sill track	Snapped in	Aluminum

Panel Construction:

MEMBER	MATERIAL	DESCRIPTION
Rails and Stiles	PVC	PVC extrusion

	JOINERY TYPE	DETAIL
All corners	Mitred	Thermally welded

Reinforcement:

DRAWING NUMBER	LOCATION	MATERIALS
425-S2498	All stiles and interlock	Steel
425-A17	Sill track	Aluminum

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Weather-stripping:

DESCRIPTION	QUANTITY	LOCATION
3/8" Pile weather strip	2 rows	Main frame - panel pocket
3/8" Pile weather strip	2 rows	Interlock

Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen can be made.*

GLASS TYPE	SPACER TYPE	INT LITE	EXT LITE	GLAZING METHOD
3/4" IG	Stainless steel	3/16" Tempered	3/16" Tempered	Glazing set on setting blocks. Exterior glazed onto foam tape and sealant, secured with snap fit PVC glazing stops

LOCATION	QUANTITY	DAYLIGHT OPENING		GLASS BITE
		millimeters	inches	
Operator panel	1	1057 x 2197	41-5/8 x 86-1/2	1/2"
Fixed panel	1	1057 x 2197	41-5/8 x 86-1/2	1/2"

Drainage:

METHOD	SIZE	QUANTITY	LOCATION
Weep	1-1/2" x 1/4"	2	Sill face edge, 2-1/2" from corners
Weep	3/4" x 1/4"	2	Sill, beneath sill track, 3/4" from corners
Weep hole	1/4" dia	2 per panel	Panel, bottom rail 4-1/2" from corners
Weep hole	1/4" dia	2 per panel	Panel, bottom rail 2-1/2" from corners
Weep	1/2" x 1/4"	2	Sill, screen pocket, 5" from corners

Hardware:

DESCRIPTION	QUANTITY	LOCATION
Lock	1	44" from top rail
Keeper (strike)	1	Jamb aligned with lock
Rollers	2	Panel, bottom rail
Sill track	1	Sill

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SECTION 7

TEST RESULTS

The temperature during testing was 22°C (72°F). The results are tabulated as follows:

TITLE OF TEST	RESULTS	ALLOWED	NOTE
Operating Force	Initiate Motion: 31 N (7 lbf) Maintain Motion: 36 N (8 lbf) Latches: 22 N (5 lbf)	135 N (30.35 lbf) max. 110 N (24.73 lbf) max. 100 N (22.48 lbf) max.	
Air Leakage, Infiltration per ASTM E283 at 75 Pa (1.57 psf)	0.56 L/s/m ² (0.11 cfm/ft ²)	1.5 L/s/m ² (0.3 cfm/ft ²) max.	1, 2
Air Leakage, Exfiltration per ASTM E283 at 75 Pa (1.57 psf)	0.51 L/s/m ² (0.10 cfm/ft ²)	N/A	1, 2
Canadian Air Leakage	A2	0.5 L/s/m ² (0.1 cfm/ft ²) max.	
Cyclic Water Penetration per ASTM E547 at 260 Pa (5.43 psf)	Pass	No leakage	3
Uniform Load Deflection, per ASTM E330 Deflections taken at interlock +1680 Pa (+35.09 psf) -1680 Pa (-35.09 psf)	19.8 mm (0.78") 15.2 mm (0.60")	Report Only	4, 5, 6
Uniform Load Structural per ASTM E330 Permanent set taken at interlock +2520 Pa (+52.63 psf) -2520 Pa (-52.63 psf)	0.25 mm (0.01") 1.02 mm (.04")	9.4 mm (0.37") max. 9.4 mm (0.37") max.	6, 7
Forced Entry Resistance, per ASTM F842, Type: A - Grade 10	Pass	No entry	
Deglazing, Per ASTM E 987 Operating direction 320 N (70 lbf) Remaining direction 320 N (70 lbf)	2.3 mm (0.092") 1.8 mm (0.070")	11 mm (0.45") max. 11 mm (0.45") max.	
Thermoplastic Corner Weld	Pass	Meets as stated	
OPTIONAL PERFORMANCE			
Cyclic Water Penetration per ASTM E547 at 330 Pa (6.90 psf)	Pass	No leakage	

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Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: Test Date 12/01/20 / Time: 9:00 AM (Air Note Only)

Note 3: Without insect screen.

Note 4: The client opted to start at a pressure higher than the minimum required. Test results are reported under Optional Performance.

Note 5: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

Note 6: Loads were held for 10 seconds.

Note 7: Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

SECTION 8 **ALTERATIONS**

No alterations were required.

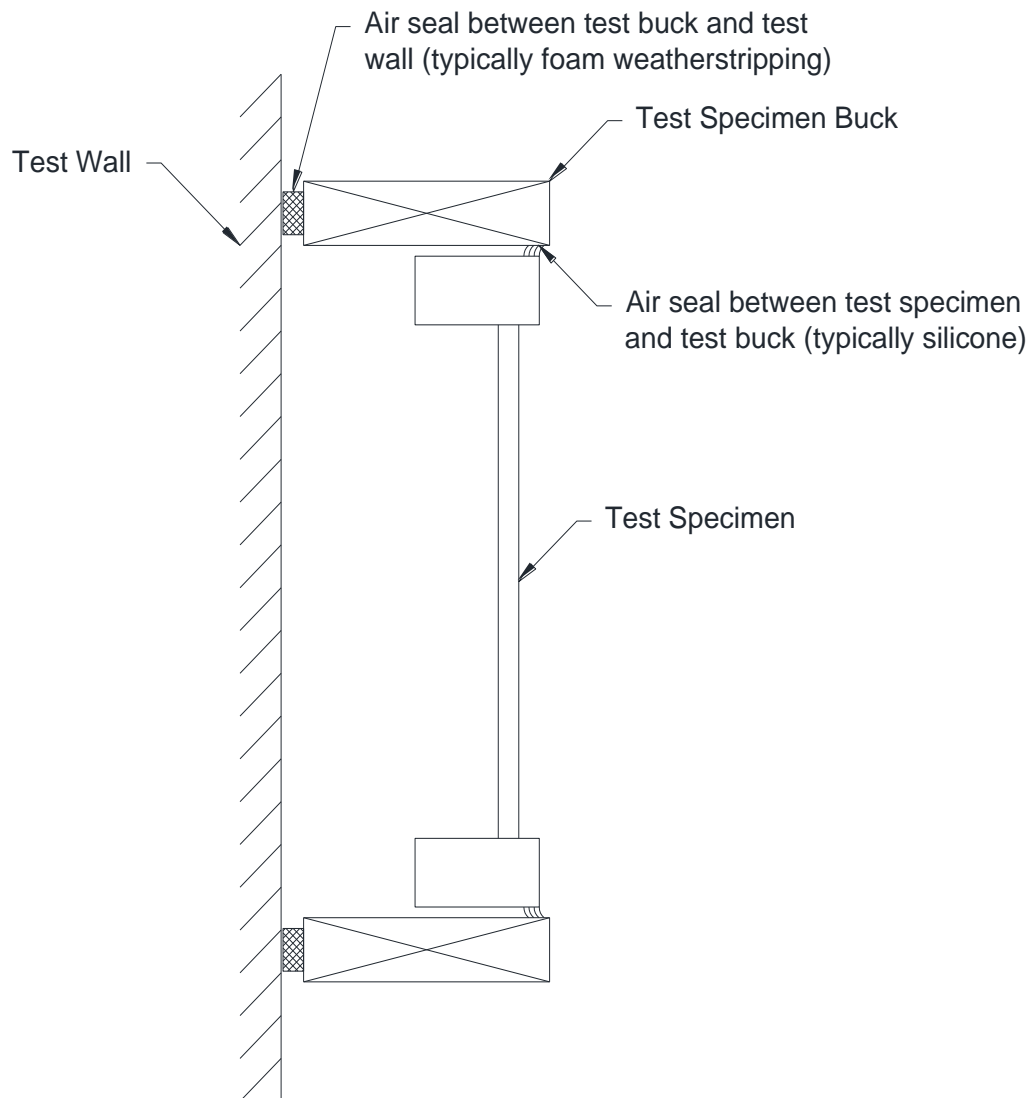
TEST REPORT FOR COEUR D'ALENE WINDOW CO

Report No.: L3358.02-901-44

SECTION 9

LOCATION OF AIR SEAL

The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.



TEST REPORT FOR COEUR D'ALENE WINDOW CO

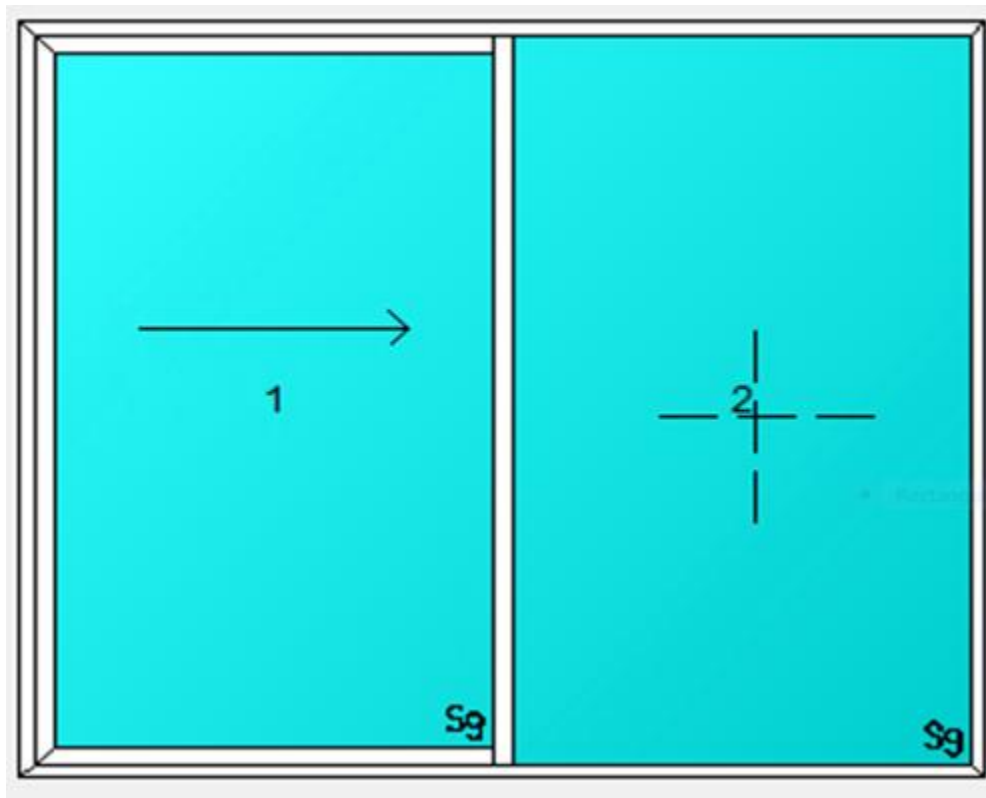
Report No.: L3358.02-901-44

SECTION 10 CONCLUSION

The specimens tested successfully met the performance requirements for the following **Class LC-PG35: Size tested 2438 x 2438 mm (96 x 96 in) – Type SD** ratings.

This report is reissued in the name of Coeur d'Alene Window Co through written authorization of ENERGI Fenestration Solutions Ltd., to whom the original report was rendered. The original ENERGI Fenestration Solutions Ltd. Report No. is L3358.01-901-44.

SECTION 11 SKETCH



SECTION 12 DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

Attachment (pages): Drawings (14)



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SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	03/12/21	N/A	Original Report Issue

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc
B1	Updated components & Notes	2019-08-20	gmc
B2	Corrected Roller Track Part Number	2019-10-30	gmc
B3	Replaced 2719 Frame with 2753	2020-01-28	gmc

425-L200-V

Parts List				
ITEM	NAME	DESCRIPTION	MATERIAL	VENDOR
1	KE2753-425-D118_D1	Main frame 2 Track Equal	rPVC	EFS
2	KE2498-425-D50_cap	Sash	rPVC	EFS
3	KE2744-425-D113	Glass Stop	rPVC	EFS
4	KE2717-425-D103	Inside Pocket Filler	rPVC	EFS
5	KE2747-425-D116	Inside Pocket Cover	rPVC	EFS
6	R1837-425-D13	Outside Cover Receiver	rPVC	EFS
7	KE2746-425-D119	Screen Track Cover	rPVC	EFS
8	425-A12_rev	Sill Pocket Cover	Aluminum	TBD
9	425-A20	Aluminum Screen Track	Aluminum	TBD
10	425-AD50	Stiffener For KE2498	Aluminum	TBD
11	425-A17	Roller Track	Auminum	TBD
12	IG_750_ss	IG 3/4" OA	Per Spec	TBD
13	Bumper Spacer	Stick On Bumper	Per Spec	TBD
14	SS4650DSPA	Roller - Anthony	Per Spec	Anthony
15	TA-39-PRSS-181-850	Roller - Custom	Per Spec	Custom
16	*U504	#8 x 1.5" FH Screw	SS	TBD
17	WS_188 x .310	Pile Weatherstrip	Per Spec	TBD

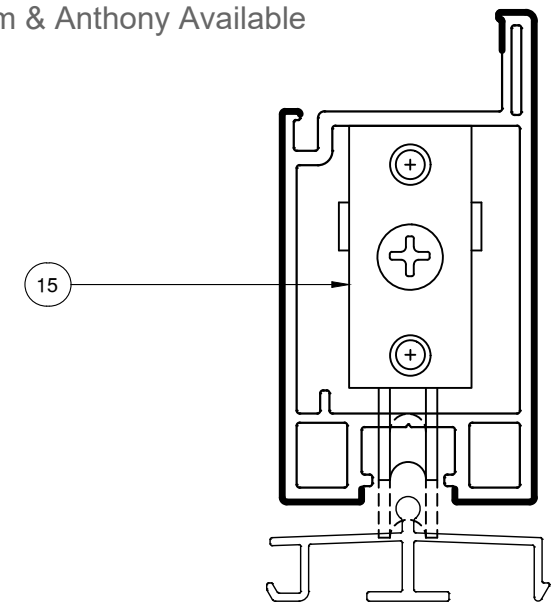
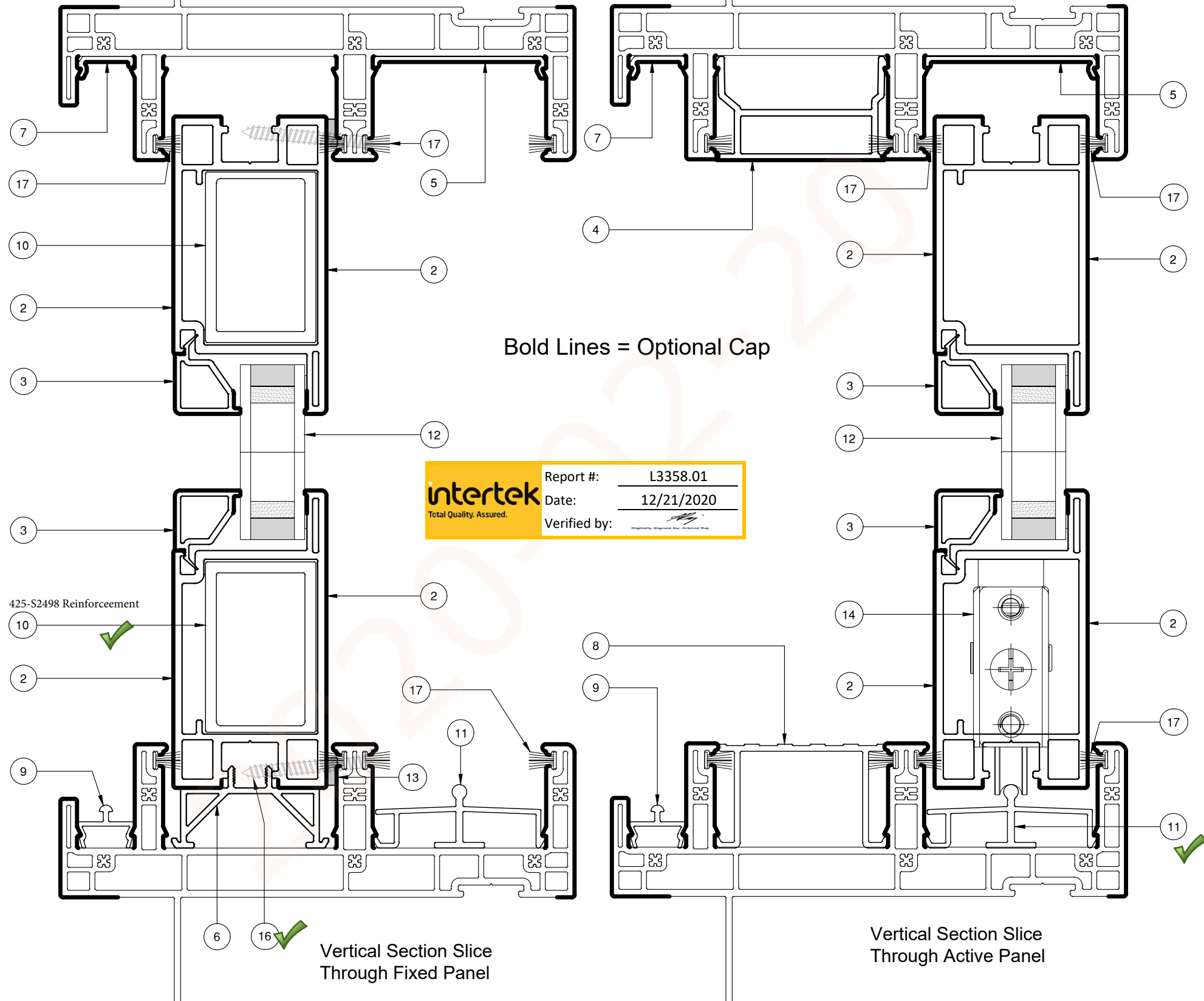
Bold Lines = Optional Cap

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Date: 12/21/2020
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KE2743 Required For Cap option Only

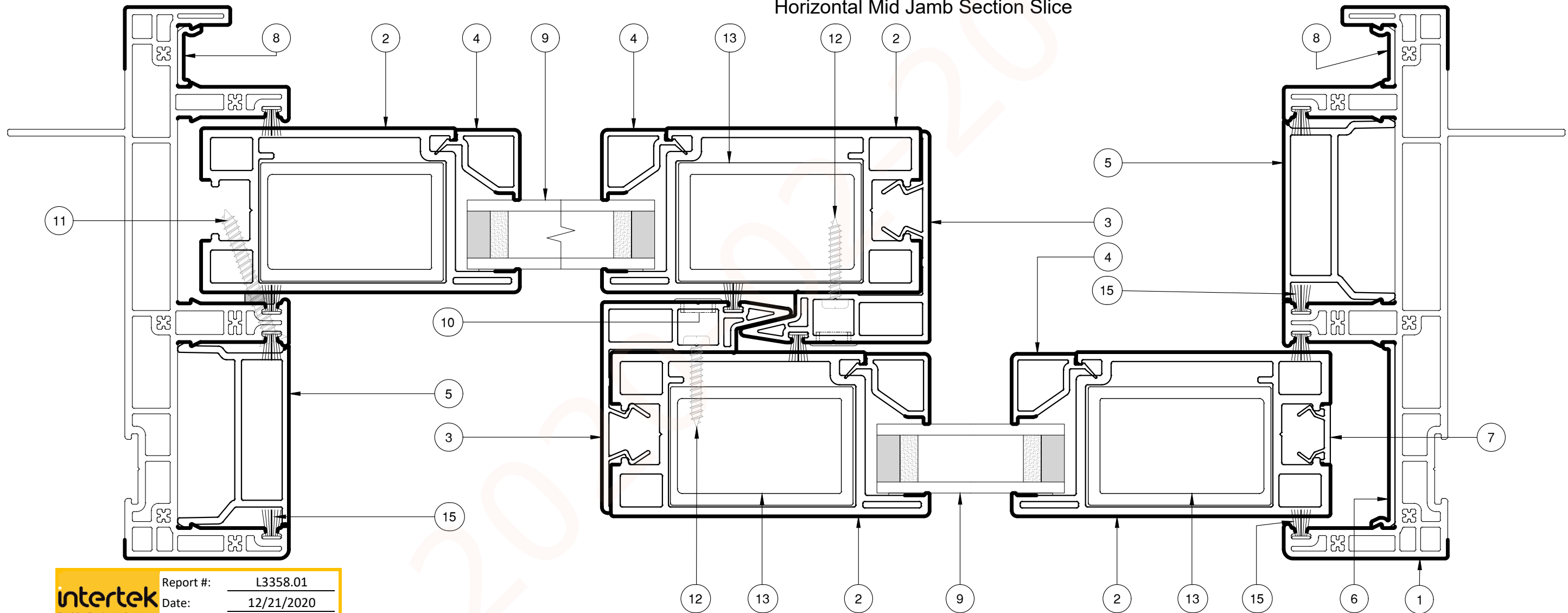
Dual & Quad Rollers From Custom & Anthony Available



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	TITLE: Medium Sash Vertical Section				CHECKED:	PART:	DIE NUMBER:
SHEET: B	MATERIAL: As Noted	DATE: 2019-06-11	SCALE: 0.75:1	Series: 425	SHEET: /	425 Catalog - copy 09242020.dwg	

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc
B1	Updated components & Notes	2019-08-20	gmc
B2	Swapped inside pocket cover to KE2717	2019-09-20	gmc
B3	Replaced 2719 Frame with 2753	2020-01-28	gmc

Horizontal Mid Jamb Section Slice



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Date: 12/21/2020
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See 425-L201-V For Vertical Section

Bold Lines = Optional Cap

Parts List									
ITEM	NAME	DESCRIPTION	MATERIAL	VENDOR	ITEM	NAME	DESCRIPTION	MATERIAL	VENDOR
1	KE2753-425-D118_D1	Main frame 2 Track Equal	rPVC	EFS	9	IG_750_ss	IG 3/4" OA	Per Spec	TBD
2	KE2498-425-D50_cap	Sash	rPVC	EFS	10	Plug 375	3/8" Hole Plug	HDPE	TBD
3	KE2545-425-D55	Sash Interlock	rPVC	EFS	11	*U504	#8 x 1.5" FH Screw	SS	TBD
4	KE2744-425-D113	Glass Stop	rPVC	EFS	12	*U520	#6 x 7/8" PH ST SS	SS	TBD
5	KE2717-425-D103	Inside Pocket Filler	rPVC	EFS	13	425-AD50	Stiffener For KE2498	Aluminum	TBD
6	KE2747-425-D116	Inside Pocket Cover	rPVC	EFS	14	Bumper Spacer	Stick On Bumper	Per Spec	TBD
7	KE2743-425-D112	Filler Strip	rPVC	EFS	15	WS_188 x .310	Pile Weatherstrip	Per Spec	TBD
8	KE2746-425-D119	Screen Track Cover	rPVC	EFS					

KE2747 Required For Cap option Only

425-L200-H

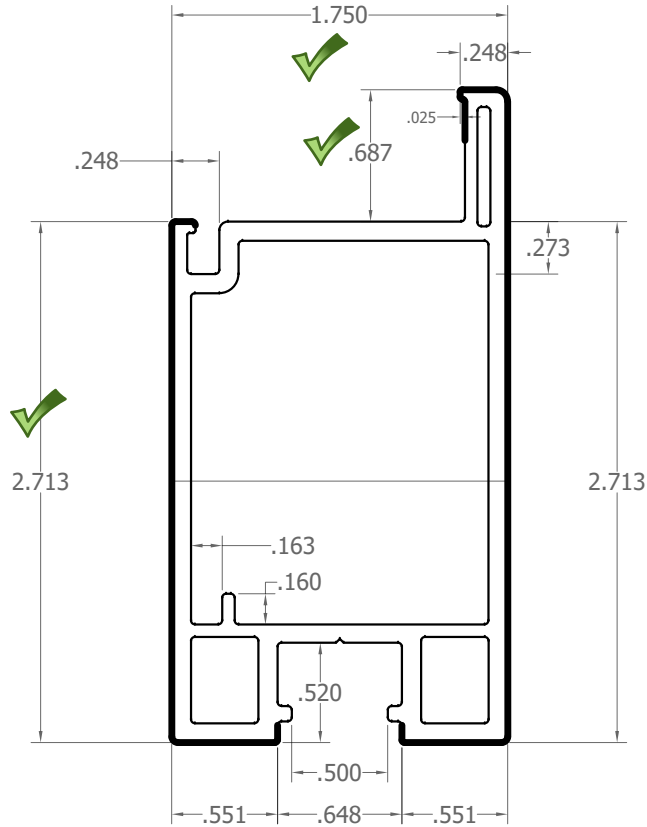


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CUSTOMER: EFS		Project: 425 Catalog	Drawn: gmc	Layout/Drawing Name: 425-L200-H		
TITLE: Medium Sash XO Horizontal Section		CHECKED:		PART:	DIE NUMBER:	ACAD:
SHEET: B	MATERIAL: As Noted	DATE: 2019-06-11	SCALE: 0.9:1	Series: 425	SHEET: /	425 Catalog - copy 09242020.dwg

KE2498

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc



 Total Quality. Assured.	Report #:	L3358.01
	Date:	12/21/2020
	Verified by:	

Bold Lines = Optional Cap

WALL THICKNESS:	
EXTERNAL	.100
INTERNAL	.065
■	.000

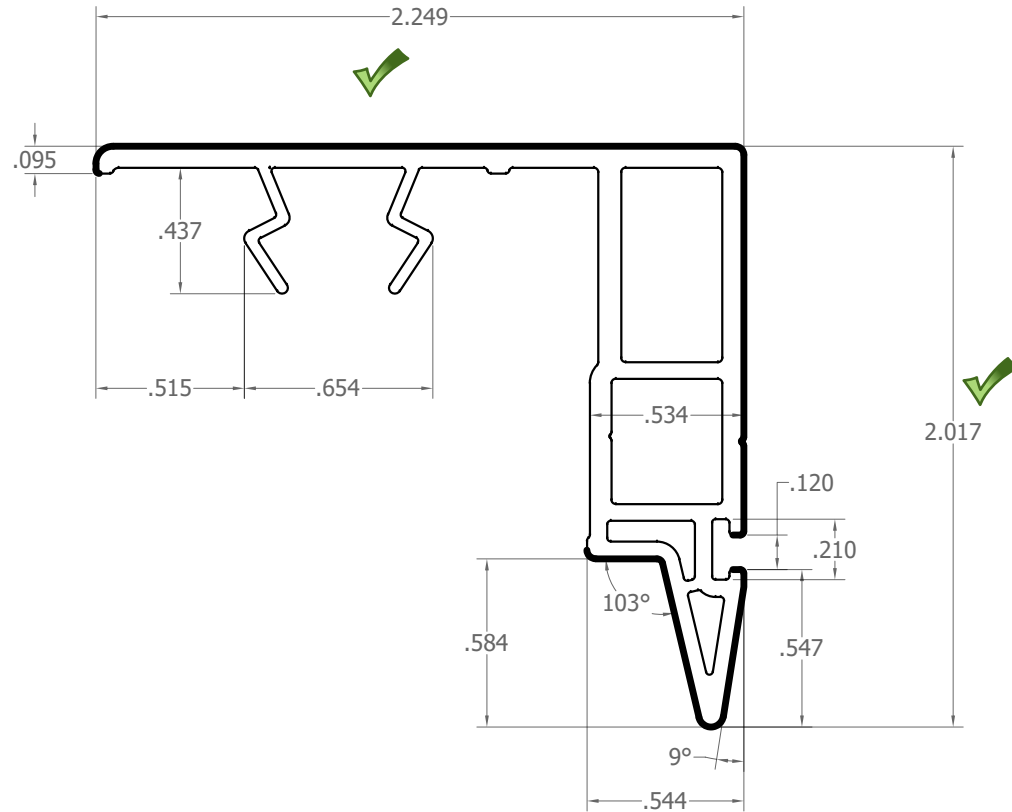


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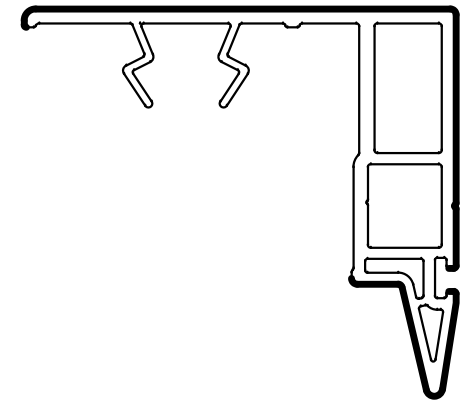
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TITLE:		Sash		CHECKED:		KE2498-425-D50							
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A	rPVC	2019-06-11	1'-0" = 1'-0"	425	/	D50	KE2498	425 Catalog - copy 09242020.dwg					

KE2585

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc



Scale = 1:1



<p>Intertek Total Quality. Assured.</p>	Report #:	L3358.01
	Date:	12/21/2020
	Verified by:	

WALL THICKNESS:	
EXTERNAL	.100
INTERNAL	.058
	.000

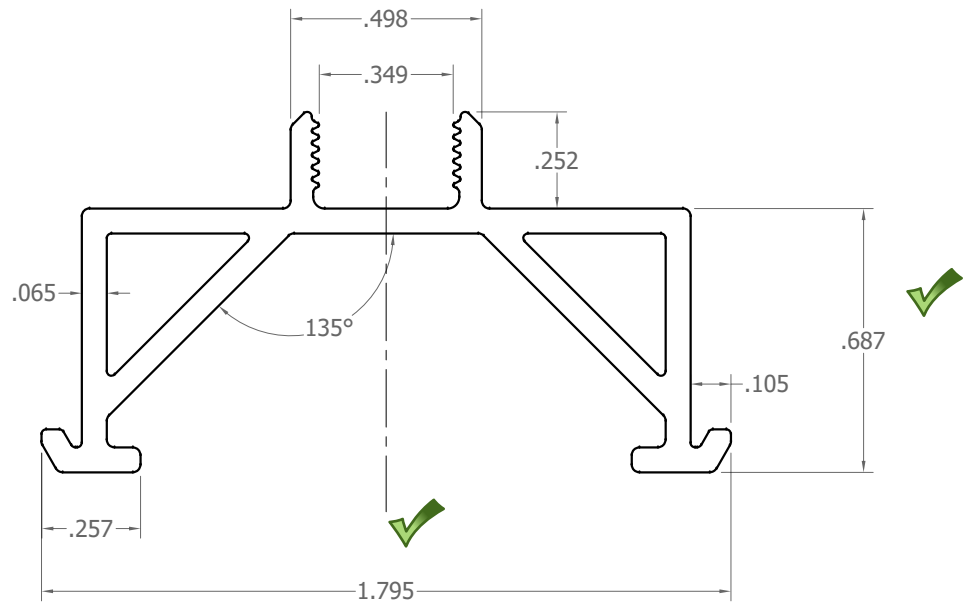


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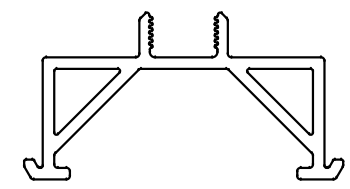
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SHEET:	MATERIAL:	DATE:	SCALE:	Series	SHEET:	PART:	DIE NUMBER:	ACAD:	425 Catalog - copy 09242020.dwg	
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R1837

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc



Scale = 1:1



Symmetrical About C/L

<p>intertek Total Quality. Assured.</p>	Report #:	L3358.01
	Date:	12/21/2020
	Verified by:	

WALL THICKNESS:	
EXTERNAL	.065
INTERNAL	.000

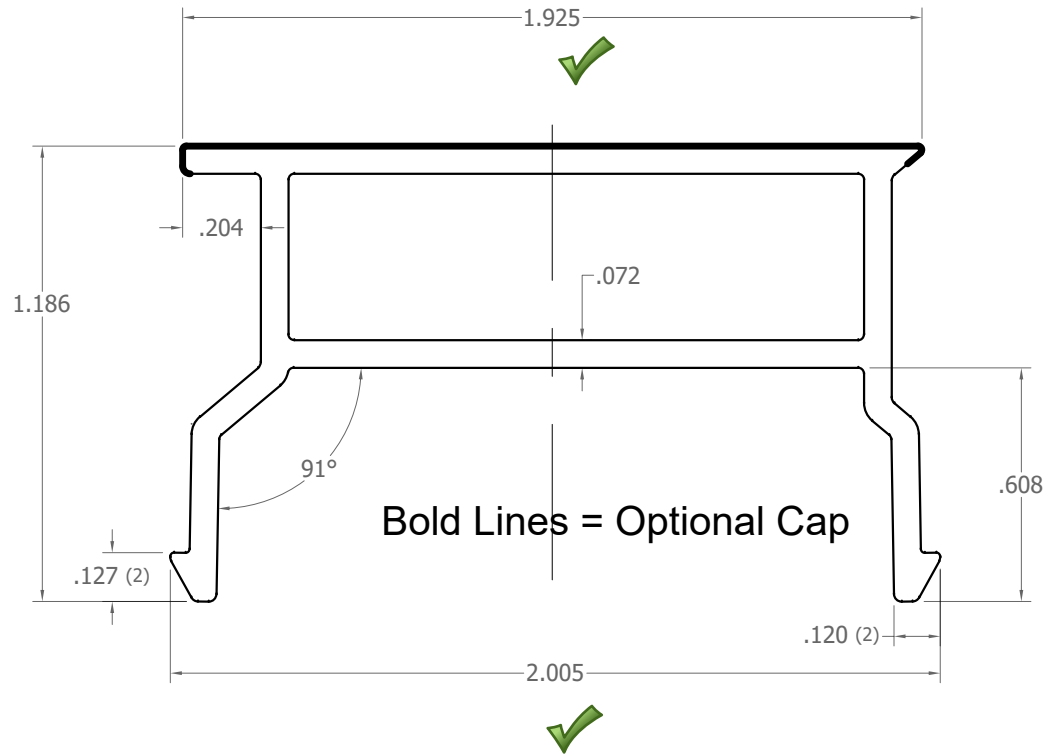
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	TITLE:							Outside Cover Receiver					R1837-425-D13		
	SHEET:	MATERIAL:	DATE:	SCALE:	Series	SHEET:	PART:	DIE NUMBER:	ACAD:						
A	rPVC	2019-06-11	2:1	425	/	D13	R1837	425 Catalog - copy 09242020.dwg							

KE2717

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc

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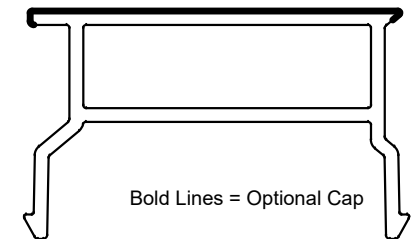
Report #: L3358.01
Date: 12/21/2020
Verified by: _____



Bold Lines = Optional Cap

Symmetrical About C/L

Scale = 1:1



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WALL THICKNESS:	
EXTERNAL	.072
INTERNAL	

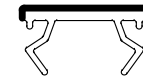
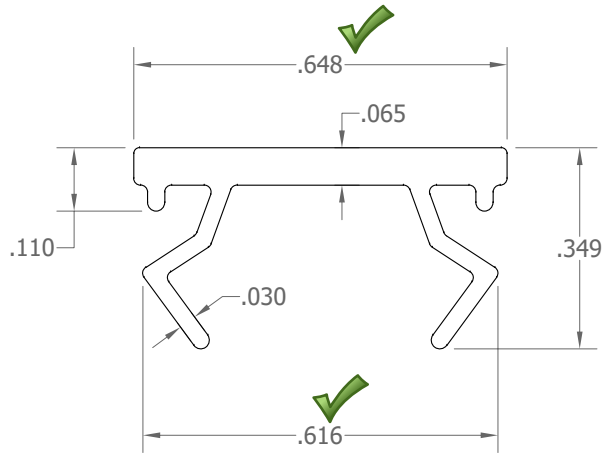


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CUSTOMER: EFS		Project: 425 Catalog	DRAWN: gmc	Layout/Drawing Name: KE2717-425-D103		
TITLE: Inside Pocket Filler		CHECKED:		PART: D103	DIE NUMBER: KE2717	ACAD: 425 Catalog - copy 09242020.dwg
SHEET: A	MATERIAL: rPVC	DATE: 2019-06-11	SCALE: 2:1	Series: 425	SHEET: /	

KE2743

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc



Scale = 1:1

<p>Total Quality. Assured.</p>	Report #:	L3358.01
	Date:	12/21/2020
	Verified by:	Digitally Signed by: Alexander Reid

WALL THICKNESS:	
EXTERNAL	.072
INTERNAL	

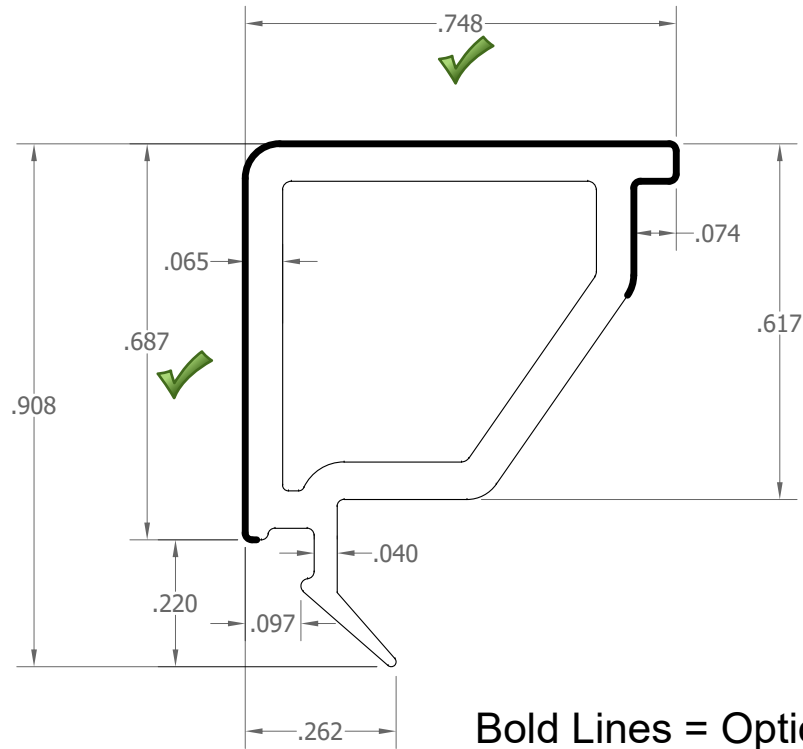


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CUSTOMER:		EFS		Project	425 Catalog	DRAWN:	gmc	Layout/Drawing Name		
TITLE:		Euro Groove Filler		CHECKED:		KE2743-425-D112				
SHEET:	MATERIAL:	DATE:	SCALE:	Series	SHEET:	PART:	DIE NUMBER:	ACAD:		
A	rPVC	2019-06-11	3:1	425	/	D112	KE2743	425 Catalog - copy 09242020.dwg		

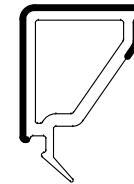
KE2744

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc



intertek
Total Quality. Assured.

Report #: L3358.01
Date: 12/21/2020
Verified by: 



Bold Lines = Optional Cap

Bold Lines = Optional Cap

Scale = 1:1

KE2498 - $\frac{3}{4}$ " IG
R1898-99 - $\frac{5}{8}$ " IG

WALL THICKNESS:	
EXTERNAL	.072
INTERNAL	

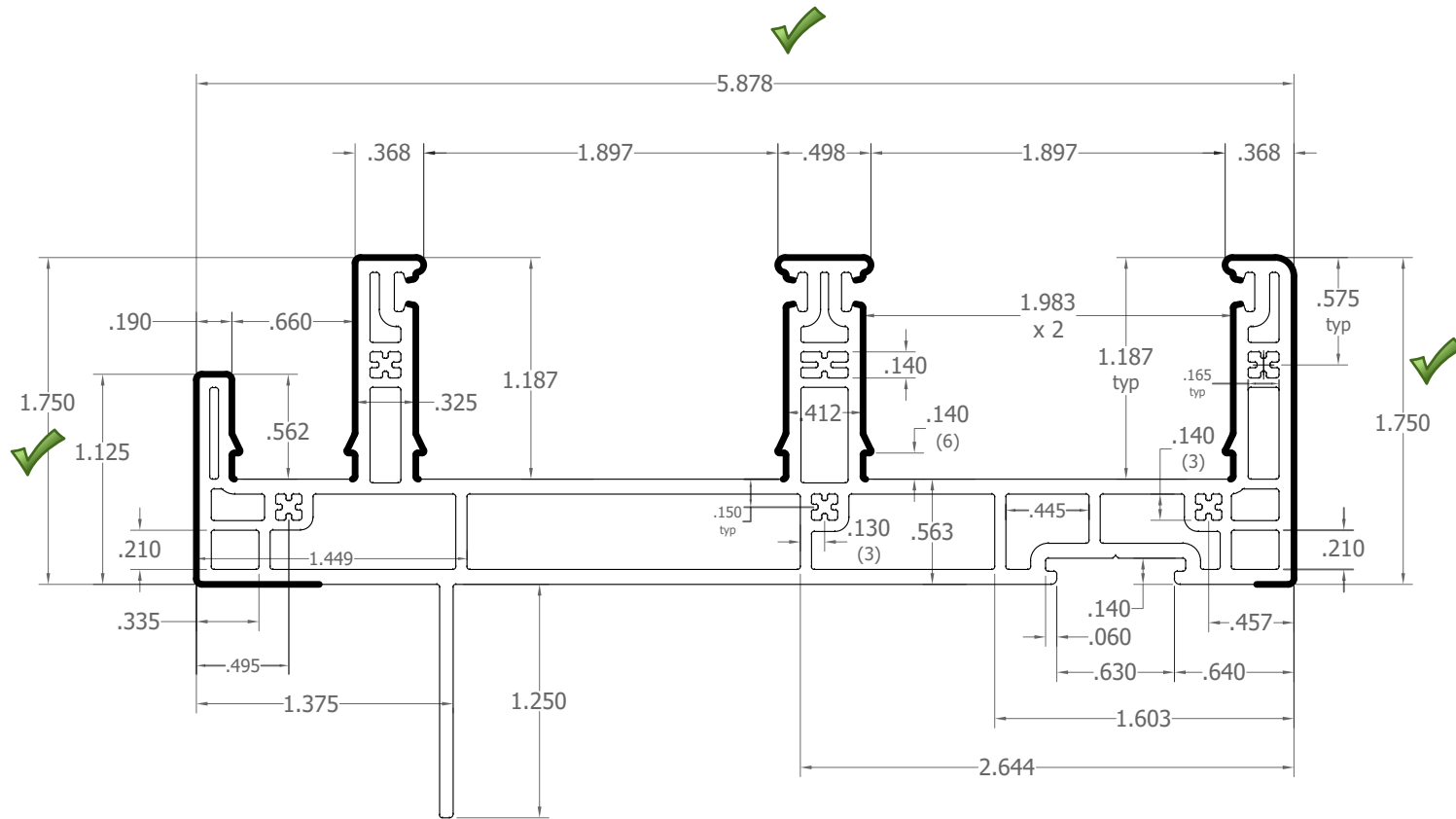


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CUSTOMER: EFS		Project: 425 Catalog	DRAWN: gmc	Layout/Drawing Name: KE2744-425-D113		
TITLE: Glass Stop		CHECKED:		PART: D113	DIE NUMBER: KE2744	ACAD: 425 Catalog - copy 09242020.dwg
SHEET: A	MATERIAL: rPVC	DATE: 2019-06-11	SCALE: 3:1	Series: 425	SHEET: /	

KE2753

REV.	DESCRIPTION	Date	BY
D1	First Issue	2019-09-04	gmc



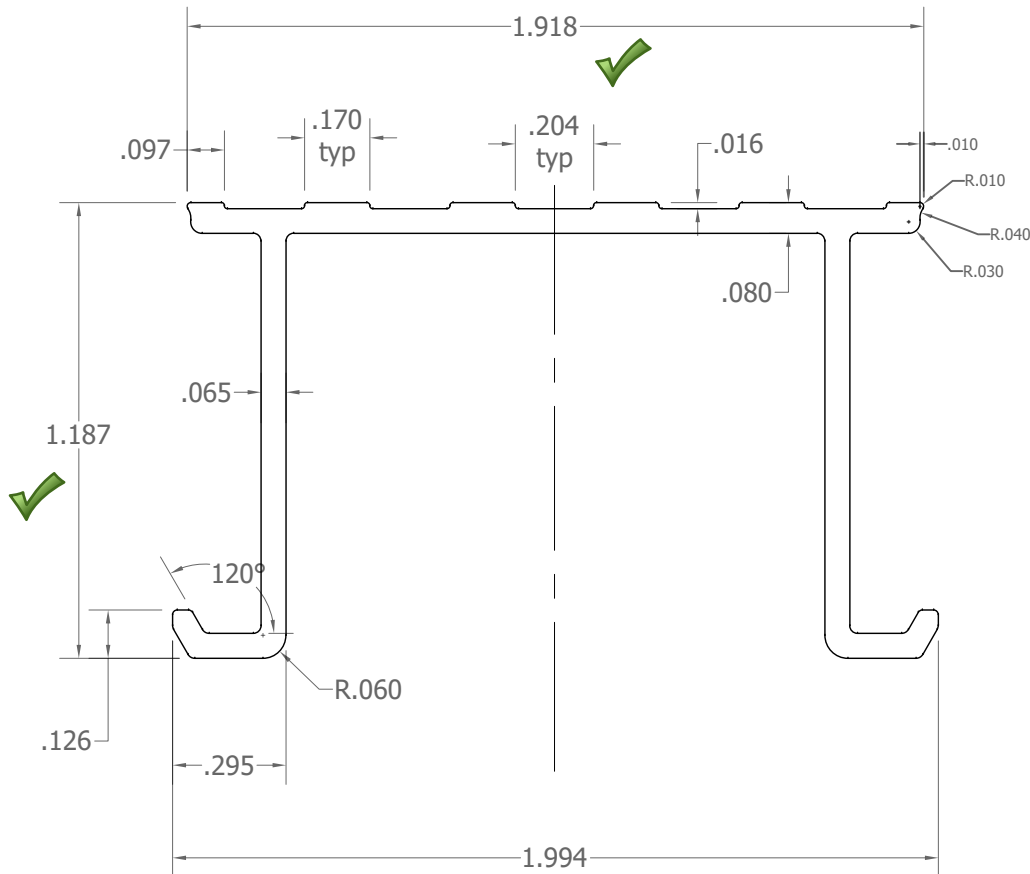
<p>intertek Total Quality. Assured.</p>	Report #:	L3358.01
	Date:	12/21/2020
	Verified by:	

WALL THICKNESS:	
EXTERNAL	.080
INTERNAL	.060

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	TITLE: 2 Track Main Frame - Equal Pockets					CHECKED:	PART: D118			
	SHEET: A	MATERIAL: rPVC	DATE: 2019-09-04	SCALE: 1:1	Series: 425	SHEET: /	DIE NUMBER: KE2753	ACAD: 425 Catalog - copy 09242020.dwg		

425-A12

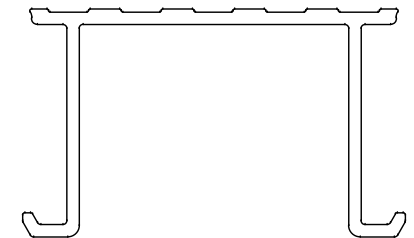
REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc
A1	Rev top mating geometry to frame	2019-07-29	gmc



intertek
Total Quality. Assured.

Report #: L3358.01
Date: 12/21/2020
Verified by:

Scale = 1:1



Symmetrical About C/L
6063 T5 Alloy or Equiv

WALL THICKNESS:	
EXTERNAL	.065
INTERNAL	

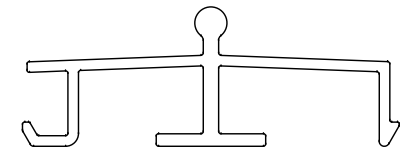
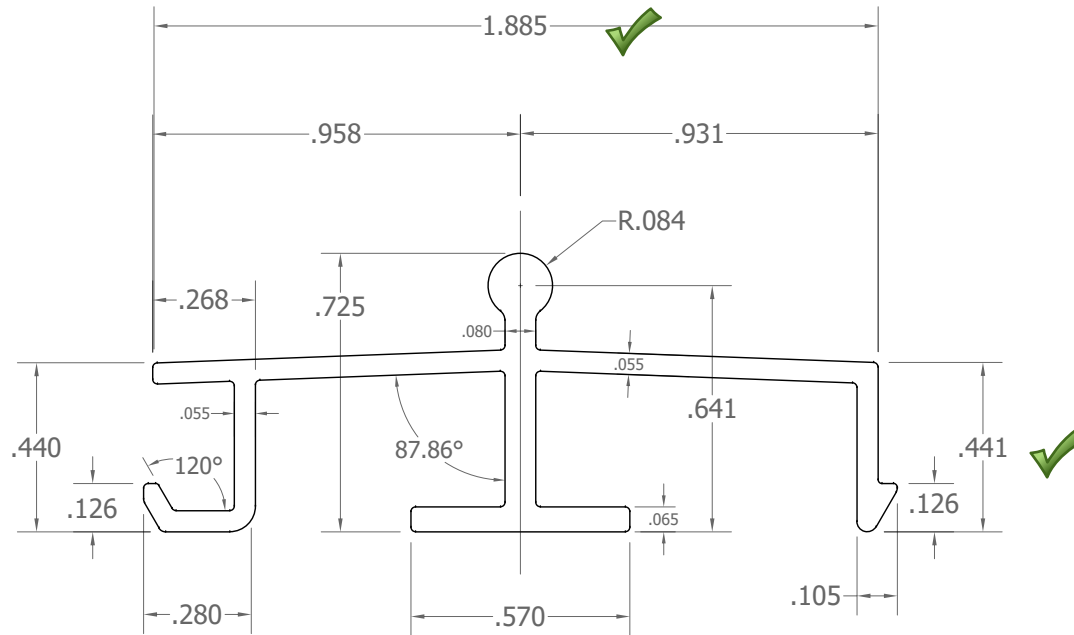


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CUSTOMER: EFS		Project: 425 Catalog	DRAWN: gmc	Layout/Drawing Name: 425-A12		
TITLE: Sill Track Cover		CHECKED:		PART: A12	DIE NUMBER:	ACAD: 425 Catalog - copy 09242020.dwg
SHEET: A	MATERIAL: Aluminum	DATE: 2019-06-11	SCALE: 2:1	Series: 425	SHEET: /	

425-A17

REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-06-11	gmc
B1	Chg'd .044 walls to .055	2020-01-03	gmc



Scale = 1:1

<p>Total Quality. Assured.</p>	Report #:	L3358.01
	Date:	12/21/2020
	Verified by:	

WALL THICKNESS:	
EXTERNAL	Noted
INTERNAL	

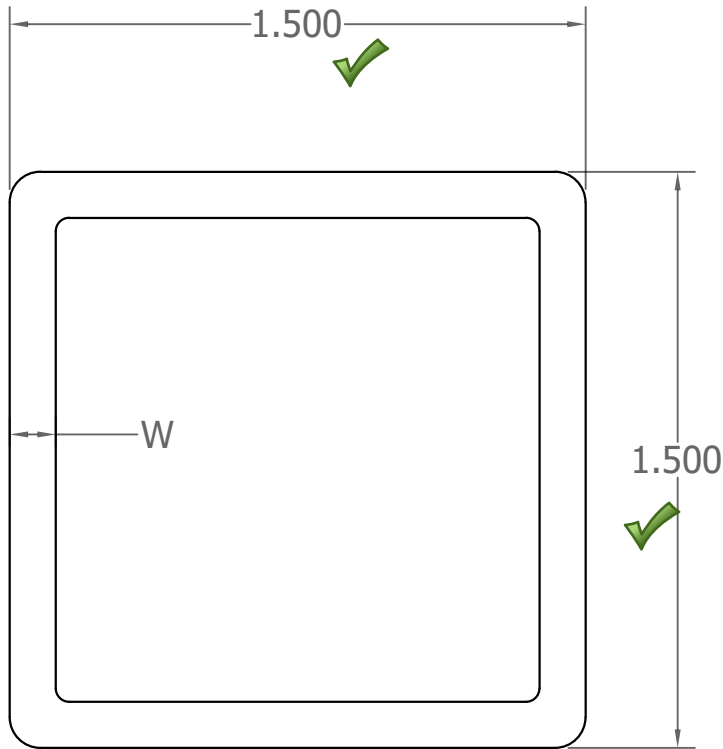


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CUSTOMER:		EFS		Project	425 Catalog	DRAWN:	gmc	Layout/Drawing Name		425-A17	
TITLE:		Roller Track		CHECKED:		PART:	A17	DIE NUMBER:		ACAD:	425 Catalog - copy 09242020.dwg
SHEET:	A	MATERIAL:	Aluminum	DATE:	2019-06-11	SCALE:	2:1	Series	425	SHEET:	/

425-S2498

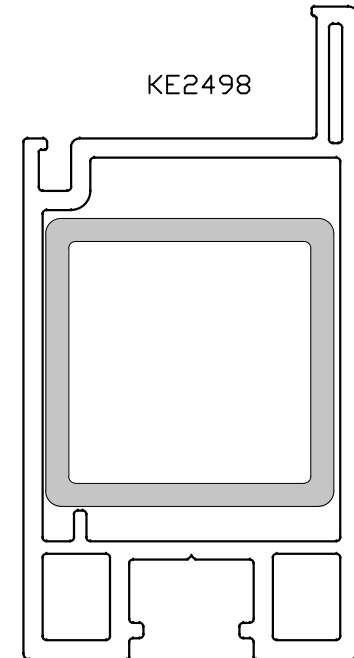
REV.	DESCRIPTION	Date	BY
A1	First Issue	2019-11-22	gmc



1 1/2" Square Steel Tube Wall Thickness Options

W"	Moment ^{A4}
0.065	0.125848
0.083	0.155483
0.120	0.209296
0.188	0.286242
0.250	0.335850

Scale = 1:1



intertek
Total Quality. Assured.

Report #: L3358.01
Date: 12/21/2020
Verified by:

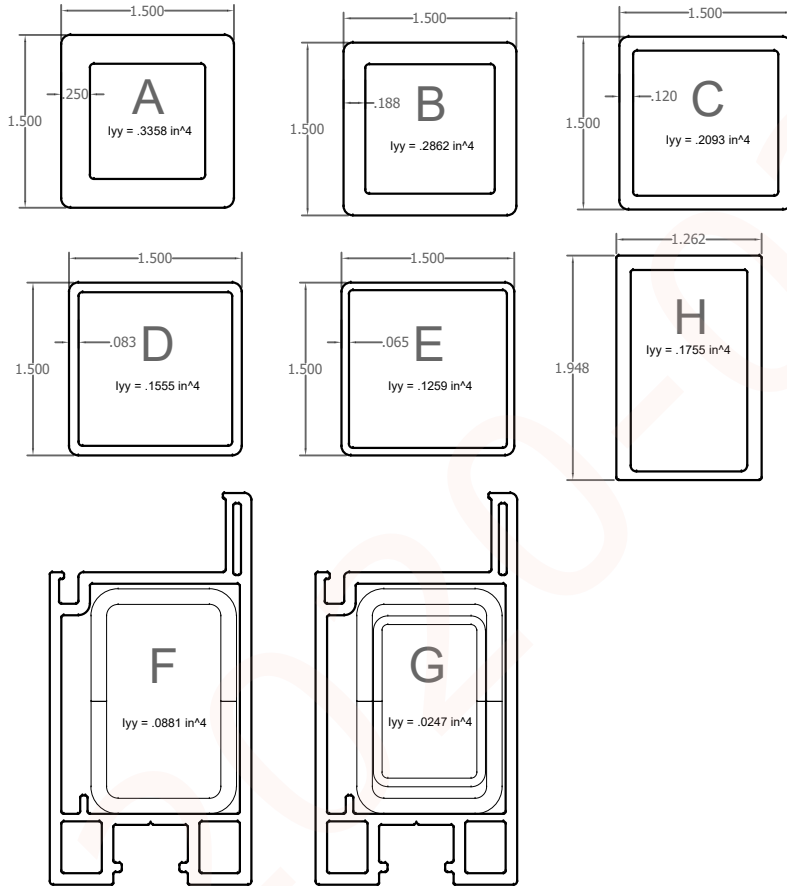


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CUSTOMER: EFS		Project: 425 Catalog	DRAWN: gmc	Layout/Drawing Name: 425-S2498		
TITLE: Standard 1 1/2" Square Steel Tubing Specs		CHECKED:		PART: S2498		
SHEET: A	MATERIAL: Aluminum	DATE: 2019-11-22	SCALE: 2:1	Series: 425	SHEET: /	DIE NUMBER: ACAD: 425 Catalog - copy 09242020.dwg

KE2498 Refo Opts

REV.	DESCRIPTION	Date	BY
A1	First Issue	209-11-22	gmc



425 Door - Max Water = DP 35 (260 PA) at base of towers

425 Door - Max Water = DP 50 (400 PA) below sash pockets

Sash	Stiffener Config	Stiffener Material	Stiffener Description	Yield psi	Sash Size in.	Max PSF	COMMENTS
Medium	A	Steel	1.5" sq Tube x .250 wall	50k	60 x 120	45	50 psf possible with some permanent set
Medium	B	Steel	1.5" sq Tube x .188 wall	50k	60 x 120	35	40 psf possible with some permanent set
Medium	C	Steel	1.5" sq Tube x .120 wall	50k	60 x 120	25	30 psf possible with some permanent set
Medium	D	Steel	1.5" sq Tube x .083 wall	50k	60 x 120	20	
Medium	E	Steel	1.5" sq Tube x .065 wall	50k	60 x 120	15	
Medium	F	Steel	425 S11 U Channel	31k	60 x 120	FAIL	Below 15
Medium	G	Steel	425-S11 & 425-S12 Combo	31k	60 x 120	FAIL	Below 15
Medium	H	Aluminum	Rectangular Tube 425-AD50	21k	60 x 120	FAIL	Below 15

Medium	A	Steel	1.5" sq Tube x .250 wall	50k	60 x 108	50	55 psf possible with some permanent set
Medium	B	Steel	1.5" sq Tube x .188 wall	50k	60 x 108	40	45 psf possible with some permanent set
Medium	C	Steel	1.5" sq Tube x .120 wall	50k	60 x 108	30	35 psf possible with some permanent set
Medium	D	Steel	1.5" sq Tube x .083 wall	50k	60 x 108	25	30 psf possible with some permanent set
Medium	E	Steel	1.5" sq Tube x .065 wall	50k	60 x 108	20	25 psf possible with some permanent set
Medium	F	Steel	425 S11 U Channel	31k	60 x 108	FAIL	
Medium	G	Steel	425-S11 & 425-S12 Combo	31k	60 x 108	FAIL	15 remotely possible with lots of permanent set
Medium	H	Aluminum	Rectangular Tube 425-AD50	21k	60 x 108	FAIL	15 possible with 6061-T6 alloy

Medium	A	Steel	1.5" sq Tube x .250 wall	50k	60 x 96	75	
Medium	B	Steel	1.5" sq Tube x .188 wall	50k	60 x 96	65	
Medium	C	Steel	1.5" sq Tube x .120 wall	50k	60 x 96	45	50 psf possible with some permanent set
Medium	D	Steel	1.5" sq Tube x .083 wall	50k	60 x 96	35	40 psf possible with some permanent set
Medium	E	Steel	1.5" sq Tube x .065 wall	50k	60 x 96	30	
Medium	F	Steel	425 S11 U Channel	31k	60 x 96	FAIL	15 psf possible with lots of permanent set
Medium	G	Steel	425-S11 & 425-S12 Combo	31k	60 x 96	15	20 remotely possible with lots of permanent set
Medium	H	Aluminum	Rectangular Tube 425-AD50	21k	60 x 96	15	20 possible with perm set - 25 possible 6061-T6 alloy

Medium	A	Steel	1.5" sq Tube x .250 wall	50k	48 x 108	65	70 psf possible with some permanent set
Medium	B	Steel	1.5" sq Tube x .188 wall	50k	48 x 108	55	60 psf possible with some permanent set
Medium	C	Steel	1.5" sq Tube x .120 wall	50k	48 x 108	45	small permanent set possible
Medium	D	Steel	1.5" sq Tube x .083 wall	50k	48 x 108	30	
Medium	E	Steel	1.5" sq Tube x .065 wall	50k	48 x 108	25	
Medium	F	Steel	425 S11 U Channel	31k	48 x 108	FAIL	
Medium	G	Steel	425-S11 & 425-S12 Combo	31k	48 x 108	15	Barely
Medium	H	Aluminum	Rectangular Tube 425-AD50	21k	48 x 108	15	Barely

Medium	A	Steel	1.5" sq Tube x .250 wall	50k	48 x 96	90	
Medium	B	Steel	1.5" sq Tube x .188 wall	50k	48 x 96	75	80 psf possible with some permanent set
Medium	C	Steel	1.5" sq Tube x .120 wall	50k	48 x 96	55	60 psf possible with some permanent set
Medium	D	Steel	1.5" sq Tube x .083 wall	50k	48 x 96	40	45 psf possible with some permanent set
Medium	E	Steel	1.5" sq Tube x .065 wall	50k	48 x 96	35	small permanent set possible
Medium	F	Steel	425 S11 U Channel	31k	48 x 96	15	
Medium	G	Steel	425-S11 & 425-S12 Combo	31k	48 x 96	20	
Medium	H	Aluminum	Rectangular Tube 425-AD50	21k	48 x 96	20	25 possible with perm set - 30 possible 6061-T6 alloy

Medium	A	Steel	1.5" sq Tube x .250 wall	50k	48 x 82	100 +	Off the chart - major overkill
Medium	B	Steel	1.5" sq Tube x .188 wall	50k	48 x 82	100 +	
Medium	C	Steel	1.5" sq Tube x .120 wall	50k	48 x 82	80	
Medium	D	Steel	1.5" sq Tube x .083 wall	50k	48 x 82	60	65 psf possible with some permanent set
Medium	E	Steel	1.5" sq Tube x .065 wall	50k	48 x 82	50	
Medium	F	Steel	425 S11 U Channel	31k	48 x 82	20	25 possible with perm set
Medium	G	Steel	425-S11 & 425-S12 Combo	31k	48 x 82	25	30 psf possible with some permanent set
Medium	H	Aluminum	Rectangular Tube 425-AD50	21k	48 x 82	30	35 possible with perm set - 40 possible 6061-T6 alloy



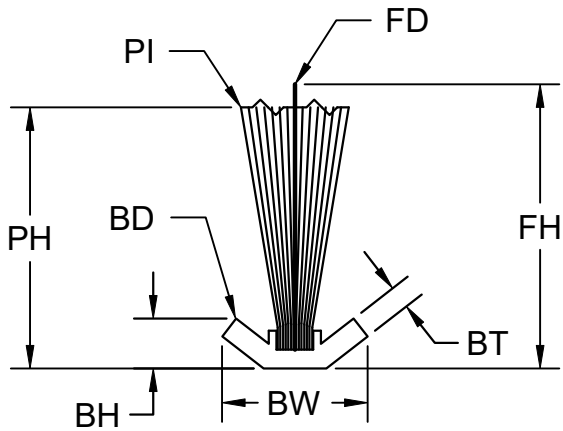
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CUSTOMER:	EFS		Project	425 Catalog	DRAWN:	Layout/Drawing Name		
TITLE:	KE2498 Reinforcement Options				gmc	KE2498 Refo Opts		
SHEET:	MATERIAL:	DATE:	SCALE:	Series	CHECKED:	PART:	DIE NUMBER:	ACAD:
A	Aluminum	2019-11-22	0.6:1	425	/			425 Catalog - copy 09242020.dwg

10-39-88

1/4/2021

CAB (Chris Bullock)



REVISIONS			
REV	DESCRIPTION	DATE	CRM NO
A	RELEASE FOR MANUFACTURE	01/04/2021	15763
PRODUCT DIMENSIONS / DESCRIPTION			
ITEM	DESCRIPTION	NOMINAL DIM	TOLERANCES
PI	PILE	LIGHT DENSITY / WHITE / PP	
PH	PILE HEIGHT	0.340	+0.015/-0.010
FD	FIN DESCRIPTION	CENTER / CLEAR / PP	
FH	FIN HEIGHT	PH + 0.030	±0.015
BW	BACKING WIDTH	0.187	±0.008
BT	BACKING THICKNESS	0.0295	±0.0015
BD	BACKING DESCRIPTION	NATURAL / PP	
BH	BACKING HEIGHT	0.065	+0.008 / -0.005

intertek
Total Quality. Assured.

Report #: L3358.01
Date: 12/21/2020
Verified by: _____

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VERSION: 20.0	1050 HOOK ROAD FARMINGTON, NY 14425 www.ultrafab.com			
DRAWN: CAB 01/04/2021	CUSTOMER DRAWING .187" X .340", WHITE, Ultra Pro® W24341UW0000			
CHECKED: RWO 01/04/2021				
CUST. APPR.:	SIZE A	CAGE CODE N/A	DRAWING NUMBER 10-39-88	REV A
ISSUED: 01/04/2021	SCALE 4:1	DO NOT SCALE	SHEET 1 OF 2	

1) ALL DIMENSIONS ARE IN INCHES
NOTES: