

## RE: Thermal Evaluation of Perimeter Channels

Katarina Bassan <Kbassan@rjc.ca>

Fri 2020-11-20 10:25 AM

**To:** Roy Lamont <Roy@stellaglasshardware.com>

**Cc:** Varun Kumar Kottoori <Varun@stellaglasshardware.com>; Adam Stephenson <Adam@stellaglasshardware.com>; Andrew Crosby <acrosby@rjc.ca>; Matthew Lipiec <MLipiec@rjc.ca>

 1 attachments (17 KB)

Effective U-Value Calculation - 2020.11.20 - For Reference.xlsm;

Hi Roy,

I'm glad to hear we achieved the desired result. Please find our Excel version of the tables attached for your reference.

Best,

**Katarina Bassan**, BSc, P.Eng.

Design Engineer

direct (647) 792-0772 | [Kbassan@rjc.ca](mailto:Kbassan@rjc.ca) | [rjc.ca](http://rjc.ca)

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**From:** Roy Lamont <Roy@stellaglasshardware.com>

**Sent:** November 20, 2020 1:11 PM

**To:** Katarina Bassan <Kbassan@rjc.ca>

**Cc:** Varun Kumar Kottoori <Varun@stellaglasshardware.com>; Matthew Lipiec <MLipiec@rjc.ca>; Adam Stephenson <Adam@stellaglasshardware.com>; Andrew Crosby <acrosby@rjc.ca>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Katarina,

This is PERFECT 😊 Exactly what we are looking for. Thank you.

Please hold onto the worksheets because I believe they will be very useful when we're asked to provide an actual analysis.

Per your report, this information will only be used for indicative purposes, to be used as a guideline only. We believe it will be powerful in considering this type of system as an alternative to traditional curtain walls.

Really appreciate the work you've put into this for us.

Would you have an issue sending us the Excel sheets on pages 19-21? We will use these numbers to extrapolate various scenarios as they arise.

Best regards,



**ROY LAMONT**  
President

**Stella Custom Glass Hardware**

**P:** 604.231.5892 x 105

**E:** [roy@stellaglasshardware.com](mailto:roy@stellaglasshardware.com)

**W:** [www.stellaglasshardware.com](http://www.stellaglasshardware.com)

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**From:** Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Sent:** November-19-20 8:11 PM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>; Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hello All,

Please find the report capturing this additional scope of the analysis attached for your review.

Best,

**Katarina Bassan**, BSc, P.Eng.

Design Engineer

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** November 16, 2020 3:59 PM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>; Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

We are working on it and plan to have the updated report back by end of day Wednesday.

**Andrew Crosby, BSc, P.Eng., LEED® AP BD+C**

Associate

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** November 12, 2020 12:32 PM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>; Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

Please see the updated PO attached. What is your estimated time to complete this additional scope?

Cheers,

Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

**Stella Custom Glass Hardware**

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**W:** [www.stellaglasshardware.com](http://www.stellaglasshardware.com)

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>  
**Sent:** November 10, 2020 4:09 PM  
**To:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>  
**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>  
**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Roy,

Yes we can run those units instead. I thought you wanted us to propose some options but running the ones you mentioned below is not an issue.

If you send us the CAD for St. Jacques we will get started right away.

**Andrew Crosby, B.A.Sc., P.Eng., LEED® AP BD+C**

Associate

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**From:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>  
**Sent:** November 10, 2020 3:00 PM  
**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>; Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>  
**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>  
**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hello Andrew,

Thanks for the quote.

To be clear, we need various glass types to be considered as follows:-

**GL1 Glass Configuration:**

- Exterior Lite: 10mm Clear w/ Viracon VS-20 #2
- Spacer: 12.7mm Stainless Steel
- Interior Lite: 10mm Clear
- Cavity: Air
- $U = 2.44 \text{ W/(m}^2\text{°K)}$

**GL2 Glass Configuration:**

- Exterior Lite: 10mm Clear w/ Sunguard SNX62/27 #2
- Spacer: 12.7mm Stainless Steel
- Interior Lite: 10mm Clear w/ Sunguard IS20 #4
- Cavity: 90% Ar + 10% Air
- $U = 1.131 \text{ W/(m}^2\text{°K)}$

**GL3 Glass Configuration:**

- Exterior Lite: 10mm Clear w/ Solarban 60 #2
- Spacer: 12.7mm Stainless Steel
- Interior Lite: 10mm Clear
- Cavity: 90% Ar + 10% Air
- $U = 1.389 \text{ W/(m}^2\text{°K)}$

**Environmental NFRC Conditions**

Exterior Temperature: -18°C

Interior Temperature: +21°C

Wind Speed: 5.5 m/s

**Stella Custom Glass Hardware**

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** November-10-20 8:27 AM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>; Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

No problem.

Added scope would be as follows:

- Thermal model of butt joint, glass to fin connection, ledge bracket and head connection (sim to base). **Stated as W/m°K**
- Assume 5ft modules, 30ft high system and length is such that jamb conditions don't influence results
- Review with 3 types of glass **As stated above, not below**
  - 10, AIR, 10 neutral low-e coating and stainless profile
  - 10, ARGON, 10 neutral low-e coating and stainless profile
  - 10, ARGON, 10 neutral low-e coating and foam profile

We will make this generic and show averaged weight calculation so that substitutions can be approximated as needed.

The added fee would be \$1800.

To get started we need the CAD file from St. Jacques. Can you send this asap.

Thanks,

**Andrew Crosby**, BASc, P.Eng., LEED® AP BD+C

Associate

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** November 9, 2020 3:15 PM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>; Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

Thanks for the chat last week on this. Can you please summarize the additional scope? I will have the PO updated. Is there any way to get this moving forward while I update PO?

Cheers,  
Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

**Stella Custom Glass Hardware**

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**SPOOKY**

**TRICK OR TREAT!**

You can "dress up" our hardware and transform its colour with  
Stella Spectrum finish - ask me for more details!



---

**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** November 4, 2020 4:14 PM

**To:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Roy/Adam,

Tomorrow I am tied up from 8am-12pm (PST) or 11am-3pm (EST). I am free outside of that. I am not planning to work Friday but can be available on my cell if needed.

Let me know what works.

**Andrew Crosby**, BASc, P.Eng., LEED® AP BD+C

Associate

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**From:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>

**Sent:** November 4, 2020 6:30 PM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>; Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi All,

I can make 8-30 PST (11-30EST) Friday but not Thursday.



**ROY LAMONT**

President

**Stella Custom Glass Hardware**

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** Wednesday, November 4, 2020 9:14 AM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

Are you free Thurs 130pm pacific or Friday 830am pacific for a quick chat on this to sync on the next steps? Please let me know if you another preferred time to chat.

Cheers,  
Adam



**Adam Stephenson P.Eng.**

Director of Engineering

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**TRICK OR TREAT!**

You can "dress up" our hardware and transform its colour with  
Stella Spectrum finish - ask me for more details!



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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** October 21, 2020 12:56 PM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

The IGUs provided will not change the results of the stainless steel option we have already provided.

Our report was isolated to the thermally base shoe, the only way to check the effective u-value, as requested below, is to review the project specifics including the immediate vertical and horizontal joints and head detail.

If you provide us with the project specific proposed details (typical section and panel width, assuming long wall) we would create an additional 3 models and provide the overall value.

Our cost would be an additional \$1800.

Let me know what you think and if you have details you want us to use or if we should base it off of St. Jacques.

**Andrew Crosby, BSc, P.Eng., LEED® AP BD+C**

Associate

**direct** (647) 792-0707 | **mobile** (416) 434-2434 | [acrosby@rjc.ca](mailto:acrosby@rjc.ca) | [rjc.ca](http://rjc.ca)

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** October 21, 2020 11:40 AM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

I hope your week is treating you well. Do you have any feedback on my comments below?

Cheers,  
Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

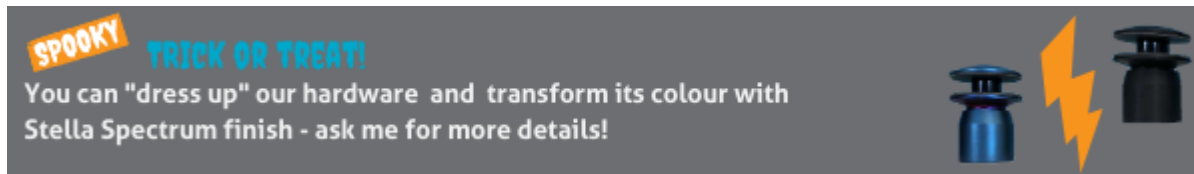
**Stella Custom Glass Hardware**

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---

**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** October 8, 2020 11:54 AM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

Thanks for the clarification on scope. We will definitely do another exercise with the additional scope mentioned after finishing the current scope. We would like to make some changes to the glass in the model Katarina has done to match some of the glass specs the architect is using. We need three different glass configurations with varying COG (Center of Glass) values using stainless steel spacer only. These three would be done with air and argon as you have done to still give 6 outputs. The architect sent the following glass specs and we were thinking we could use 3 of these.

VNE24-63

<https://www.viracon.com/product/1--25mm-insulating-vne24-63/5200/>

VLT	66%
Ext. Reflect.	13%
Winter U-Value	.29
Summer U-Value	.26
SC	.33
SHGC	.29
LSG	2.28

#### **VRE24-65**

<https://www.viracon.com/product/1--25mm-insulating-vre24-65/9383/>

VLT	62%
Ext. Reflect.	28%
Winter U-Value	.30
Summer U-Value	.27
SC	.46
SHGC	.40
LSG	1.55

#### **VUE24-50**

<https://www.viracon.com/product/1--25mm-insulating-vue24-50/8333/>

VLT	52%
Ext. Reflect.	12%
Winter U-Value	.29
Summer U-Value	.26
SC	.30
SHGC	.26
LSG	2.00

### VNE24-53

<https://www.viracon.com/product/1--25mm-insulating-vne24-53/9421/>

VLT	52%
Ext. Reflect.	20%
Winter U-Value	.29
Summer U-Value	.25
SC	.26
SHGC	.23
LSG	2.26

The architect uses the following wording, *"What I really need to know is the COG USI value in order to achieve an effective system USI of 1.9 or lower for each system noted in the email below. That way we know the constraints on glazing selection."*

Can we use 3 of these specs above with stainless steel spacers? The glass make up would remain the same and we would still look at air and argon. The goal would be to just change the glass specs. Can we achieve this in our current scope?

Cheers,  
Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

**Stella Custom Glass Hardware**

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**Why the long leg?**

Stronger weather performance, easier install and option for exterior glazing - ask me about the newest addition to our thermally-broken perimeter channel line.



---

**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** October 7, 2020 11:16 AM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

We cut these out of the original scope to save costs. We were only providing the base shoe with different IGUs (See attached email).

We can add these back in if needed to provide a sample overall u-value. Let us know what you think.

**Andrew Crosby**, BASc, P.Eng., LEED® AP BD+C

Associate

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** October 6, 2020 4:12 PM

**To:** Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Katarina,

Thanks again for sending this through. Were you able to do the 2 other models to represent a butt joint and connection to glass in addition to the sill model?

Cheers,

Adam



**Adam Stephenson P.Eng.**

Director of Engineering

**Stella Custom Glass Hardware**

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**W:** [www.stellaglasshardware.com](http://www.stellaglasshardware.com)

### Why the long leg?

Stronger weather performance, easier install and option for exterior glazing - ask me about the newest addition to our thermally-broken perimeter channel line.



---

**From:** Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Sent:** September 23, 2020 12:02 PM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

Please find our report attached for your review.

Best,

**Katarina Bassan**, BSc, P.Eng.

Design Engineer

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** September 14, 2020 11:35 AM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Katarina Bassan <[Kbassan@rjc.ca](mailto:Kbassan@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

To follow up, we hope to have this done by early next week.

**Andrew Crosby**, BASc, P.Eng., LEED® AP BD+C

Associate

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** September 8, 2020 9:18 AM



**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Lucy Wang <[LWang@rjc.ca](mailto:LWang@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hello Andrew,

Please see PO attached for the scope of work discussed below. Please provide an estimated timeline for initial results for discussion.

Cheers,  
Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

**Stella Custom Glass Hardware**

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** September 3, 2020 11:20 AM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Lucy Wang <[LWang@rjc.ca](mailto:LWang@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

This sounds perfect. I will get a PO over to you shortly.

Cheers,  
Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

**Stella Custom Glass Hardware**

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** September 2, 2020 10:04 AM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Lucy Wang <[LWang@rjc.ca](mailto:LWang@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

If we only do the thermally broken show with 6 IGUs we can do it for \$1800.

Note this won't be an effective u-value of the entire wall just a u-value of 1 component.

Let us know if this works.

**Andrew Crosby, B.A.Sc., P.Eng., LEED® AP BD+C**

Associate

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** September 1, 2020 3:57 PM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Lucy Wang <[LWang@rjc.ca](mailto:LWang@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

Thanks for sending this through. Our main goal is to get a U-Value for our PC3710 perimeter channel using 6 IGUs. With this in mind is there anything from your scope below which could be shaved off to save time and/or cost?

For example the U-Value for the entire wall is great to have but is not necessary. From our talks is this a prerequisite for you to generate the U Value for perimeter channel or is it an extra step?

Cheers,

Adam



**Adam Stephenson P.Eng.**

Director of Engineering

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** August 28, 2020 8:14 AM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Lucy Wang <[LWang@rjc.ca](mailto:LWang@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

To clarify:

Generic podium wall study with glass fins, perimeter shoe at base and top.

30ft high wall, 5ft wide panels, 3 panels tall, glass fins supported on 2 sides.

Condensation and dew point analysis

Estimate effective u-value for wall

3 base thermal models to represent sill, butt joint and connection to glass

6 IGU options (Standard with Air and Low-e or argon filled, with aluminum, stainless or thermal plastic spacer)

Will provide summary report with images.

Fee: \$2500

Let me know what you think.

**Andrew Crosby, B.A.Sc., P.Eng., LEED® AP BD+C**

Associate

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**From:** Andrew Crosby

**Sent:** August 26, 2020 2:58 PM

**To:** 'Adam Stephenson' <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>; Lucy Wang <[LWang@rjc.ca](mailto:LWang@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

For a thermal study and report of the glass and perimeter conditions the fee would be \$2500.

Let us know if this is acceptable and we will get started.

**Andrew Crosby, BASc, P.Eng., LEED® AP BD+C**

Associate

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**From:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Sent:** August 25, 2020 11:49 AM

**To:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>

**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Andrew,

I checked in on this discussion and there is a strong need to develop this evaluation for the thermally broken channel PC3710 but there are no project specifics. I suggest we use 11405P - 700 St-Jacques which Lucy is working on as the basis for the first analysis. This should make it easier as you have all the wall design details on that project. We are interested in the channel performance so keeping the evaluation outcome as close to that goal would be great.

Can you please send a quote for a thermal performance review of our thermally broken channel using 700 St Jacques as the first analysis?

Cheers,

Adam



**Adam Stephenson P.Eng.**  
Director of Engineering

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>

**Sent:** August 25, 2020 8:18 AM

**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>

**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>

**Subject:** RE: Thermal Evaluation of Perimeter Channels

Hi Adam,

As discussed, we are happy to help.

Creating a thermal performance for the shoe (broken and unbroken) is useful but typically only used in combination with overall performance.

Parameters such as air cavity thickness, cavity gas (air, argon etc), low-e coating, IGU or monolithic, size of glass, jamb and head detail will have impacts on overall values for wall.

We suggest starting with this specific project study and then we can discuss what parameters can be fixed to explore other studies for comparison.

Matt Lipiec is our thermal guru and is cc'd on this email.

Please send the wall details through and we will confirm the quote and get started.

**Andrew Crosby**, BASc, P.Eng., LEED® AP BD+C

Associate

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**From:** Andrew Crosby <[acrosby@rjc.ca](mailto:acrosby@rjc.ca)>  
**Sent:** August 24, 2020 7:06 PM  
**To:** Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)>  
**Cc:** Roy Lamont <[Roy@stellaglasshardware.com](mailto:Roy@stellaglasshardware.com)>; Varun Kumar Kottoori <[Varun@stellaglasshardware.com](mailto:Varun@stellaglasshardware.com)>; Matthew Lipiec <[MLipiec@rjc.ca](mailto:MLipiec@rjc.ca)>  
**Subject:** Re: Thermal Evaluation of Perimeter Channels

Hi Adam,

We do have thermal capabilities and are looking into this. We will have initial feedback tomorrow.

Andrew Crosby P.Eng.  
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On Aug 21, 2020, at 5:17 PM, Adam Stephenson <[Adam@stellaglasshardware.com](mailto:Adam@stellaglasshardware.com)> wrote:

Hi Andrew,

I hope you enjoyed your time off last week. I am sure you are quite familiar with our thermally broken perimeter channel.

[https://www.stellaglasshardware.com/glass-hardware/?product\\_category=perimeter-channels&product\\_application=all&tax=true](https://www.stellaglasshardware.com/glass-hardware/?product_category=perimeter-channels&product_application=all&tax=true)

We have been asked, a number of times, what the thermal performance of this system. I have generally said that it depends on the type of glass being used inside the perimeter channel. The discussions usually end there. What we would like to do is evaluate the perimeter channel assembly in such a way that we can add different glass specs and establish the overall rating as referred to above. We have done this in our VUE doors where we have a spread sheets where we enter some glass specs and get a rough indicative thermal performance number. The hope would be to replicate this for our PC. In past discussions I had the impression you guys have thermal evaluation capabilities.

Is creating this type of rough spread sheet a reasonable request? If yes, can you let us have your thoughts about next steps and how RJC may be able to help. If no, we would send you a cluster of about four or five glass specs we've received recently and ask you to do those evaluations for us. Ultimately, though, we are hoping to create a calculator that allows us to add the thermal coefficients of the glass so we can give this feedback to our customers.

I look forward to hearing your thoughts on this. We are trying to figure out our plan of action on this by **Wednesday Aug 26** at the latest and would execute that plan ASAP once we have it from you.

I know you will be playing catch up and we have a specific customer request they want us to look into. Any suggestions on the fastest plan of action would be amazing.

Cheers,  
Adam

<Outlook-dk5azcxn.png>

**Adam Stephenson P.Eng.**  
Director of Engineering

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