THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM PERFORMANCE OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS.

DETERMINE CENTRE OF GLASS U VALUE

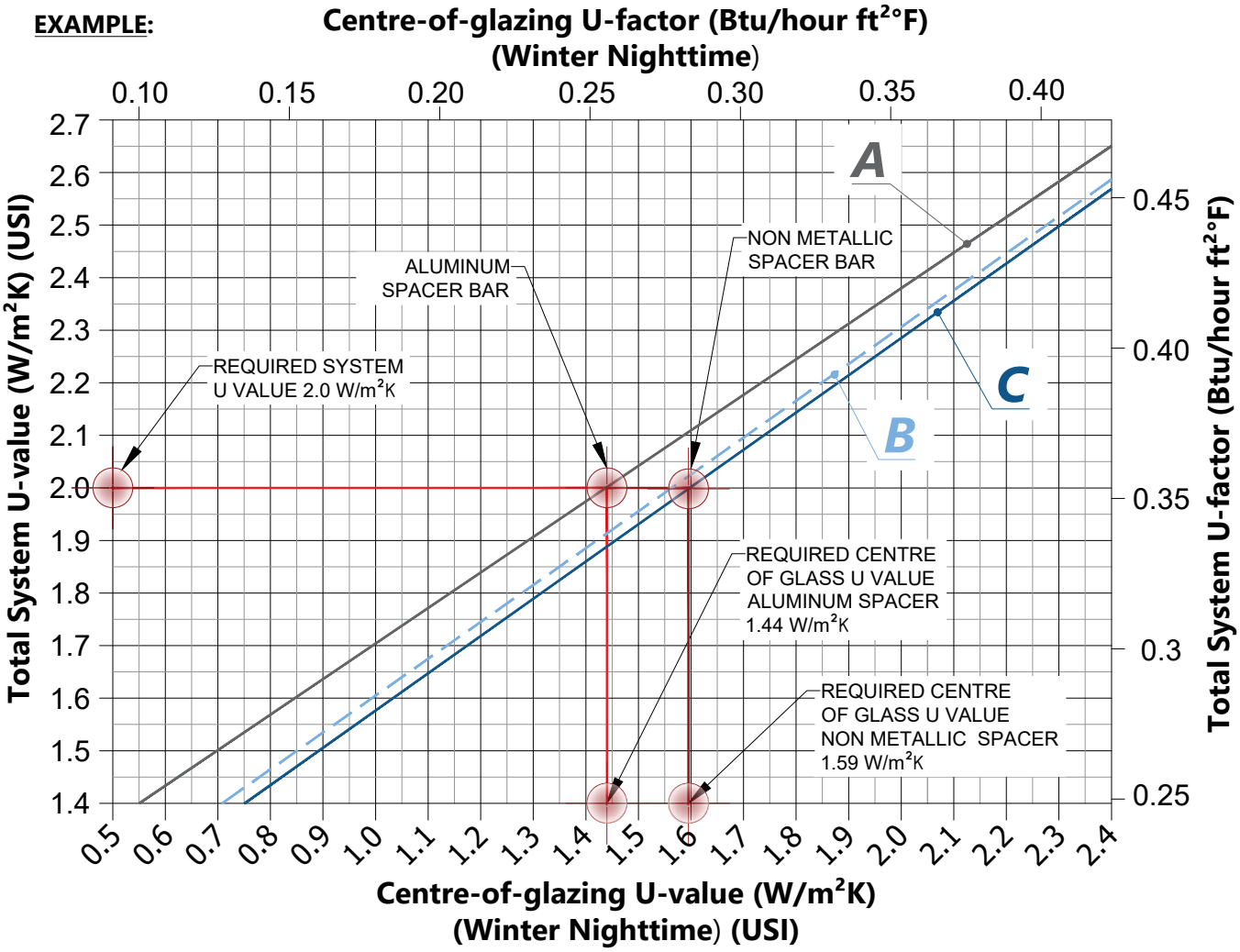
1) Choose the total system U-value or U-factor from the chart below (vertical axis).
2) Based on this point come across horizontally until you reach the specific spacer bar (metallic or non-metallic)
3) From this point come down vertically until you reach the horizontal axis and your centre of glass U-value or U-factor.

DETERMINE TOTAL SYSTEM U VALUE

1) Choose your centre of glass U value of U factor from the chart below (horizontal axis).
2) Based on this point come up vertically until you reach the specific spacer bar (metallic or non-metallic)
3) From this point come across horizontally until you reach the vertical axis and your total system U-value of U-factor.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*

EXAMPLE:



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.5

ThermaPorte 7700

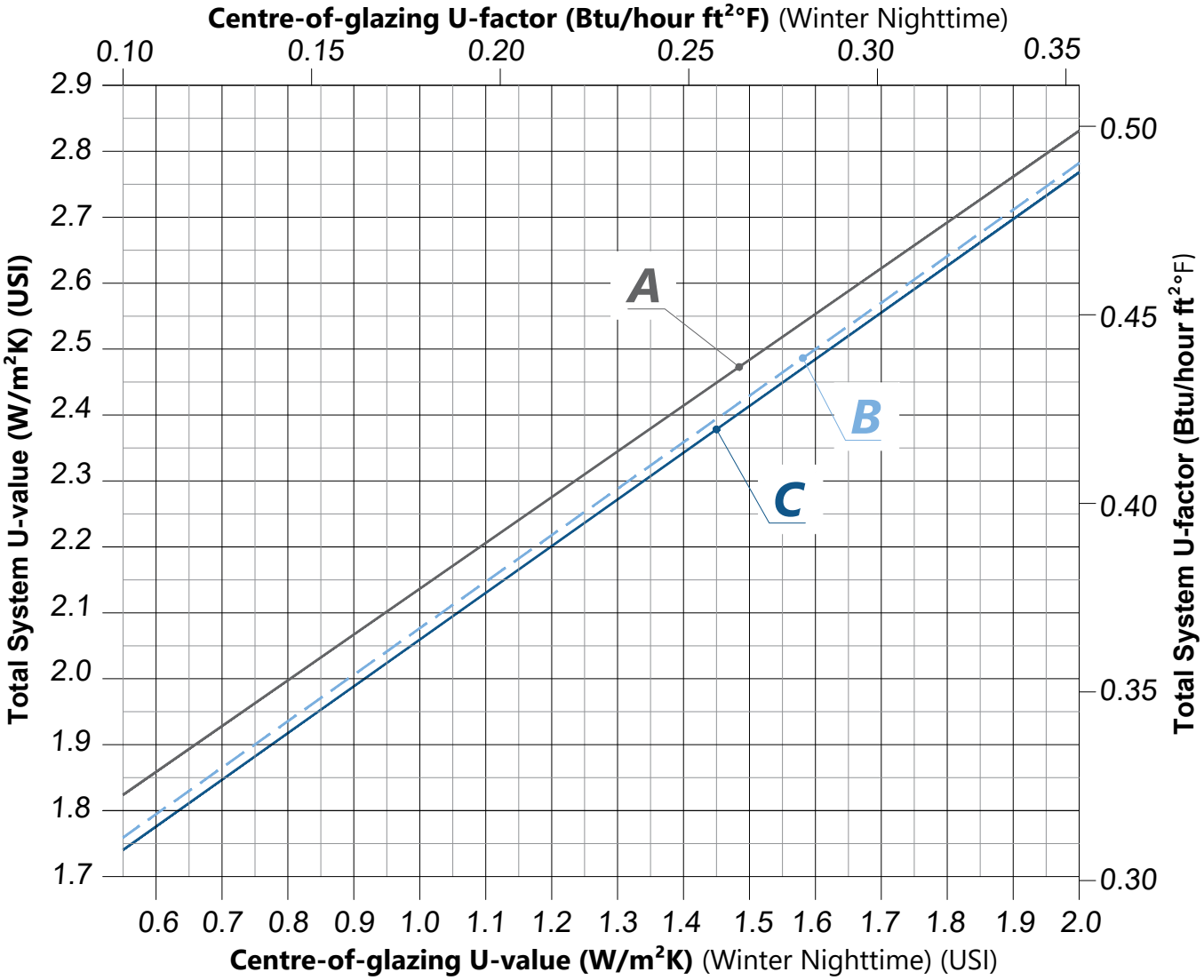
T100A Door - System U-Factor & U-Value (USI) Chart

Narrow Stile Door

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM U-VALUE (USI) or U-FACTOR OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE DATA AND SELECTED SPACER OR DETERMINE THE REQUIRED CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS. **OBTAIN THE CENTRE OF GLASS PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Trendlines represent simulation results based on double glazing options, using different generic spacer options.
- Spacer conductance values are based on NFRC 100-2023 section 5.9.5.1.
- Simulation methodology followed NFRC 100-2023.
- Simulated swinging door with frame is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product u-factor estimating purposes.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.6

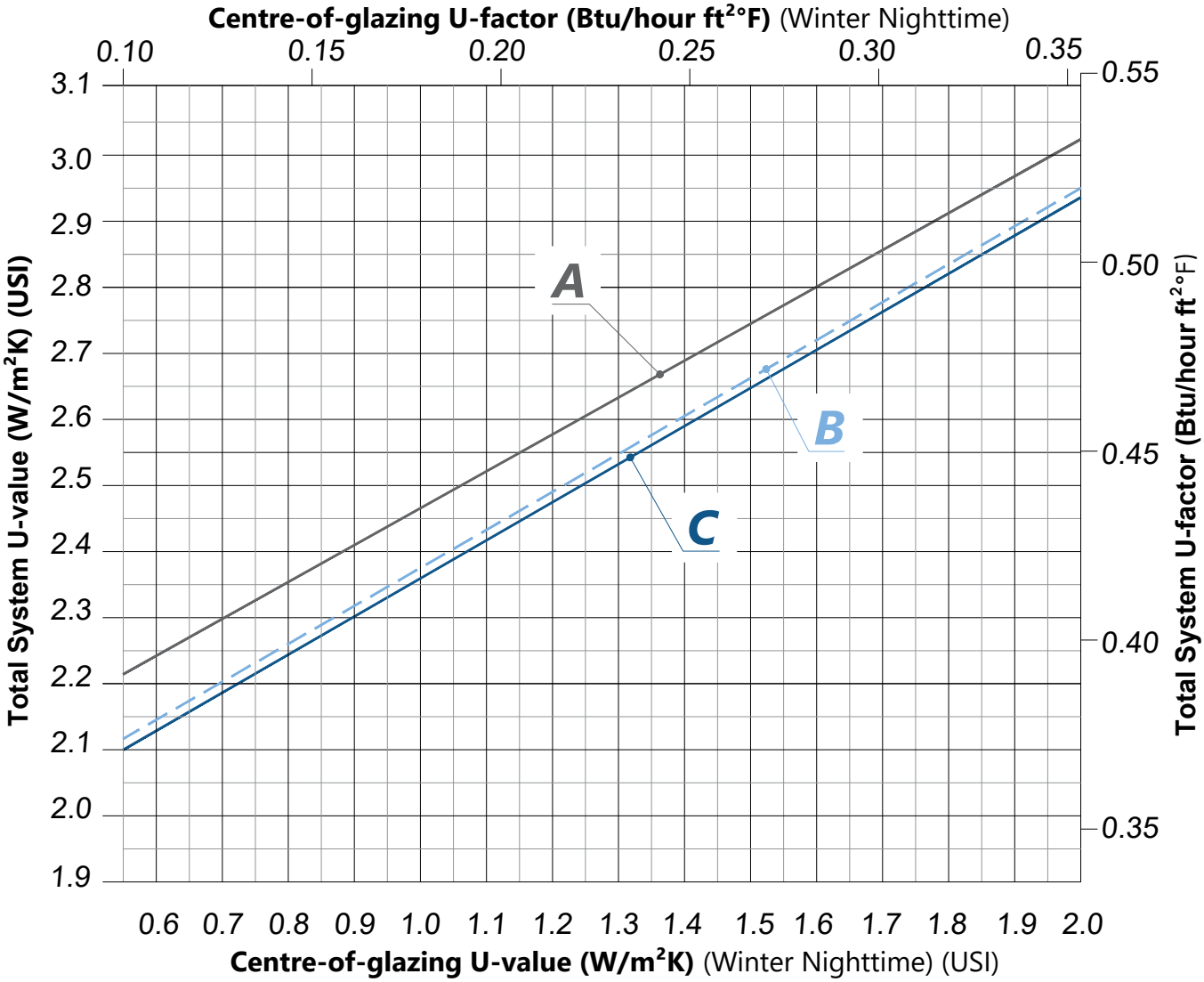
ThermaPorte 7700

T100B Door - System U-Factor & U-Value (USI) Chart
Narrow Stile Door with 10-1/4" (260mm) Centre Rail

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM U-VALUE (USI) or U-FACTOR OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE DATA AND SELECTED SPACER OR DETERMINE THE REQUIRED CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS. **OBTAIN THE CENTRE OF GLASS PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Trendlines represent simulation results based on double glazing options, using different generic spacer options.
- Spacer conductance values are based on NFRC 100-2023 section 5.9.5.1.
- Simulation methodology followed NFRC 100-2023.
- Simulated swinging door with frame is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product u-factor estimating purposes.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.6a

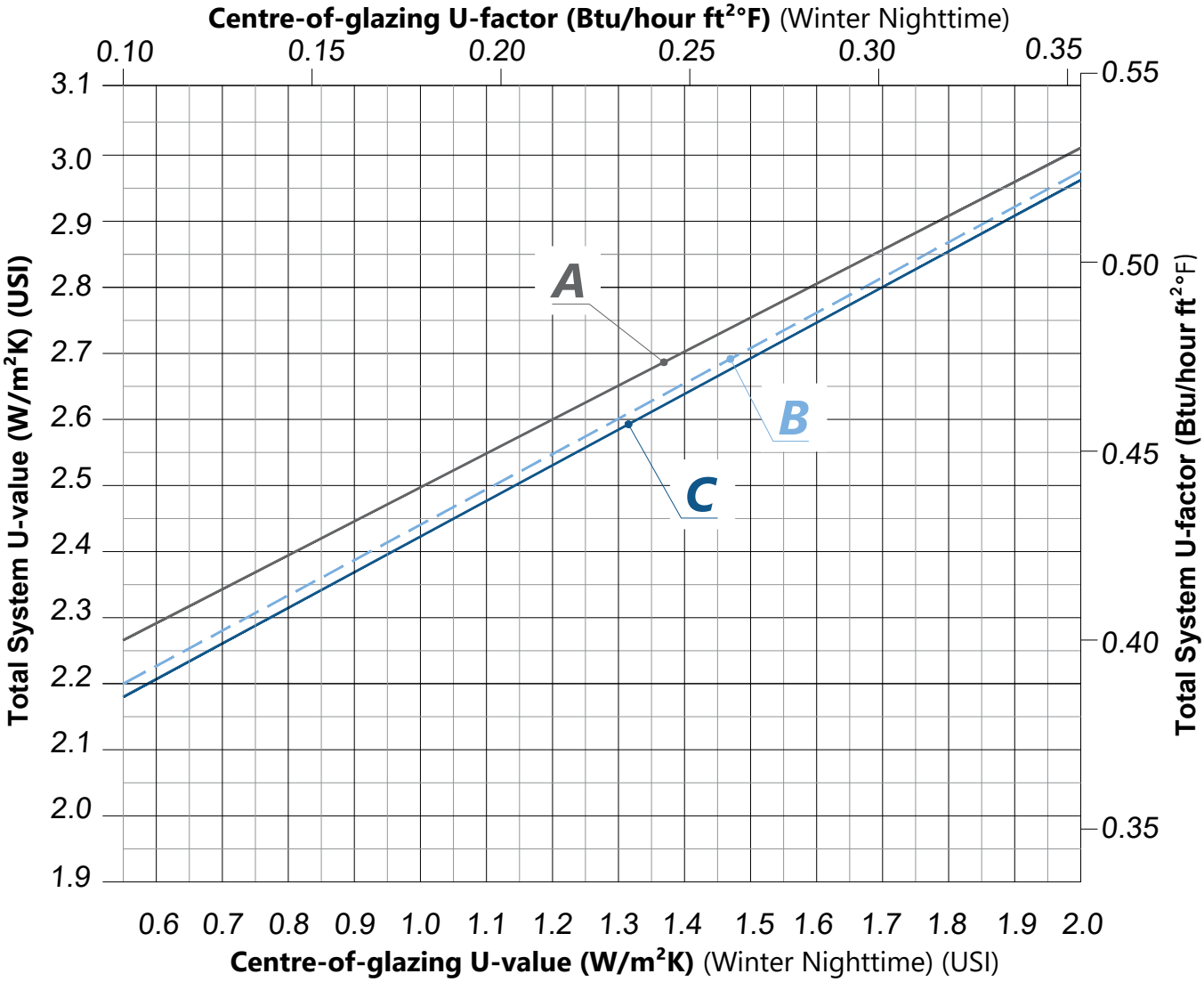
ThermaPorte 7700

T400A Door - System U-Factor & U-Value (USI) Chart
Medium Stile Door

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM U-VALUE (USI) or U-FACTOR OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE DATA AND SELECTED SPACER OR DETERMINE THE REQUIRED CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS. **OBTAIN THE CENTRE OF GLASS PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Trendlines represent simulation results based on double glazing options, using different generic spacer options.
- Spacer conductance values are based on NFRC 100-2023 section 5.9.5.1.
- Simulation methodology followed NFRC 100-2023.
- Simulated swinging door with frame is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product u-factor estimating purposes.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.7

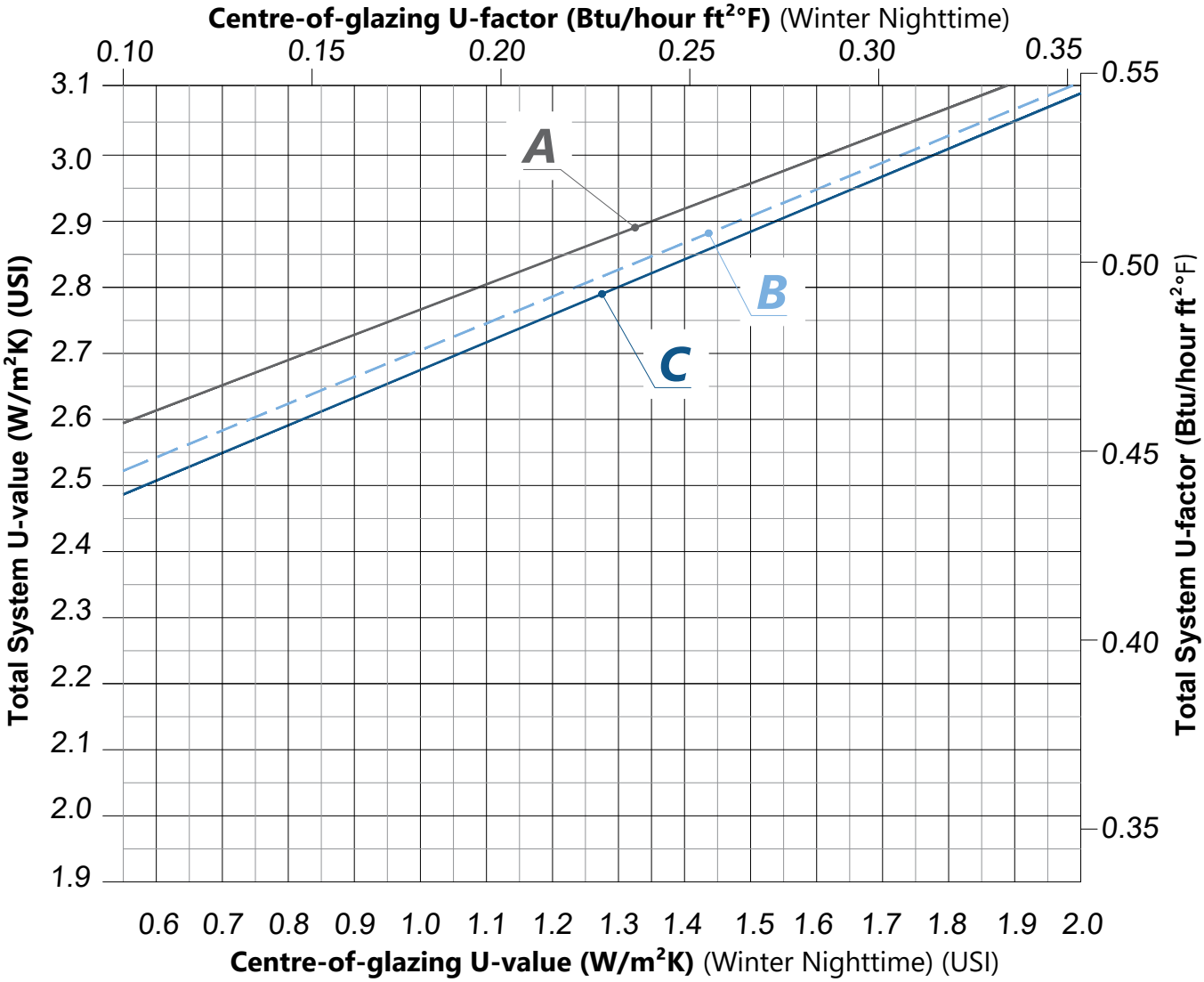
ThermaPorte 7700

T400B Door - System U-Factor & U-Value (USI) Chart
Medium Stile Door with 10-1/4" (260mm) Centre Rail

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM U-VALUE (USI) or U-FACTOR OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE DATA AND SELECTED SPACER OR DETERMINE THE REQUIRED CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS. **OBTAIN THE CENTRE OF GLASS PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Trendlines represent simulation results based on double glazing options, using different generic spacer options.
- Spacer conductance values are based on NFRC 100-2023 section 5.9.5.1.
- Simulation methodology followed NFRC 100-2023.
- Simulated swinging door with frame is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product u-factor estimating purposes.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.7a

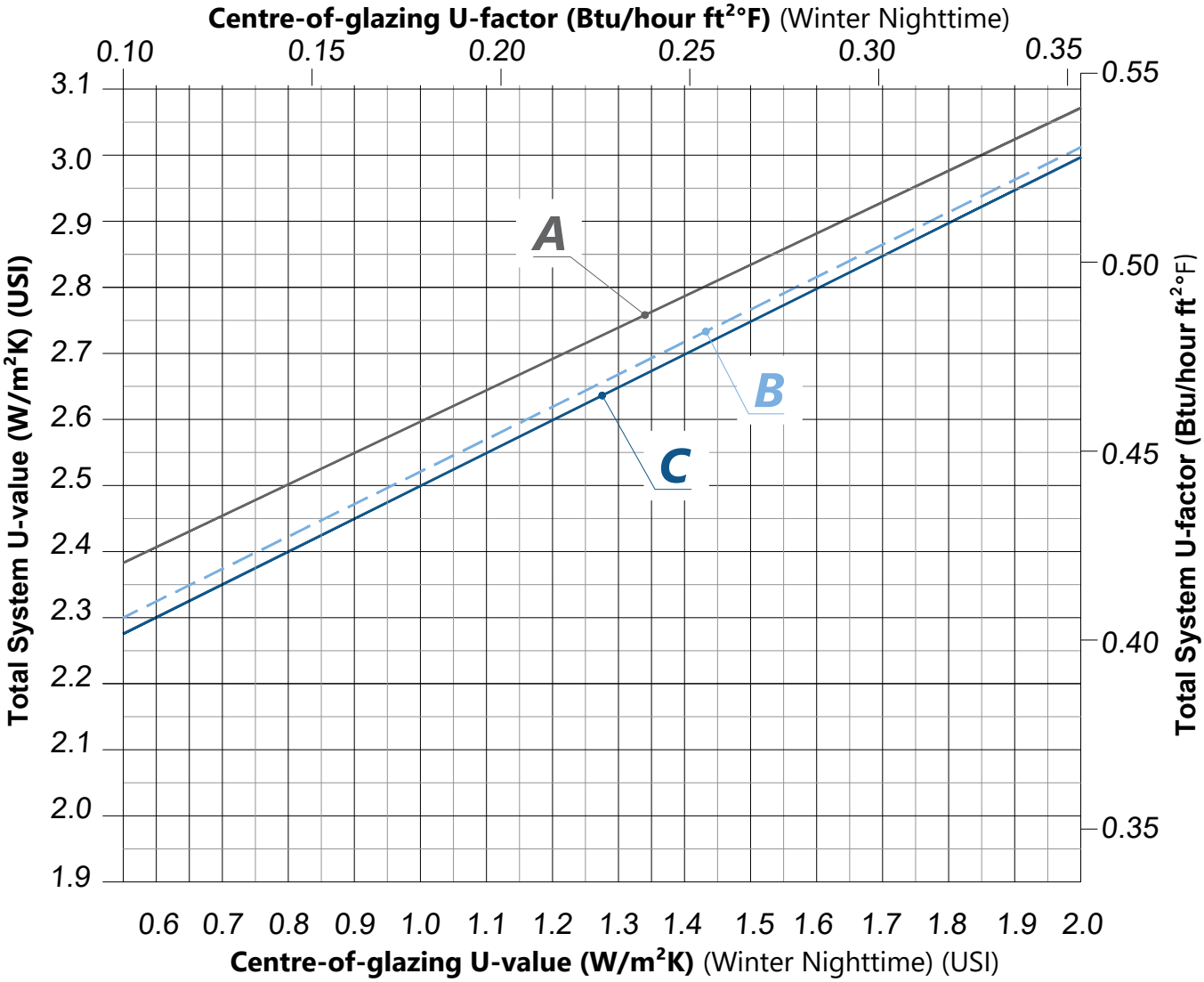
ThermaPorte 7700

T600A Door - System U-Factor & U-Value (USI) Chart
Wide Stile Door

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM U-VALUE (USI) or U-FACTOR OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE DATA AND SELECTED SPACER OR DETERMINE THE REQUIRED CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS. **OBTAIN THE CENTRE OF GLASS PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Trendlines represent simulation results based on double glazing options, using different generic spacer options.
- Spacer conductance values are based on NFRC 100-2023 section 5.9.5.1.
- Simulation methodology followed NFRC 100-2023.
- Simulated swinging door with frame is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product u-factor estimating purposes.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.8

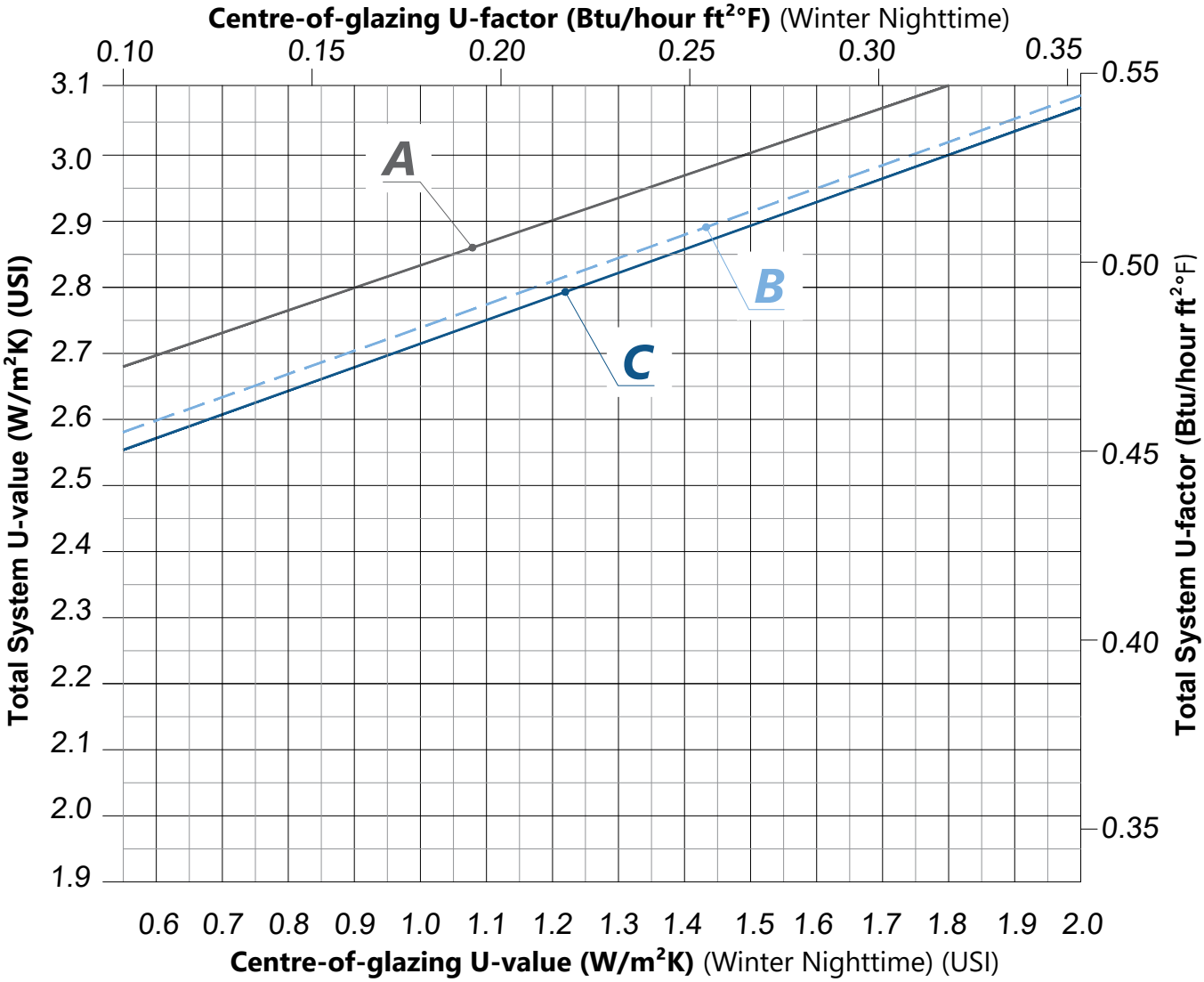
ThermaPorte 7700

T600B Door - System U-Factor & U-Value (USI) Chart
Wide Stile Door with 10-1/4" (260mm) Centre Rail

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM U-VALUE (USI) or U-FACTOR OF THE PRODUCT BASED ON THE CENTRE OF GLASS PERFORMANCE DATA AND SELECTED SPACER OR DETERMINE THE REQUIRED CENTRE OF GLASS PERFORMANCE AND SPACER BASED ON THE TARGET PRODUCT PERFORMANCE REQUIREMENTS. **OBTAIN THE CENTRE OF GLASS PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Trendlines represent simulation results based on double glazing options, using different generic spacer options.
- Spacer conductance values are based on NFRC 100-2023 section 5.9.5.1.
- Simulation methodology followed NFRC 100-2023.
- Simulated swinging door with frame is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product u-factor estimating purposes.

A = *Generic Spacer Path 1, Group 1 -* ***Aluminum Spacer*** *(Keff = 8.0 W/mK)*
B = *Generic Spacer Path 1, Group 3 -* ***Stainless Steel Spacer*** *(Keff = 1.0 W/mK)*
C = *Generic Spacer Path 1, Group 4 -* ***Non-Metallic Spacer*** *(Keff = 0.5 W/mK)*



ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

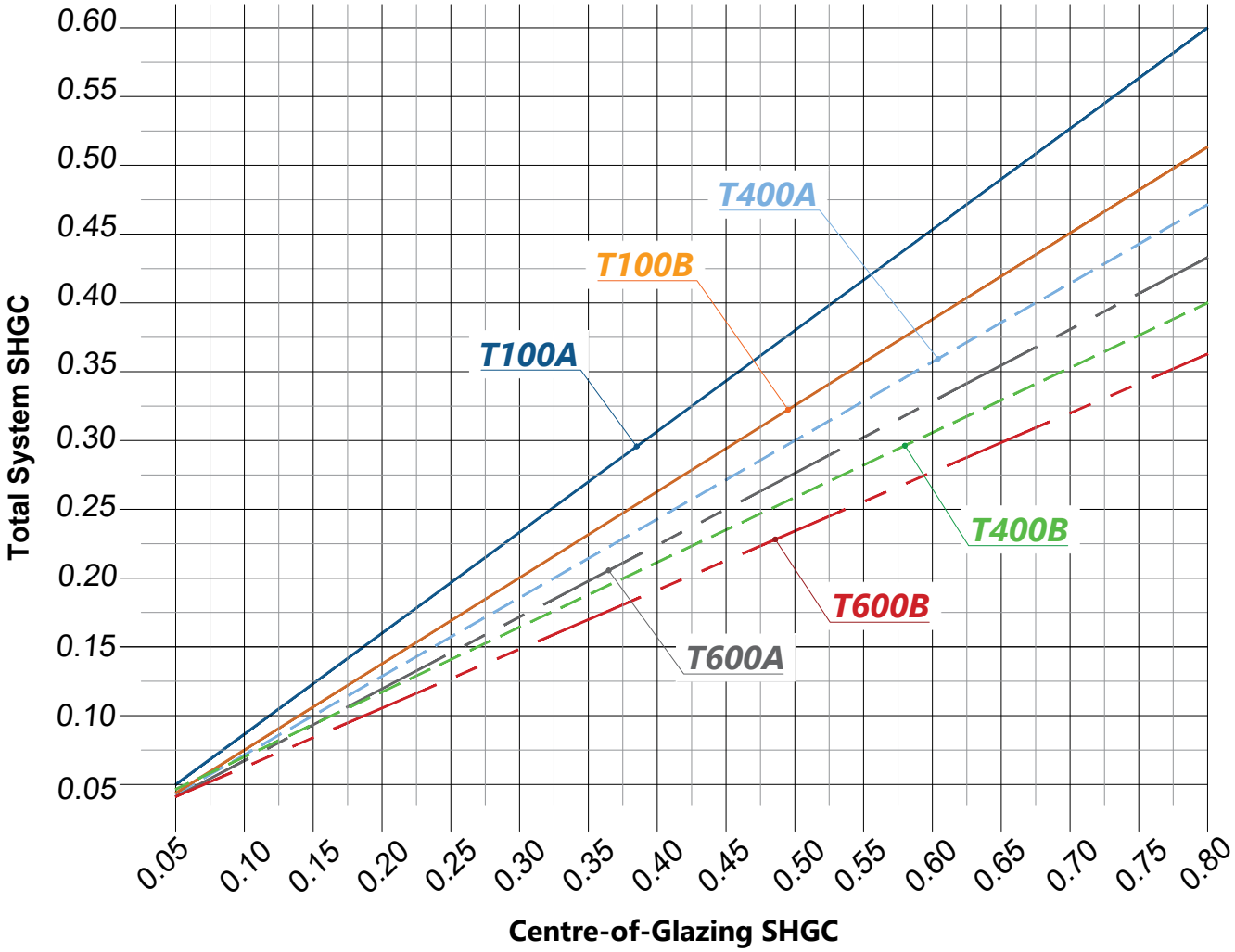
Pour la version en français, veuillez voir la page : 7.2.7.8a

ThermaPorte 7700

Solar Heat Gain Coefficient (SHGC) Chart

THE FOLLOWING THERMAL CHARTS ARE TO BE USED TO DETERMINE OVERALL SYSTEM SOLAR HEAT GAIN COEFFICIENT (SHGC) OF THE PRODUCT BASED ON THE SHGC VALUE OF THE CENTRE OF GLASS, OR DETERMINE THE REQUIRED CENTRE OF GLASS SHGC BASED ON THE TARGET PRODUCT REQUIREMENTS FOR SHGC. **OBTAIN THE CENTRE OF GLASS SHGC PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.**

- Simulation methodology followed NFRC 200-2023.
- Simulated swinging door size is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product SHGC estimating purposes.
- Warm Climates: Low SHGC is crucial to prevent overheating and reduce cooling loads.
- Cold Climates: High SHGC allows beneficial solar heat gain during winter, aiding in natural, passive heating.
- For fenestration with exterior shading devices or projections, refer to ANSI/ASHRAE/IE Standard 90.1 for SHGC projection factor (PF) multipliers to determine SHGC reductions for actual project conditions, fenestration shading and orientation.



THE **SOLAR HEAT GAIN COEFFICIENT (SHGC)** REPRESENTS THE RATIO OF SOLAR HEAT GAIN THROUGH THE FENESTRATION SYSTEM RELATIVE TO THE INCIDENT SOLAR RADIATION. ALTHOUGH SHGC CAN BE DETERMINED FOR ANY ANGLE OF INCIDENCE, THE DEFAULT AND MOST COMMONLY USED REFERENCE IS NORMAL INCIDENCE SOLAR RADIATION. NFRC RATED SHGC'S ARE AT 0° INCIDENCE. THE SHGC REFERS TO TOTAL FENESTRATION PRODUCT SYSTEM PERFORMANCE AND IS AN ACCURATE INDICATION OF SOLAR GAIN UNDER A WIDE RANGE OF CONDITIONS. SHGC IS EXPRESSED AS A DIMENSIONLESS NUMBER FROM 0 TO 1.0. A HIGH SHGC VALUE SIGNIFIES HIGH HEAT GAIN, WHILE A LOW VALUE MEANS LOW HEAT GAIN. EXAMPLE: AN SHGC RATING OF 0.30 MEANS THAT 30% OF THE AVAILABLE SOLAR HEAT CAN PASS THROUGH THE ASSEMBLY.

ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.81

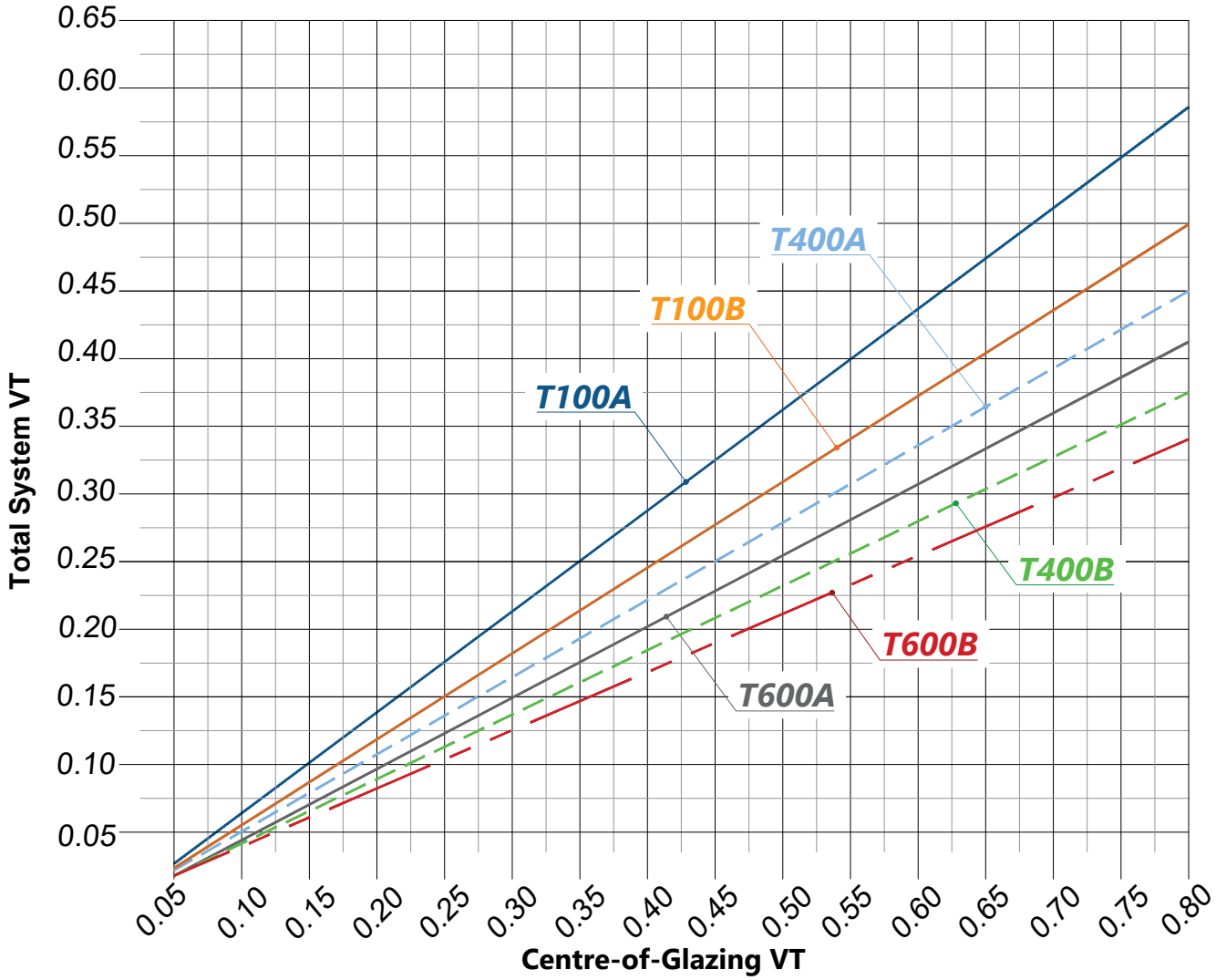
ThermaPorte 7700

Visible Transmittance (VT) Chart

THE BELOW THERMAL CHART IS TO BE USED TO DETERMINE OVERALL SYSTEM VISIBLE TRANSMITTANCE (VT) OF THE PRODUCT BASED ON THE VT VALUE OF THE CENTRE OF GLASS, OR DETERMINE THE REQUIRED CENTRE OF GLASS VT BASED ON THE TARGET PRODUCT REQUIREMENTS FOR VT.

OBTAIN THE CENTRE OF GLASS VT PERFORMANCE DATA FROM YOUR GLASS SUPPLIER.

- Curves represent simulation results based on double glazing options
- Simulation methodology followed NFRC 200-2023.
- Simulated swinging door size is 37 13/16" (960mm) x 82 1/4" (2089mm) as per NFRC 100-2023 table 4.3.
- The charts should be used as a budget or design guide, for product VT estimating purposes.



VISIBLE TRANSMITTANCE (VT) IS THE AMOUNT OF LIGHT IN THE VISIBLE PORTION OF THE SPECTRUM THAT PASSES THROUGH A GLAZING MATERIAL. THIS PROPERTY DOES NOT DIRECTLY AFFECT HEATING AND COOLING LOADS IN A BUILDING, BUT IT IS AN IMPORTANT FACTOR IN EVALUATING ENERGY-EFFICIENT FENESTRATION PRODUCTS. VT IS AN IMPORTANT FACTOR IN PROVIDING DAYLIGHT, VIEWS, AND PRIVACY, AS WELL AS IN CONTROLLING GLARE AND FADING OF INTERIOR FURNISHINGS. THESE ARE OFTEN CONTRADICTORY EFFECTS: A HIGH VT IS DESIRED FOR VIEW OUT AT NIGHT, BUT THIS MAY CREATE GLARE AT TIMES. THESE OPPOSING NEEDS ARE OFTEN MET BY PROVIDING GLAZING THAT HAS HIGH VISIBLE TRANSMITTANCE AND THEN ADDING ATTACHMENTS SUCH AS SHADES OR BLINDS TO MODULATE THE VT TO MEET CHANGING NEEDS. NOTE THAT NFRC'S RATING IS A WHOLE PRODUCT RATING THAT COMBINES THE EFFECT OF BOTH GLAZING AND FRAME. THERE ARE MANY CASES WHERE THE VT OF GLAZING ALONE WILL BE REQUIRED, SO IT IS IMPORTANT TO MAKE SURE THAT THE APPROPRIATE PROPERTIES ARE BEING COMPARED.

ENVIRONMENTAL CONDITIONS: NFRC 100-2023		
Inside Air Temperature	Outside Air Temperature	Outside Wind Speed
21° C	-18° C	5.5 m/s

Pour la version en français, veuillez voir la page : 7.2.7.82