

smartwin in smartshell timber frame Japan fusion

left and right sunscreen Japan according Shinichi with solidwood




U_{1D} Wall	0,184	W/m ² K
U_{2D} Window	0,748	W/m ² K
U_{2D}	0,392	W/m ² K

projected X
projected X

Length S1	0,754	m
Length S2	0,400	m
Total length	1,154	m

L_{1D}	0,438	W/mK
L_{2D}	0,452	W/mK

Ψ_e	0,014	W/mK
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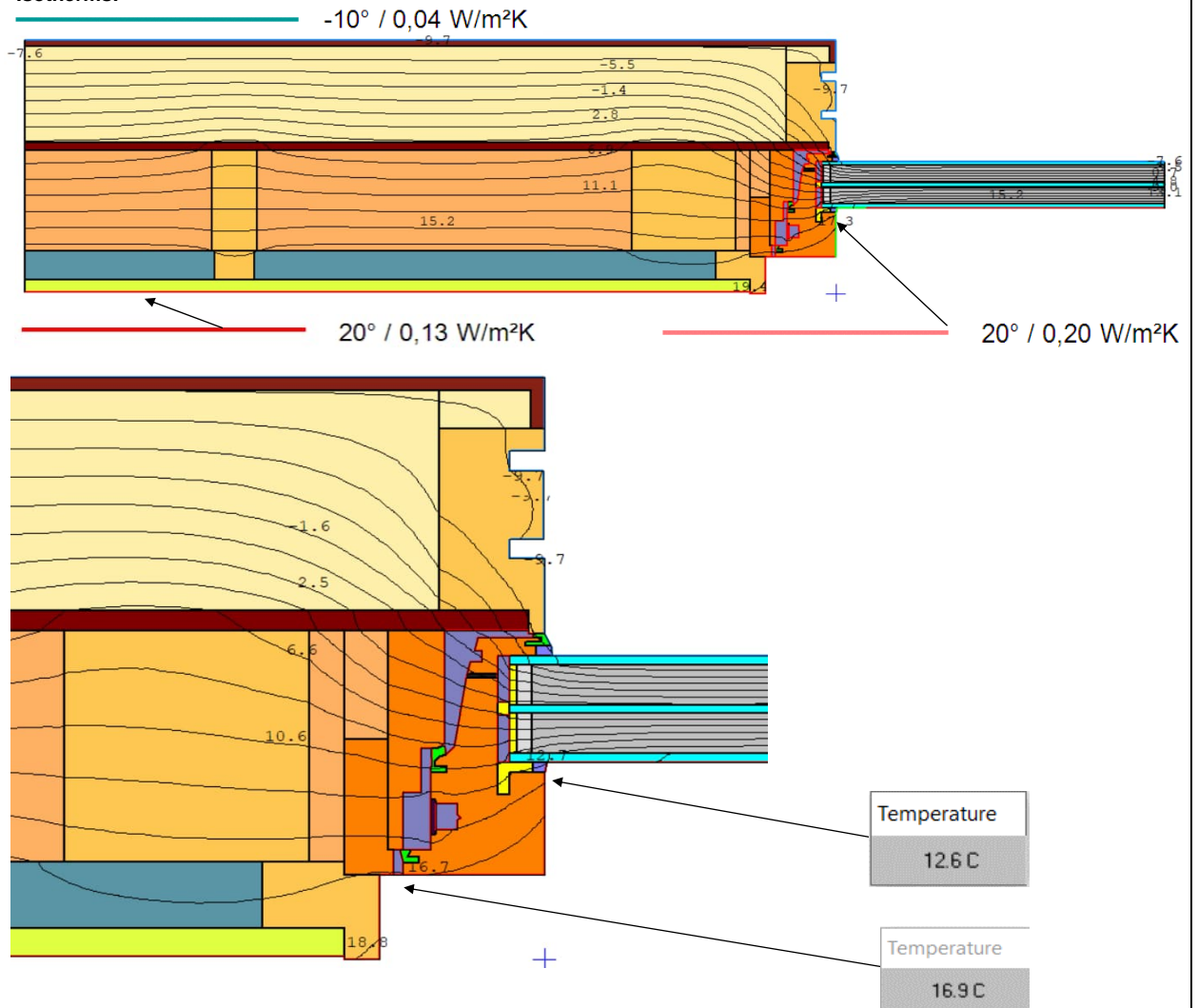
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{si}	

lowest interior temperature:

f_{RSI} at 20 °C / -10 °C


12,6°C
0,75 > 0,7 requirement fulfilled

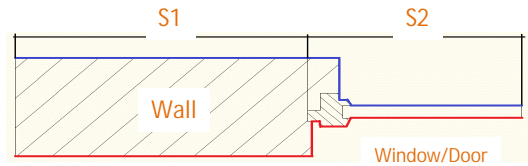
Isotherms:



Temperature
12,6°C

Temperature
16,9°C

Date	27.07.2023
Signature	



smartwin in smartshell timber frame Japan (first certification)
left and right venetian blind as Zip screen Brichta




U_{1D} Wall	0,185	W/m ² K
U_{2D} Window	0,748	W/m ² K
U_{2D}	0,397	W/m ² K

projected X
projected X

Length S1	0,754	m
Length S2	0,400	m
Total length	1,154	m

L_{1D}	0,439	W/mK
L_{2D}	0,458	W/mK

Ψ_e	0,020	W/mK
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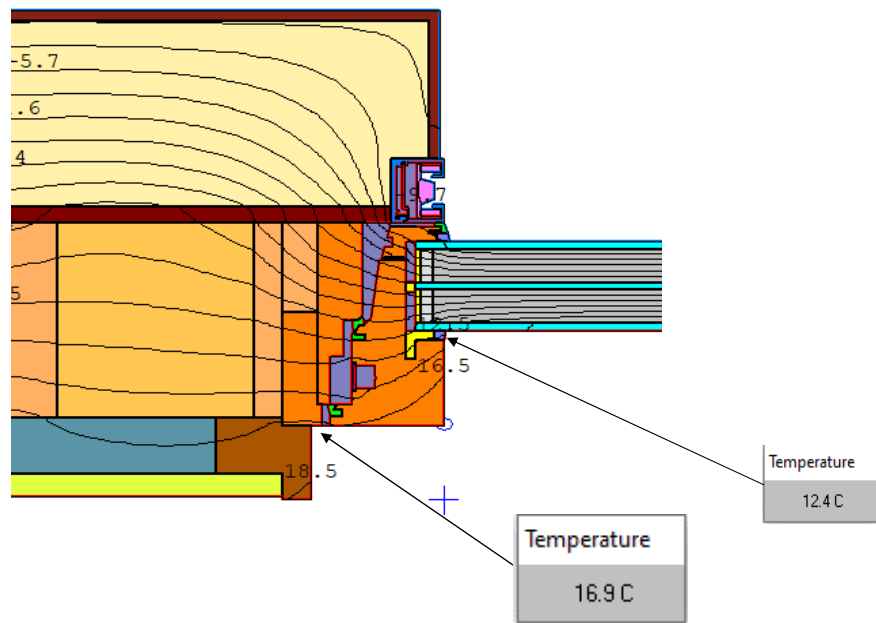
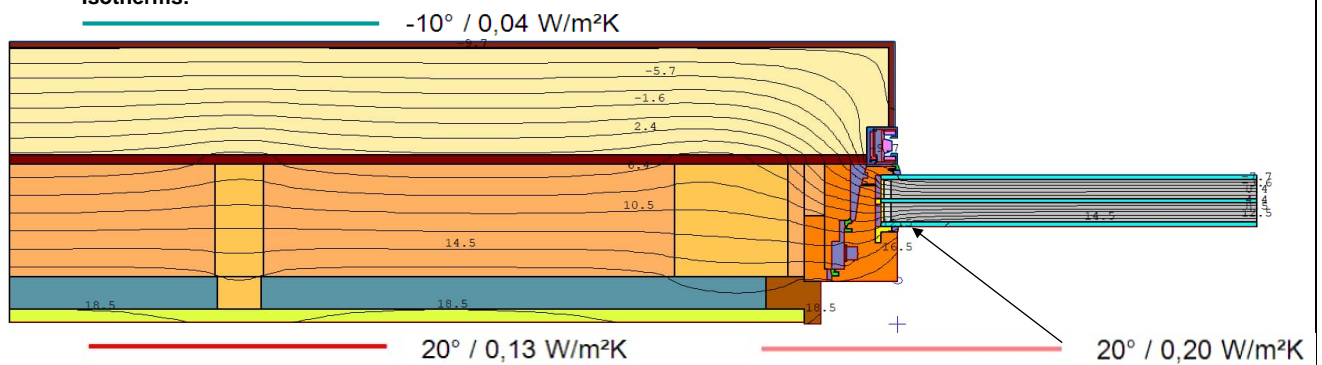
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{Si}	


PHI 0,006
15,8

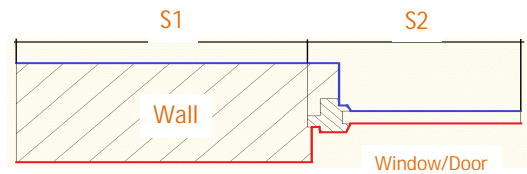
lowest interior temperature:
 f_{RSi} at 20 °C / -10 °C

12,4°C
0,75 > 0,7 requirement fulfilled

Isotherms:



Date	08.05.2023
Signature	






smartwin in smartshell timber frame Japan fusion left and right sunscreen Japan

U_{1D} Wall	0,185	W/m²K
U_{2D} Window	0,748	W/m²K
U_{2D}	0,400	W/m²K

projected X
projected X

Length S1	0,754	m
Length S2	0,396	m
Total length	1,150	m

PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{si}	

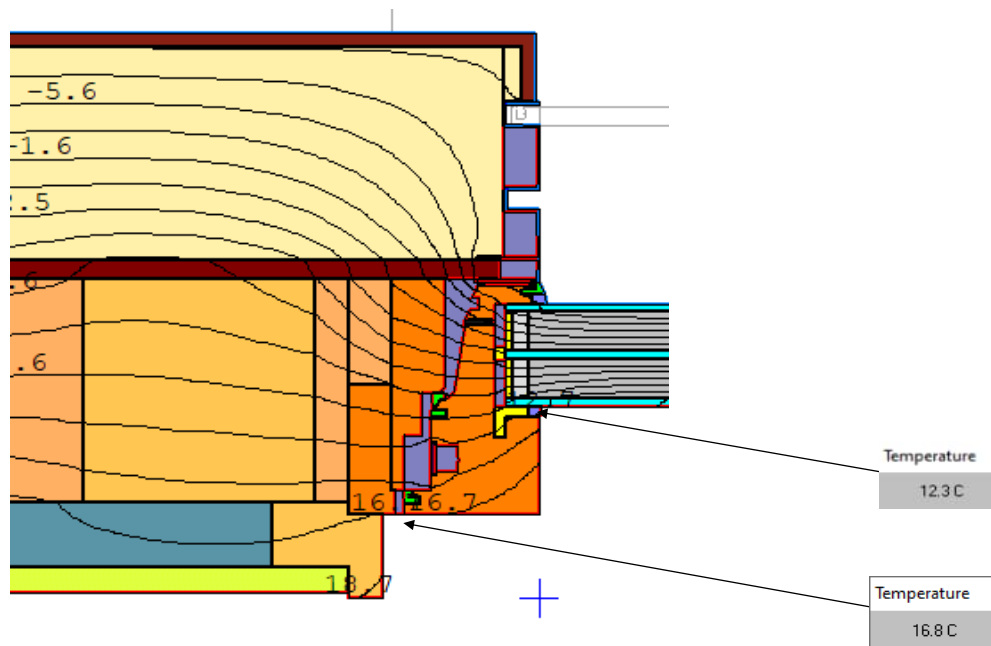
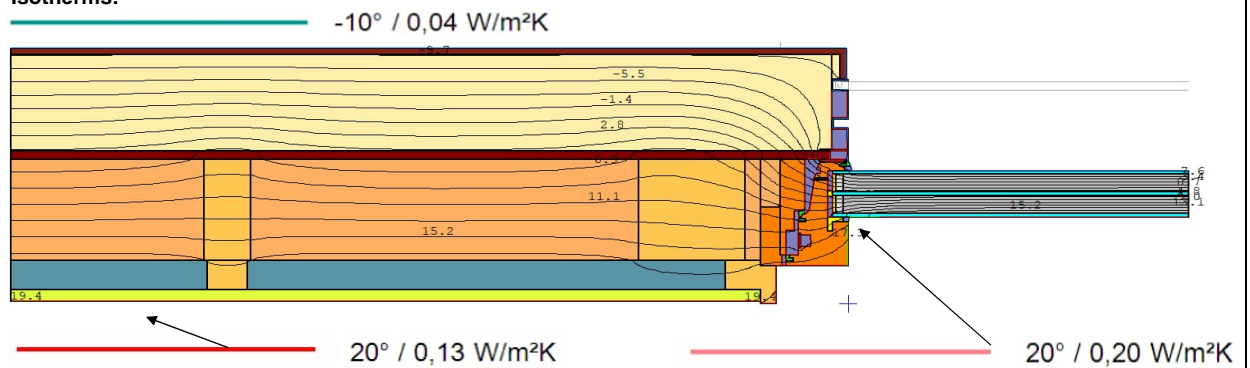
L_{1D}	0,436	W/mK
L_{2D}	0,460	W/mK

Ψ_e	0,025	W/mK
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lowest interior temperature:
 f_{RSI} at 20 °C / -10 °C


12,3°C
0,74 > 0,7 requirement fulfilled

Isotherms:

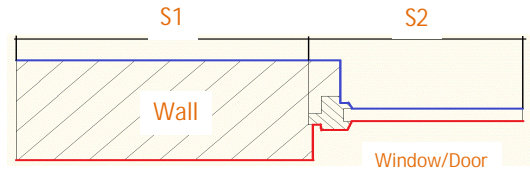


Temperature
12.3 C

Temperature
16.8 C

Date	08.05.2023
Signature	





smartwin in smartshell timber frame Japan fusion

left and right sunscreen Japan in Resysta rail

U_{1D} Wall	0,185	W/m ² K
U_{2D} Window	0,748	W/m ² K
U_{2D}	0,389	W/m ² K

projected X
projected X

Length S1	0,754	m
Length S2	0,396	m
Total length	1,150	m

L_{1D}	0,436	W/mK
L_{2D}	0,447	W/mK

Ψ_e	0,012	W/mK
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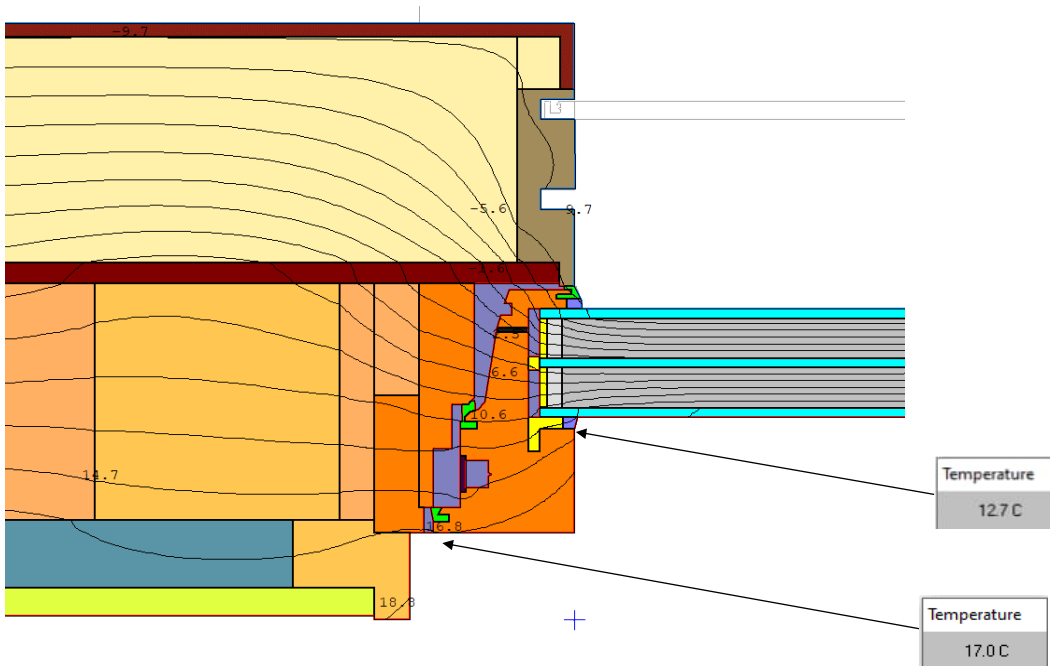
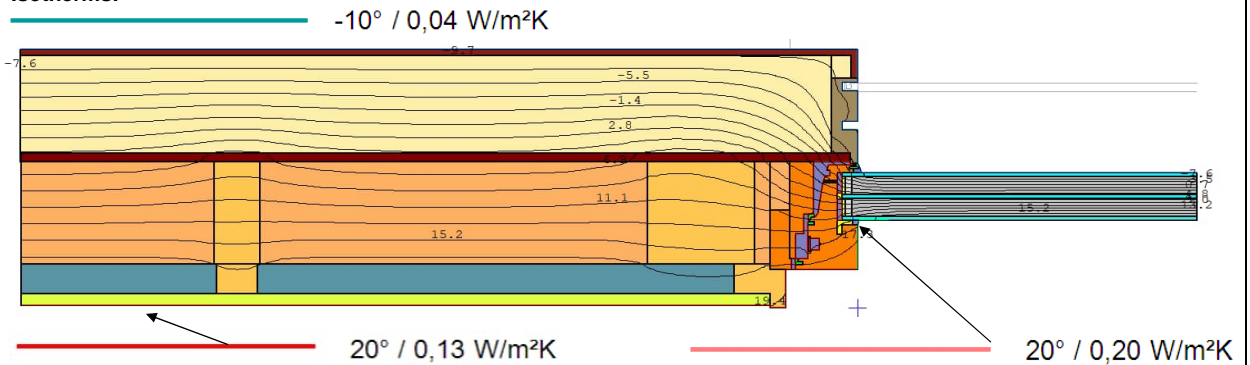
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{si}	

lowest interior temperature:

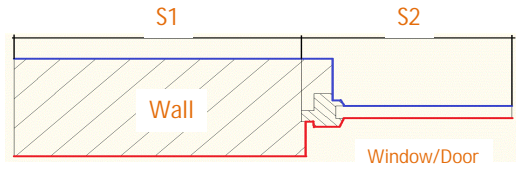
f_{RSI} at 20 °C / -10 °C

12,7°C
0,76 > 0,7 requirement fulfilled

Isotherms:



Date	22.06.2023
Signature	<i>F. F. F.</i>



smartwin in smartshell timber frame Japan passio




left and right sunscreen Warema Japan

U_{1D} Wall	0,185	W/m ² K
U_{2D} Window	0,748	W/m ² K
U_{2D}	0,432	W/m ² K

projected X
projected X

Length S1	0,749	m
Length S2	0,400	m
Total length	1,149	m

L_{1D}	0,438	W/mK
L_{2D}	0,496	W/mK

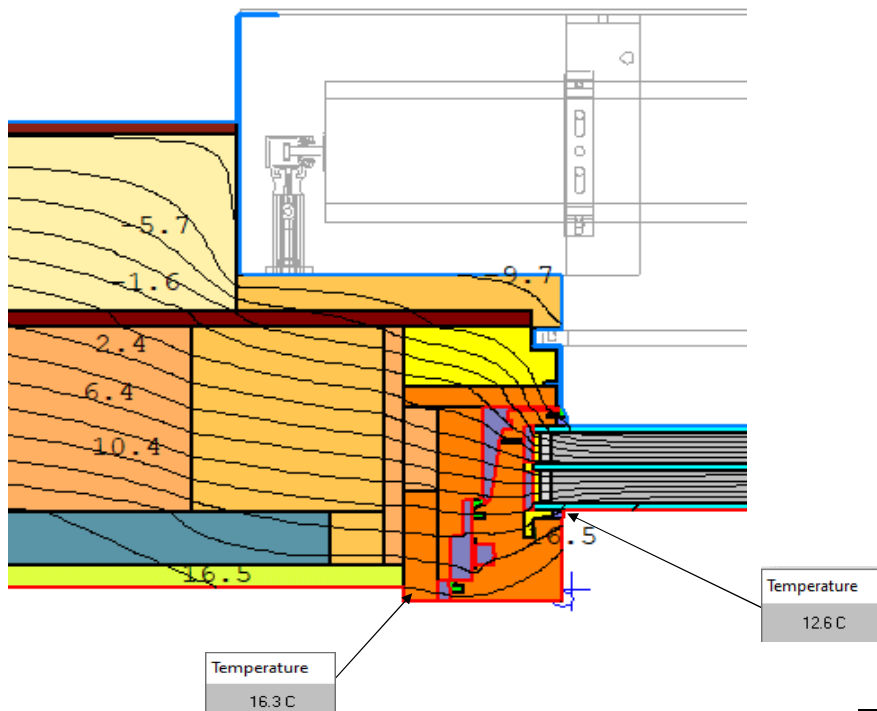
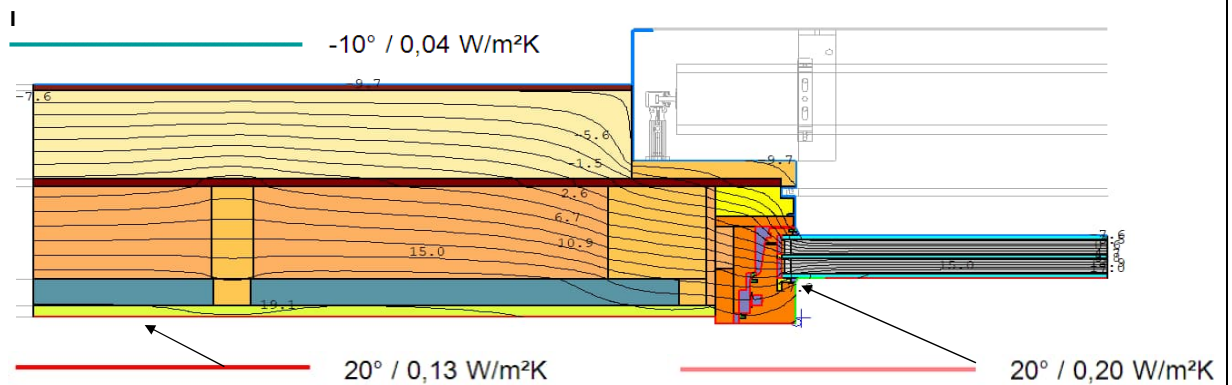
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			$f_{R_{Si}}$	

Ψ_e 0,058 W/mK **very high**

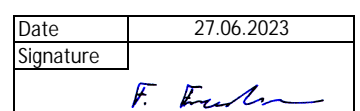
lowest interior temperature:

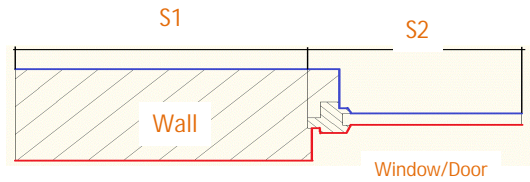
$f_{R_{Si}}$ at 20 °C / -10 °C

12,6 °C
0,75 > 0,7 requirement fulfilled



Date	27.06.2023
Signature	<i>F. Fiedler</i>








U_{1D} Wall	0,185	W/m²K
U_{2D} Window	0,748	W/m²K
U_{2D}	0,377	W/m²K

Length S1	1,000	m
Length S2	0,400	m
Total length	1,400	m

L_{1D}	0,484	W/mK
L_{2D}	0,527	W/mK

Ψ_e	0,043	W/mK
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projected X
projected X

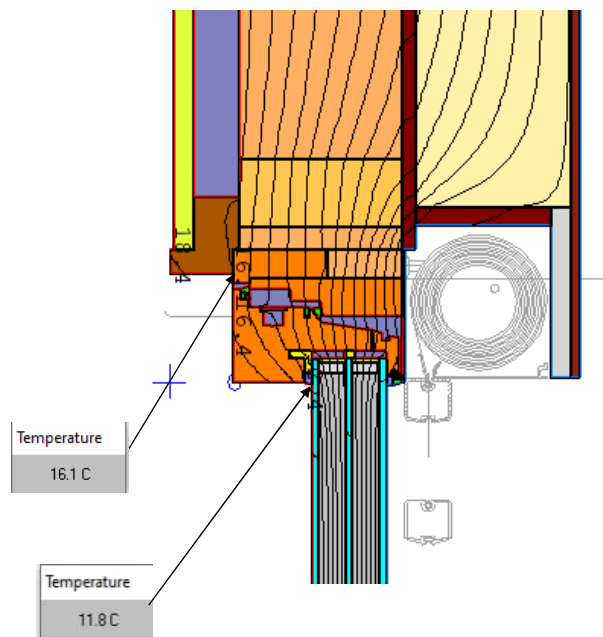
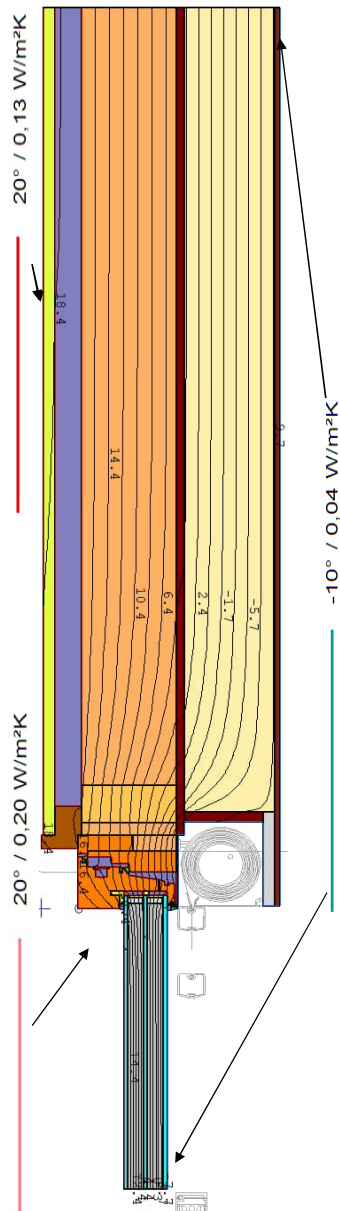
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{Si}	


PHI 0,031
14,09

lowest interior temperature:
 $f_{R_{Si}}$ at 20 °C / -10 °C

11,8°C
0,73 > 0,7 requirement fulfilled

Isotherms:



Date	08.05.2023
Signature	

U_{1D} Wall	0,168	W/m²K
U_{2D} Window	0,750	W/m²K
U_{2D}	0,376	W/m²K




Length S1	1,000	m
Length S2	0,400	m
Total length	1,400	m

L_{1D}	0,468	W/mK
L_{2D}	0,527	W/mK

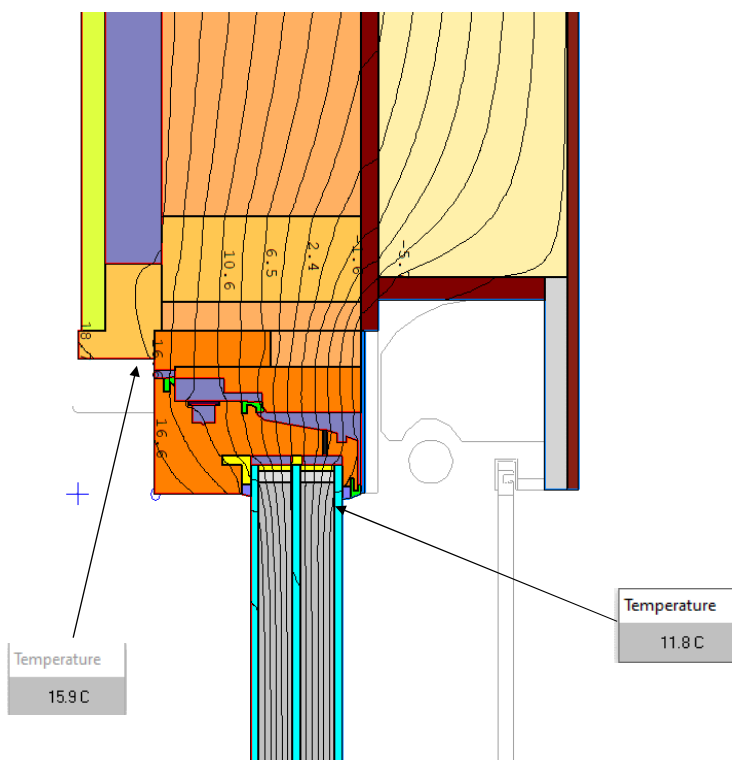
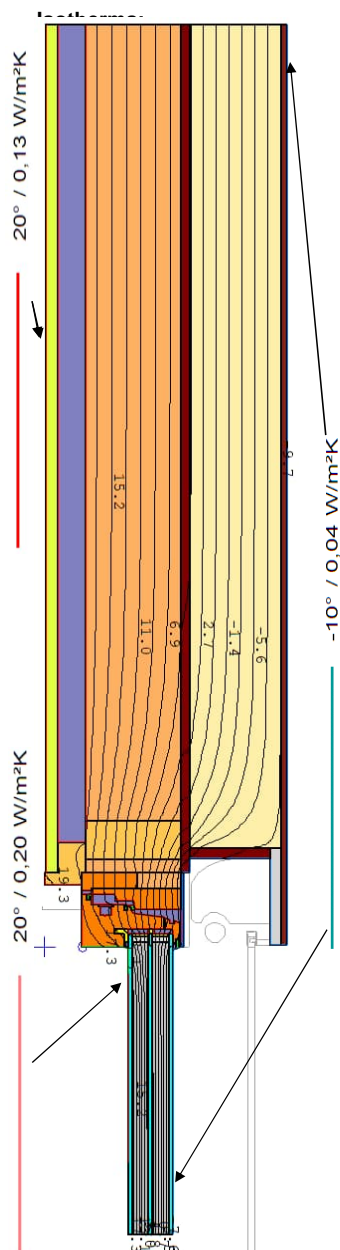
Ψ_e	0,059	W/mK
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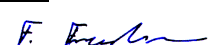
lowest interior temperature:
 f_{RSI} at 20 °C / -10 °C

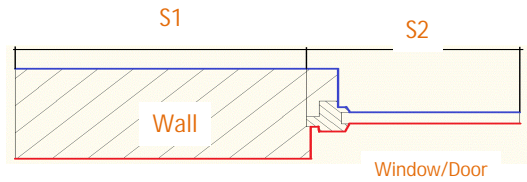
projected X
projected X

PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			f_{RSI}	

11,8°C
0,73 > 0,7 requirement fulfilled



Date	04.05.2023
Signature	






U_{1D} Wall	0,168	W/m²K
U_{2D} Window	0,750	W/m²K
U_{2D}	0,404	W/m²K

projected X
projected X

Length S1	1,045	m
Length S2	0,400	m
Total length	1,445	m

L_{1D}	0,476	W/mK
L_{2D}	0,583	W/mK

PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{Si}	

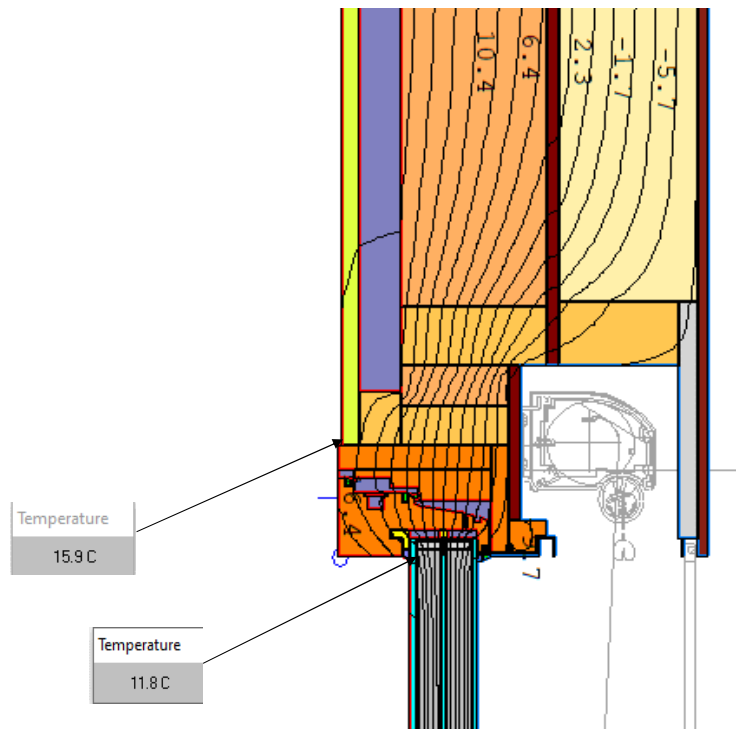
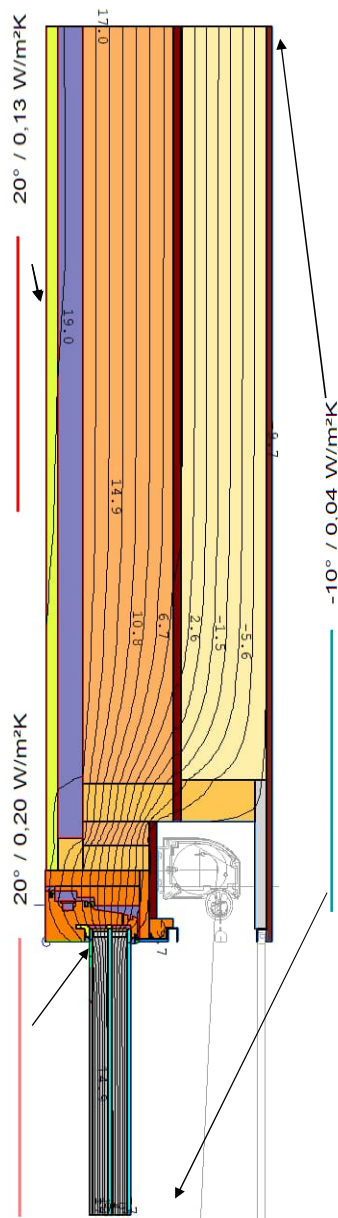
Ψ_e	0,108	W/mK
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very high

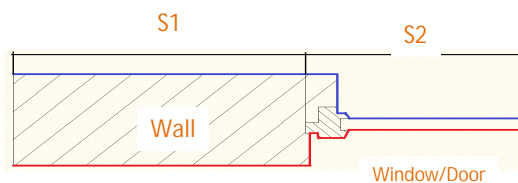
lowest interior temperature:
 f_{RSi} at 20 °C / -10 °C

11,8°C
0,73 > 0,7 requirement fulfilled

Isotherms:



Date	05.05.2023
Signature	



U_{1D} Wall	0,168	W/m²K
U_{2D} Window	0,750	W/m²K
U_{2D}	0,419	W/m²K

Length S1	0,749	m
Length S2	0,400	m
Total length	1,149	m

L_{1D}	0,426	W/mK
L_{2D}	0,481	W/mK

Ψ_e	0,055	W/mK
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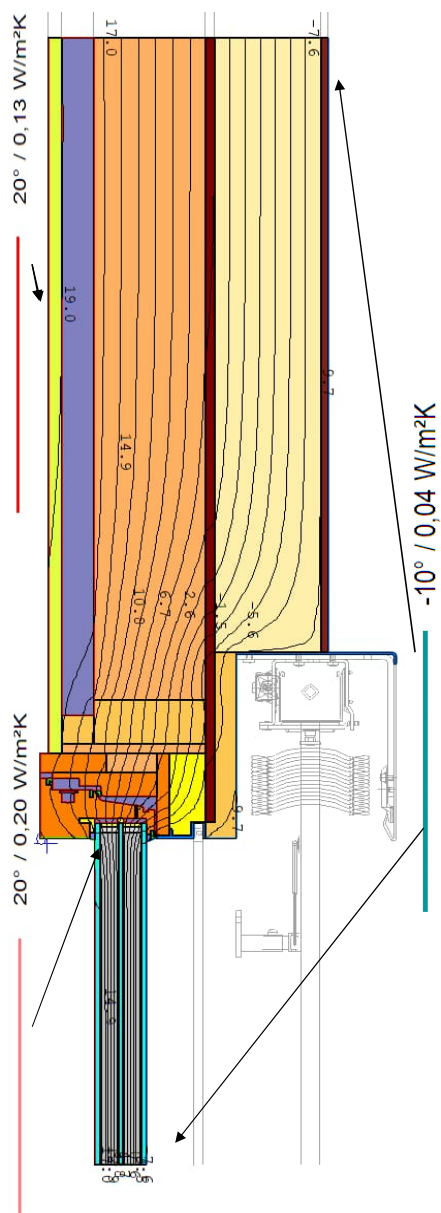
projected X
projected X

PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{Si}	

lowest interior temperature:
 f_{RSi} at 20 °C / -10 °C

12,6°C
0,75 > 0,7 requirement fulfilled

Isotherms:



U_{1D} Wall	0,185	W/m²K
U_{2D} Window	0,748	W/m²K
U_{2D}	0,386	W/m²K

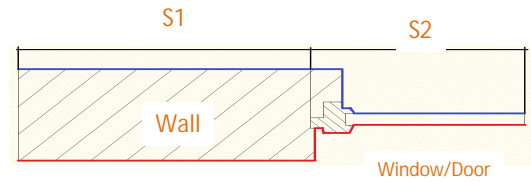
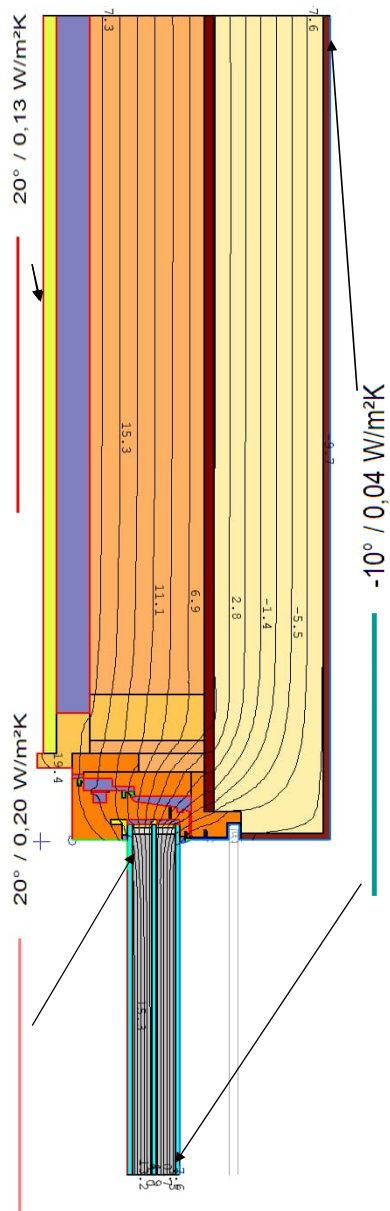
Length S1	0,752	m
Length S2	0,400	m
Total length	1,152	m

L_{1D}	0,438	W/mK
L_{2D}	0,445	W/mK

Ψ_e	0,007	W/mK
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lowest interior temperature:
 f_{RSi} at 20 °C / -10 °C

Isotherms:

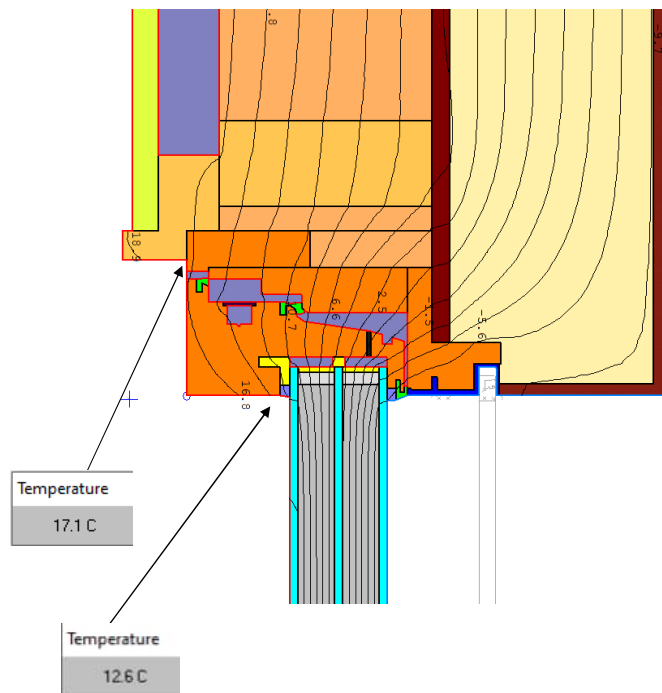


projected X
projected X

PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{Si}	

PHI 0,031
14,09

12,6°C
0,75 > 0,7 requirement fulfilled



Date	27.06.2023
Signature	F. Fiedler

smartwin in smartshell timber frame Japan (first certification)
bottom venetian blind as Zip screen Brichta

U_{1D} Wall	0,168	W/m ² K
U_{2D} Window	0,781	W/m ² K
U_{2D}	0,356	W/m ² K




Length S1	1,100	m
Length S2	0,400	m
Total length	1,500	m

L_{1D}	0,497	W/mK
L_{2D}	0,534	W/mK

Ψ_e	0,036	W/mK
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lowest interior temperature:
 f_{RSI} at 20 °C / -10 °C

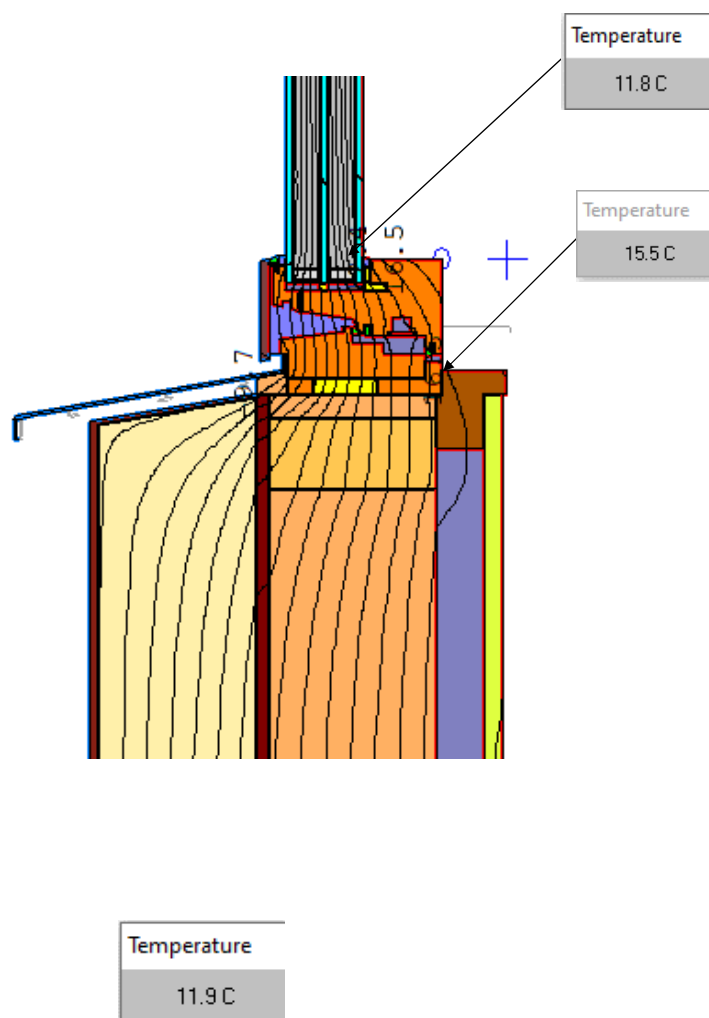
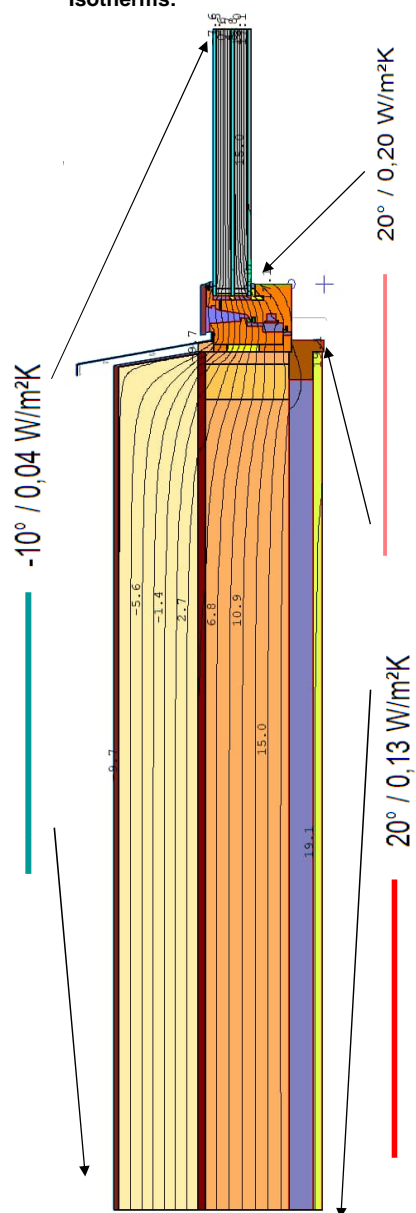
projected X
projected X

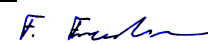
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			f_{RSI}	

PHI 0,028
13,5

11,8°C
0,73 > 0,7 requirement fulfilled

Isotherms:



Date	08.05.2023
Signature	




U_{1D} Wall	0,168	W/m²K
U_{2D} Window	0,781	W/m²K
U_{2D}	0,360	W/m²K

Length S1	1,100	m
Length S2	0,400	m
Total length	1,500	m

L_{1D}	0,497	W/mK
L_{2D}	0,540	W/mK

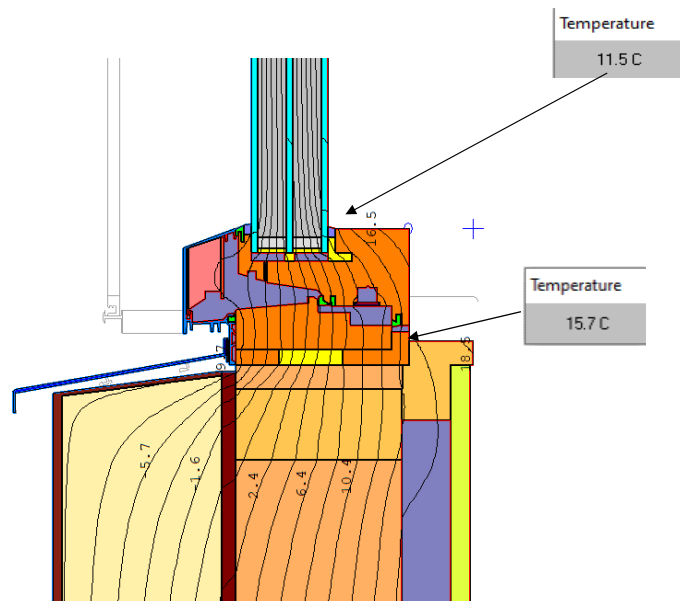
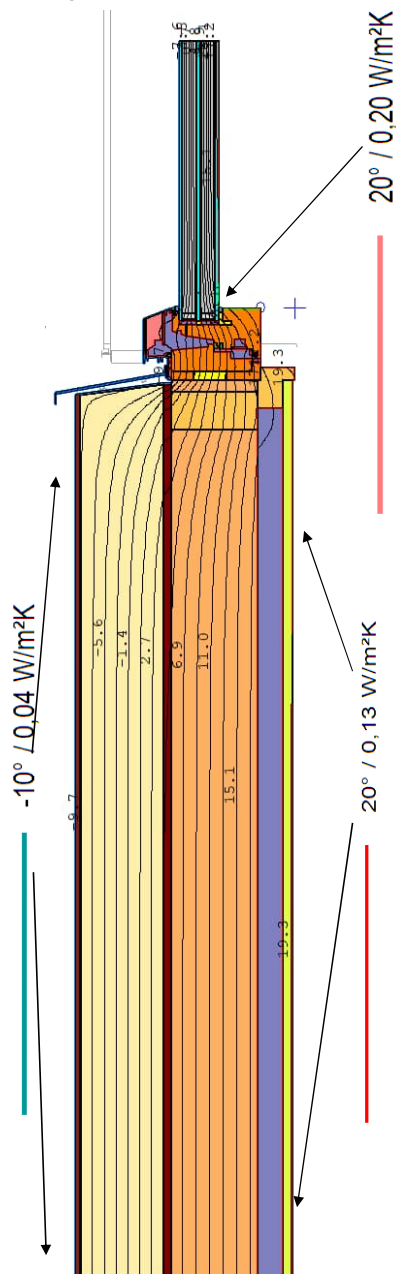
Ψ_e	0,043	W/mK
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projected X
projected X

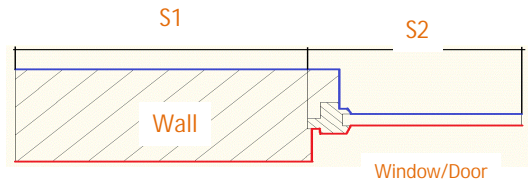
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{si}	

lowest interior temperature:
 f_{RSi} at 20 °C / -10 °C

11,5°C
0,72 > 0,7 requirement fulfilled



Date	04.05.2023
Signature	



U_{1D} Wall	0,168	W/m²K
U_{2D} Window	0,781	W/m²K
U_{2D}	0,370	W/m²K

Length S1	1,100	m
Length S2	0,400	m
Total length	1,500	m

L_{1D}	0,497	W/mK
L_{2D}	0,554	W/mK

Ψ_e	0,057	W/mK
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projected X
projected X

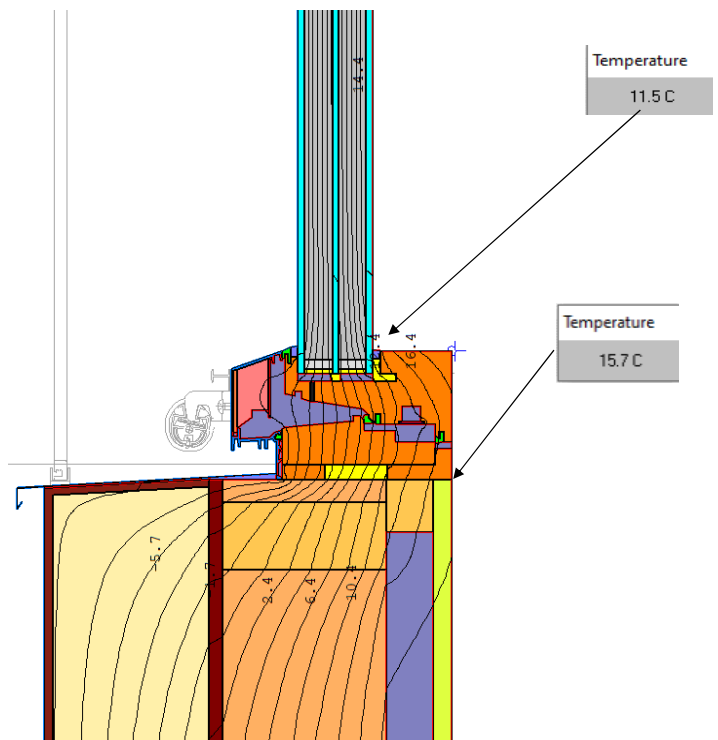
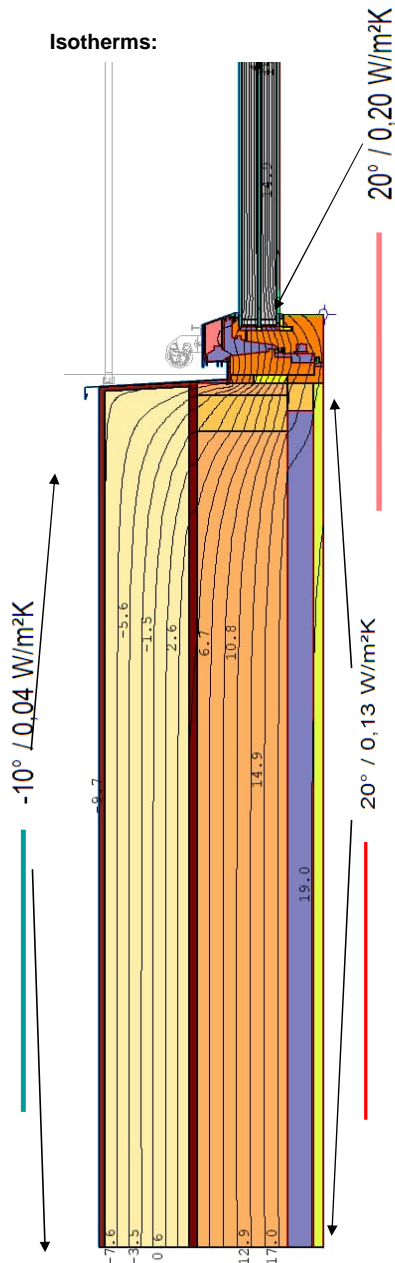
PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0,13	20,00	0,25	20,00
	0,13	20,00	0,20	20,00
	0,04	-10,00	0,04	-10,00
Psi-value			fR_{si}	

quite high

lowest interior temperature:
 f_{RSI} at 20 °C / -10 °C

11,5°C
0,72 > 0,7 requirement fulfilled

Isotherms:



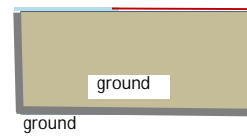
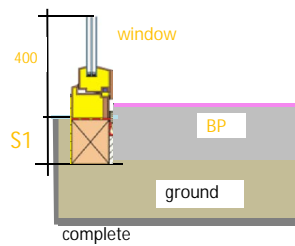
Date	05.05.2023
Signature	<i>F. Furlan</i>



smartwin in smartshell timber frame Japan
bottom door with threshold

Model complete:

U_{10} EW 0,185 W/m²K
Length S1 0,709 m



L_{10} 0,131
 $L_{\text{window wchair}}$ 0,318
 $L_{\text{bottom plate}}$ 1,000
 L_{complete} 1,519

Ψ_e 0,071 W/mK

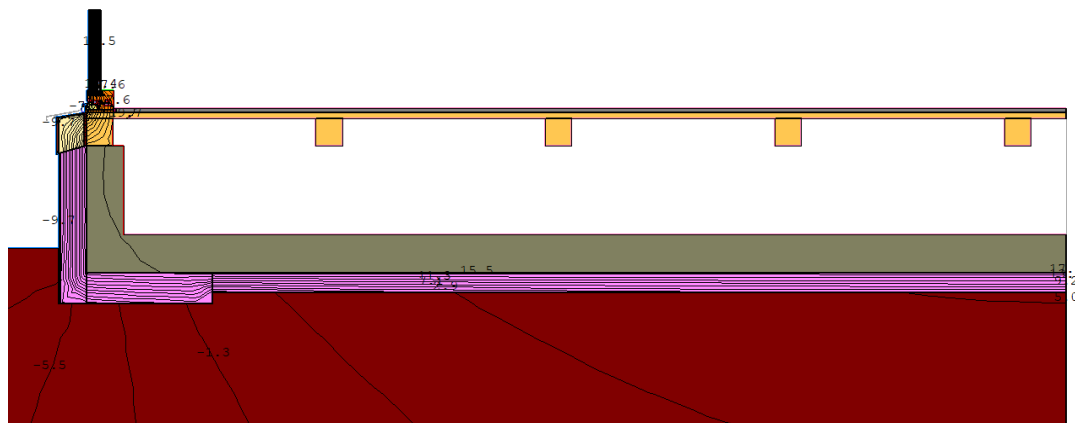
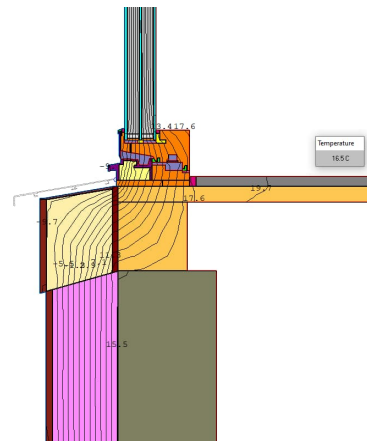
calculation window wheelchair bt
calculation ground with BC 0,4171
calculation window complete

PHI				
Boundary Conditions	R_s	θ	R_s	θ
—	0,13	20,00	0,25	20,00
—	0,17	20,00	0,25	20,00
—	0,04	-10,00	0,04	-10,00
—	0,00	-10,00	-	-
—	-	20,00	-	-
—	adiabatic	adiabatic	0,00	10,00
Psi-value			IR_{ci}	

lowest interior temperature:
 f_{RSI} at 20 °C / -10 °C

16,5 °C
0,88 > 0,7 requirement fulfilled

Isotherms:








F. Fendler

Project smartshell st a
Date 03.05.2023

Model complete:

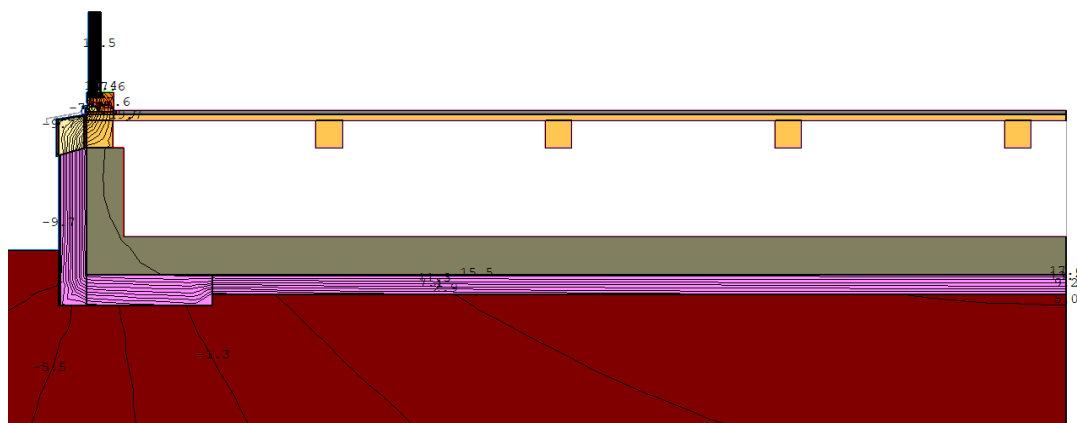
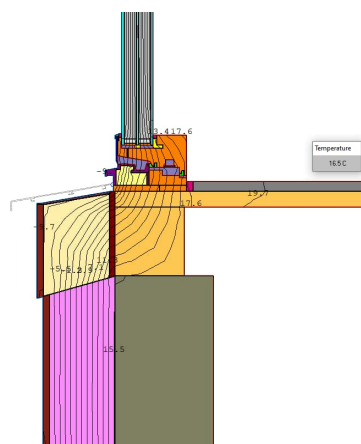
calculation window wheelchair bt
calculation ground with BC 0,4171
calculation window complete

PHI				
Boundary Conditions	R_s	θ	R_s	θ
	0.13	20,00	0.25	20,00
	0.17	20,00	0.25	20,00
	0.04	-10,00	0.04	-10,00
	0.00	-10,00	-	-
	-	20,00	-	-
	adiabatic	adiabatic	0.00	10,00
	Psi-value		fR _s	

16,5°C
0,88

> 0,7 requirement fulfilled

Isotherms:



F. Buchanan

Project	smartshell st a
Date	03.05.2023