

Description Average values for window size h*w 1.23 m * 1.48 m	Glazing U-value [W/(m²K)]	Uf value [W/(m²K)]				Frame Width [m]				Glazing Edge Ψ-value [W/(m²K)]				Temperature factor (min) f _{RSi=0,25} [-]	Overall U-value [W/(m²K)]
		Sill	Side	Head	Average	Sill	Side	Head	Average	Sill	Side	Head	Average		
DesignLine 78 Oak Double	1,14	1,71	1,62	1,62	1,64	0,128	0,128	0,128	0,128	0,029	0,029	0,029	0,029	0,57	1,38
DesignLine 78 Larch Double	1,14	1,41	1,34	1,34	1,36	0,128	0,128	0,128	0,128	0,029	0,029	0,02895	0,029	0,57	1,29
DesignLine 90 Oak Triple	0,52	1,48	1,42	1,42	1,43	0,128	0,128	0,128	0,128	0,023	0,023	0,023	0,023	0,71	0,89
DesignLine 90 Larch Triple	0,52	1,21	1,16	1,16	1,17	0,128	0,128	0,128	0,128	0,023	0,023	0,023	0,023	0,72	0,80
DesignLine 90 PASSIVE	0,52	1,09	1,05	1,05	1,06	0,128	0,128	0,128	0,128	0,024	0,023	0,023	0,023	0,72	0,76

Drawings and material data were provided by the manufacturer. The sole responsibility for the provided information lies with the manufacturer.

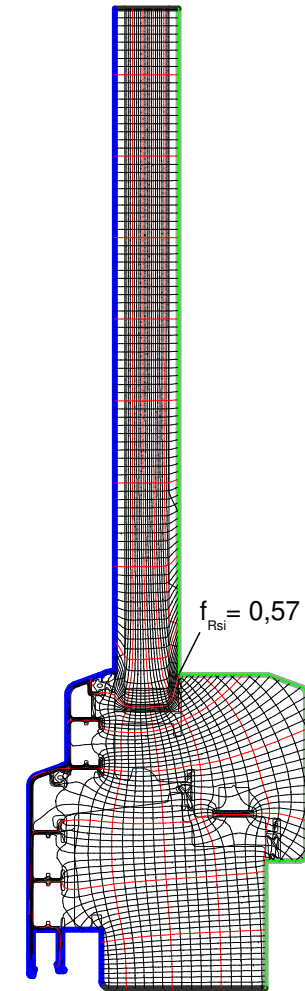
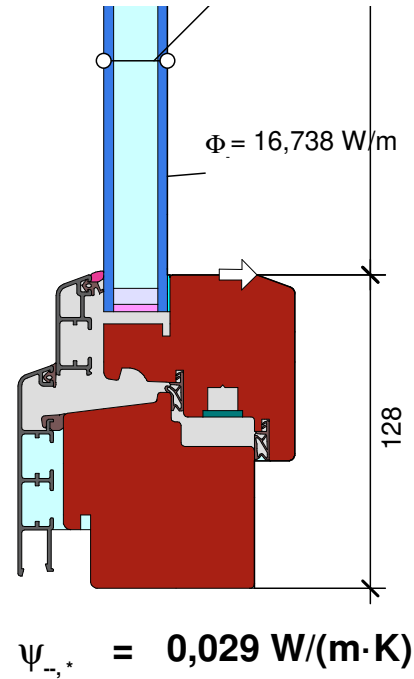
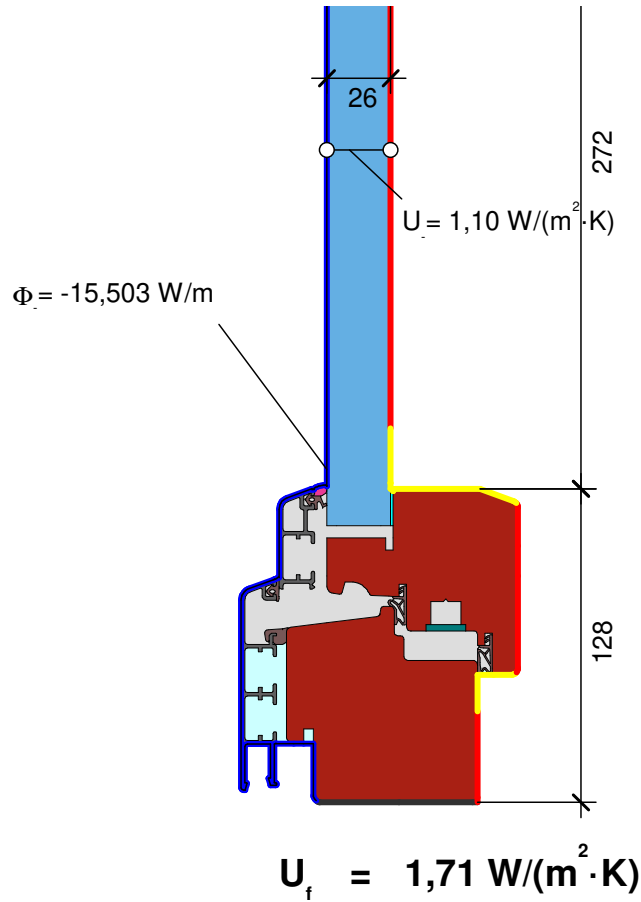
Recommended for climate zone

90 Oak Triple	arctic	cold	cool, temperate	warm, temperate	warm	hot	very hot	
90 Larch Triple 90 PASSIVE	arctic	cold	cool, temperate	warm, temperate	warm	hot	very hot	

Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiat	0,000			
Exterior Außen		-10,000	0,040	
Interior, frame, normal		20,000	0,130	
Interior, frame, reduced		20,000	0,200	
e 0,9 Cavity Hohlraum				0,900

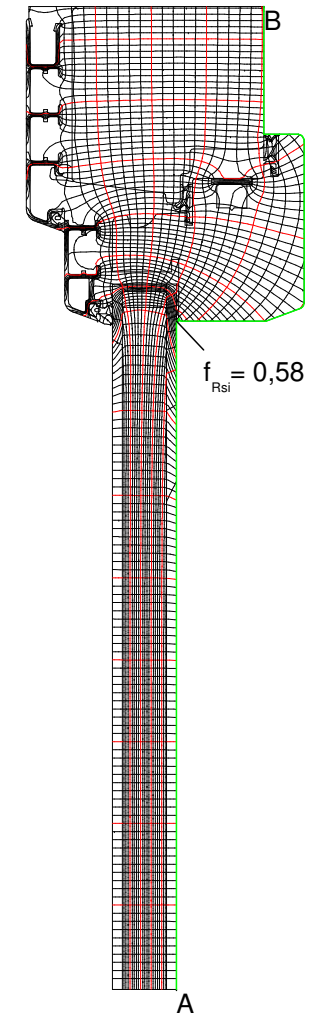
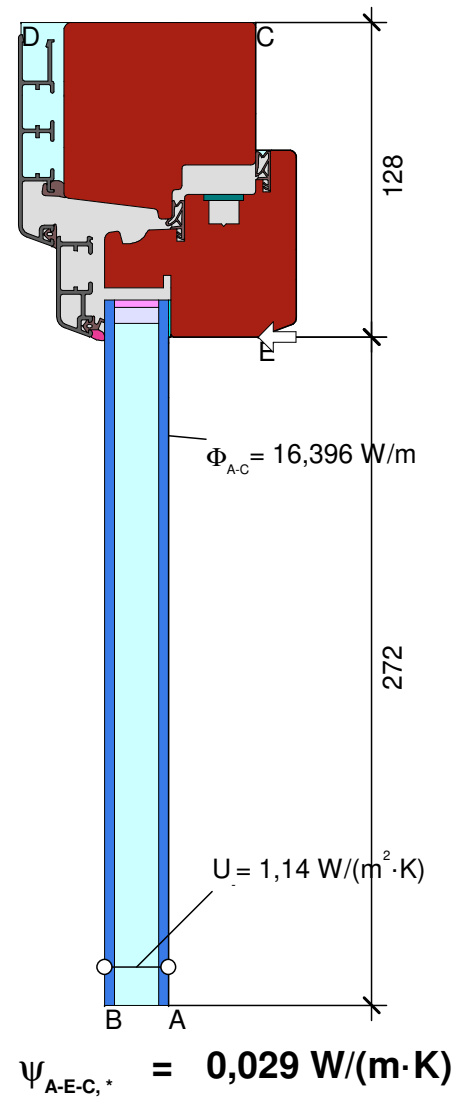
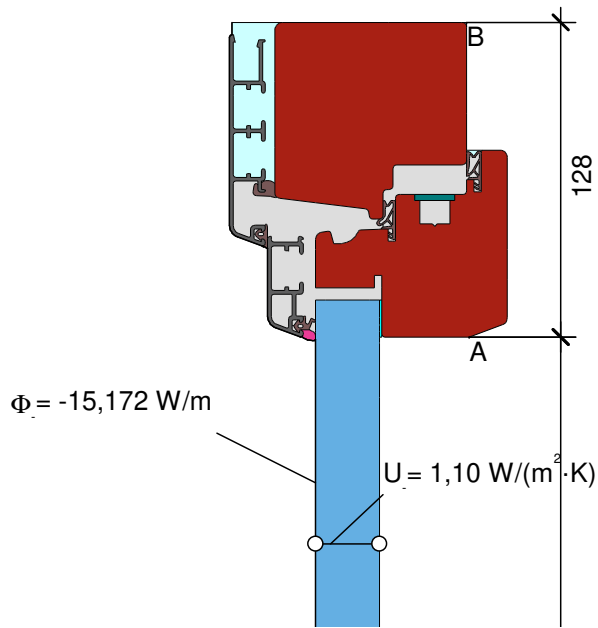
Material	$\lambda[W/(m \cdot K)]$	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar18 in 26 mm U 1,14	0,026	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Hardwood Hartholz 0.18 700 kg/m3 10456	0,180	0,900
Insulation tape Vorlegeband	0,060	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

* EN ISO 10077-2:2017, 6.4.3



DesignLine 78 bottom | Oak | Double glazing

Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiat	0,000			
Exterior Außen		-10,000	0,040	
e 0,9 Cavity Hohlraum				0,900
fRsi: Interior Innen		20,000	0,250	

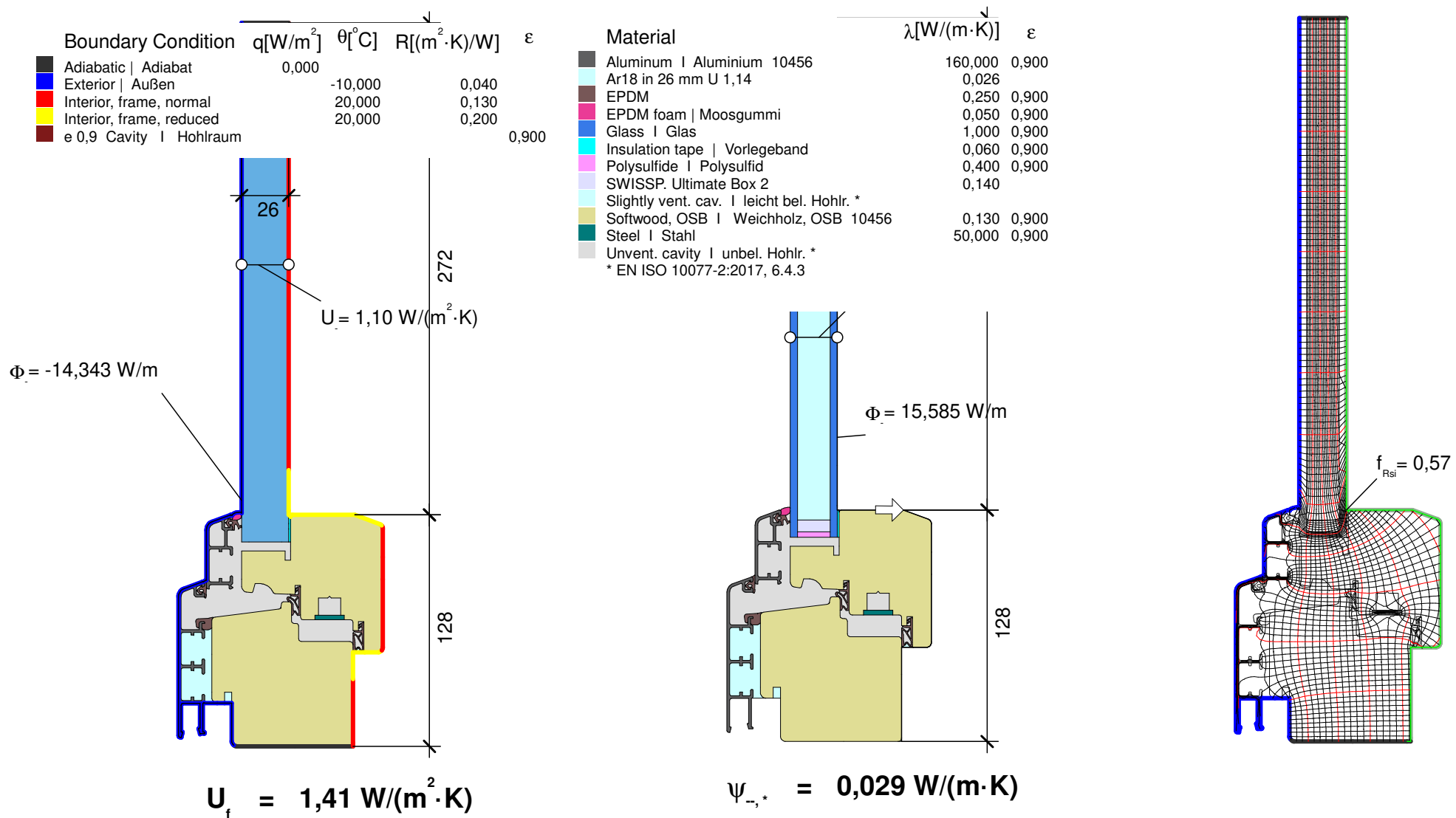


Material	λ [W/(m·K)]	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar18 in 26 mm U 1,14	0,026	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Hardwood Hartholz 0.18 700 kg/m3 10456	0,180	0,900
Insulation tape Vorlegeband	0,060	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

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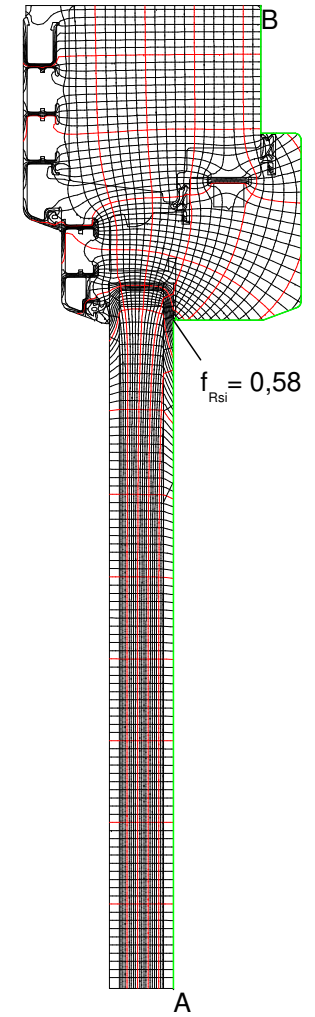
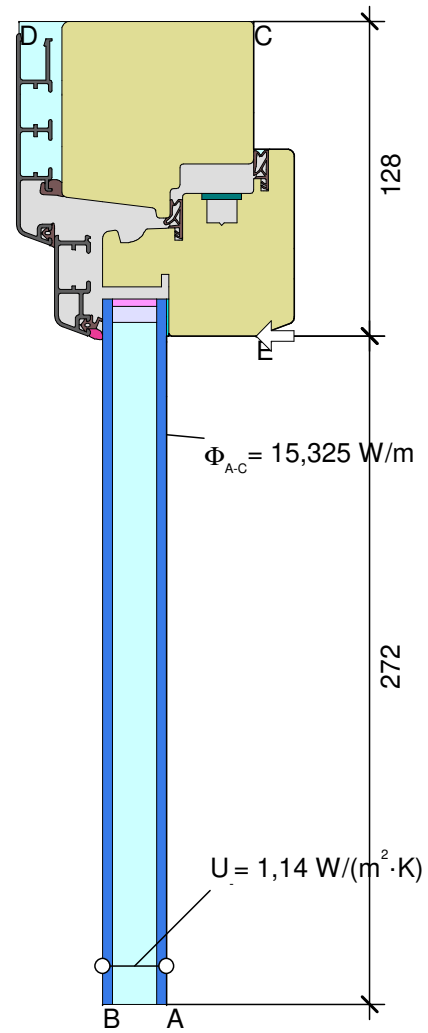
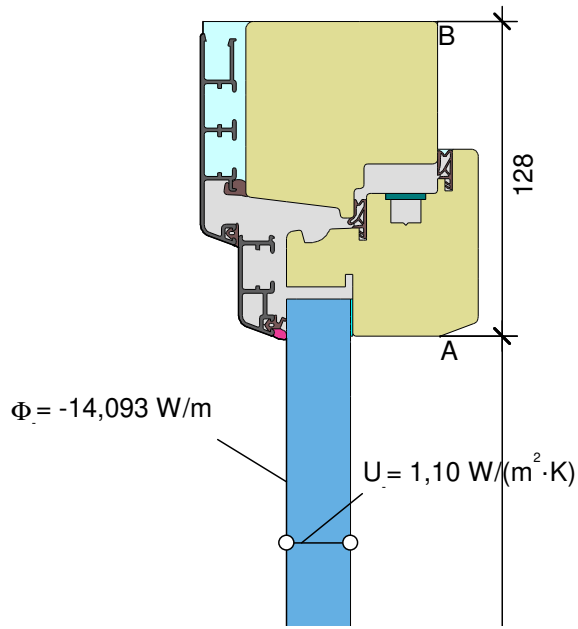
$$U_{fA,B} = 1,62 \text{ W}/(\text{m}^2 \cdot \text{K})$$

DesignLine 78 top/side | Oak | Double glazing



DesignLine 78 bottom | Larch | Double glazing

Boundary Condition	q [W/m ²]	θ [°C]	R [(m ² ·K)/W]	ϵ
Adiabatic Adiabat	0,000			
Exterior Außen		-10,000	0,040	
e 0,9 Cavity Hohlraum				0,900
fRsi: Interior Innen		20,000	0,250	



Material	λ [W/(m·K)]	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar18 in 26 mm U 1,14	0,026	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Insulation tape Vorlegeband	0,060	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Softwood, OSB Weichholz, OSB 10456	0,130	0,900
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

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$$U_{fA,B} = 1,34 \text{ W}/(\text{m}^2 \cdot \text{K})$$

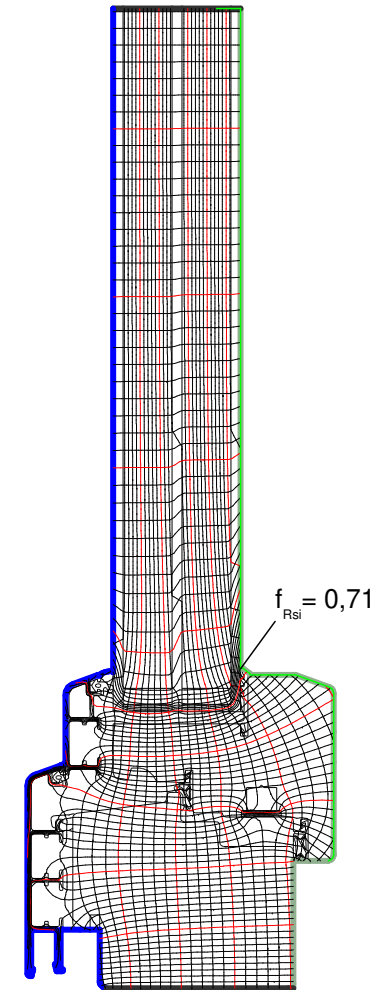
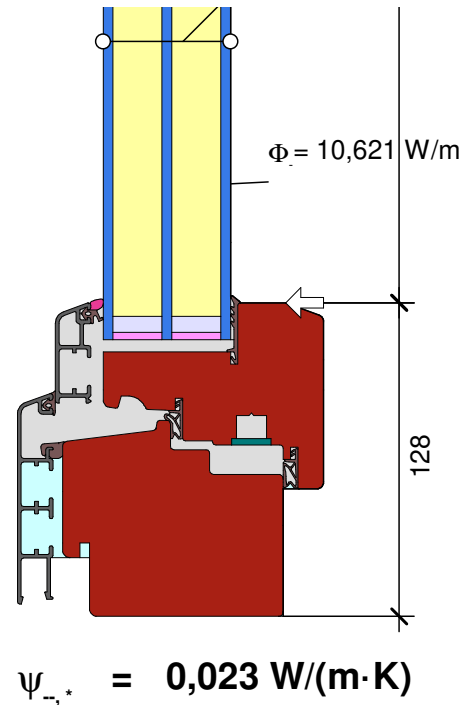
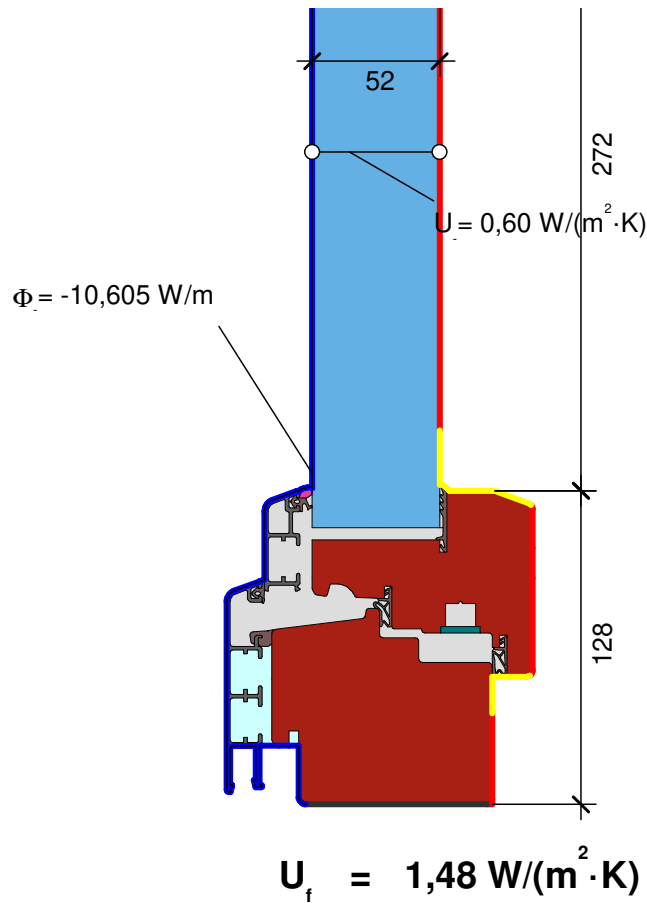
$$\Psi_{A-E-C,*} = 0,029 \text{ W}/(\text{m} \cdot \text{K})$$

DesignLine 78 top/side | Larch | Double glazing

Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiat	0,000			
Exterior Außen		-10,000	0,040	
Interior, frame, normal		20,000	0,130	
Interior, frame, reduced		20,000	0,200	
e 0,9 Cavity Hohlraum				0,900

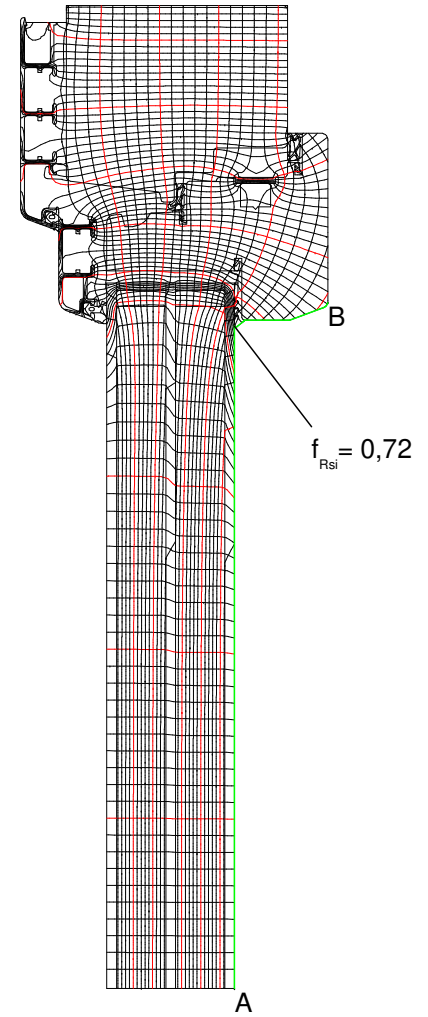
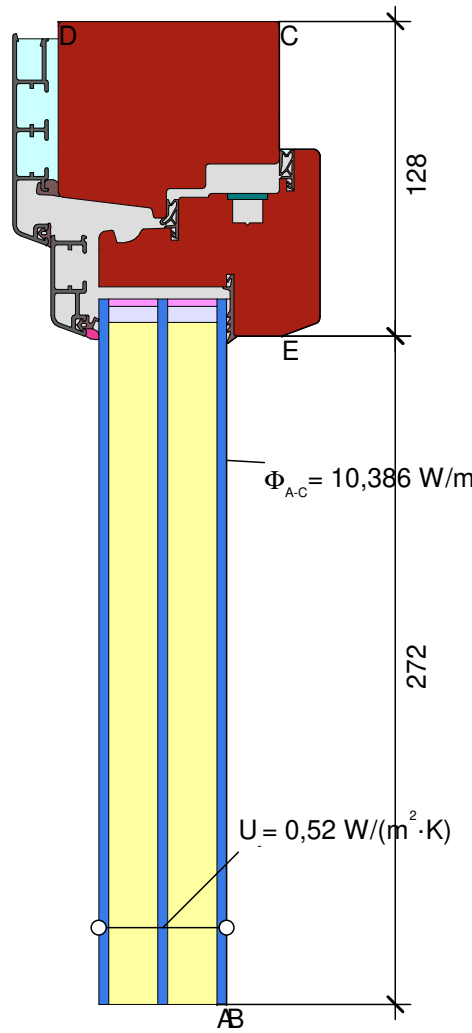
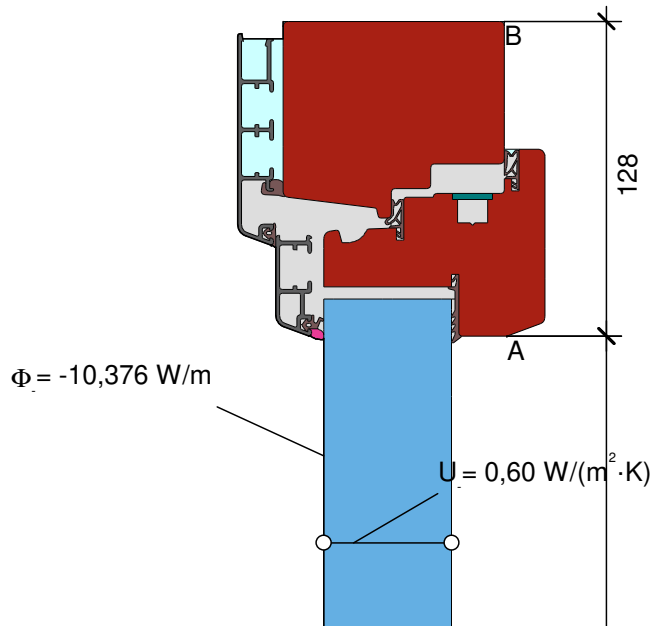
Material	$\lambda[W/(m \cdot K)]$	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar20 in 52 mm U 0,52	0,023	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Hardwood Hartholz 0.18 700 kg/m3 10456	0,180	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

* EN ISO 10077-2:2017, 6.4.3



DesignLine 90 bottom | Oak | Triple glazing

Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiat	0,000			
Exterior Außen		-10,000	0,040	
e 0,9 Cavity Hohlraum				0,900
fRsi: Interior Innen		20,000	0,250	



Material	λ [W/(m·K)]	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar20 in 52 mm U 0,52	0,023	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Hardwood Hartholz 0.18 700 kg/m3 10456	0,180	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

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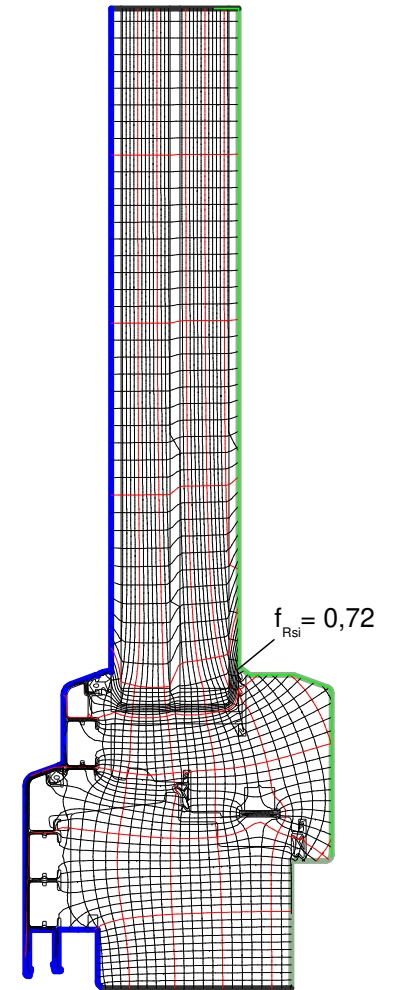
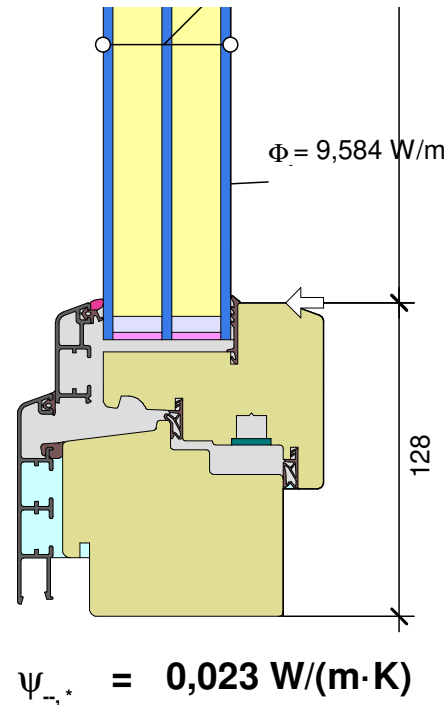
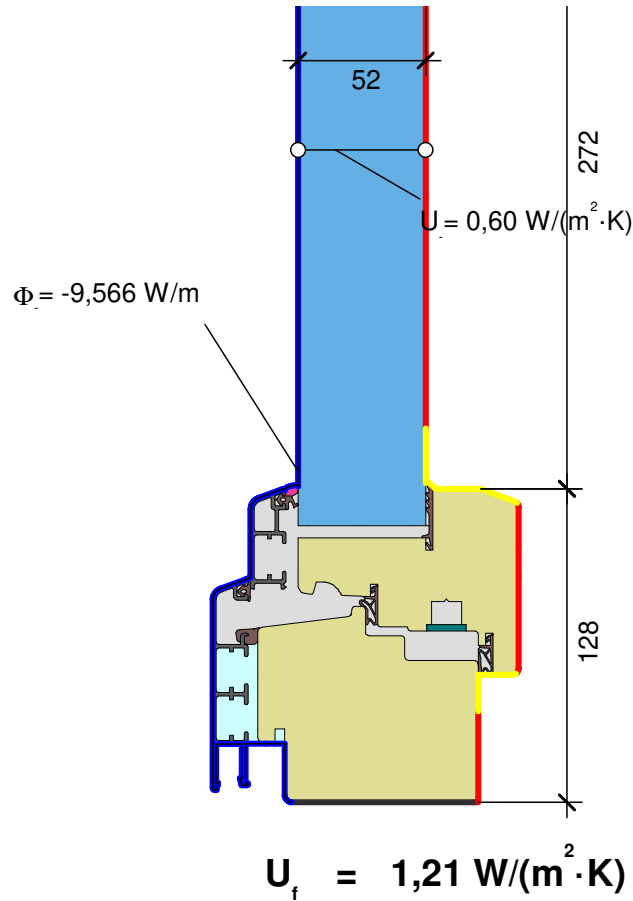
$$U_{fA,B} = 1,42 \text{ W/(m}^2 \cdot \text{K)}$$

$\Psi_{A-E-C,*} = \text{Nicht definiert}$

DesignLine 90 top/side | Oak | Triple glazing

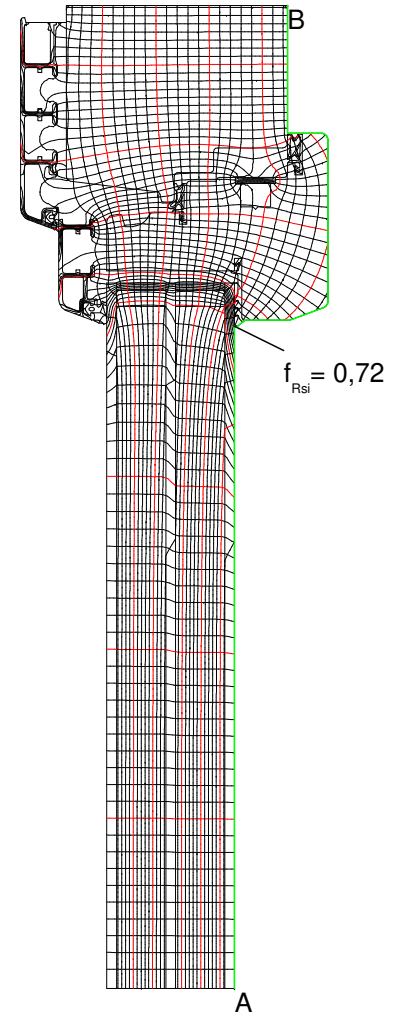
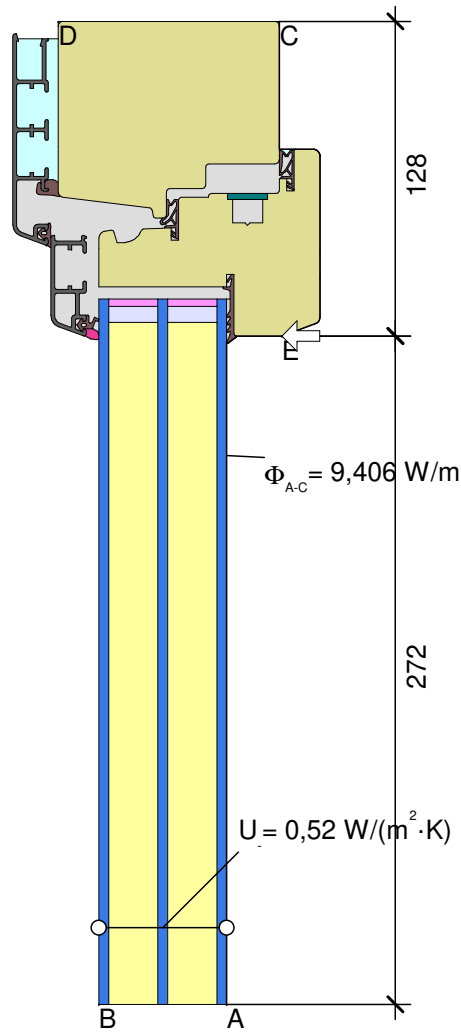
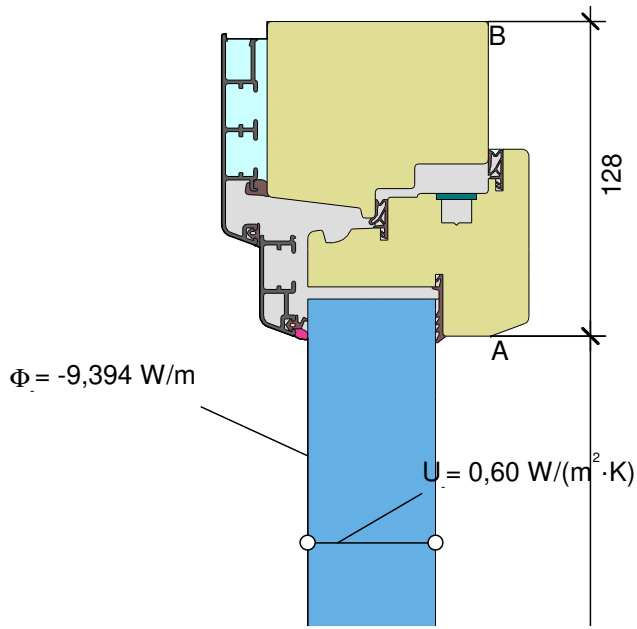
Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiat	0,000			
Exterior Außen		-10,000	0,040	
Interior, frame, normal		20,000	0,130	
Interior, frame, reduced		20,000	0,200	
e 0,9 Cavity Hohlraum				0,900

Material	$\lambda[W/(m \cdot K)]$	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar20 in 52 mm U 0,52	0,023	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Softwood, OSB Weichholz, OSB 10456	0,130	0,900
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		
* EN ISO 10077-2:2017, 6.4.3		



DesignLine 90 bottom | Larch | Triple glazing

Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiat	0,000			
Exterior Außen		-10,000	0,040	
e 0,9 Cavity Hohlraum				0,900
fRsi: Interior Innen		20,000	0,250	

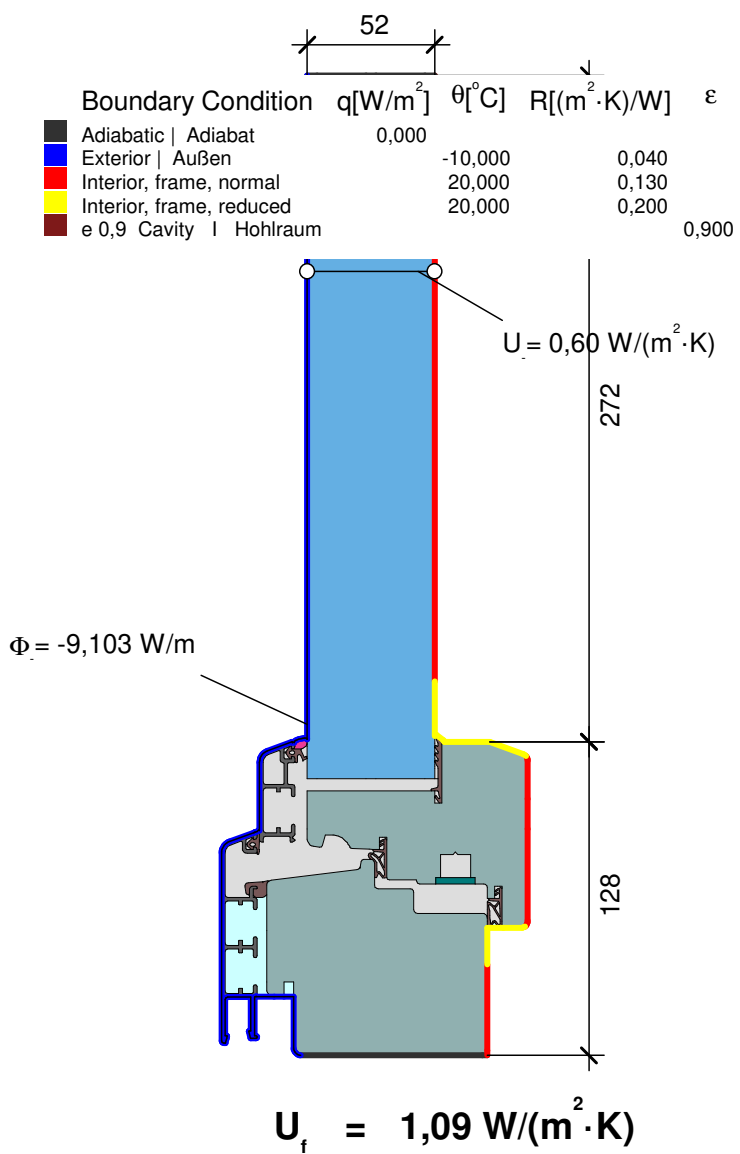


Material	λ [W/(m·K)]	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar20 in 52 mm U 0,52	0,023	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Polysulfid Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Softwood, OSB Weichholz, OSB 10456	0,130	0,900
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

$$U_{fA,B} = 1,16 \text{ W/(m}^2 \cdot \text{K)}$$

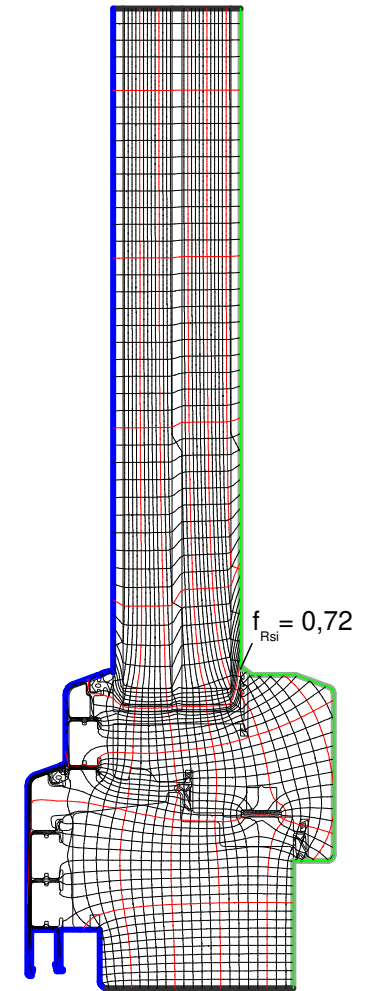
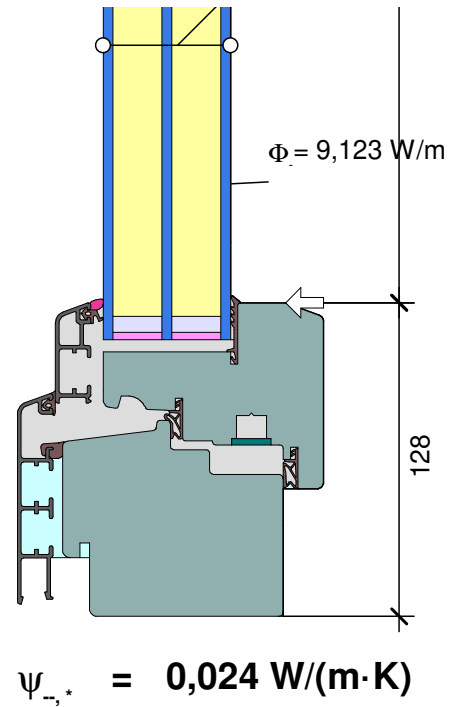
$$\Psi_{A-E-C,*} = 0,023 \text{ W/(m} \cdot \text{K)}$$

DesignLine 90 top/side | Larch | Triple glazing



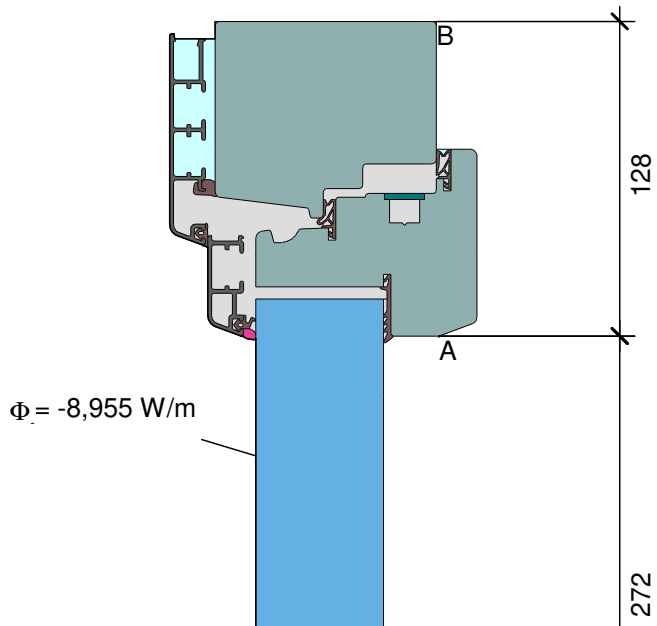
Material	$\lambda[W/(m \cdot K)]$	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar20 in 52 mm U 0,52	0,023	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *	0,110	0,900
Spruce, Fir Fichte, Tanne	50,000	0,900
Steel Stahl		
Unvent. cavity unbel. Hohlr. *		

* EN ISO 10077-2:2017, 6.4.3



DesignLine 90 bottom | PASSIVE

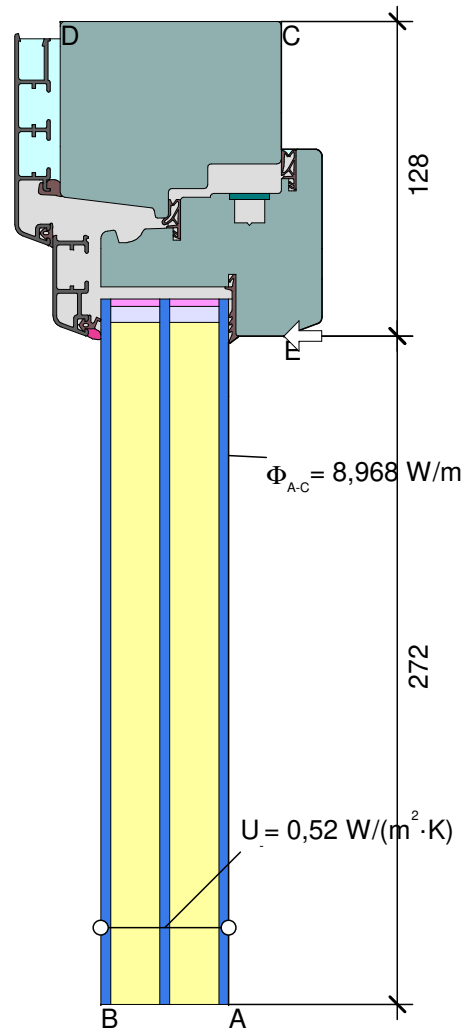
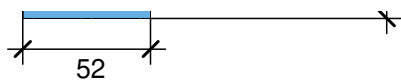
Boundary Condition	$q[W/m^2]$	$\theta[^\circ C]$	$R[(m^2 \cdot K)/W]$	ϵ
Adiabatic Adiabat	0,000			
Exterior Außen		-10,000	0,040	
e 0,9 Cavity Hohlraum				0,900
fRsi: Interior Innen		20,000	0,250	



Material	λ [W/(m·K)]	ϵ
Aluminum Aluminium 10456	160,000	0,900
Ar20 in 52 mm U 0,52	0,023	
EPDM	0,250	0,900
EPDM foam Moosgummi	0,050	0,900
Glass Glas	1,000	0,900
Polysulfide Polysulfid	0,400	0,900
SWISSP. Ultimate Box 2	0,140	
Slightly vent. cav. leicht bel. Hohlr. *		
Spruce, Fir Fichte, Tanne	0,110	0,900
Steel Stahl	50,000	0,900
Unvent. cavity unbel. Hohlr. *		

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$$U_{fA,B} = 1,05 \text{ W}/(\text{m}^2 \cdot \text{K})$$



$$\Psi_{A-E-C,*} = 0,023 \text{ W}/(\text{m} \cdot \text{K})$$

