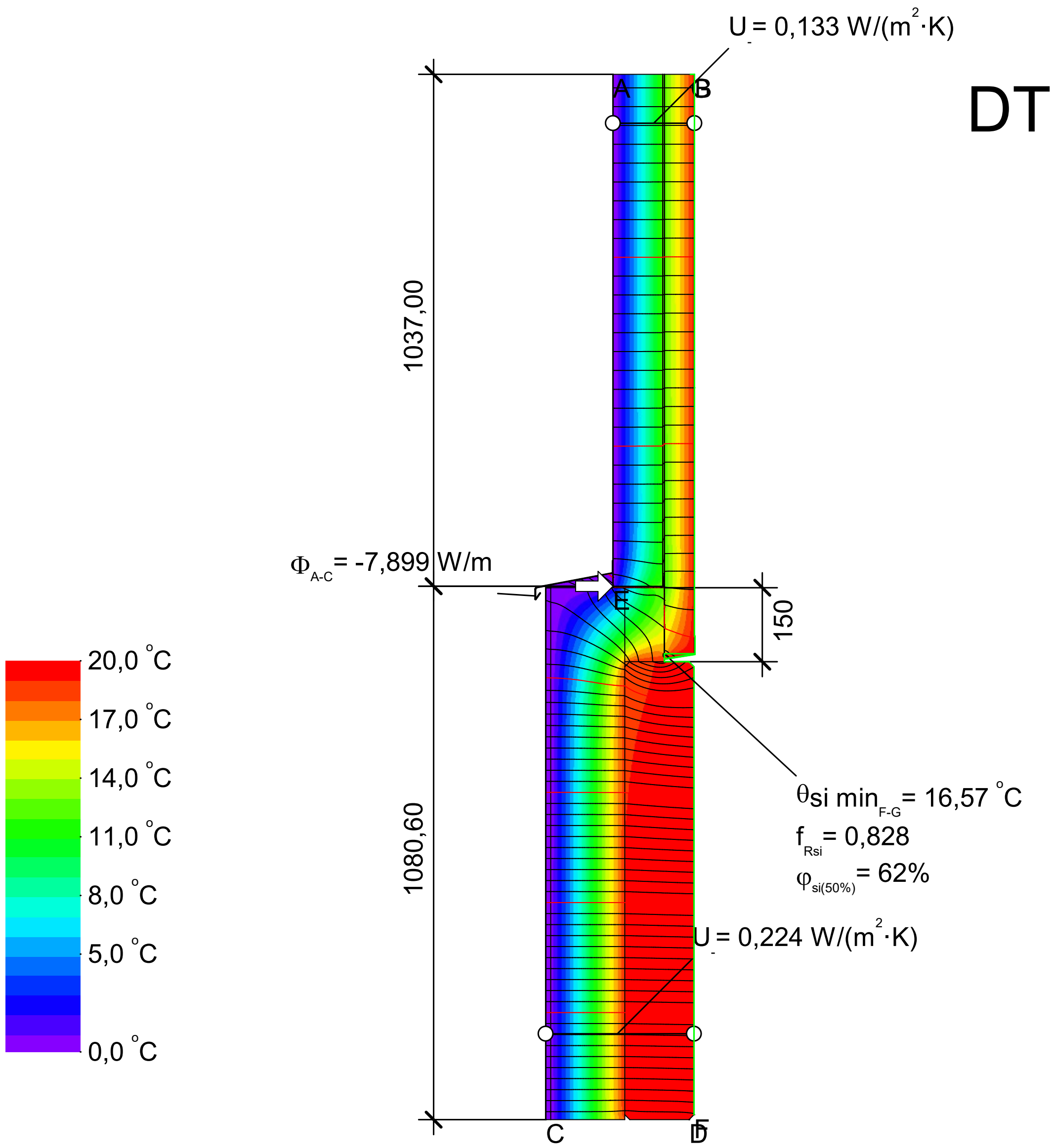
DT 2A.1.1



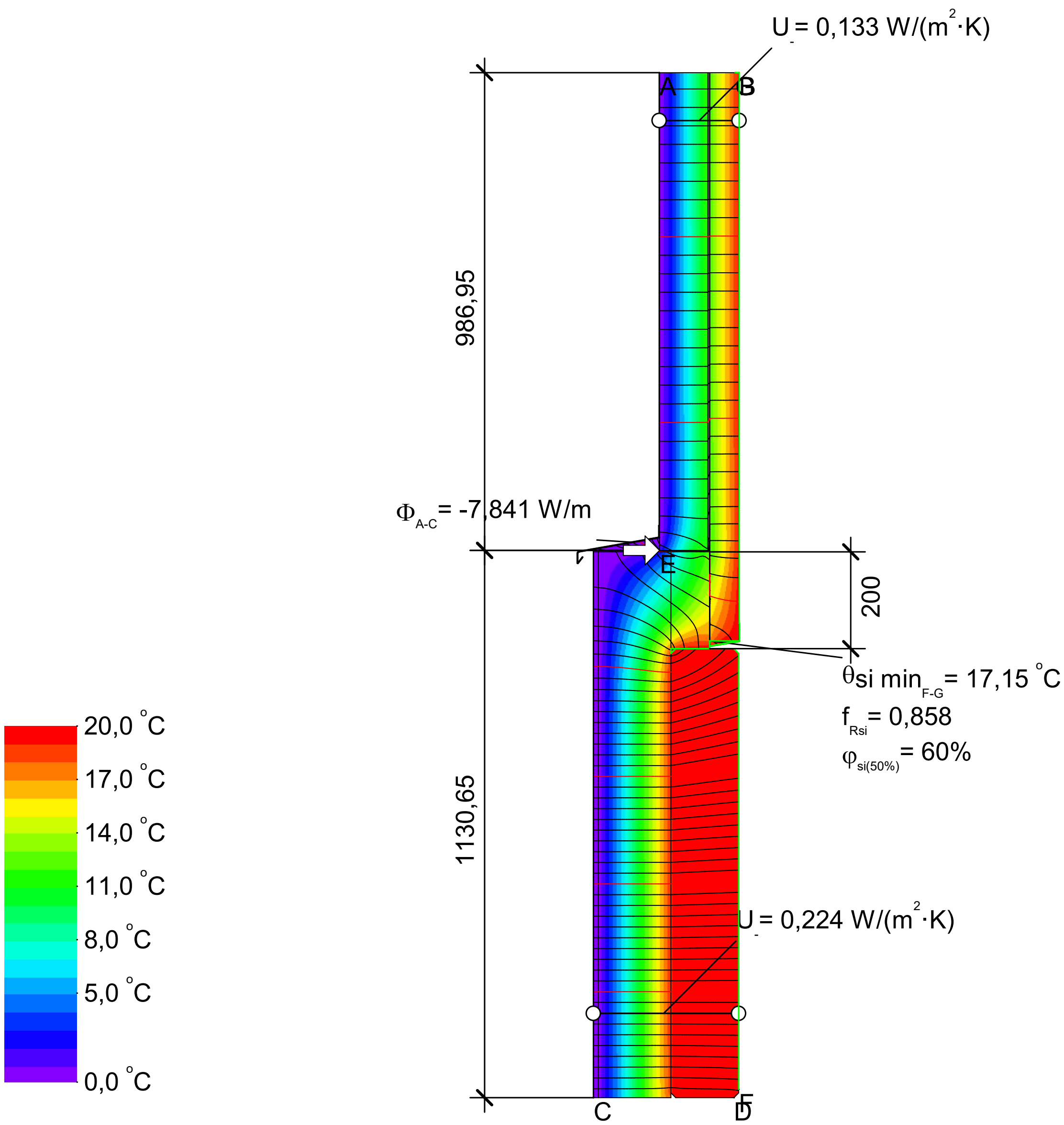
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{7{,}899}{20{,}000} - 0{,}133 \cdot 1{,}037 - 0{,}224 \cdot 1{,}081 = 0{,}015\ W/(m \cdot K)$$

Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
Foamglas® - 0,036W/mK - Type T3+	0,036	0,900
PIR	0,021	0,900
Slightly ventilated air cavity **		
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
rotswol	0,032	0,900
sandwichp PUR	0,023	0,900
trespa	0,300	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.1.2



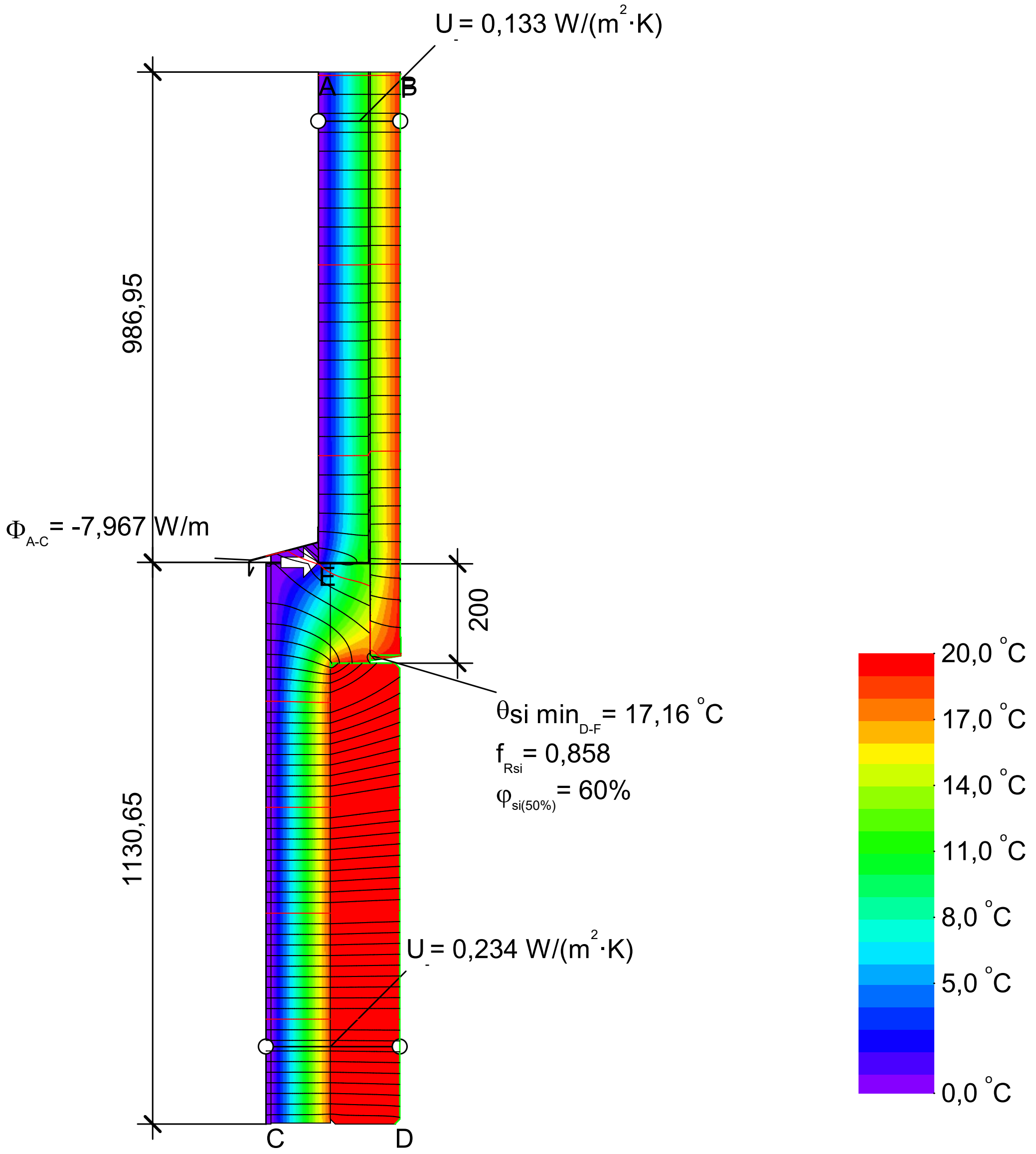
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{7{,}841}{20{,}000} - 0{,}133 \cdot 0{,}987 - 0{,}224 \cdot 1{,}131 = 0{,}007 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
Foamglas® - 0,036W/mK - Type T3+	0,036	0,900
PIR	0,021	0,900
Slightly ventilated air cavity **		
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
rotswol	0,032	0,900
sandwichp PUR	0,023	0,900
trespa	0,300	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.1.3



$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{7{,}967}{20{,}000} - 0{,}133 \cdot 0{,}987 - 0{,}234 \cdot 1{,}131 = 0{,}003 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
PIR	0,021	0,900
Slightly ventilated air cavity **		
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
XPS	0,030	0,900
rotswol	0,032	0,900
sandwichp PUR	0,023	0,900
trespa	0,300	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

19/10/2018
C:\Users\barbara.joseph\Desktop\KMO Reno\2.Warmtransport simulaties - Flixo\1. WARMTETRANSPORT BEREKENINGEN\3. dxf tekeningen en flixo files\2. Sandwichpanelen\2A\print\20181015_

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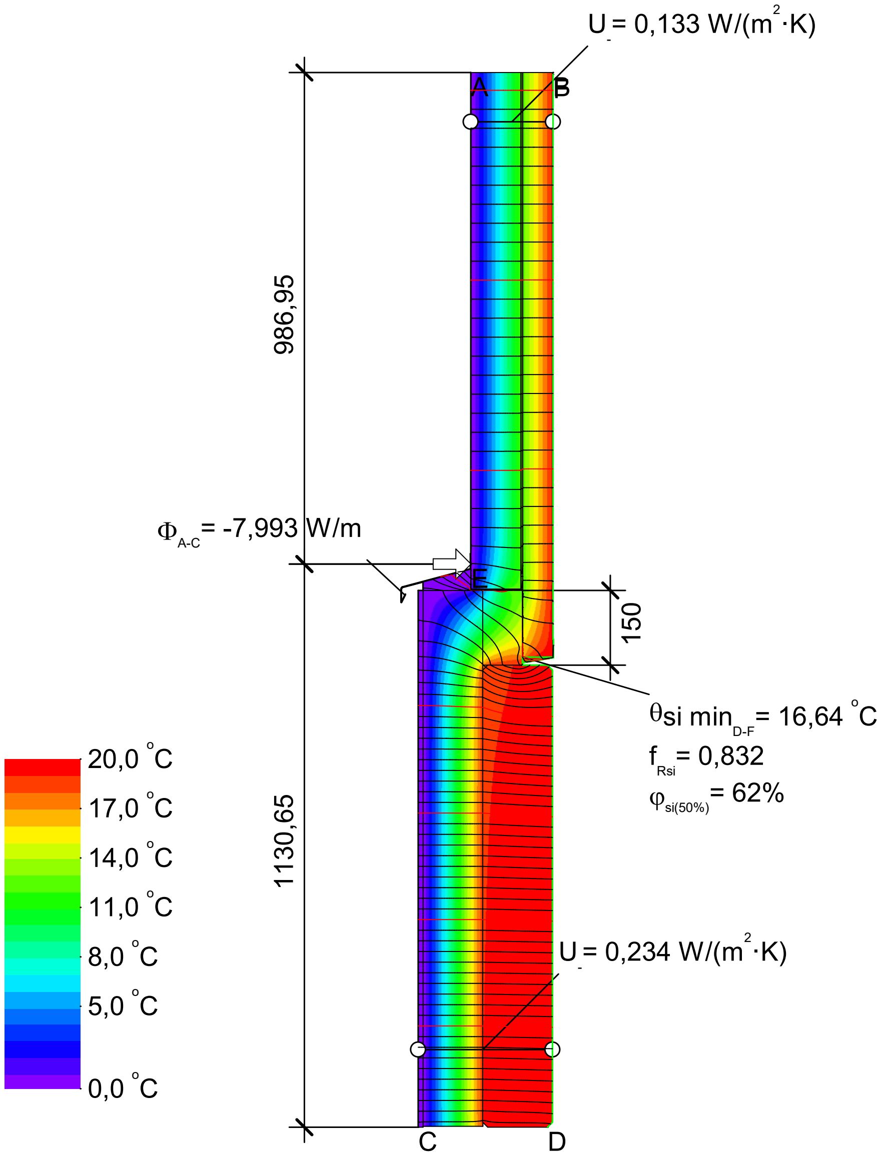
DT 2A.1.4



$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{7{,}993}{20{,}000} - 0{,}133 \cdot 0{,}987 - 0{,}234 \cdot 1{,}131 = 0{,}004 \text{ W/(m·K)}$$

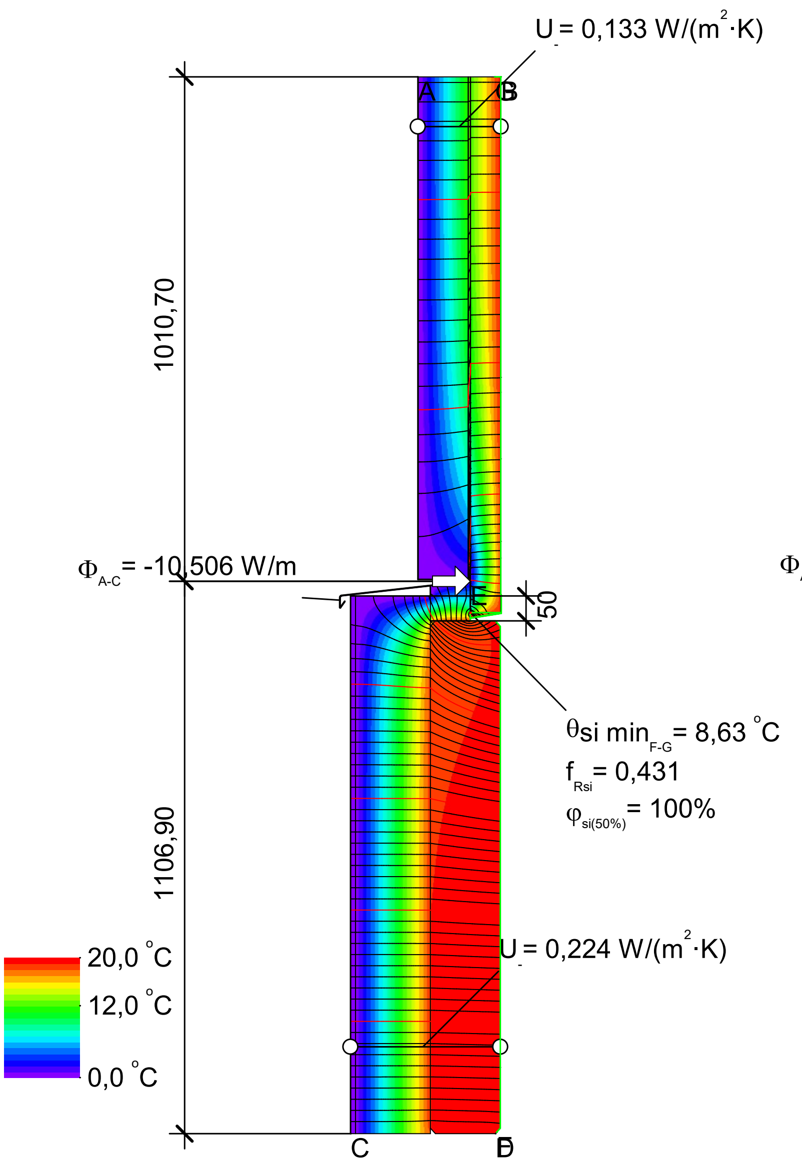
Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
PIR	0,021	0,900
Slightly ventilated air cavity **		
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
XPS	0,030	0,900
rotswol	0,032	0,900
sandwichp PUR	0,023	0,900
trespa	0,300	0,900

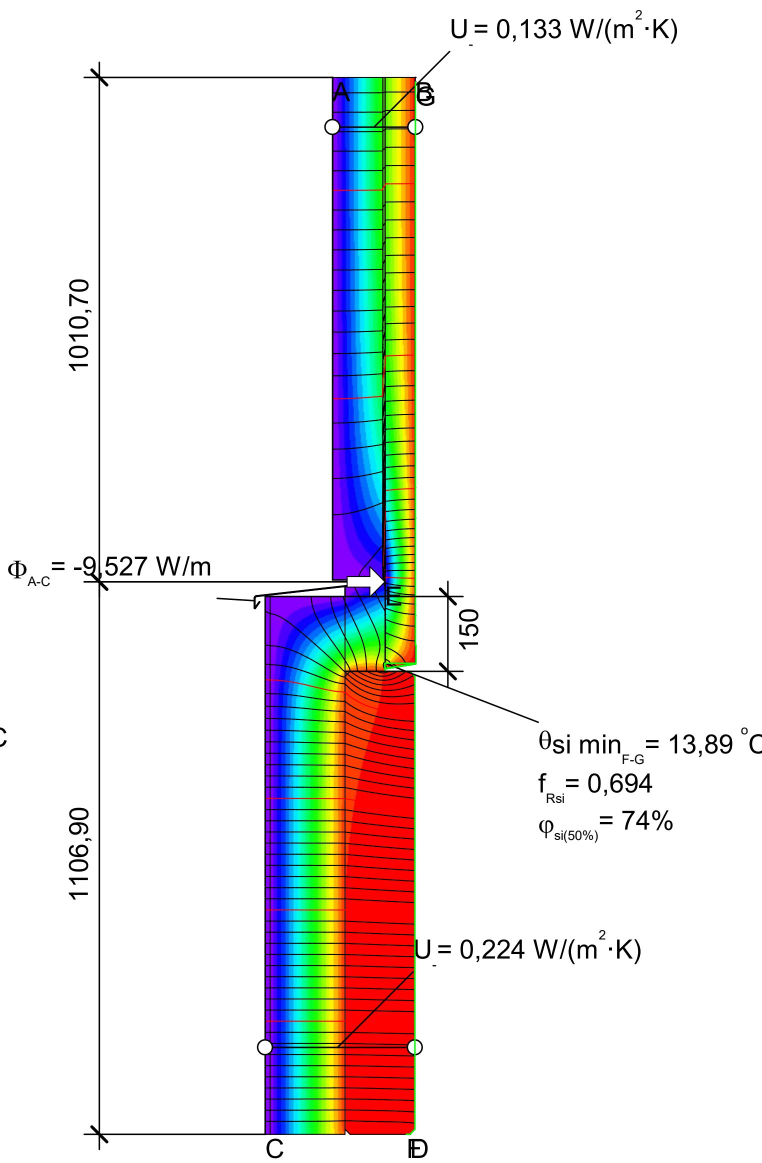
** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.1.6

DT 2A.1.5





$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{10,506}{20,000} - 0,133 \cdot 1,011 - 0,224 \cdot 1,107 = 0,143 \text{ W/(m·K)}$$

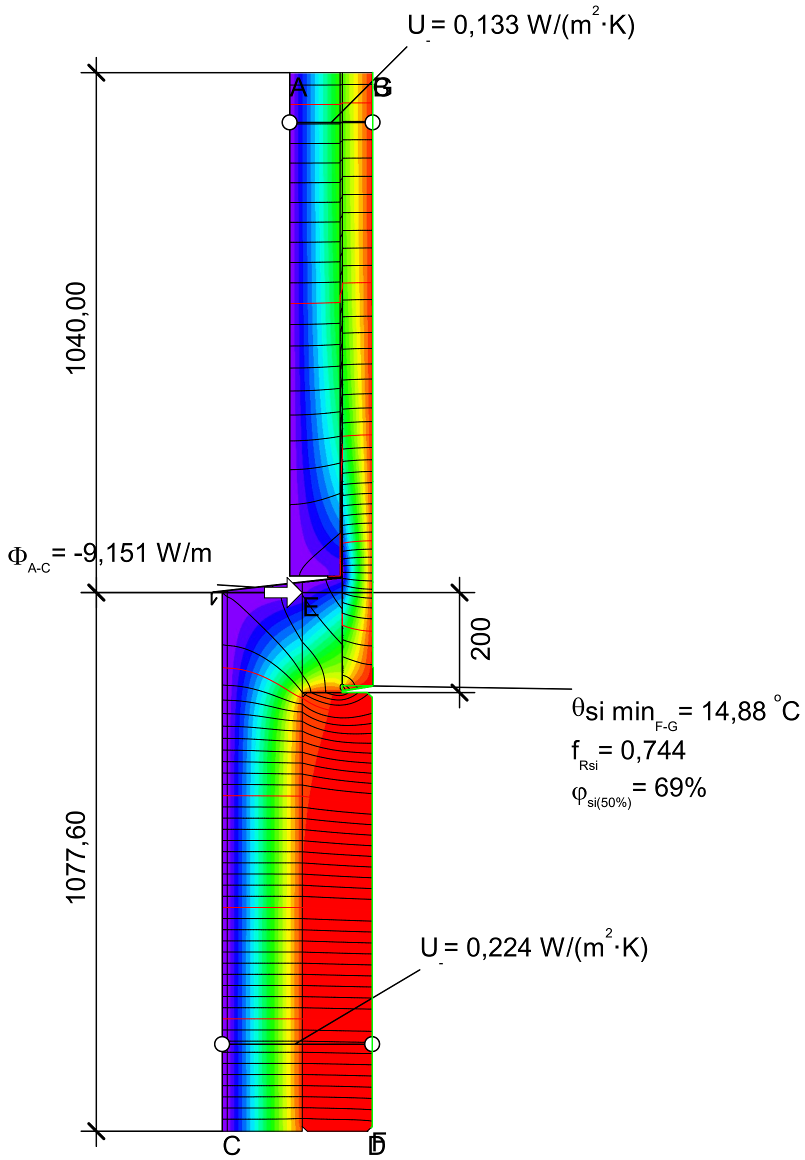
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{9,527}{20,000} - 0,133 \cdot 1,011 - 0,224 \cdot 1,107 = 0,094 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
Foamglas® - 0,036W/mK - Type T3+	0,036	0,900
PUR sanwich	0,023	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
rotswol	0,032	0,900
sandwichpaneel PIR	0,021	0,900
trespa	0,300	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.1.7



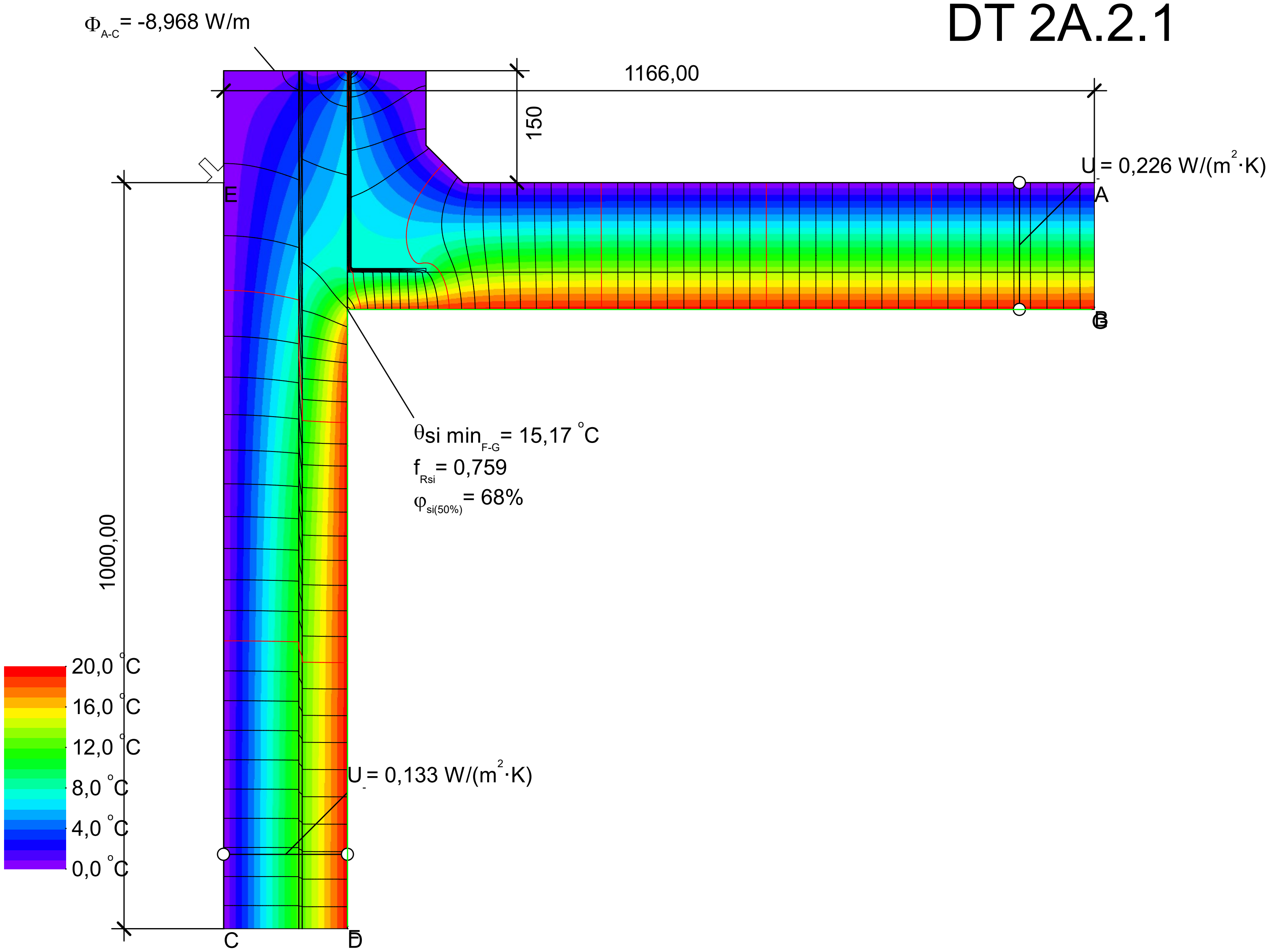
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{9{,}151}{20{,}000} - 0{,}133 \cdot 1{,}040 - 0{,}224 \cdot 1{,}078 = 0{,}078 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
Foamglas® - 0,036W/mK - Type T3+	0,036	0,900
PUR sanwich	0,023	0,900
Slightly ventilated air cavity **		
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Undefined Material	0,010	
Unventilated air cavity **		
isolatie	0,021	0,900
sandwichpaneel PIR	0,021	0,900
trespa	0,300	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.1



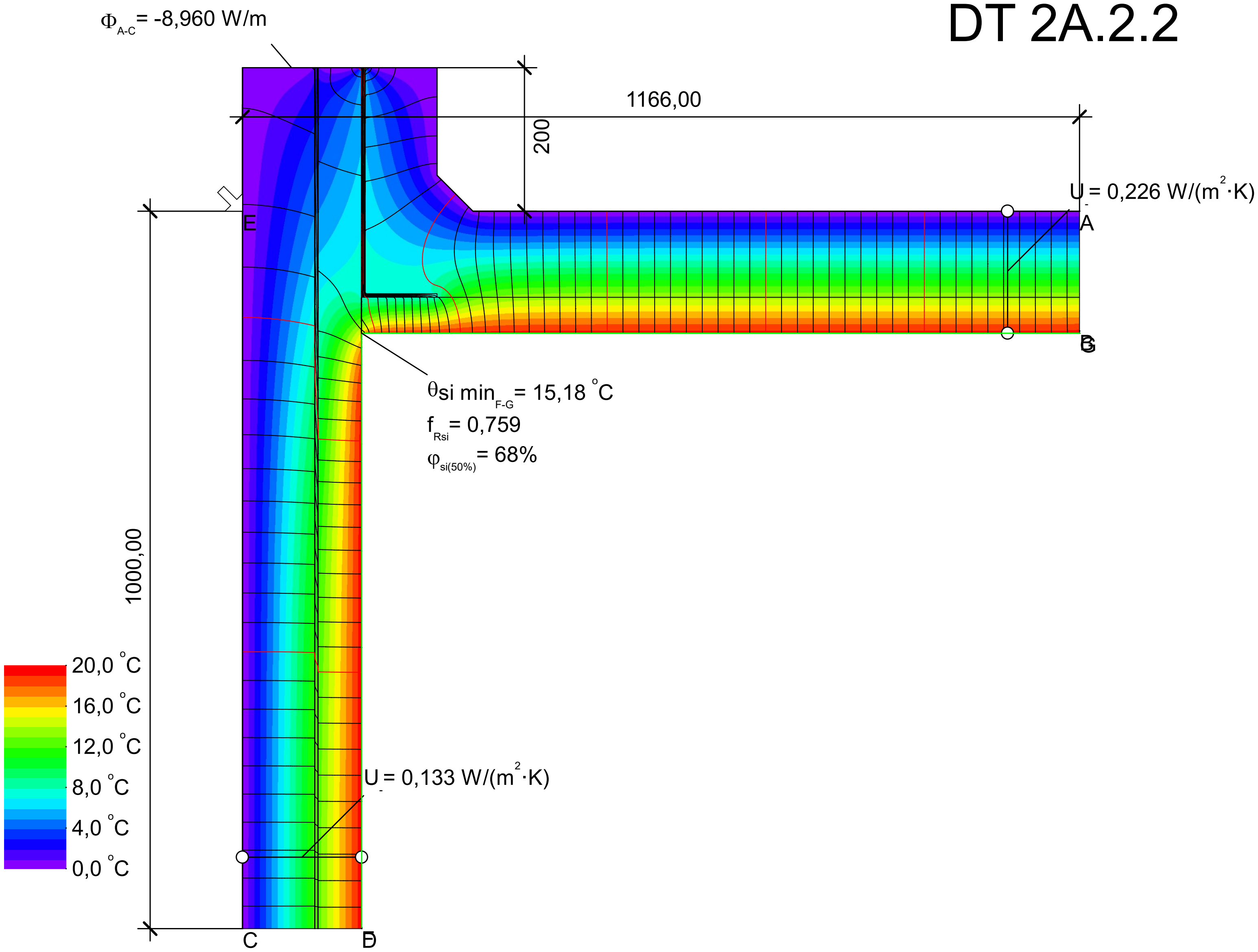
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{8{,}968}{20{,}000} - 0{,}226 \cdot 1{,}166 - 0{,}133 \cdot 1{,}000 = 0{,}052 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	
rotswol	0,040	

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.2



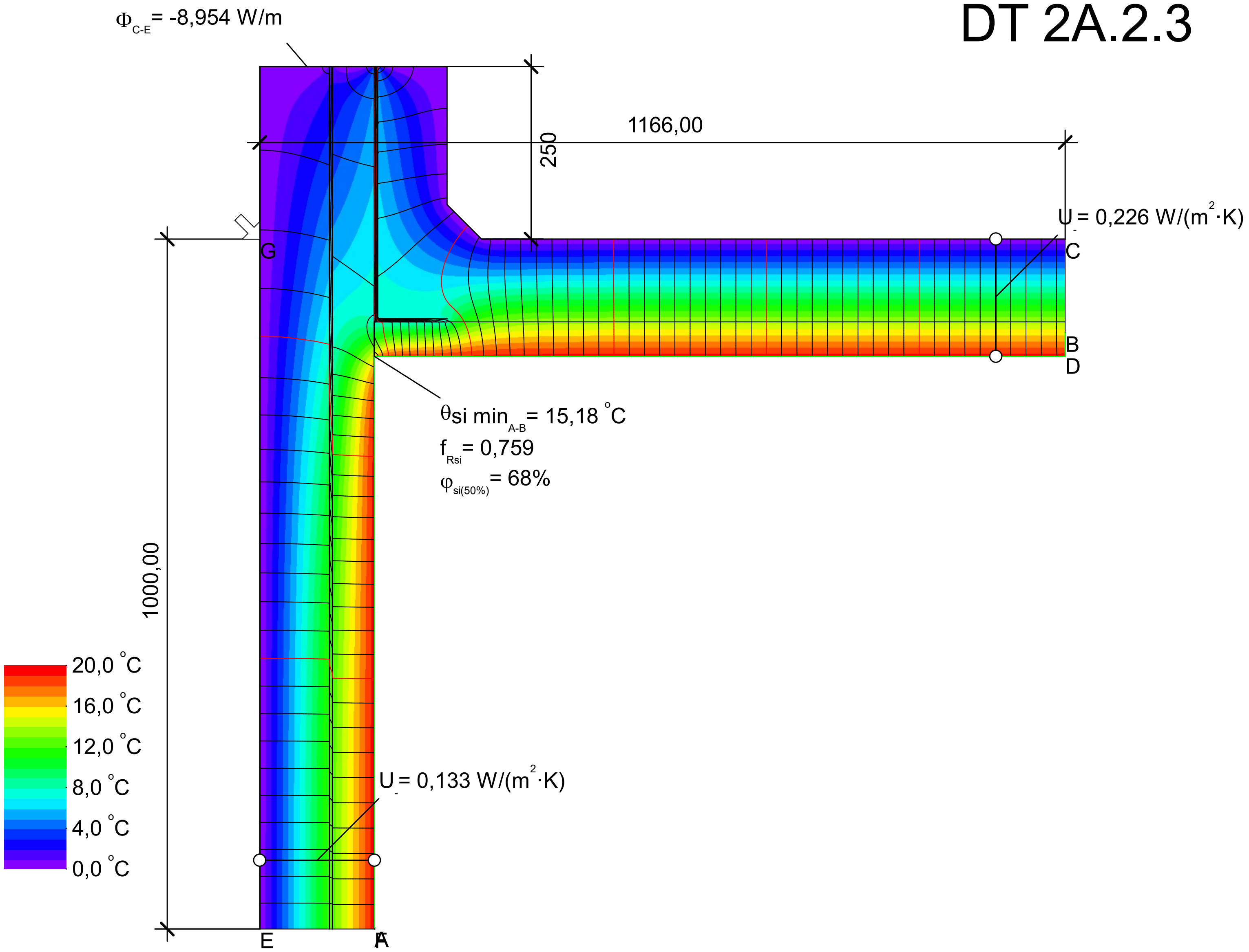
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{8{,}960}{20{,}000} - 0{,}226 \cdot 1{,}166 - 0{,}133 \cdot 1{,}000 = 0{,}052 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	
rotswol	0,040	

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.3



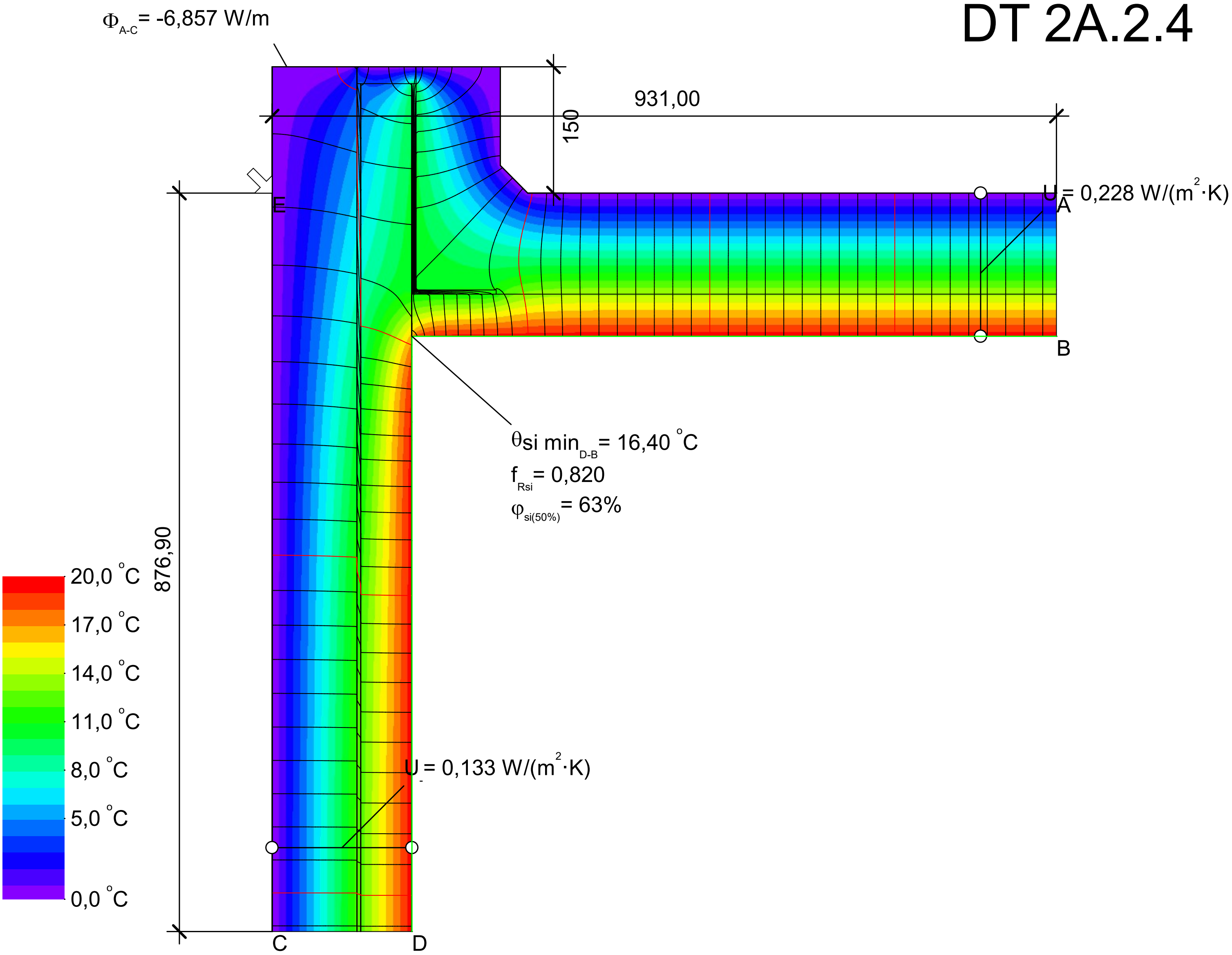
$$\Psi_{C\text{-}G\text{-}E} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{8{,}954}{20{,}000} - 0{,}226 \cdot 1{,}166 - 0{,}133 \cdot 1{,}000 = 0{,}051 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	
rotswol	0,040	

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.4



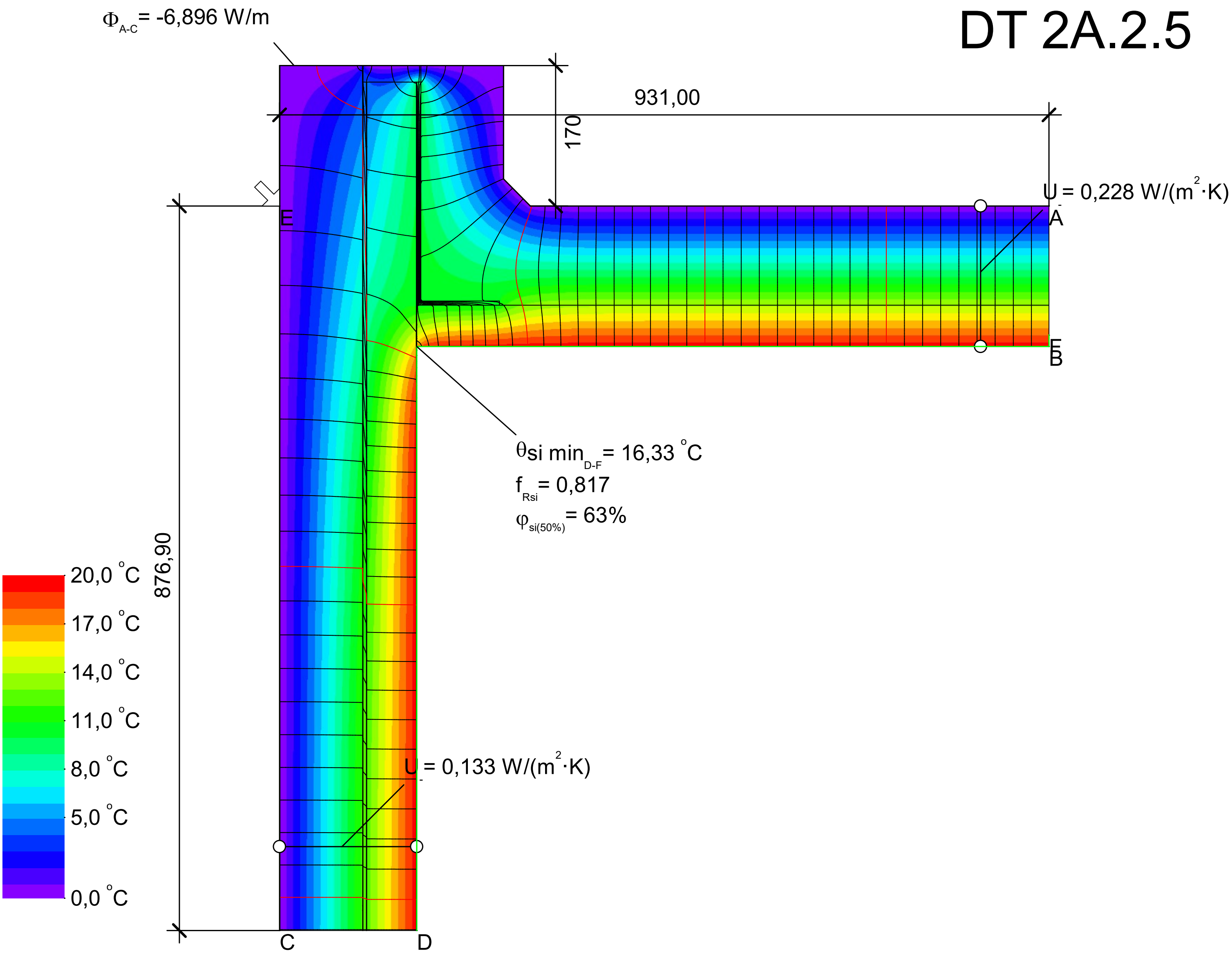
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{6{,}857}{20{,}000} - 0{,}228 \cdot 0{,}931 - 0{,}133 \cdot 0{,}877 = 0{,}014 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	0,900
rotswol	0,040	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, heat flux, upwards		20,000	0,100	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.5



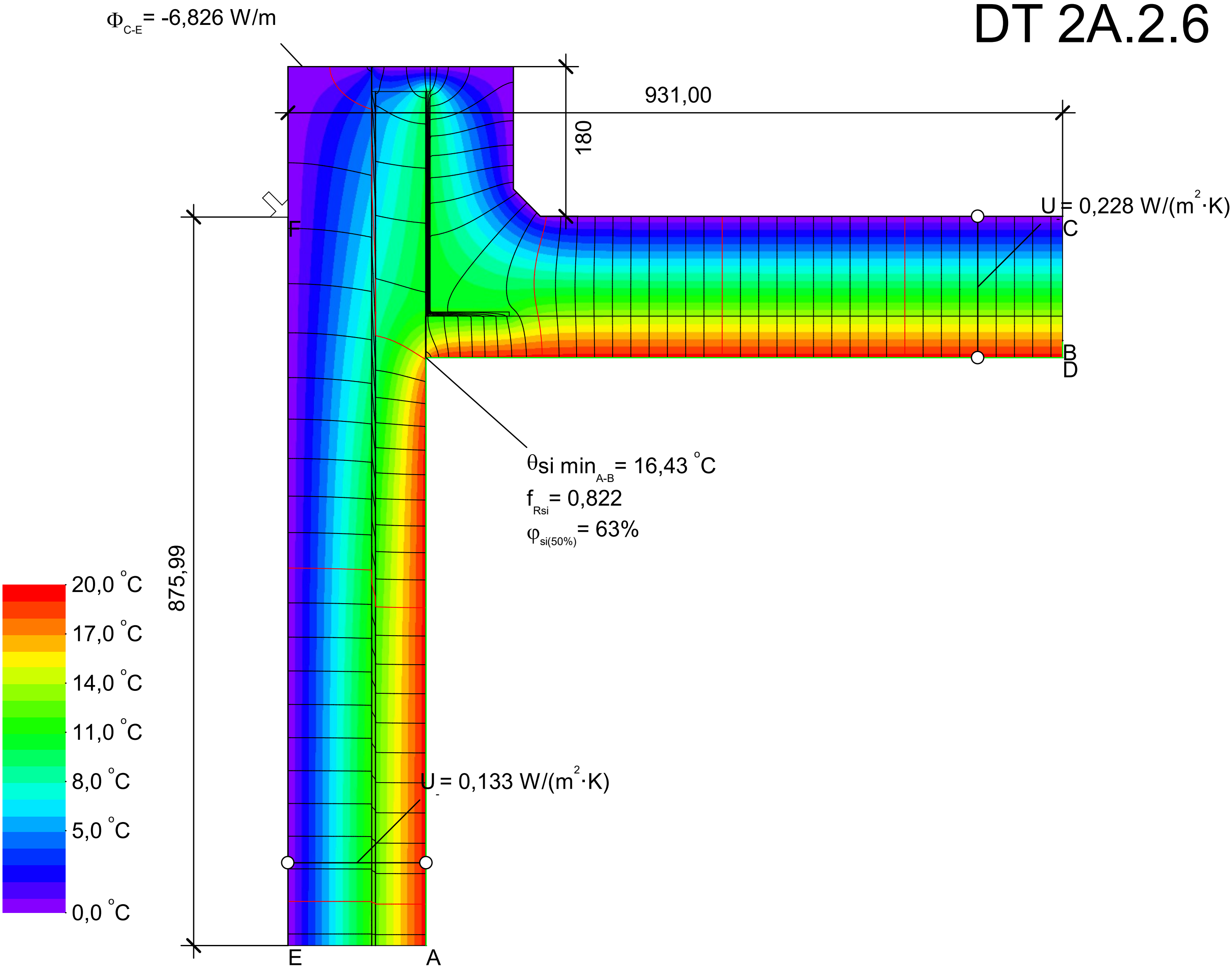
$$\Psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{6{,}896}{20{,}000} - 0{,}228 \cdot 0{,}931 - 0{,}133 \cdot 0{,}877 = 0{,}016 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	0,900
rotswol	0,040	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, heat flux, upwards		20,000	0,100	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.6



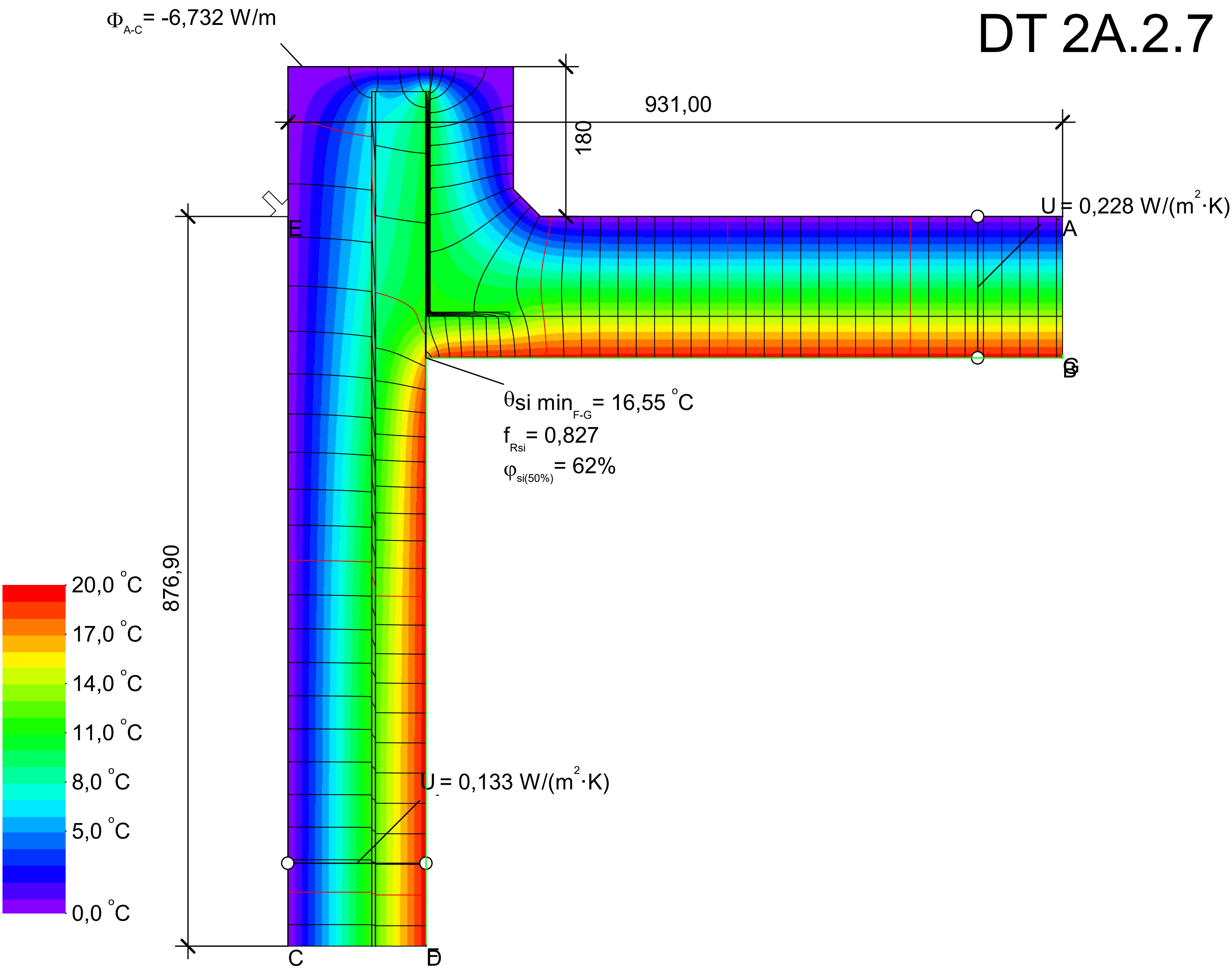
$$\psi_{C-F-E} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{6,826}{20,000} - 0,228 \cdot 0,931 - 0,133 \cdot 0,876 = 0,013 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	0,900
rotswol	0,040	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, heat flux, upwards		20,000	0,100	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.7



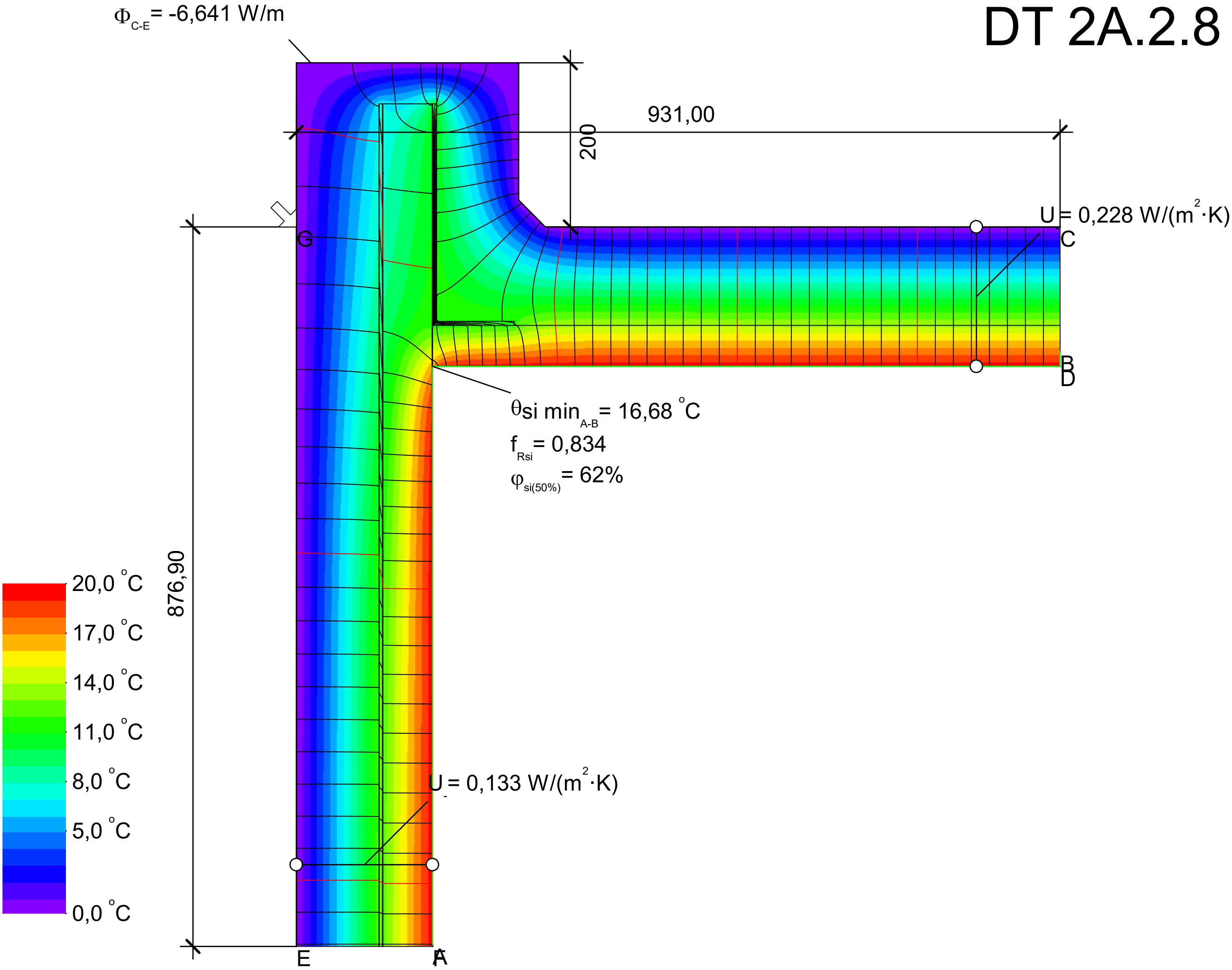
$$\psi_{A-E-C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{6{,}732}{20{,}000} - 0{,}228 \cdot 0{,}931 - 0{,}133 \cdot 0{,}877 = 0{,}008 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	0,900
rotswol	0,040	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, heat flux, upwards		20,000	0,100	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2A.2.8



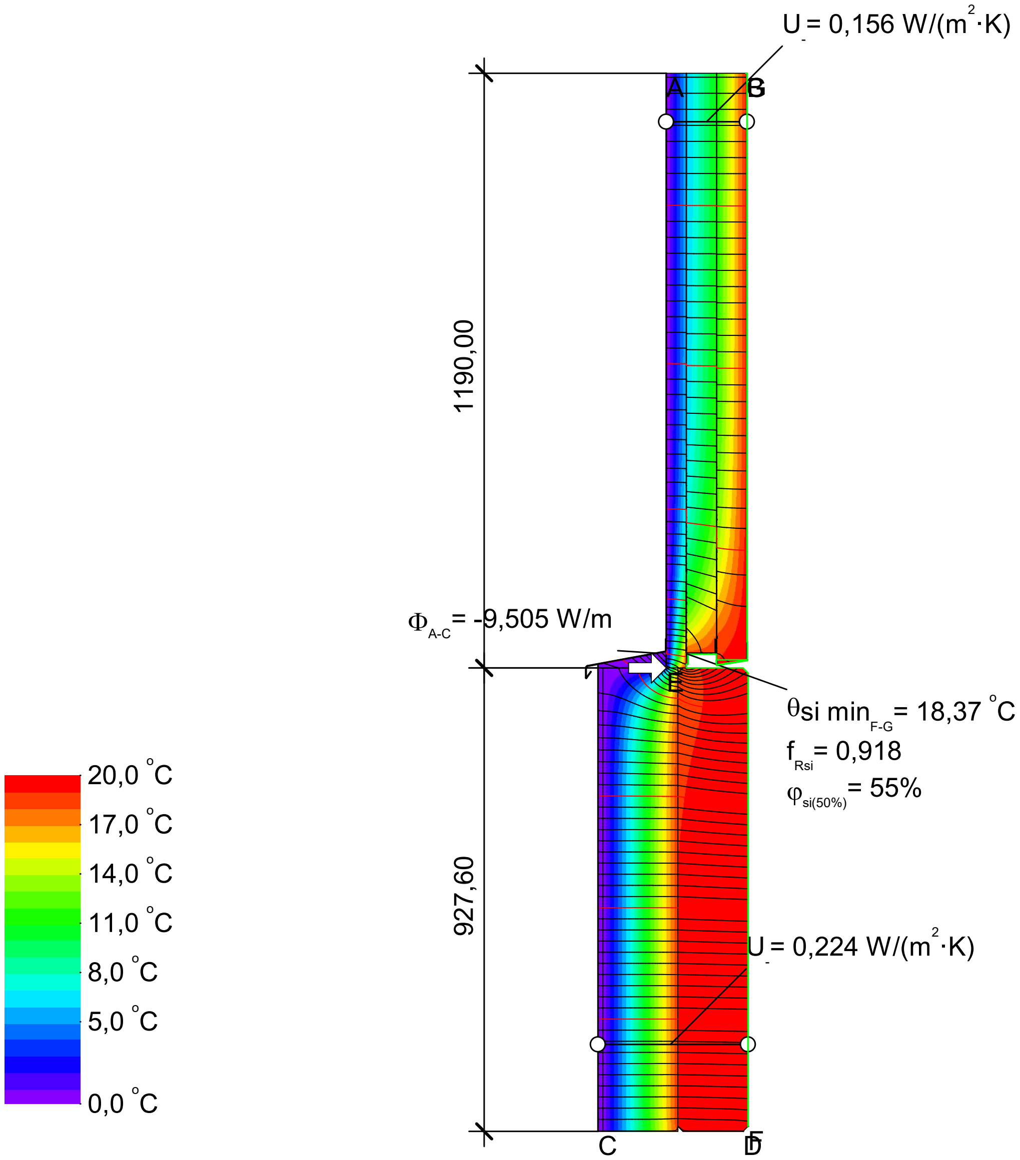
$$\psi_{C\text{-}G\text{-}E} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{6{,}641}{20{,}000} - 0{,}228 \cdot 0{,}931 - 0{,}133 \cdot 0{,}877 = 0{,}004 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	
Unventilated air cavity **		
minerale wol	0,040	0,900
rotswol	0,040	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, heat flux, upwards		20,000	0,100	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2B.1.1



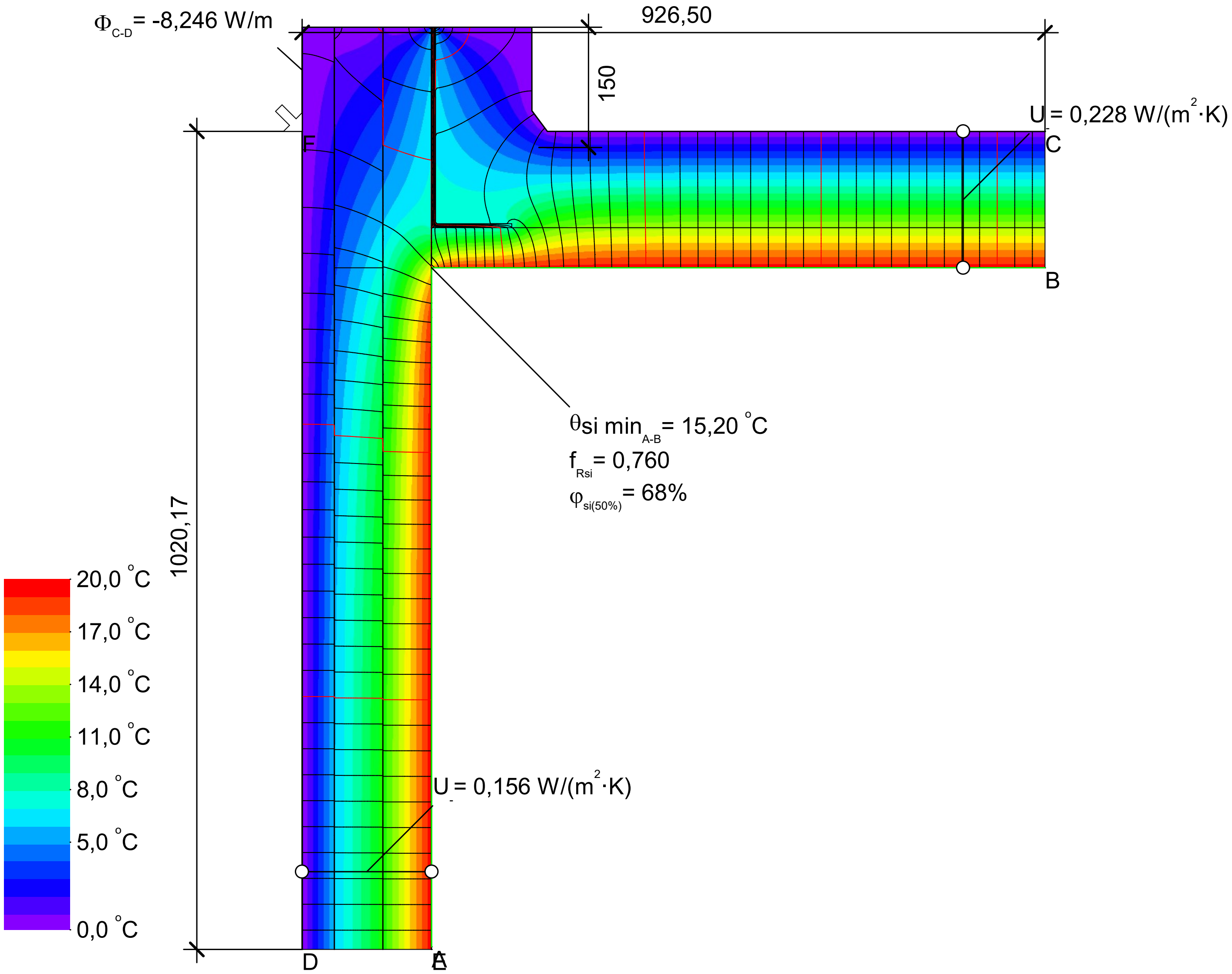
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{9,505}{20,000} - 0,156 \cdot 1,190 - 0,224 \cdot 0,928 = 0,082 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
Concrete, medium density 2200 kg/m3	1,650	0,900
Foamglas® - 0,036W/mK - Type T3+	0,036	0,900
PUR sandwich	0,023	0,900
Slightly ventilated air cavity **		
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
glaswol inblaas	0,034	0,900
sandwich PIR	0,021	0,900
trespa	0,300	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	$q[W/m^2]$	θ[°C]	$R[(m^2·K)/W]$	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2B.2.1

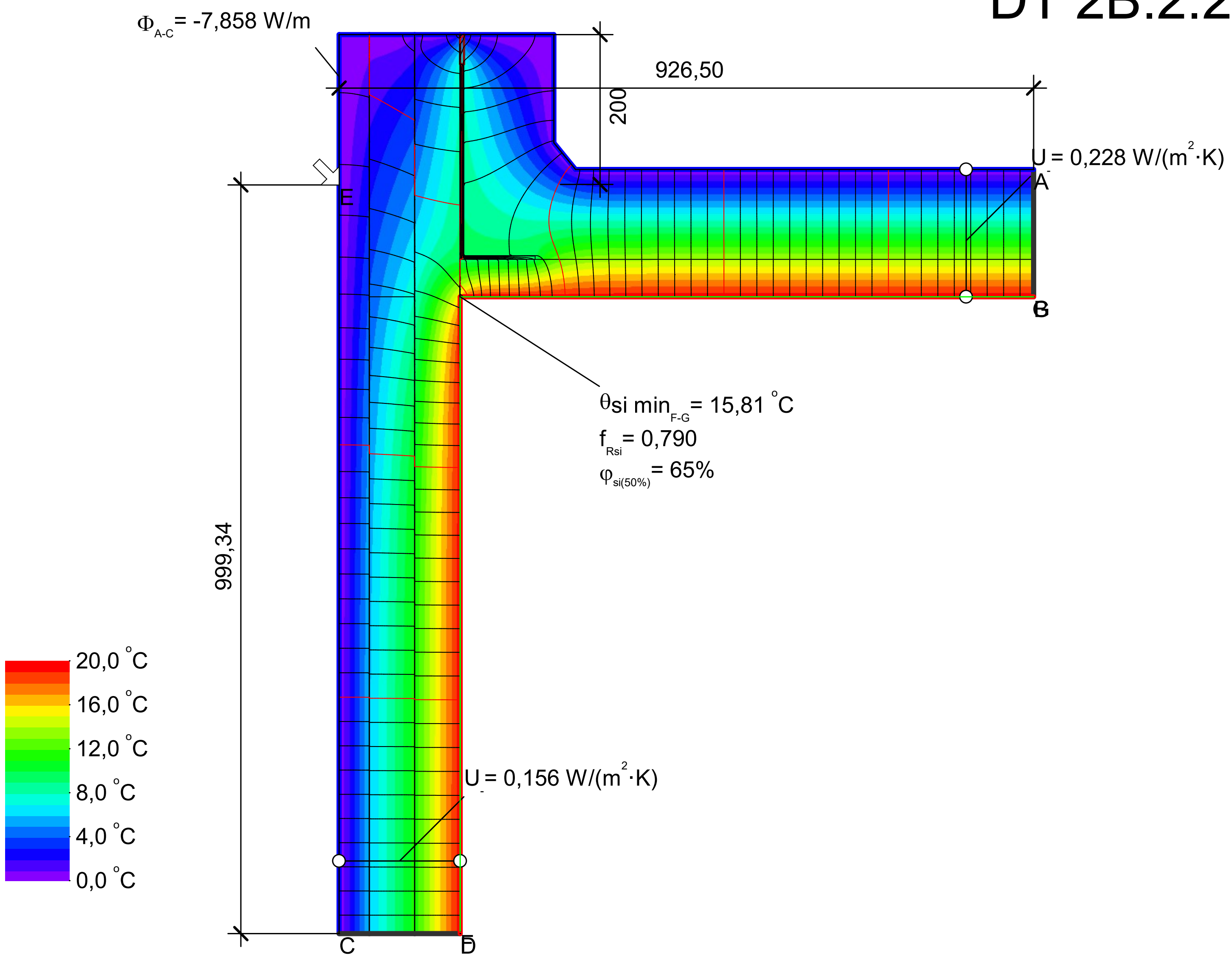


$$\psi_{C-F-D} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{8,246}{20,000} - 0,228 \cdot 0,926 - 0,156 \cdot 1,020 = 0,043 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]
PUR sandwich	0,023
Sandwichpaneel PIR	0,021
Stainless steel, austenitic or austenitic-ferritic	17,000
Steel	50,000
glaswol inblaas	0,034
minerale wol	0,040
rotswol	0,040

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]
Exterior, normal		0,000	0,040
Interior, heat flux, upwards		20,000	0,100
Interior, normal, horizontal		20,000	0,130
Symmetry/Model section	0,000		

DT 2B.2.2



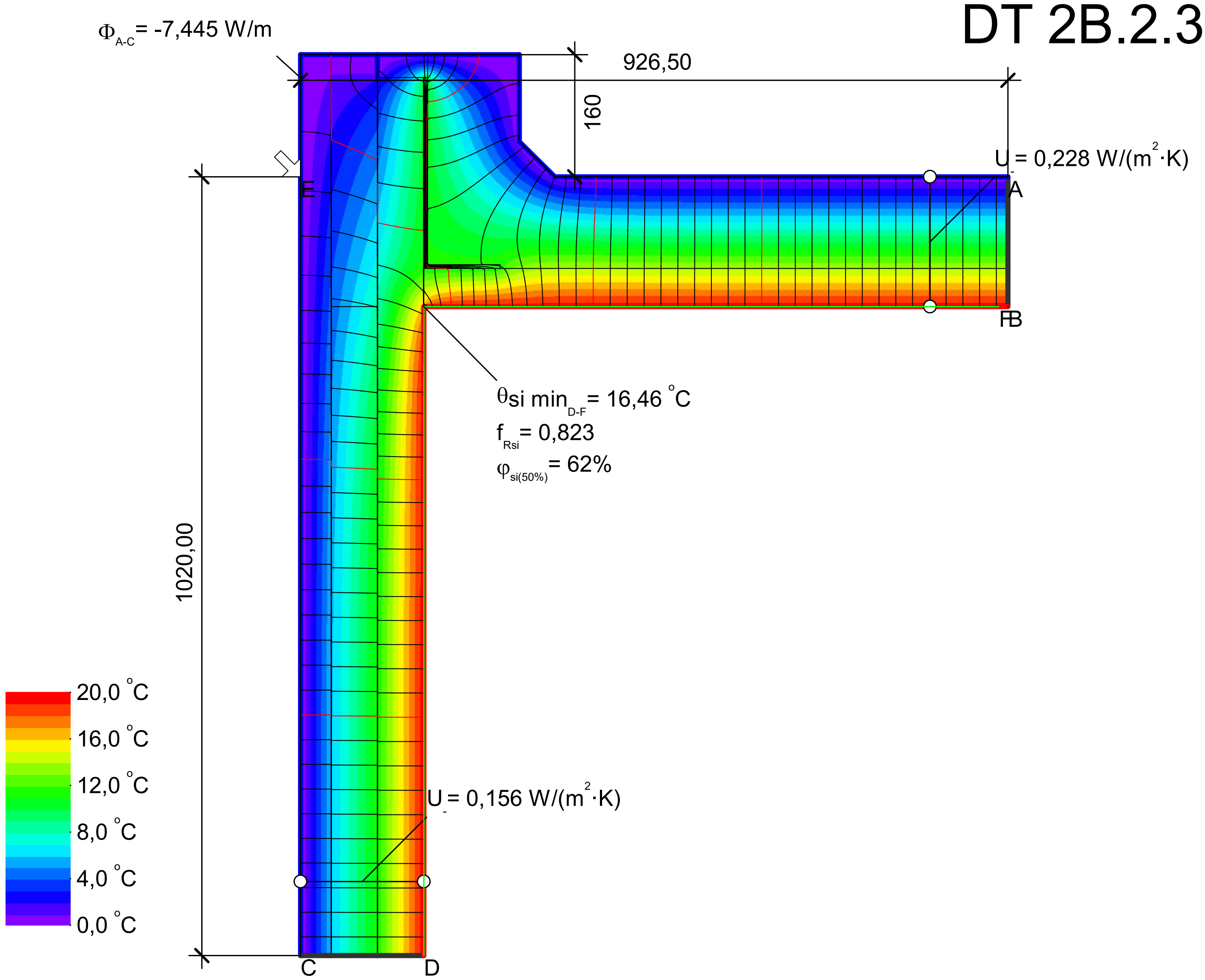
$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{7{,}858}{20{,}000} - 0{,}228 \cdot 0{,}927 - 0{,}156 \cdot 0{,}999 = 0{,}026 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]	ε
PUR sandwich	0,023	0,900
Sandwichpaneel PIR	0,021	0,900
Stainless steel, austenitic or austenitic-ferritic	17,000	0,900
Steel	50,000	0,900
Unventilated air cavity **		
glaswol inblaas	0,034	0,900
minerale wol	0,040	0,900
rotswol	0,040	0,900

** EN ISO 10077-2:2017, 6.4.3/anisotrop

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]	ε
Epsilon 0.9				0,900
Exterior, normal		0,000	0,040	
Interior, heat flux, upwards		20,000	0,100	
Interior, normal, horizontal		20,000	0,130	
Symmetry/Model section	0,000			

DT 2B.2.3



$$\psi_{A\text{-}E\text{-}C} = \frac{\Phi}{\Delta T} - U_1 \cdot b_1 - U_2 \cdot b_2 = \frac{7{,}445}{20{,}000} - 0{,}228 \cdot 0{,}927 - 0{,}156 \cdot 1{,}020 = 0{,}002 \text{ W/(m·K)}$$

Material	λ[W/(m·K)]
PUR sandwich	0,023
Sandwichpaneel PIR	0,021
Stainless steel, austenitic or austenitic-ferritic	17,000
Steel	50,000
glaswol inblaas	0,034
minerale wol	0,040
rotswol	0,040

Boundary Condition	q[W/m²]	θ[°C]	R[(m²·K)/W]
Exterior, normal		0,000	0,040
Interior, heat flux, upwards		20,000	0,100
Interior, normal, horizontal		20,000	0,130
Symmetry/Model section	0,000		