



Phius Product Number: W-101015
Date Last Certified: 08/15/2023
THERM Files Available: Yes

Phius Certification Path: Orange Path
Valid Through: 08/15/2025
Air Leakage Test Data Available: No



PRODUCT INFORMATION		
Product Name: Alpen Tyrol TR-9 PH+ Fixed		
Manufacturer: Alpen High Performance Products	Primary Frame Material: Vinyl	
Series: Tyrol TR-9 PH+	Fixed or Operable: Fixed	
Model: Tyrol TR-9 PH+ Fixed	Operation Type: Fixed	
IGU DETAILS		
Glazing Name: HighGain-9 PH+		
Glass Layers: Quad	Gas Fill: Argon	Spacer: Alpen SS-D - Stainless Steel, Dual Seal

RECOMMENDED CLIMATE ZONES <i>(NOTE: This information is not for use in building energy models. See next section.)</i>										
Recommended Climate Zones and Whole-Window U-values by Zone, at Standard Model Size [Btu/hr·ft ² ·°F]										
Climate Zone	0, 1, 2	3A	3B	3C	4A, 4B	4C, 5C	5A, 5B	6	7	8
Recommended Zones					✓	✓	✓	✓	✓	
U-Whole-Window	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Modeled Size [W×H]	47.24" × 59.06"			SHGC, Whole Window: 0.36			Condensation Resistance:			

COMPONENT-LEVEL PERFORMANCE DATA [IP Units] | Compatible with building energy modeling tools

U-COG Center of Glass U-Values, by Climate Zone [Btu/hr·ft ² ·°F]										
Climate Zone	0, 1, 2	3A	3B	3C	4A, 4B	4C, 5C	5A, 5B	6	7	8
U-COG Value	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
SHGC-COG Center of Glass Solar Heat Gain Coefficient, All Climate Zones								0.45		

Frame Parameters	Left Jamb	Right Jamb	Head	Sill
Frame Section	Left	Right	Top	Bottom
Frame Width	2.91"	2.91"	2.91"	2.91"
Frame U-Value [Btu/hr·ft²·°F]	0.13	0.13	0.13	0.13
Glazing-to-Frame Psi Value [Btu/hr·ft²·°F]	0.0240	0.0240	0.0243	0.0243

Frame-to-Wall Psi Value is dependent on the on-site installation condition. *(See Phius Guidebook for more details.)*



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RECOMMENDED CLIMATE ZONES <i>(NOTE: This information is not for use in building energy models. See next section.)</i>										
Recommended Climate Zones and Whole-Window U-values by Zone, at Standard Model Size [W/m ² K]										
Climate Zone	0, 1, 2	3A	3B	3C	4A, 4B	4C, 5C	5A, 5B	6	7	8
Recommended Zones					✓	✓	✓	✓	✓	
U-Whole-Window	0.62	0.61	0.61	0.62	0.61	0.61	0.61	0.61	0.62	0.64
Modeled Size [W x H]	1.20 m x 1.50 m			SHGC, Whole Window: 0.36			Condensation Resistance:			

COMPONENT-LEVEL PERFORMANCE DATA [SI Units] | Compatible with building energy modeling tools

U-COG Center of Glass U-Values, by Climate Zone [W/m ² K]										
Climate Zone	0, 1, 2	3A	3B	3C	4A, 4B	4C, 5C	5A, 5B	6	7	8
U-COG Value	0.45	0.44	0.44	0.44	0.43	0.44	0.43	0.43	0.45	0.47
SHGC-COG Center of Glass Solar Heat Gain Coefficient, All Climate Zones								0.45		

Frame Parameters	Left Jamb	Right Jamb	Head	Sill
Frame Section	Left	Right	Top	Bottom
Frame Width	74 mm	74 mm	74 mm	74 mm
Frame U-Value [W/m²K]	0.74	0.74	0.74	0.74
Glazing-to-Frame Psi Value [W/mK]	0.0417	0.0417	0.0422	0.0421

Frame-to-Wall Psi Value is dependent on the on-site installation condition. *(See Phius Guidebook for more details.)*