



A) Aluminum Window:

Aluminum Window Annual Load calculations

Parameter	Value	Unit
Glazing Area (m ²) =	58.79	M ²
U-Value for Aluminum Window	2.46	W/m ² · C
Annual Heating load	8380.37	kWh
Annual Cooling Load	231.06	kWh
Annual Infiltration Load during Heating Season	783.36	kWh
Annual Infiltration Load during Cooling Season	599.04	kWh
Total Infiltration load	1382.40	kWh
Total Load	9993	kWh

B) UPVC Window:

UPVC Window Annual Load calculations

Parameter	Value	Unit
Glazing Area (m ²) =	58.79	M ²
U-Value for UPVC Window	1.8	W/m ² · C
Annual Heating load	6131	kWh
Annual Cooling Load	109	kWh
Total Load	6300	kWh

Saving Calculation

The reduction in heating and cooling loads through windows as a result from us UPVC window compared to Aluminum window is: $(9993-6300)/9993= 37 \%$.

NOTE: This percentage means that the UPVC window is 37% more ene efficient than the Aluminum window, and does not mean that the overall ene saving in the studied building is 37 %.

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