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Energy savings in hot climate

Two series of temperature measurements have shown results as follows:

- Environment temperature - full exposure to sun light = 31.75 °C
- Surface temperature measured on outer panel face = 50.20 °C
- Surface temperature measured on inner panel face = 47.34 °C
- Air temperature measured within the cavity = 36.81 °C
- Measured temperature of panel support profile = 45.49 °C
- The shading effect reduces the outer surface temperature by = 13.39 °C

- Environment temperature - full exposure to sun light = 40.05 °C
- Surface temperature measured on outer panel face = 58.55 °C
- Surface temperature measured on inner panel face = 55.26 °C
- Air temperature measured within the cavity = 44.24 °C
- Measured temperature of panel support profile = 54.34 °C
- The shading effect reduces the outer surface temperature by = 14.31 °C

Conclusion

Above temperature reduction occurs for 2 reasons:

- Shading effect by the panel
- Evacuation of heat by thermal action

It is estimated that above temperature reduction results in energy savings for cooling between 15 and 20 %.

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