

# Hospitality

COOLSWAY's hospitality engineering solutions

Cafeteria from PUF Panels



This industry may be benefitted with two ways by using COOLSWAY's hospitality engineering solutions

1. **Fast deployment** in case of small housing requirements e.g. cottages, coffee corners, cafeteria. On occasions of temporary requirements like Kumbh Mela or Common Wealth Games, these housing arrangements may be used by hospitality sector.
2. For large hotels and resorts, for **compliance of ECBC 2007** norms, PUF paneling may be used.



PUF  
Insulation  
Panels

## COOLSWAY in Hospitality Engineering

COOLSWAY has team of architects and structural engineers to provide customized solutions. Small cottages, coffee corners etc. may be installed with minimum use of steel and civil work with all architectural specification as per drawing. Larger units i.e. restaurants, marriage halls, double storied cottages require structure designing and PEB solutions. Still these solutions are 4-5 times faster than conventional building solutions as well as cost effective.

There are certain standard drawings and architectural designs available. Clients may either choose from these designs or customized design concept may be discussed with architect and after final approval from client execution is done.

COOLSWAY can take up end to end project including site survey, engineering, layout planning, customized production and finally installation. COOLSWAY has professional team to carry out engineering and project management for deployment. A close interface with client is carried out at every stage of project so that scope is clearly understood and executed. 24X7 assistant cell is active to support post installation issues.



ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 certified company

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## Energy Conservation Building Code (ECBC 2007) recommendation for Insulation for Hotels.

### Wall Assembly:

Climate Zone	Hotel Building		Insulation Material and Thickness in mm		
	Max U (W/m <sup>2</sup> K)	Min R (m <sup>2</sup> K/W)	Mineral Wool (K=0.028 W/mK)	EPS (K=0.036 W/mK)	PUF (K=0.023 W/mK)
Composite	0.440	2.10	60	75	50
Hot & Dry	0.440	2.10	60	75	50
Warm & Humid	0.440	2.10	60	75	50
Moderate	0.440	2.10	60	75	50
Cold	0.369	2.20	70	85	60

### Roof Assembly:

Climate Zone	Hotel Building		Insulation Material and Thickness in mm		
	Max U (W/m <sup>2</sup> K)	Min R (m <sup>2</sup> K/W)	Mineral Wool (K=0.028 W/mK)	EPS (K=0.036 W/mK)	PUF (K=0.023 W/mK)
Composite	0.261	3.50	100	115	85
Hot & Dry	0.261	3.50	100	115	85
Warm & Humid	0.261	3.50	100	115	85
Moderate	0.469	2.10	65	75	55
Cold	0.261	3.50	100	115	85

Thermal Conductivity (K) of the material decides the insulation property of the material. Lower the K value, better the insulation property. K value of some of the insulation materials are given below:

Mineral Wool:	0.028 W / mK	[Open Cell]
EPS:	0.036 W / mK	[Open Cell]
PUF:	0.023 W / mK	[Close Cell]

PUF is better insulating material than rest of the two. More over it is close cell. The open cell allows moisture ingress and deposition causing poor insulation. Since K value for PUF is lower than rest, so for the same insulation effect, the thickness required by PUF will be lesser than rest two, means more space in cold storage. Major advantage of better insulation is energy saving as well as lesser cost on maintenance of refrigeration compressors.

- High thermal efficiency ensures low heat transfer means low refrigeration load
  - Reduces operational cost. Major cost for any operation is electricity. Lower the air-conditioning load, lower the electricity consumption.
  - It gives aesthetic appearance, easy housekeeping.
  - Panels are joined with CAMLOCK and also additionally joint with tongue and groove configuration.
  - It is easy to erect or dismantle the panels.
- The thermal efficiency of panel does not deteriorate over a period of time, making it long lasting insulation solution.

$$K = (Q \times L) / (A \times \Delta T)$$

Q is time rate of heat flow through unit area A and unit thickness L when unit temperature difference ΔT is maintained



COOLSWAY PUF Plant at Ghaziabad

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\*All data, design, specifications and calculations are indicative and for reference only. This may be changed.

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