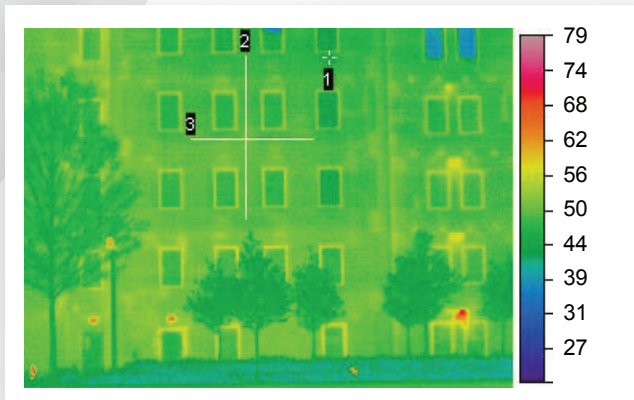


Thermal Performance of Precast Concrete

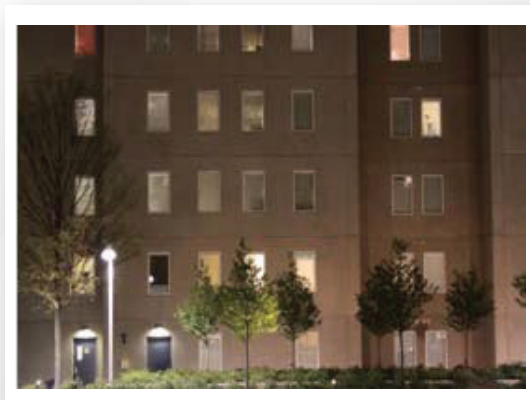
STORES ENERGY AND DAMPENS EFFECT OF TEMPERATURE CHANGE

- ▶ Mitigates heat transfer and energy loss
- ▶ Reduces indoor temperature fluctuation to improve occupant comfort
- ▶ Enables downsized HVAC system and decreased first costs

THERMAL IMAGING: PRECAST WALL SYSTEM

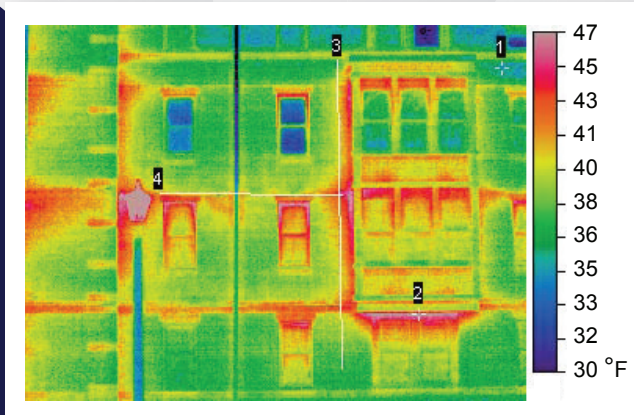


University Commons at GSU

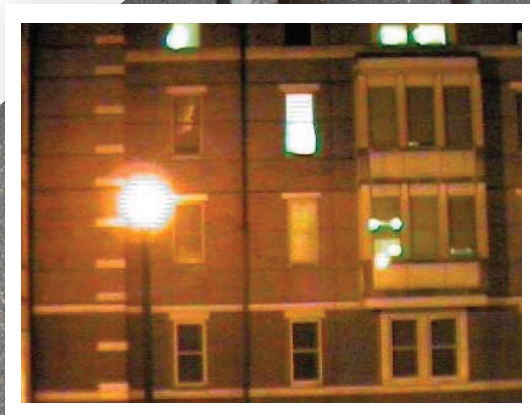


Visible light image

THERMAL IMAGING: CAVITY WALL SYSTEM



A dormitory building



Visible light image

This continuous insulated University of Pennsylvania building uses a thermomass® system with Poly-Polyisocyanurate insulation that delivered a R-24 performance.



thermomass

According to this study, the material R-value is 11.67, but it performs at a material R-value of 26.00+. This helps reduce first costs and yearly operating costs. (2" XPS)

Performance Study Summary

Salinas Project - Salinas, CA

	North	East	South	West		
Low-Mass Building	Cooling Load for Designed Wall				Steady-State Wall R-value	
	WCc	1.226	2.361	2.371	3.156	26.00
	WC Total	9.1142059				
	Btu Consumption	9,114,206				
	Heating Load for Designed Wall				Steady-State Wall U-value	
	WCh	0.392	0.479	0.616	0.463	0.0385
	WC Total	1.9500714				
	Btu Consumption	1,950,071				
	Total Estimated Load				Wall Heat Capacity	
	WC Total	11.0642772				1.00
Btu Consumption	11,064,277					
			Note I: Btu's consumed equals 1,000,000 x Wall Criteria (WC)			
			Note II: A negative sum of the Wall Criteria results in a zero value for final calculation			
Thermomass	Cooling Load for Designed Wall				Steady-State Wall R-value	
	WCc	0.544	1.944	1.794	2.504	11.67
	WC Total	6.7855699				
	Btu Consumption	6,785,570				
	Heating Load for Designed Wall				Steady-State Wall U-value	
	WCh	0.627	0.596	0.607	0.567	0.0857
	WC Total	2.3966862				
	Btu Consumption	2,396,686				
	Total Estimated Load				Wall Heat Capacity	
	WC Total	9.1822562				25.63
Btu Consumption	9,182,256					
			Note I: Btu's consumed equals 1,000,000 x Wall Criteria (WC)			
			Note II: A negative sum of the Wall Criteria results in a zero value for final calculation			

This thermal mass, analytical comparison results in the Thermomass wall behaving as a wall with a material R-value of:

26.00+

MAKE A CONCRETE IMPRESSION