Shade: The Free Cooling You Are Not Capturing

75% solar gain blocked before it becomes heat load. No compressor needed.

At a Glance

Strategic external shade blocks 75 percent of solar gain before it becomes interior cooling load. Passive cooling requires no compressor and consumes no energy. Green shade through plant canopies and living walls creates a thermal envelope that modern building design systematically overlooks. Shade is the cheapest cooling available everywhere.

Summary

Solar heat gain is the largest single driver of cooling load across India's climates, particularly from March to November when direct sunlight intensity peaks. During these hot months, traditional HVAC systems are pushed to their absolute operational limits managing thermal stress entering through glass facades and exposed surfaces. Green shade prevents heat from entering the building. External vegetation operates passively without compressor or energy. Unlike reactive air conditioning cooling after heat enters, shade prevents upstream. Combined with Thermopod™ Biothermal Microconditioning, shade becomes foundational layer of Easy Retrofit cooling strategy. Article examines cost-benefit at different building orientations and window exposures.