

The Shaded Dome Benchmark

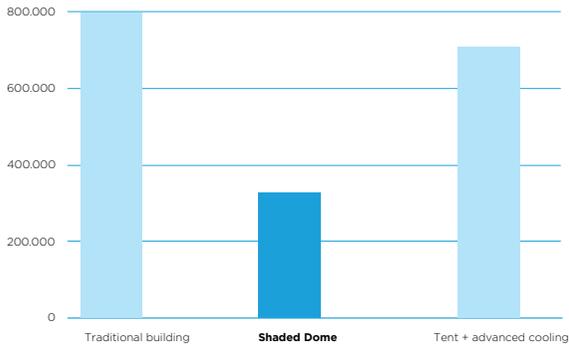
The Shaded Dome: a combination of a lightweight construction and a traditional building

The Shaded Dome has multiple advantages over typical tent structures and equals the comfort levels of traditional (permanent) buildings. This sheet provides an overview of the Shaded Dome performances, benchmarked for various criteria against tent structures and traditional buildings. The advantages of the Shaded Dome, in terms of Total Cost of Ownership, movability, size and free spans and reusability are clearly proven.

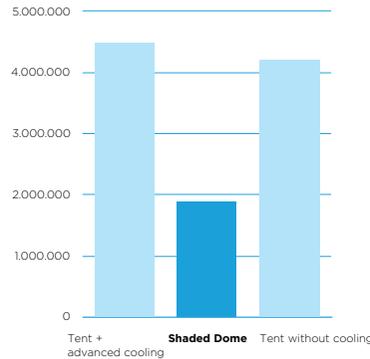
Benchmark principles for Traditional Building vs. Shaded Dome vs. Tent

1. Internal free height: 9 m.
2. "Climate: hot and dry location (desert like) -> Climate: Jeddah 1 July 2005: T = 38,7°C, 1322 W/m² solar radiation
3. Indoor climate: 25°C in the dome
4. Insulation-value (both traditional building and Dome): Rc = 2,5 m².K/W

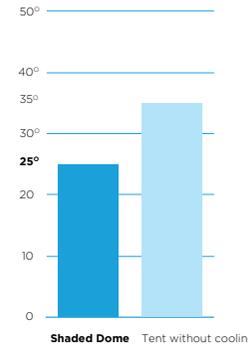
1: price (eur/m²) for size 5000 m²
2: Total cost of ownership over 15 years)



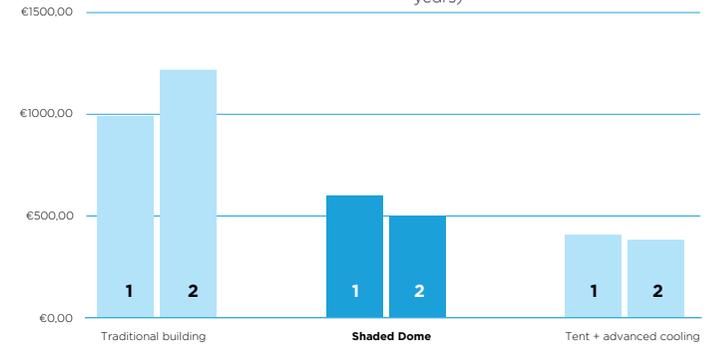
Environmental impact (kg CO₂)



Energy consumption (MJ per year)

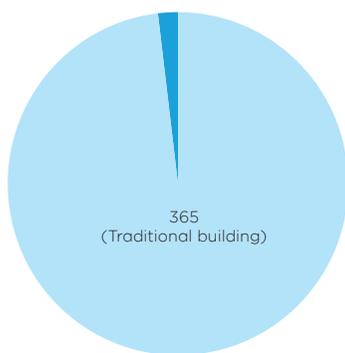


Quality Indoor Climate (at 40°C outside temp.)



Investments vs Total Costs of Ownership

Construction time (in days) 7 (Shaded Dome)



Overall performance

	Traditional building	Shaded Dome	Tent + advanced cooling
assembly / construction time	-	++	++
average life time (years)	++	0	0
re / demountability	-	++	++
reusability	-	++	0
free span	-	++	-
price (€/m ²) for size: 5.000 m ²	-	0	+
annual energy consumption (MJ)	-	+	-
environmental impact (CO ₂ in kg)	-	++	-





shaded dome
TECHNOLOGIES

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