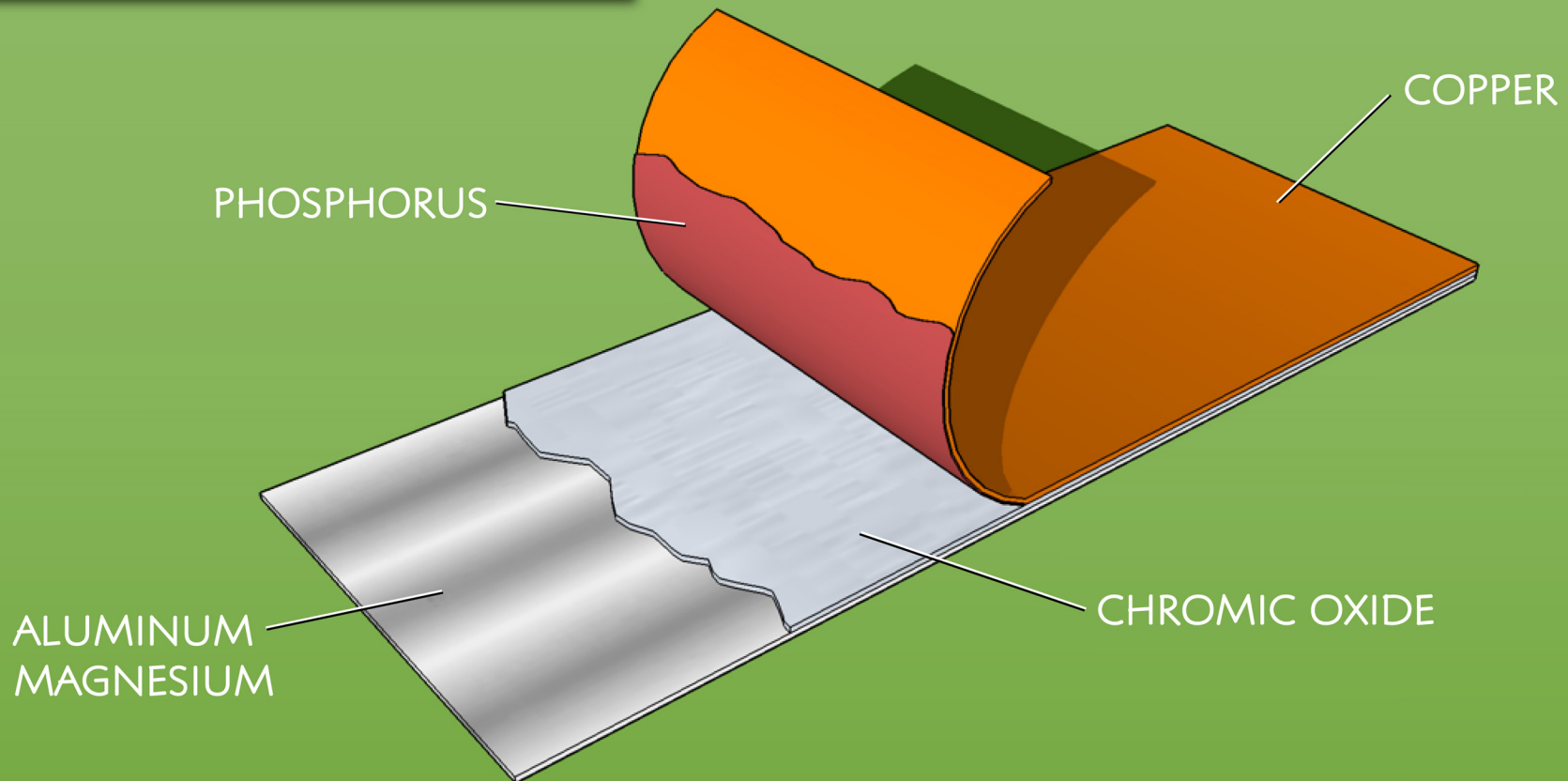


monothermal PATENTED HEAT ENERGY



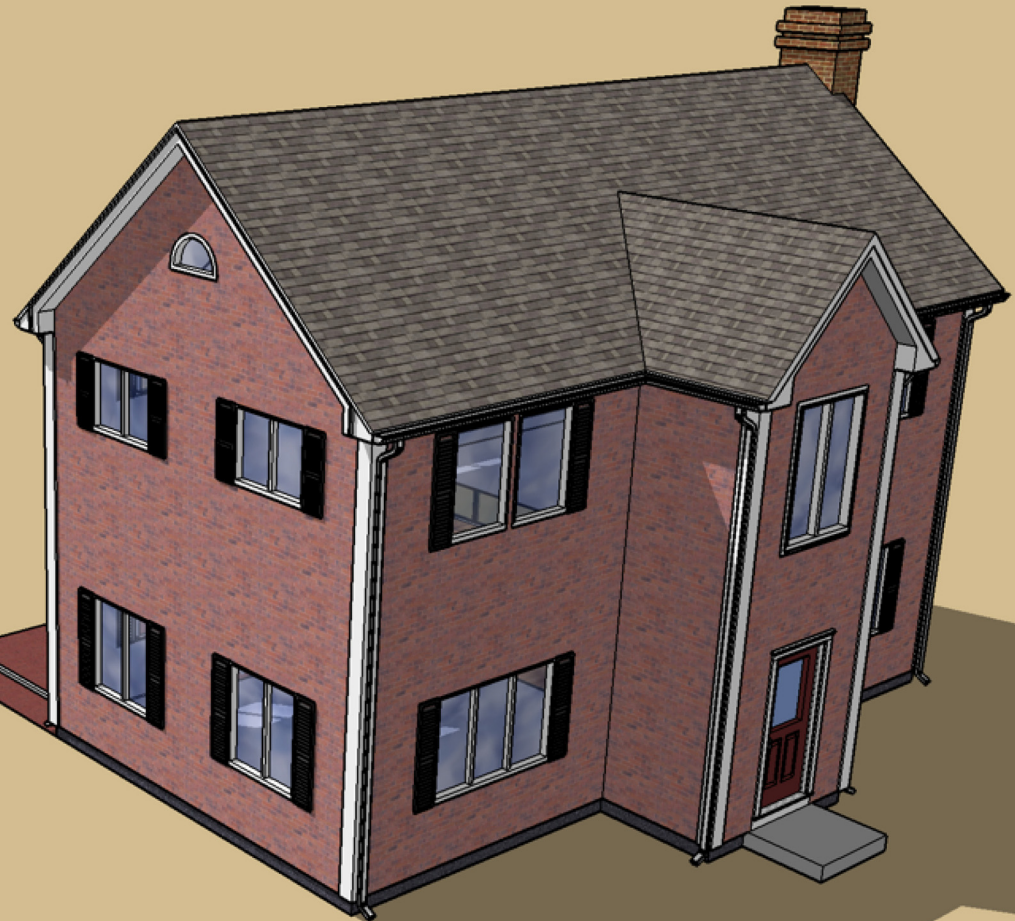
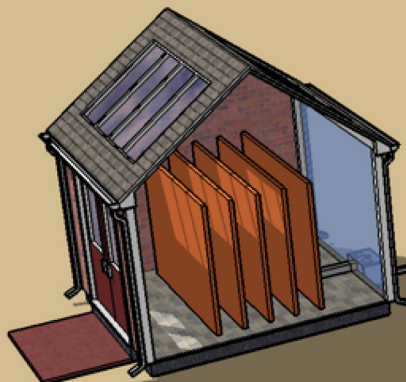
MONOTHERMAL LAMINATE CONSTITUENT ELEMENTS

AT FIRST GLANCE, THE DESIGN OF THE MONOTHERMAL MAY SEEM OVERLY SIMPLISTIC – BUT IN FACT THESE ARE ALL OF THE ESSENTIAL ELEMENTS. POLYVINYL ACETATE (FUNCTIONING AS A POLYMERIC BINDER) IS THE ONLY OTHER MATERIAL REQUIRED TO CONSTRUCT THE MONOTHERMAL LAMINATE.

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PATENTED HEAT ENERGY
monothermal

ENERGY SHED



MAIN HOUSE

RESIDENTIAL APPLICATIONS HOUSE WITH "ENERGY SHED"

2010 LOVELL PATENTED TECHNOLOGY

01 – Residential applications might include the construction of a simple 'energy shed' to house Monothermal panels in order to capture trapped heat energy before converting it to alternating current usable by the residence.

RESIDENTIAL APPLICATIONS "ENERGY SHED"

SKYLIGHTS WITH
GREENHOUSE GLASS
OR HIGH-SOLAR-
GAIN GLAZING

MONOTHERMAL
PANELS (5)

WALL TRANSLUCENT
FOR ILLUSTRATION
PURPOSES

ENERGY SHED

WALL REMOVED
FOR CLARITY

BRICK
CONSTRUCTION

HEAT-RETAINING
STONE TILE FLOOR

RESIDENTIAL APPLICATIONS ENERGY SHED with "STACKED" PANELS

SKYLIGHTS WITH
GREENHOUSE GLASS
OR HIGH-SOLAR-GAIN
GLAZING

MONOTHERMAL
PANELS - LAYERED
OR "STACKED" (25)

BRICK
CONSTRUCTION

HEAT-RETAINING
STONE TILE FLOOR

WALL TRANSLUCENT
FOR ILLUSTRATION
PURPOSES

CHARGE
CONTROLLER
OR INVERTER

TO HOUSE

WALL REMOVED FOR CLARITY

2010 LOVELL PATENTED TECHNOLOGY

MONOTHERMAL.COM

03 – Another variation would take advantage of the increased efficiency of the Monothermal material when it's layered or 'stacked.' At an internal temperature of 150°F this array (approx. 40 sq. ft. / panel x 25 = 1000 sq. ft. total) has the potential to return 1000W (1 kW) to the homeowner. At 200°F, this same installation could generate as much as 35,000W (35 kW) of power.

RESIDENTIAL APPLICATIONS HOUSE WITH SMALL GREENHOUSE

GREENHOUSE

MONOTHERMAL
PANELS (5)

HEAT-RETAINING
STONE TILE FLOOR

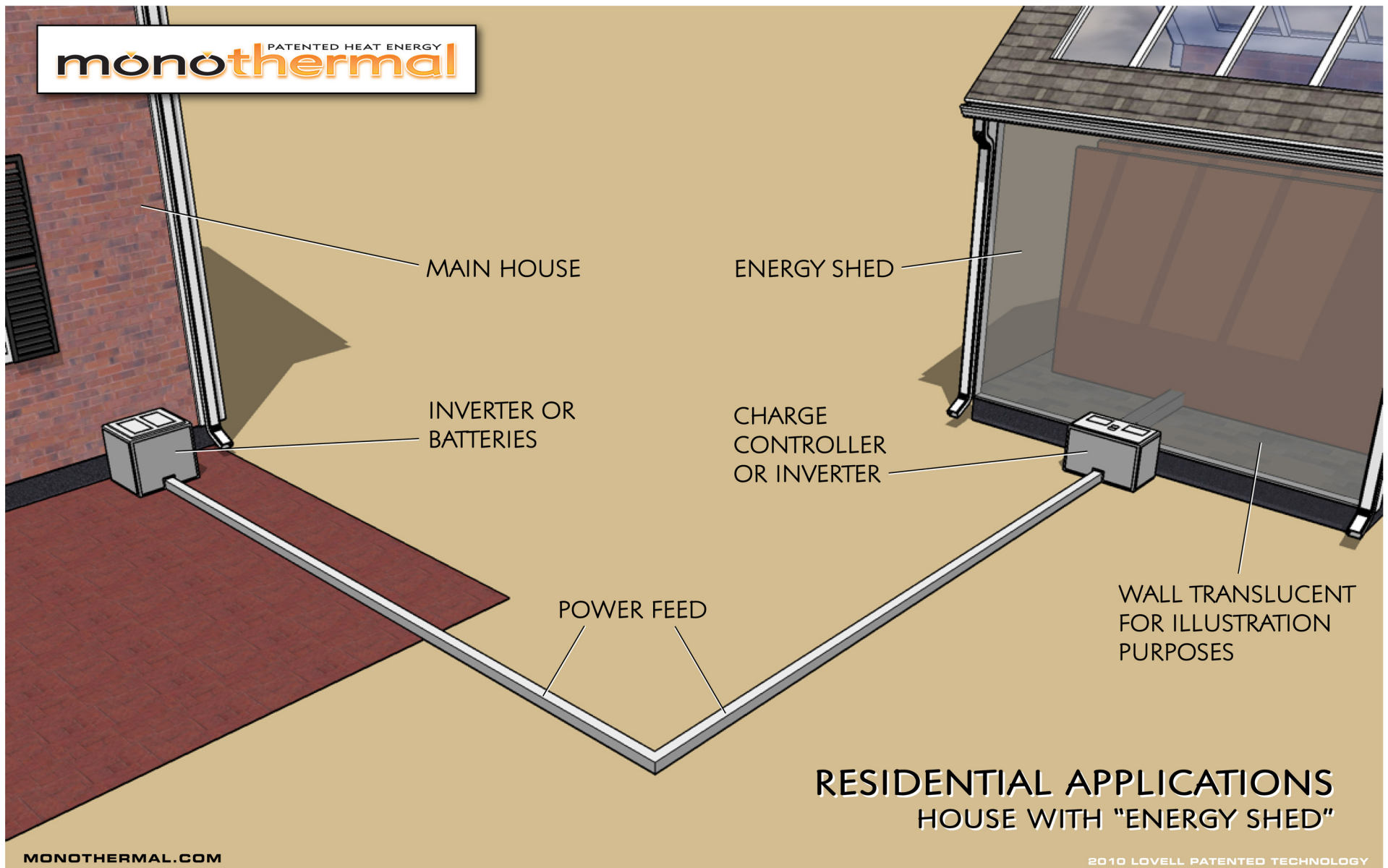
TO HOUSE

CONCRETE FOUNDATION
(THERMAL MASS)

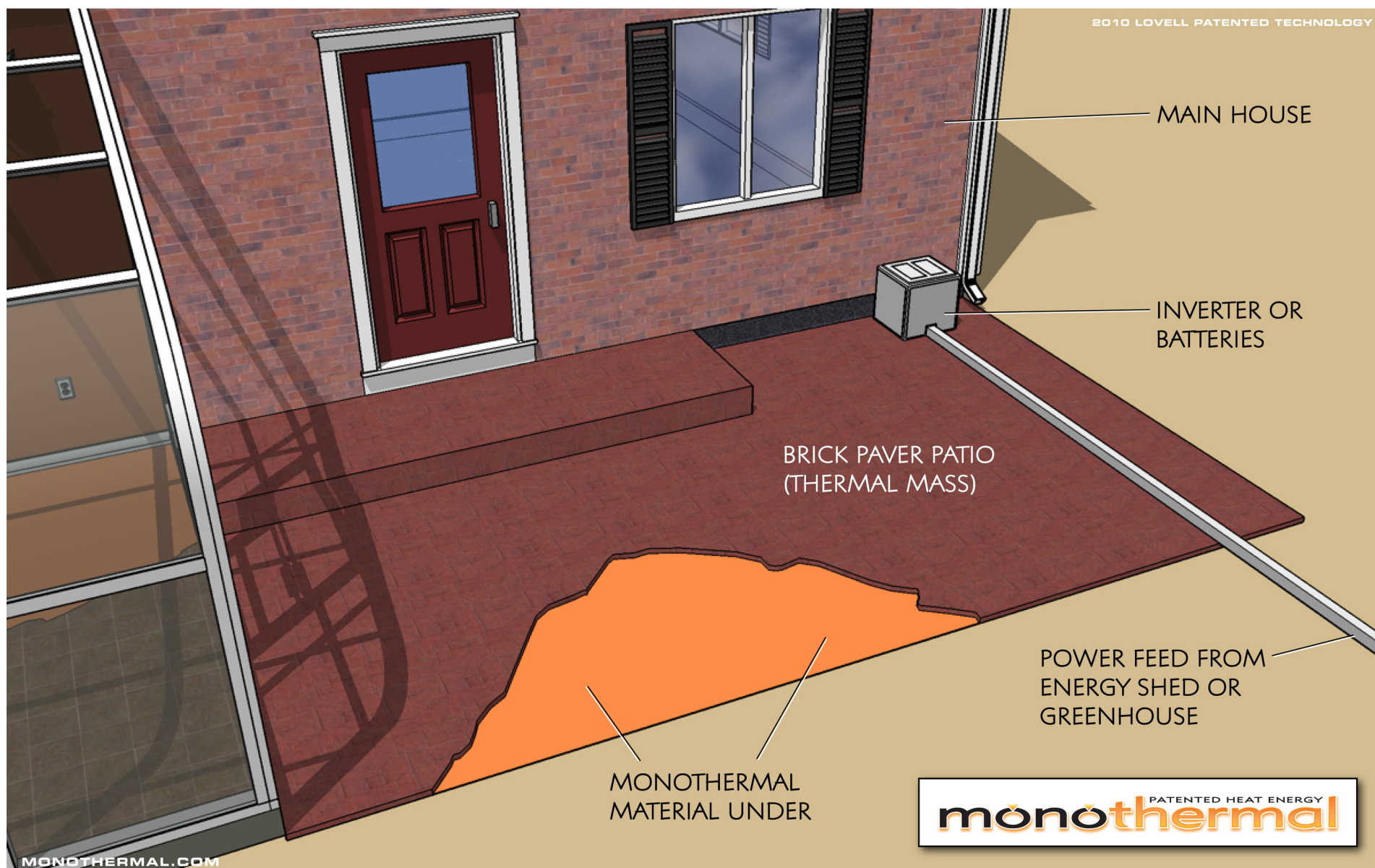


2010 LOVELL PATENTED TECHNOLOGY

04 – A simple and inexpensive kit greenhouse can also be utilized.



05 – Connection to the main residence, not very different from a typical solar energy conversion installation.



06 – An alternate embodiment showing installation of Monothermal laminate under a thermal mass such as an outdoor patio.

2010 LOVELL PATENTED TECHNOLOGY

monothermal PATENTED HEAT ENERGY

SUNROOM

MAIN
HOUSE

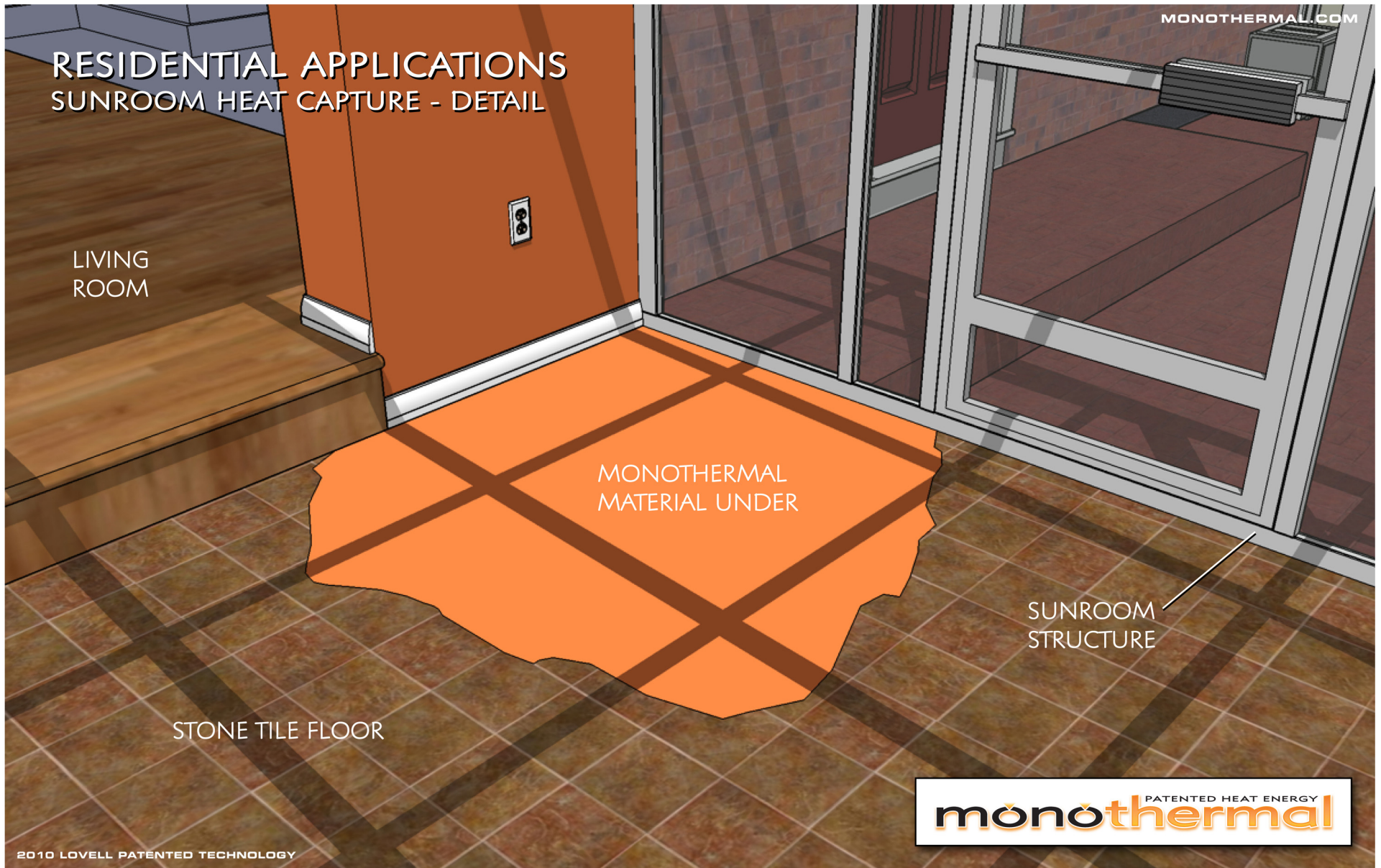
STONE TILE FLOOR

RESIDENTIAL APPLICATIONS SUNROOM HEAT CAPTURE

MONOTHERMAL
MATERIAL UNDER

MONOTHERMAL.COM

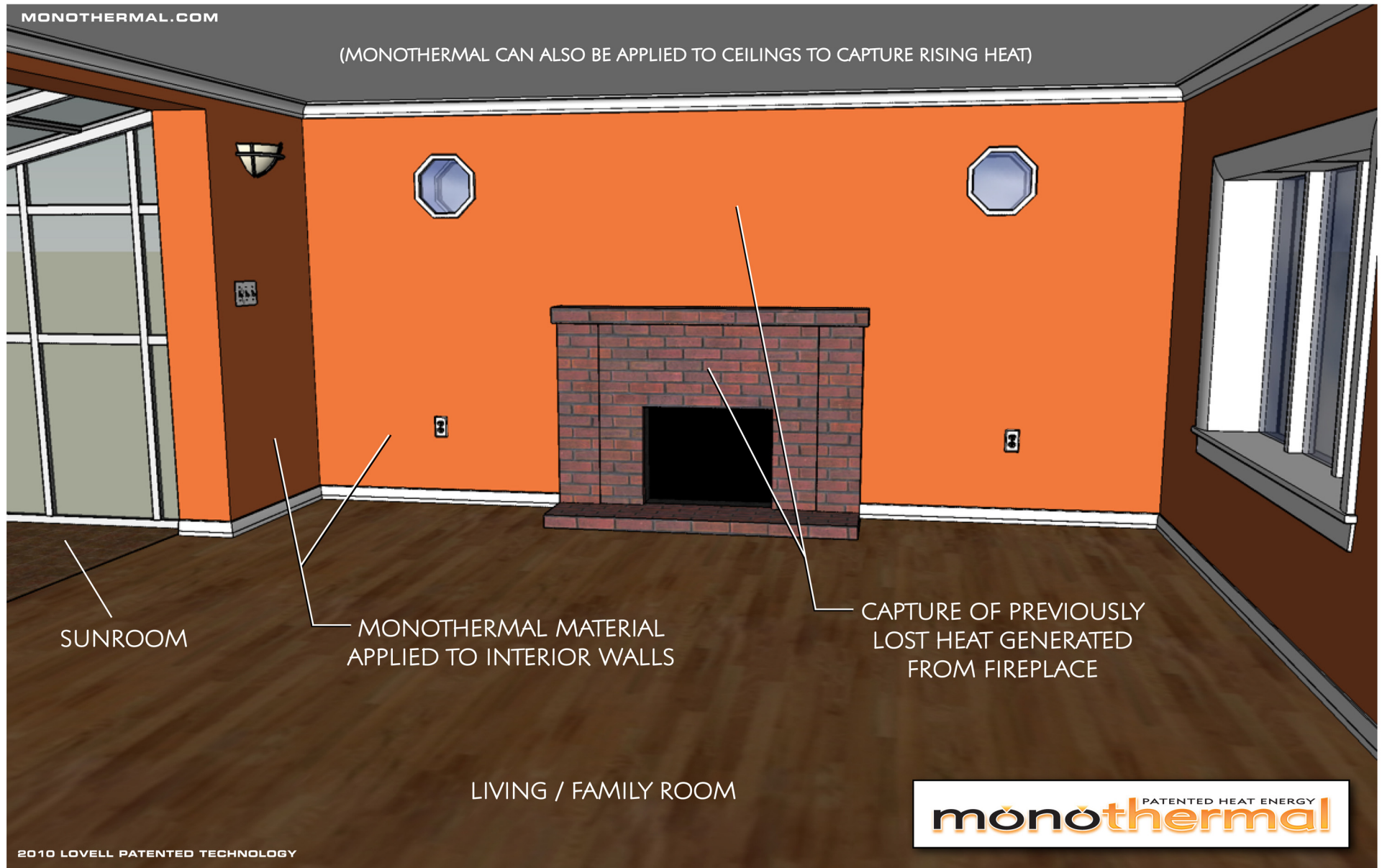
07 – Existing sunrooms are ideal environments for conversion to allow installation of the Monothermal.



08 – Sunroom application with installation beneath heat-retaining stone tile flooring.



(MONOTHERMAL CAN ALSO BE APPLIED TO CEILINGS TO CAPTURE RISING HEAT)



10 – Interior residential application to wall surfaces, capturing both body heat and energy previously lost via the fireplace. Note also the potential of affixing Monothermal material to ceiling surfaces for capture of natural convective heat transfer.

monothermal PATENTED HEAT ENERGY

MONOTHERMAL MATERIAL APPLIED TO ROOF

MAIN HOUSE

POWER FEED FROM
ENERGY SHED OR
GREENHOUSE

SUNROOM

2010 LOVELL PATENTED TECHNOLOGY

11 – Application to roof surface. Monothermal material will capture heat energy on overcast days and even at night – no daylight necessary. Alternatively, the Monothermal can be installed in unused interior attic space to capitalize on the high temperatures usually present.

monothermal PATENTED HEAT ENERGY

MONOTHERMAL MATERIAL APPLIED TO ROOF

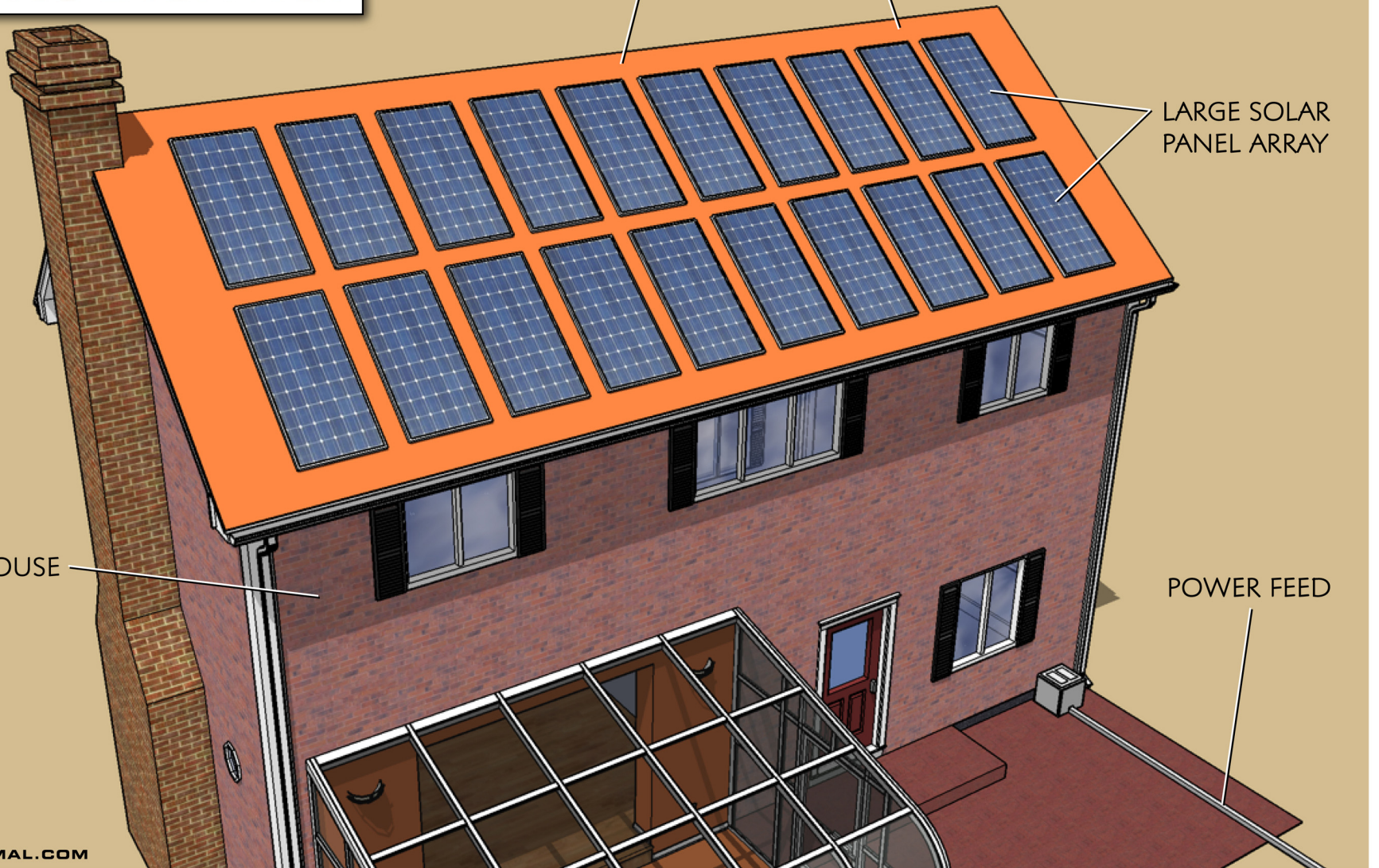
LARGE SOLAR
PANEL ARRAY

MAIN HOUSE

POWER FEED

MONOTHERMAL.COM

12 – Monothermal installation in concert with typical large solar panel array.





13 – Monothermal installation together with new solar shingle application. Both solar panels and newer solar shingles require that a roof be at the proper angle relative to the sun in order to maximize energy gain. Likewise, a home must be sited correctly to take advantage of the sun's path through the sky. The Monothermal has no such limitations.

COMMERCIAL APPLICATIONS AVIATION ENERGY RECAPTURE

CABIN HEAT
GENERATED BY
PASSENGERS AND
ELECTRONICS

AVIONICS BAY

ENGINE
HOUSING

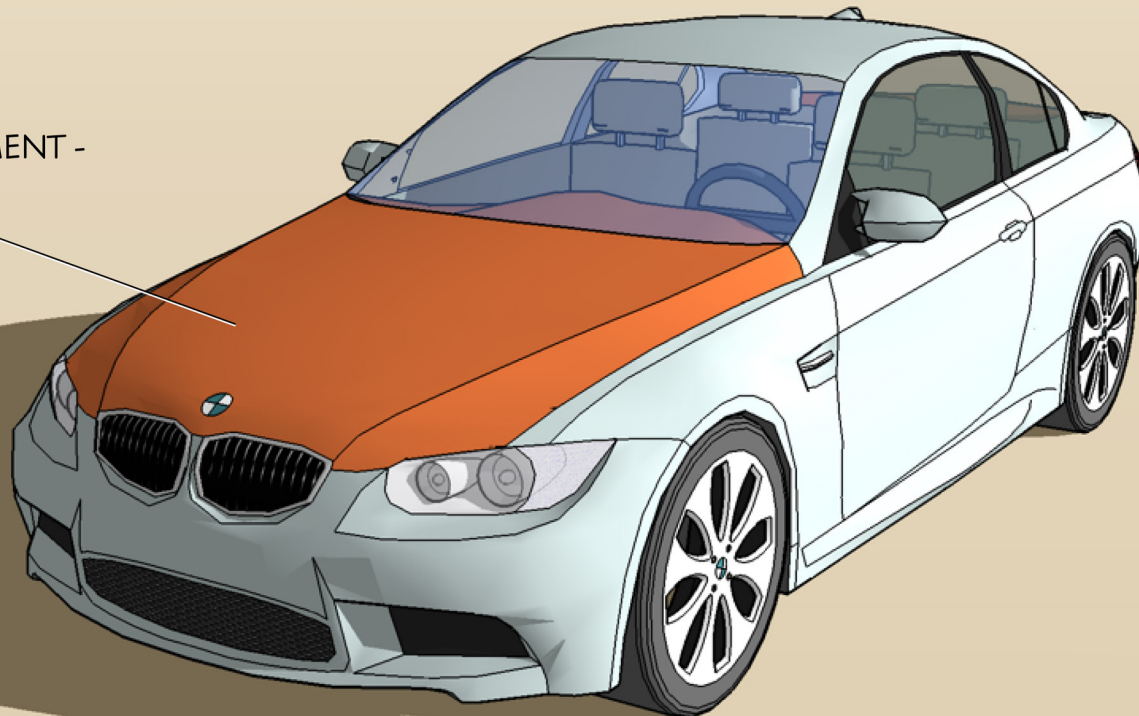
2010 LOVELL PATENTED TECHNOLOGY

monothermal PATENTED HEAT ENERGY

14 – Commercial and industrial applications of the Monothermal include aviation uses to recapture energy from the significant amounts of heat generated aboard commercial aircraft.

monothermal PATENTED HEAT ENERGY

ENGINE COMPARTMENT -
INTERIOR



COMMERCIAL APPLICATIONS
AUTOMOTIVE ENERGY RECAPTURE

BMW M3 SPORTS CAR
TWO-DOOR COUPE

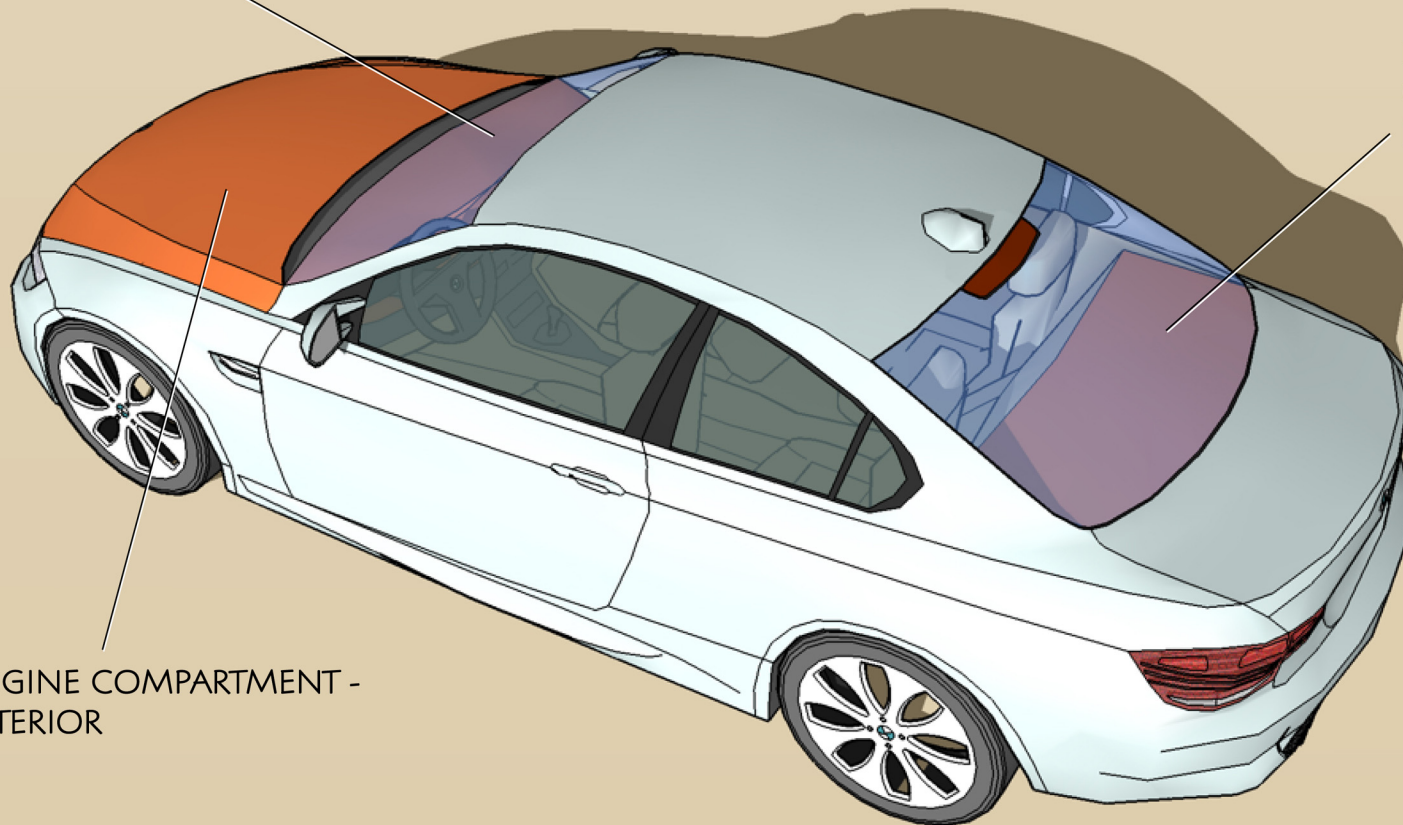
2010 LOVELL PATENTED TECHNOLOGY

15 – Automotive applications for the Monothermal might include installation inside a vehicle's engine compartment, recapturing some of the significant and constant amounts of heat generated by the engine . . .

PASSENGER COMPARTMENT -
DASHBOARD

PASSENGER
COMPARTMENT -
REAR DECK

ENGINE COMPARTMENT -
INTERIOR



COMMERCIAL APPLICATIONS
AUTOMOTIVE ENERGY RECAPTURE

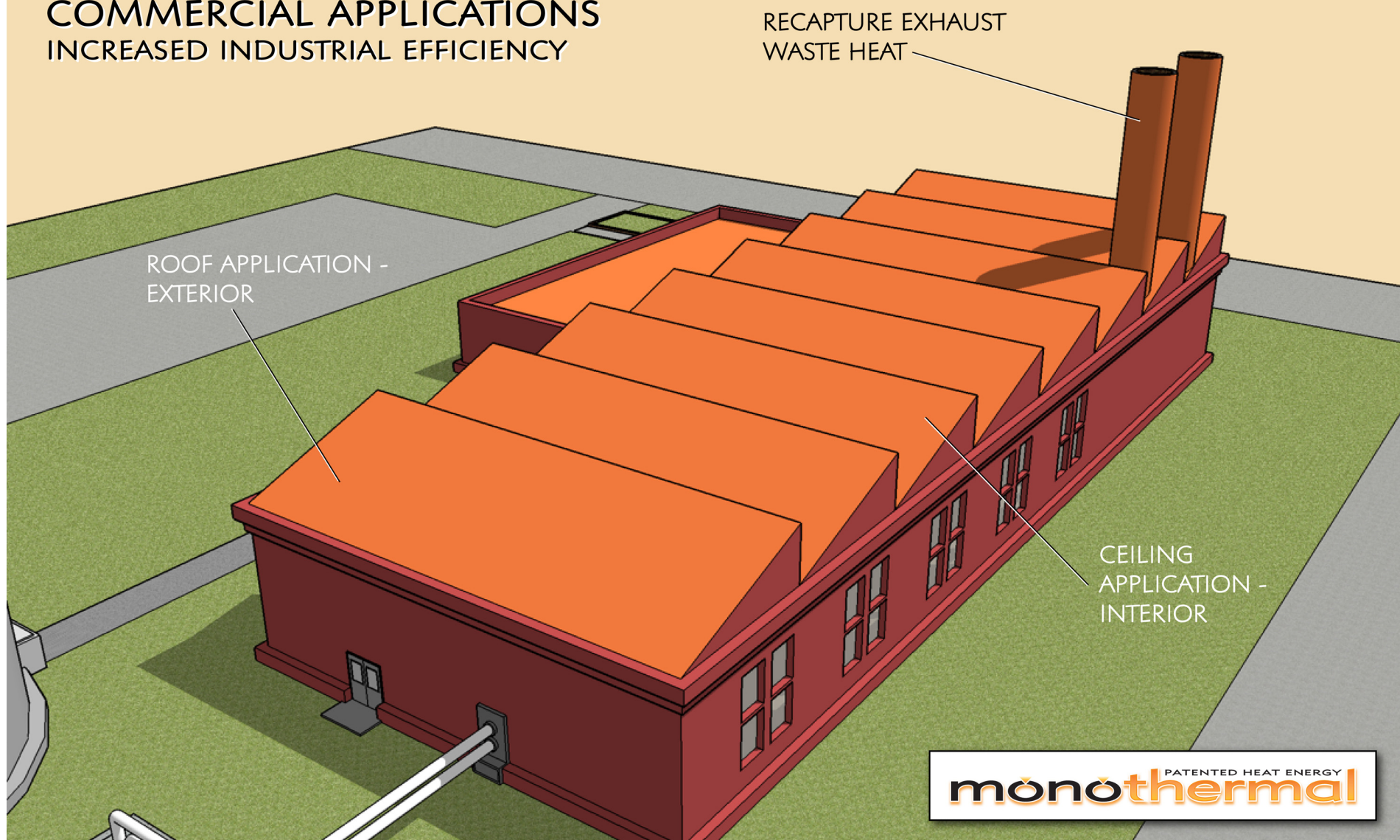
BMW M3 SPORTS CAR
TWO-DOOR COUPE

2010 LOVELL PATENTED TECHNOLOGY

16 – . . . as well as passive locations such as the vehicle dashboard and rear deck – both of which can become extremely hot on summer days, sometimes reaching more than 160°F.*

* Source: *Study on the Thermal Accumulation and Distribution Inside a Parked Car Cabin*, American Journal of Applied Sciences, 7(6): 784-789, © 2010 Science Publications.

COMMERCIAL APPLICATIONS INCREASED INDUSTRIAL EFFICIENCY



17 – Manufacturing uses for the Monothermal are too numerous to list. One obvious application would be to the factory or assembly plant structure itself . . .

MONOTHERMAL
PANELS (SUBMERGED)

TRANSLUCENT FOR
ILLUSTRATION PURPOSES

THERMAL WELL

monothermal PATENTED HEAT ENERGY

COMMERCIAL APPLICATIONS
SUBMERSION IN THERMAL WELLS

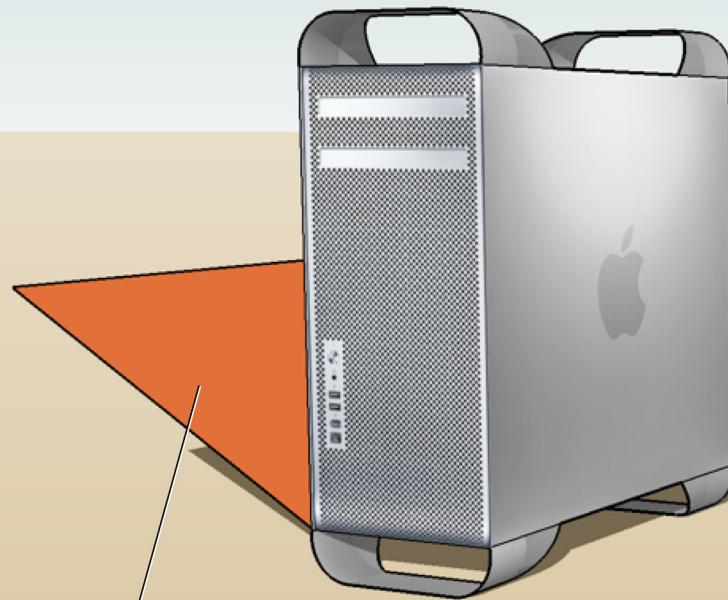
COMMERCIAL APPLICATIONS PORTABLE ELECTRONICS



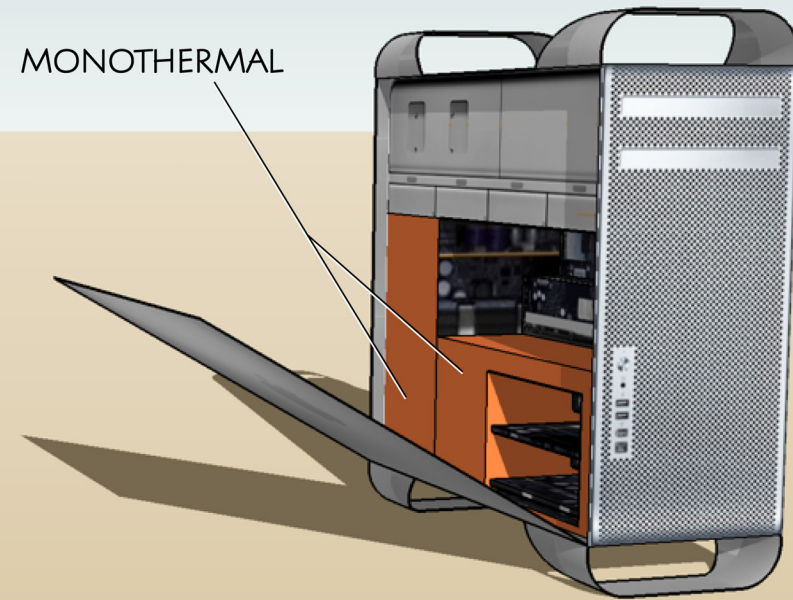
iPAD, iPOD, iPHONE, AND THE APPLE LOGO ARE TRADEMARKS OF APPLE INC.

monothermal PATENTED HEAT ENERGY

COMMERCIAL APPLICATIONS COMPUTER HOUSINGS & INTERNALS



MONOTHERMAL



MONOTHERMAL

MAC PRO

MONOTHERMAL.COM

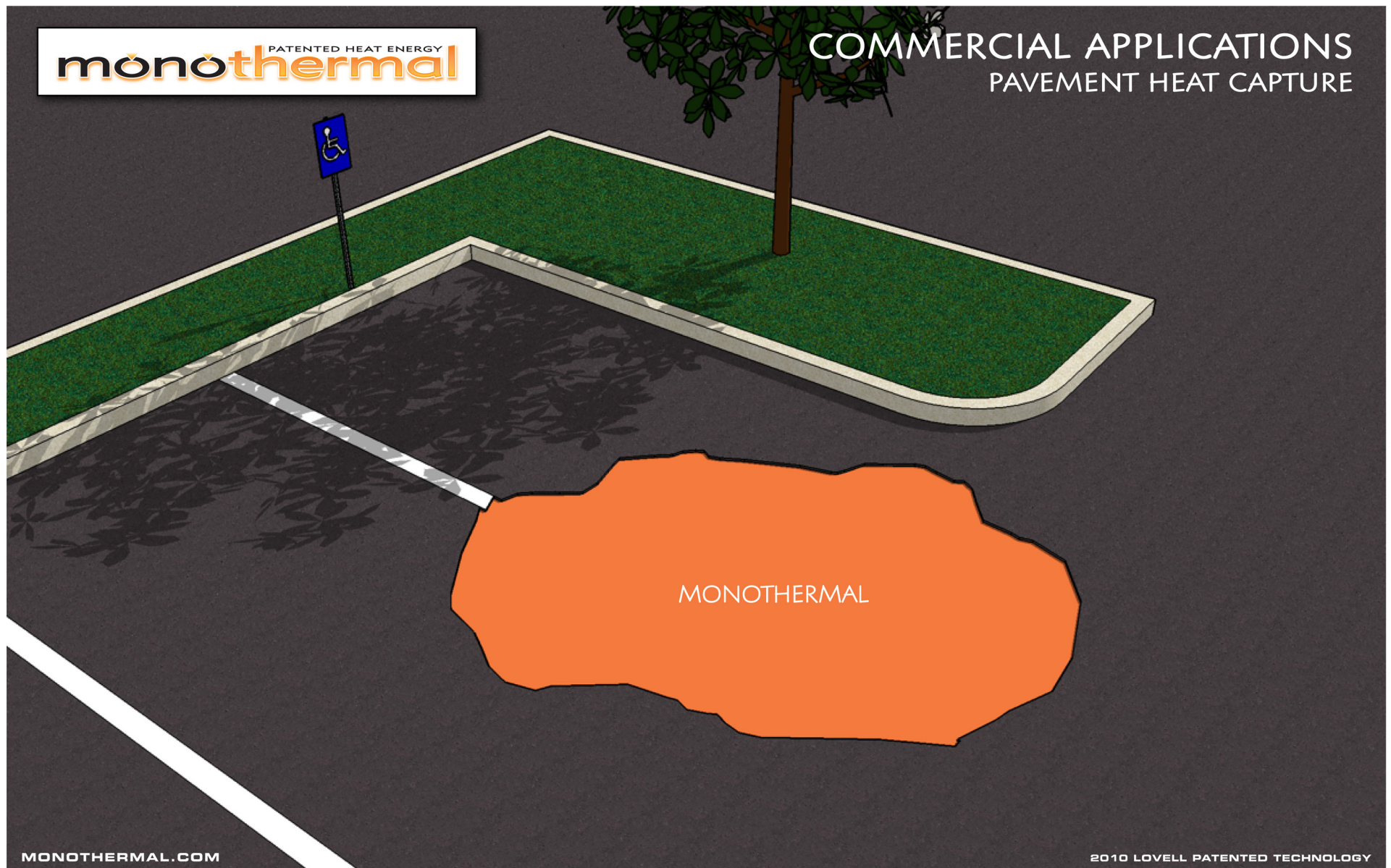
MAC PRO AND THE APPLE LOGO ARE TRADEMARKS OF APPLE INC.

20 – The internal compartments of modern computers can easily reach 140°F, even with multi-fan cooling. Laptop designs generate significant amounts of heat as well. With nearly 300 million units expected to sell in 2010*, this is a huge market for application of the Monothermal.

* Source: Computer Industry Almanac Inc. market research and press release, January 11, 2010.

monothermal PATENTED HEAT ENERGY

COMMERCIAL APPLICATIONS PAVEMENT HEAT CAPTURE



21 – Both public and private parking lots occupy vast amounts of land resources in the U.S., with national urban coverage estimates of between 2% and 5% of land use*. Literal 'heat islands', they raise surrounding temperatures by several degrees on sunny days – making them a perfect application for the heat energy generation capabilities of the Monothermal.

* Source: *The Environmental and Economic Costs of Sprawling Parking Lots in the United States*, Land Use Policy, 27 (2010) 255-261, © 2010 Elsevier.