

# Solar Shingle Canada - Building Integrated Photovoltaic Roofing

A unique, cost-effective and affordable building integrated solar photovoltaic roofing system that transforms the complete roof of a house into an effective power generation system. A standard Solar Shingle Canada PV system provides sufficient power to supply all the needs of a typical Canadian home. A Solar Shingle Canada system can help any off-grid house or structure to become energy independent. In addition, Solar Shingle Canada systems qualify for participation in the generous Feed-In-Tariff system administered in Ontario by IESO.



## PRODUCT BENEFITS

- An attractive, cost-efficient, permanent alternative to traditional rack mounted solar panels.
- Effectively generates sufficient power for a typical Canadian home.
- Attractive design complements any house design or existing roofing finish.
- Solid steel construction of roof shingles ensures that roofing will last for many years.
- Does not require expensive and unsightly solar panel racking system.
- Produces power all year round even during Canada's long cold snowy winters.
- Produces large volumes of power with no ongoing energy costs – sunshine is free!
- Ideal reliable and environmentally sensitive alternative to diesel power generation in off-grid locations.
- Environmentally friendly, operates without generating any Greenhouse Gas (GHG) emissions.
- Designed in Canada for 25 years of continuous uninterrupted use in cold Canadian weather.

## PRODUCT APPLICATIONS

Solar Shingle Canada roof integrated solar photovoltaic solar systems are installed in many locations across Canada and internationally. The following are some of the applications for this technology:

- New and Existing Single Family Homes
- Farm Houses, Barns and Other Rural Structures
- Cottages and Other Off-Grid Houses
- Buildings in Areas with Unstable or Unreliable Power Supply
- Remote First Nation Homes, Facilities and Communities
- Mines, Forestry Plants and Other Resource Processing Facilities
- National, Provincial and Municipal Parks
- Fishing and Hunting Lodges
- Remote Scientific Stations, Coast Guard Stations and Defence Facilities
- Apartments, Student Residences, Co-ops and Public Housing Buildings
- Hospitals, Assisted Living and Long Term Care Facilities
- Hotels, Restaurants and Other Commercial Facilities

## PRODUCT FEATURES

- Transforms entire roof, or any desired section, into a power generator.
- Can be installed on any pitched angle roof, which includes most houses, cottages and rural structures.
- Unique modular design – can be shipped easily, and assembled wherever required.
- Photovoltaic power is the ultimate in Green Energy – producing power directly from the energy of the sun.
- High photoelectric conversion efficiency.
- With the exception of final power connection, can be installed by any qualified roofing contractor.
- Does not require any roof penetrations, minimizing the likelihood of roof leakage.
- Smart ventilation system beneath tiles reduces summer heat build up.

## SYSTEM SPECIFICATIONS

ELECTRICAL SPECIFICATIONS: STC @25°C, 1000W/m<sup>2</sup>, AM 1.5

- Maximum Power Rating: 65 Pmp Watts
- Pmp Tolerance: -0/+5 Watts
- Pmp Maximum Power Voltage: 7.79 Volts
- Pmp Maximum Current: 8.37 Amps
- Open Circuit Voltage: 10.25 Amps
- Short Circuit Current: 8.96 Amps
- Maximum System Voltage: 600 Volts
- Maximum Series Fuse: 15 Amps

TECHNICAL SPECIFICATIONS

- Cell Matrix 8x2=16 Multicrystalline Solar Cells
- Solar Cell Size: 156x156 mm / 6"x6"
- Module Size: 1386.1x136.8x50.8 mm / 4.3"x15.62"x2"
- Module Weight: 9 kg/ 19.8 lbs
- Connector: MC4 or Equivalent

THERMAL SPECIFICATIONS

- Temperature Coefficients: NOCT +45 +/- 3° C; Isc 0.09 %/°C; Voc -0.34%/°C; Pmp -0.37 %/°C

## IESO FIT AND MICRO-FIT FEED-IN-TARIFF AND FINANCING



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- Qualifies for Ontario government IESO Feed-In-Tariff 25 year financial program.
- Trouble free supply of power for 25 year design life aligns perfectly with Ontario IESO Feed-In-Tariff.
- By creating a Feed-In-Tariff government guaranteed house revenue stream, property value increases.
- Bank financing available through financial institutions.

## PRODUCT WARRANTY DETAILS

- Warranty supplied by LDK Solar Canada Inc., fabricator of Solar Shingles Canada products
- 30 Year Warranty on Metal Parts
- 25 Year Power Guarantee – Power Class 65 Wp
- Year 1: Power Output will not drop below 97% of Nominal Output
- Years 2-25: Power Output decrease will not exceed 0.7% per year
- Year 25: Power Output will not be below 80.2% of Nominal Output
- 12 Year 90% Power Guarantee
- +5 Watts Positive Tolerance

## PRODUCT CERTIFICATIONS

- UL 1703 2002/03/15 Ed: Rev: 2008/04/08
- ULC/ORD-C1703-01 Second Edition 2001/01/01
- UL and Canadian Standard for Safety Flat-Plate
- ISO 9001: 2008 Quality Management System