# DOW POWERHOUSE™ Solar Shingle System

DPS-SP110927

## Installation Instructions - Instrucciones de Instalación

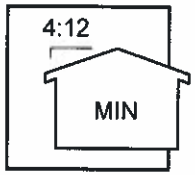
Do not insert items into connectors
No colocar elementos en conectores

Keep in-plane within 1" when connected
Mantener en plano dentro de 1" cuando está conectado

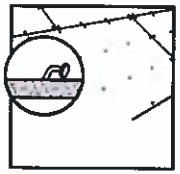
Do not install when raining
No instalar bajo lluvia

Do not bend
No doblar

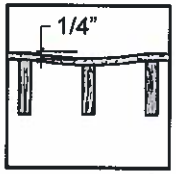
No nail guns
Sin pistola para clavos



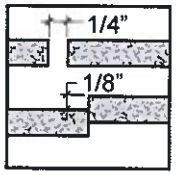

Min pitch 4:12
Inclinación mín 4:12



Check for protrusions
Verificar salientes

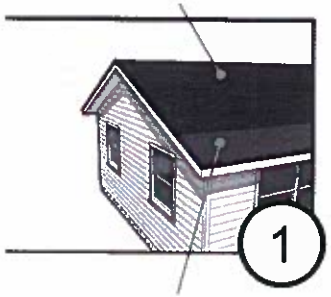



1/4" Max deflection in 48" span
1/4" Máx. deflexión en tramo de 48 "

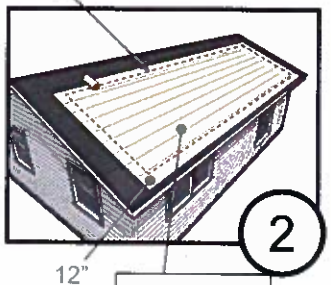


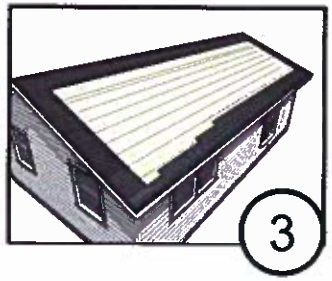

1/4" max gap
1/8" max offset
1/4" hueco máx
1/8" offset máx

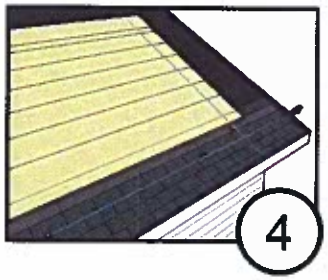
The wood roof deck is to be dry, smooth, and free of debris before beginning installation of any roofing product.
La cubierta de madera para el techo debe estar seca, lisa y libre de residuos antes de comenzar la instalación de cualquier producto para techos.

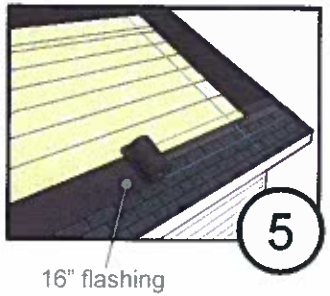


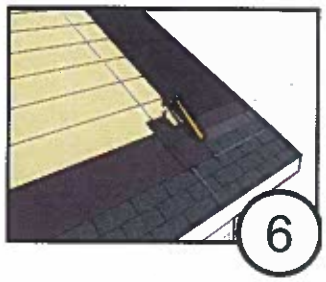

ce dam protection (if required)
Protección contra hielo (si fuese necesario)



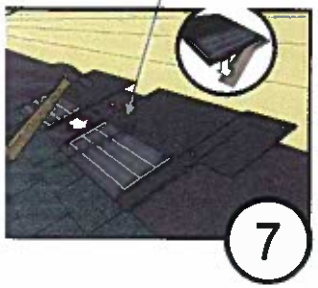



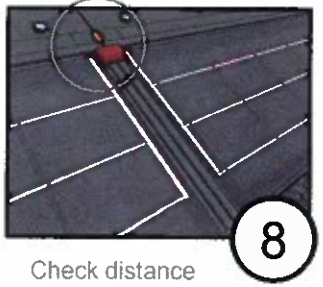



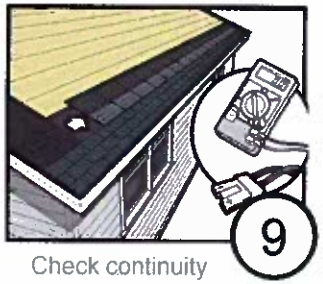

Use four 1-1/2" SST or galvanized ring-shank nails in provided nail holes.
Colocar cuatro clavos galvanizados de espiga redonda o SST de 1-1/2" en los orificios para clavos proporcionados.

Spacing tool must touch glass on both panels.
La herramienta espaciadora debe tocar el vidrio de ambos paneles.

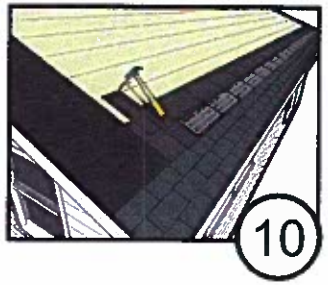


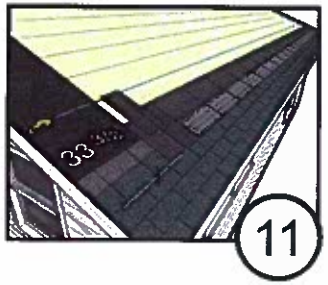



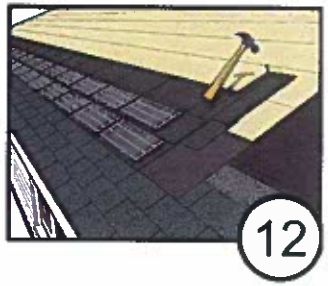

Check distance
Verificar distancia

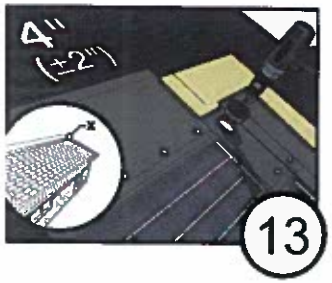


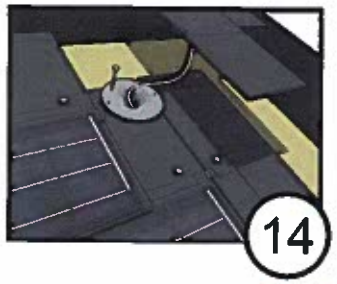

Check continuity
Verificar continuidad

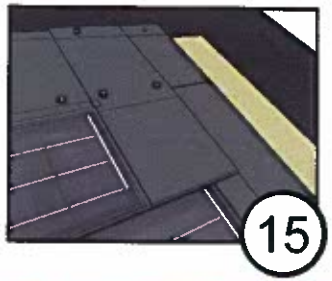


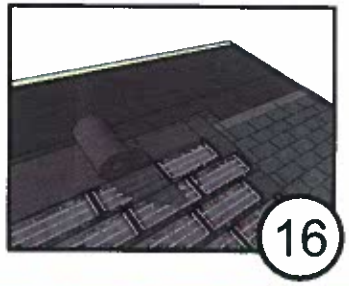





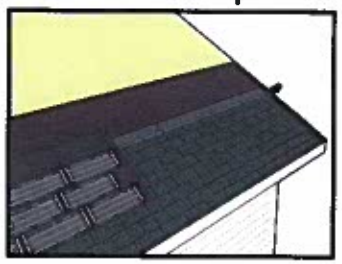



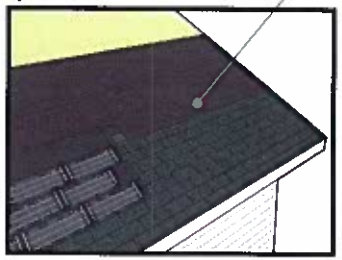



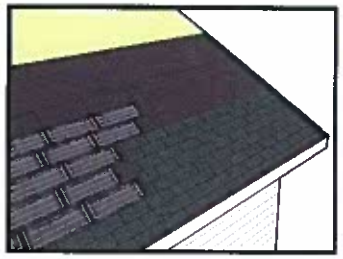



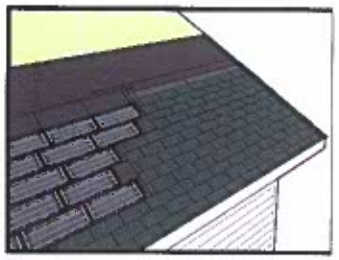
| | DPS-09 | DPS-10 | DPS-11 | DPS-12 | DPS-13 |
|---|---|---|---|---|---|
| Pmax (Watts) | 9 | 10 | 11 | 12 | 13 |
| Isc (Amps) | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Voc (Volts) | 2.8 | 3.0 | 3.0 | 3.1 | 3.2 |
| Imp (Amps) | 4.9 | 5.1 | 5.2 | 5.4 | 5.5 |
| Vmp (Volts) | 1.8 | 1.9 | 2.0 | 2.1 | 2.4 |
| Voltage Rating (Volts) | 600 | 600 | 600 | 600 | 600 |
| Fuse Rating (Amps) | 10 | 10 | 10 | 10 | 10 |
| βVmp (%/°C) | -.49 | -.49 | -.49 | -.49 | -.49 |
| βVoc (%/°C) | -.35 | -.35 | -.35 | -.35 | -.35 |

## Staggered installation
## Instalación por etapas







Grounding of the shingles is not required.
Use 90°C copper conductors 14AWG minimum.
Fuse-rated overcurrent protection for is required for each string if two or more strings are in parallel.

The electrical characteristics are within ±10% of the indicated values of Isc, Voc, and Pmax under standard test conditions (irradiance of 100mW/cm², AM 1.5 spectrum, and a cell temperature of 25°C (77°F)).

Artificially concentrated sunlight shall not be directed on the panel. If the solar array is left unattended during installation, place an insulation plug into the open connector to protect it from dirt and water.

Under normal conditions, a photovoltaic module is likely to experience conditions that produce more current and/or voltage than reported at standard test conditions. Accordingly, the values of Isc and Voc marked on this module should be multiplied by a factor of 1.25 when determining component voltage ratings, conductor ampacities, fuse sizes, and size of controls connected to the PV output. The power output of the system may be higher at installation than once the system has stabilized.

Refer to Section 690-8 of the National Electric Code for an additional multiplying factor of 125 percent (80 percent derating) which may be applicable.

Canadian installations shall be in accordance with CSA C22.1, Safety Standard for Electrical Installations, Canadian Electrical Code, Part 1.

No es necesario realizar la conexión a tierra de las tejas.
Use conductores de cobre de 90°C 14AWG mínimo
Se requiere protección contra sobrecorriente para fusibles por cadena si hay dos o más cadenas en paralelo.

Las características eléctricas están dentro de ±10% de los valores indicados de Isc, Voc, y Pmax en condiciones de prueba estándar (irradiación de 100mW/cm2, espectro de AM 1.5 y temperatura de la celda de 25°C (77°F)).

No debe dirigir la luz solar concentrada artificialmente hacia el panel. Si el sistema solar queda sin atención durante la instalación, coloque un tapón aislante en el conector abierto para protegerlo contra la suciedad y el agua.

En condiciones normales, es probable que un módulo fotoeléctrico experimente condiciones que producen más corriente o voltaje del reportado en las condiciones de prueba estándar. Consecuentemente, los valores de Isc y Voc marcados en este módulo se deben multiplicar por un factor de 1.25 al determinar las clasificaciones de voltaje del componente, capacidad de amperaje del conductor, tamaños de los fusibles y tamaño de los controles conectados a la salida de PV. Es posible que la potencia de salida del sistema sea superior durante la instalación que una vez que se haya estabilizado el sistema.

Consulte la Sección 690-8 del Código Eléctrico Nacional para un factor de multiplicación adicional de 125 por ciento (80 por ciento de reducción), el cual puede ser aplicable.

Las instalaciones canadienses deben realizar de acuerdo con CSA C22.1, Norma de seguridad para las instalaciones eléctricas, Código eléctrico canadiense, Parte 1.

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