

**ICC Evaluation Service, Inc.**  
[www.icc-es.org](http://www.icc-es.org)

**Business/Regional Office** ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543  
**Regional Office** ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800  
**Regional Office** ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07320—Roof Tiles**

**REPORT HOLDER:**

**ROSER CO., LTD.**  
**400, NAE-RI, APRYANG-MYEON**  
**GYEONGSAN, GYEONGBUK, 712-820**  
**KOREA**  
**+82-53-817-5000**  
[www.ROSER.com](http://www.ROSER.com)

**EVALUATION SUBJECT:**

**ROSER STEEL AND COPPER ROOFING PANELS**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)

**Properties evaluated:**

- Roof covering
- Wind resistance
- Fire classification

## 2.0 USES

The Roser Steel and Copper Roofing Panels described in this report are metal roof panels complying with IBC Section 1507.5 and IRC Section R905.4 that are used in Class A roof covering assemblies when installed over new and existing roofs.

## 3.0 DESCRIPTION

### 3.1 Steel Panels:

The steel panels have a base-metal thickness of 0.0157 inch (0.40 mm) and are formed from aluminum-zinc alloy coated structural quality sheet steel complying with ASTM A 792 and having an AZ50 (AZM150) coating designation. On the exposed surface of the steel panels, stone granules are embedded into an acrylic resin adhesive emulsion. See Figure 1 for panel profiles.

**3.1.1 Roser Bond:** The Roser Bond panels are 16.14 inches (410 mm) wide by 53.15 inches (1350 mm) long, with an exposure of 14.57 inches (370 mm). The installed weight is approximately 1.5 psf (7.3 kg/m<sup>2</sup>).

**3.1.2 Spany:** The Spany steel panels are 16.14 inches (410 mm) wide by 52.56 inches (1335 mm) long, with an exposure of 14.57 inches (370 mm). The installed weight is approximately 1.5 psf (7.3 kg/m<sup>2</sup>).

**3.1.3 Rowood:** The Rowood panels are 16.14 inches (410 mm) wide by 52.76 inches (1340 mm) long, with an exposure of 14.57 inches (370 mm). The installed weight is approximately 1.5 psf (7.3 kg/m<sup>2</sup>).

### 3.2 Copper Panels:

The Spany Copper panels have a copper thickness of 0.0197 inch (0.50 mm) and conform to ASTM B 370. The panels are 16.14 inches (410 mm) wide by 52.56 inches (1335 mm) long, with an exposure of 14.57 inches (370 mm). The installed weight is approximately 1.35 psf (6.59 kg/m<sup>2</sup>). See Figure 1 for a panel profile.

## 4.0 DESIGN AND INSTALLATION

### 4.1 General:

Installation of Roser roofing panels shall comply with this report, the manufacturer's published installation instructions, and the applicable code. The manufacturer's published installation instructions shall be available at the jobsite at all times during installation.

### 4.2 New Construction:

**4.2.1 Support Conditions:** The roofing panels shall be installed on roofs having a slope of 3:12 (25%) or greater. Roof rafters shall have a minimum specific gravity of 0.42 and shall be spaced not more than 24 inches (610 mm) on center. Roof panels shall be installed over solid sheathing complying with the applicable code.

**4.2.2 Underlayment:** Underlayment shall comply with Section 1507.5.3 of the IBC or Section R905.4.3 of the IRC, as applicable.

**4.2.3 Batten Installation:** Battens shall be nominally 2-by-2 lumber having a minimum specific gravity of 0.42 and a moisture content not exceeding 19 percent. Battens shall be installed perpendicular to the rafters at 14<sup>5</sup>/<sub>8</sub> inches (370 mm) on center in accordance with the manufacturer's instructions. Battens shall be fastened to each rafter with the fasteners specified in Table 1 of this report.

**4.2.4 Panel Installation:** Upper panels shall lap lower panels at the lower vertical face of each batten. The fasteners specified in Table 1 shall be installed through the two plies of panel into this face of the batten. See Figures 4, 5 and 6 for typical installation details. Panel side laps shall be approximately 2<sup>3</sup>/<sub>8</sub> inches (60 mm). Panel side laps in adjacent courses shall be staggered a minimum of one pan or impression [approximately 7.5 inches (191 mm)].

Valley flashing shall comply with IBC Section 1507.5.6 or IRC Section R905.4.6, as applicable. See Figure 7. Roof openings shall be flashed in accordance with IBC Section 1503.2 or IRC Section R903.2, as applicable. See Figures 8 and 9. Openings through the roof for vents, etc., shall be waterproofed and supported by additional blocking or roof framing as required by the code.

At gable edges, a continuous rake cap or barge cover of the same material as the panels, supplied by Roser, shall be installed in accordance with the manufacturer's published installation instructions. See Figure 10. At hips and ridges, panels shall be cut, bent and installed, and hip and ridge caps of the same material as the panels, supplied by Roser, shall be installed in accordance with the manufacturer's published installation instructions. See Figures 2, 3 and 6.

#### 4.3 Reroofing Applications:

Roser roofing panels shall be installed over existing roofs in accordance with Section 1510 of the IBC and Section R907 of the IRC.

**4.3.1 Support Conditions:** Roofing panels shall be installed on roofs having a slope of 3:12 (25%) or greater. Roof rafters shall have a minimum specific gravity of 0.42 and shall be spaced not more than 24 inches (610 mm) on center.

**4.3.2 Counterbatten Installation:** Counterbattens shall be nominally 1-by-4 boards having a minimum specific gravity of 0.42 and a moisture content not exceeding 19 percent. Counterbattens shall be installed over the existing roofing, parallel with and directly over the existing rafters. Counterbattens shall be nailed at 12 inches (305 mm) on center with minimum 16d common nails having sufficient length to penetrate 1 inch (25.4 mm) into the rafter.

**4.3.3 Batten Installation:** Battens shall be nominally 2-by-2 lumber having a minimum specific gravity of 0.42 and a moisture content not exceeding 19 percent. Battens shall be installed perpendicular to the counterbattens and rafters at  $14\frac{5}{8}$  inches (370 mm) on center per the manufacturer's instructions. Battens shall be fastened to each rafter using fasteners with the minimum sizes as specified in Table 1 of this report and having sufficient length to penetrate  $1\frac{1}{2}$  inches (38 mm) into the rafter.

**4.3.4 Panel Installation:** Panel installation shall be the same as for new construction. See Section 4.2.4.

#### 4.4 Allowable Negative Wind Pressures:

Roser roofing panels shall be installed where the negative design wind pressure, determined in accordance with Section 1609 of the IBC or Section R301.2.1 of the IRC, as applicable, does not exceed the allowable negative wind pressure specified in Table 1 of this report.

#### 4.5 Fire Classification:

When installed in accordance with Section 4.0, Roser steel and copper roofing panels are recognized as Class A roof assemblies in accordance with the exception to IBC Section 1505.2 and IRC Section R902.1.

#### 5.0 CONDITIONS OF USE

The Roser steel and copper roofing panels described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

**5.1** Installation shall comply with this report, the manufacturer's published installation instructions and the applicable code. If there is a conflict between the installation instructions and this report, this report shall govern.

**5.2** Use shall be limited to roofs with slopes of 3:12 (25%) or greater.

#### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Metal Roof Coverings (AC166), dated November 2001 (editorially revised November 2004).

#### 7.0 IDENTIFICATION

Each pallet of Roser roofing panels shall be identified by a label with the manufacturer's name (Roser Co.), the product name, the plant location, the date of manufacture, and the evaluation report number (ESR-1763).

TABLE 1—ALLOWABLE NEGATIVE WIND PRESSURES

PANEL TYPE	PANEL TO BATTEN FASTENERS <sup>1,2</sup>	BATTEN TO RAFTER FASTENERS <sup>3</sup>	ALLOWABLE NEGATIVE WIND PRESSURE (PSF)
Spany Copper	5 - No. 8 x $1\frac{1}{2}$ " long hex head screws	No. 10 x $3\frac{1}{2}$ " long screw	60
Roser Bond, Spany Steel, Rowood	5 - No. 8 x $1\frac{1}{2}$ " long hex head screws	No. 10 x $3\frac{1}{2}$ " long screw	63
Roser Bond, Spany Steel, Rowood	5 - 8d nails	16d common nail	53

For **SI**: 1 inch = 25.4 mm, 1 lbf/ft<sup>2</sup> = 0.047 kPa.

<sup>1</sup>Fasteners for stone-coated steel panels shall be galvanized steel.

<sup>2</sup>Fasteners for copper panels shall be 300 series stainless steel.

<sup>3</sup>Fastener sizes given are the minimums for application to new construction. Fasteners of battens to rafters through existing roofs shall be of sufficient length to penetrate the rafter  $1\frac{1}{2}$  inches (38 mm).



