Metal Roof and Wall Systems

Engineering Technical Bulletin

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FACTORY MUTUAL GLOBAL

Approval of Double-Lok™ Standing Seam Roof Systems as Class 1 Panel Roof

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Trade Name:	Double-Lok Standing Seam Roof System with HW-2122 Low or 2124 High 2" Sliding Clips HW-2126 Low or 2128 High 4" Sliding Clips HW-2129 Hi-Thermal Sliding Clips
Size:	22-ga. (0.0299 in., 0.76mm) or 24-ga. (0.0239 in., 0.61 mm) steel panels, max. 24 in. (610 mm) wide coated with Signature 200 or 300 paint or Galvalume.
Supports:	Min. 16-ga. (0.0598 in., 1.5 mm) steel supporting members.
Application:	The clips are secured to each steel roof purlin, as described below, using **SFS Fasteners ¼-14 x 1 ¼" HWH SDS w/ 15mm bonded washer or Atlas ¼-14 x 1 ¼" HWH Long Pilot TCP2 Screws with a #14 x 0.594 in. (15 mm) diameter galvanized EPDM sealing washer**. A min. length on ½ in. (13 mm) of threaded portion of screw must penetrate underside of purlin. Adjacent panels are seamed together along side laps with an MBCI electric seaming tool.
Special Application:	Optional liner panels are corrugated decks of Galvalume coated steel or painted Galvalume steel having a min. yield strength of 50 ksi (345 N/mm^2). The panels are min. 0.017 in. (0.4 mm) thick, 36 in.(914 mm) wide and ^{13}/16 in. (21 mm) or 1 ¼ in. (32 mm) deep, PBU Liner Panels and PBR Liner Panels, respectively.
Optional Insulation:	Max. 6 in. (152 mm) vinyl faced glass fiber blanket insulation, or Celotex Thermax Insulation Board, max. 4.25 in. (108 mm) thickness (max supporting members spacing 5 ft. (1.5 m) o.c., placed between the roof panels and the supporting members and used in conjunction with either the "M" or "R" liner panel. Steel Bearing Plates of 16-ga. (0.0598 in., 1.5 mm) red oxide coated steel plate having a min. yield strength of 50 ksi (345 N/mm^2). The plate measures 4 in. x 5 in. (102 mm x 127 mm), has one recessed ¼ in. (6.4 mm) dia. center hole, two ¼ in. (6.4 mm) wide by 1 in. long slots and is applied over ridged insulation and positioned. The clips, as described below, are secured through the bearing plate, insulation and liner panel to the steel supporting members.
Hail Rating:	Class 1-SH.
ASTM E 108:	Class A noncombustible deck at max. 5 in 12 slope.

Construction #1: Double-Lok Roof Panels, min. **24-ga.** (0.0239 in., 0.61 mm), max**. 24 in.** (610 mm) wide are secured to min**. 16-ga.** (0.0598 in., 1.5 mm) steel supporting members, spaced a max**. 5 ft**. (1.5 m) o.c., with HW-2122 Low or HW-2124 High 2" Sliding Clips or HW-2126 Low or HW-2128 High 4" Sliding Clips or HW-2129 Hi-Thermal Sliding Clips. The Clips are secured to each steel roof purlin using a minimum of **two** fasteners per clip. **Meets Class 1-60. RoofNav Assembly # 16871-0-0.**

Construction #1a: Double-Lok Roof Panels, min. **22-ga.** (0.0299 in., 0.76 mm), max **24 in.** (610 mm) wide secured to steel supporting members, spaced a max**. 5 ft**. (1.5 m) o.c. **Meets Class 1-75**. **RoofNav Assembly # 16868-0-0.**

Construction #1b: Double-Lok Roof Panels, min. **24-ga.** (0.0239 in., 0.61 mm), max **18 in**. (457 mm) wide secured to steel supporting members, spaced a max. **5 ft.** (1.2 m) o.c. **Meets Class 1-90**. **RoofNav Assembly # 16869-0-0.**

Construction #1c: Double-Lok Roof Panels, min**. 22-ga**. (0.0299 in., 0.76 mm), max **24 in**. (610 mm) wide secured to steel supporting members, spaced a max. **4 ft.** (1.1 m) o.c. **Meets Class 1-105**. **RoofNav Assembly # 90-0-0.**

Construction #2: Double-Lok Roof Panels, min. **24-ga**. (0.0239 in, 0.61 mm) ,max. **24 in**. (610 mm) wide are secured to min. **16-ga**. (0.0598 in., 1.5 mm) steel supporting members, spaced a max. **5 ft**. (1.5 m) o.c., with HW-2122 Low or HW-2124 High 2" Sliding Clips or HW-2126 Low or HW-2128 High 4" Sliding Clips or HW-2129 Hi-Thermal Sliding Clips. The Clips are secured to each steel roof purlin using a minimum of **two** fasteners per clip. **One** S5! DL WINDCLAMP is installed, centered, at every clip location. **Meets Class 1-75. RoofNav Assembly # 384363-0-0.**

Construction #2a: Double-Lok Roof Panels, min. **24-ga**. (0.0239 in., 0.61 mm), max **24 in**. (610 mm) wide are secured to min. **14-ga**. (0.0675 in., 1.7 mm) steel supporting members, spaced a max. **5 ft.** (1.2 m) o.c. **Meets Class 1-90**. **RoofNav Assembly # 189522-0-0.**

Construction #2b: Double-Lok Roof Panels, min. **24-ga**. (0.0239 in., 0.61 mm), max **18 in.** (457 mm) wide secured to min. **16-ga.** (0.0598 in., 1.5mm) steel supporting members, spaced a max**. 5 ft.** (1.2 m) o.c. The clips are secured to each steel roof purlin using a minimum of **three** fasteners per clip. **Meets Class 1-135**. **RoofNav Assembly # 160502-0-0.**

Construction #3: Double-Lok Roof Panels, min. **22-ga**. (0.0299 in., 0.76 mm), max **24 in**. (610 mm) wide secured to **16-ga.** (0.0598 in., 1.5mm) steel supporting members, spaced a max**. 5 ft.** (1.2 m) o.c. with HW-2126 Low or HW-2128 High 4" Sliding Clips. The clips are secured to each steel roof purlin using a minimum of **three** fasteners per clip. **One** S5! DL WINDCLAMP is installed, centered, at every clip location. **Meets Class 1-120**. **. RoofNav Assembly # 160505-0-0.**

Construction #3a: Double-Lok Roof Panels, min. **22-ga**. (0.0299 in., 0.76 mm), max **24 in**. (610 mm) wide are secured to min. **14-ga**. (0.0675 in., 1.7 mm) steel supporting members, spaced a max. **5 ft.** (1.2 m) o.c. **Two** S5! DL WINDCLAMP is installed, centered, at every clip location. **Meets Class 1-150**. **. RoofNav Assembly # 160506-0-0.**