Conklin Company Inc.
TECHNICAL BULLETIN
B-5-92-34
Standing Seam Metal Roofs

Purpose

The Conklin Company Roofing Systems Division currently includes Standing Seam Metal Roofs (SSR) in Conklin's warranty program. This technical bulletin shall be used as a companion document to the MR Metal Roof specification guide.

Standing Seam Roofs

Standing Seam Roof systems (SSR's) are known to have several issues throughout the life of the roof. Performance deficiencies in design, expansion and contraction and strength concerns ultimately result in problems with water-tightness at critical areas. The areas most affected are panel end laps, eaves, perimeter flashings and at the concealed clip locations where melting snow tends to pond water or when wind driven rain is forced into the seam. As the SSR panels deform from expansion and contraction, the side laps, end laps and flashings are severely strained thus creating openings which can allow wind driven rain to enter the roof system. Panel deformation beyond its water-tightness capability, along with outside and inside pressure changes can also cause severe leaks.

Two types of metal roofs exist that utilize standing seams; Architectural and Structural. Architectural SSRs are specified for roof slopes of 3":12" or greater. Most of these systems need some form of decking to support the panels. The concealed clips in these systems are not designed to allow expansion and contraction because they are used on short runs of up to 60 feet. The female joint in the standing seam needs no sealants because of the steeper slopes. The architectural standing seam roof sheds water well. Structural standing seam roofs are designed for ¼":12" slopes. The roof spans from purlin to purlin eliminating the need for a deck. The female corrugations have factory applied sealants and the metal panels are seamed together. The fastening clips inside the seam allow the roof panels to expand and contract during temperature changes. A sliding portion of the clips allow the roof to move on buildings that are much wider than those covered with an architectural standing seam roof. Because of the differences between architectural and structural SSRs it is important to distinguish the different roof types.

The following criteria for approval of a 1-10 year Warranty must be met prior to starting the project.

See next page.

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Standing Seam Roof Criteria

The contractor/applicator must identify if end laps have pre-slotted holes on the lower panels, along with blind rivets, which apply holding power but are intended to allow the panels to slide past one another. This design often places extreme stress on sealants between the panels at end laps. **Attempts to seal these end laps may be difficult or impossible and will require prior approval from the Roofing Systems Department.** (See figure 1 – 3)

- MR Specification Guide section 3.02 Preparation.
  A) Preparation of metal deck:
     1. Acid etch surface of galvanized metal with 1:20 solution of Rust Off cleaner to remove all conditions which will affect bond of roof membrane and follow with a thorough water rinse. Power wash and scrub all other approved surfaces.
     2. Clean rusted areas until free of loose and flaky rust.
     3. Priming:
        a) All surfaces must be primed with Encase Metal Primer.
           **Rust is not covered under any Conklin warranty!*

- Roof slope MUST be a minimum of ½" per foot. The primary concern is to make sure all water will be removed from the roof system. **NO PONDING WATER** or bird baths will be permitted.

- Any roof having end laps with end backup plates/cinch straps will need prior technical advice from the Roofing Systems Division on how to treat these areas.

- Acceptable coatings for this system are: Rapid Roof HV, Rapid Roof III, Benchmark and PUMA XL.

- All end laps require embedding Spunflex II joint tape in Rapid Roof HV, Rapid Roof III or Benchmark base coat at a rate of 1.75 gallons/square followed by an additional .75 gallons/square on top of the fabric. Once dry, apply top coat over the base coat at a minimum rate of 1.9 gallons/square. Refer to the MR system specification sheet, section 3.03 for specific application details.

- All Spunflex II joint tape must be completely embedded in coating up the side of the rib as far as possible. On raised rib seams the fabric may be terminated on the high point where the flat area meets the vertical seam.

- Pull tests should be utilized prior to any metal restoration applications.

- All vertical seams (any kind of Standing Seam roof system) will have a brushed application of Kwik Kaulk applied to any crimped area. NO fabric or butyl tape should be used in this area. The use of butyl tape is not recommended on a standing seam roof, since this is the

cause of many leaks in current Standing Seam roofs. The use of fabric and coatings on standing seams can cause small fish-mouths that either wick water through wind driven rain or through negative pressure from within the building. Leaks in a vertical seam are some of the most difficult to trace and after the application of fabric, these leaks will become impossible to track down. The use of Kwik Kaulk is recommended because it can bridge any areas in the seam that were not crimped correctly or have opened after years of stress. Coating alone will not bridge these gaps.

- Fastener grade Kwik Kaulk is not recommended, because there is a chance it will sag since it is not designed for Vertical surfaces, but can be used on all exposed fasteners as with the MR system.

- For horizontal seams, end laps and field flashed areas, it is recommended to follow the MR specification sheet. Photographs of these areas are to be reviewed by the Roofing Systems Department prior to the start of any scheduled work.

END OF SECTION *11/2017*

Figure #1

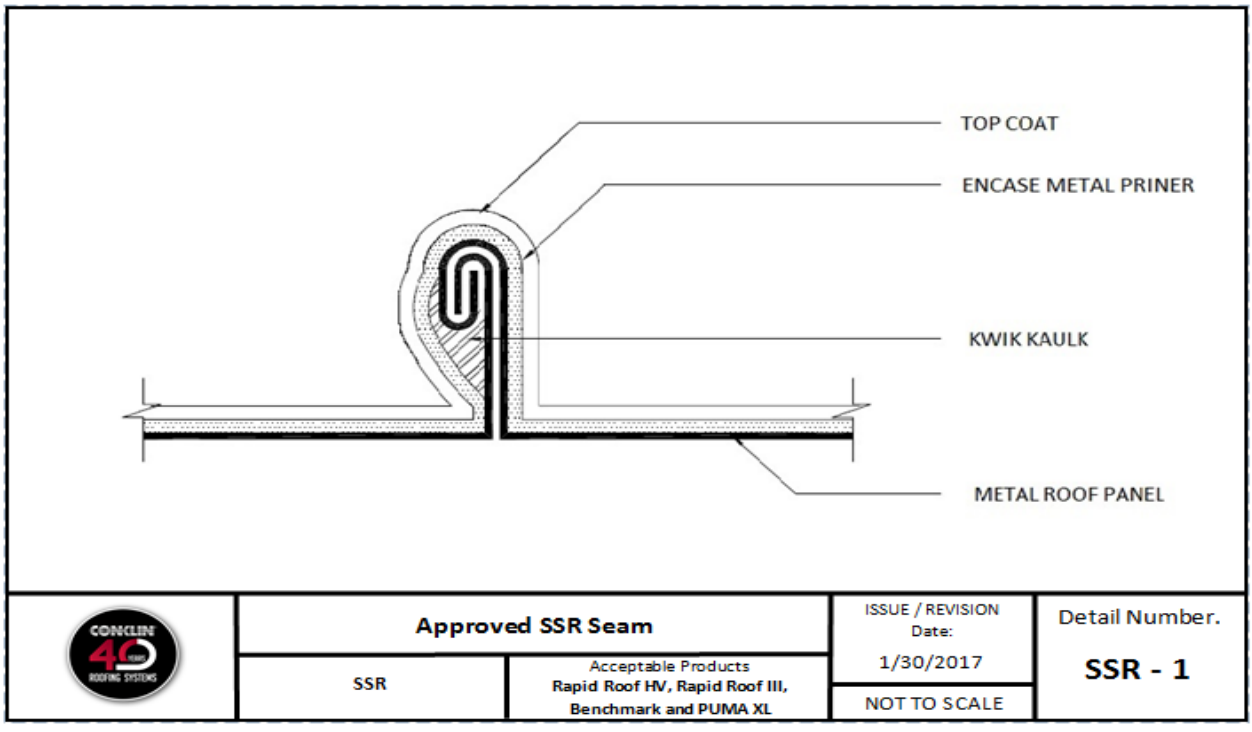

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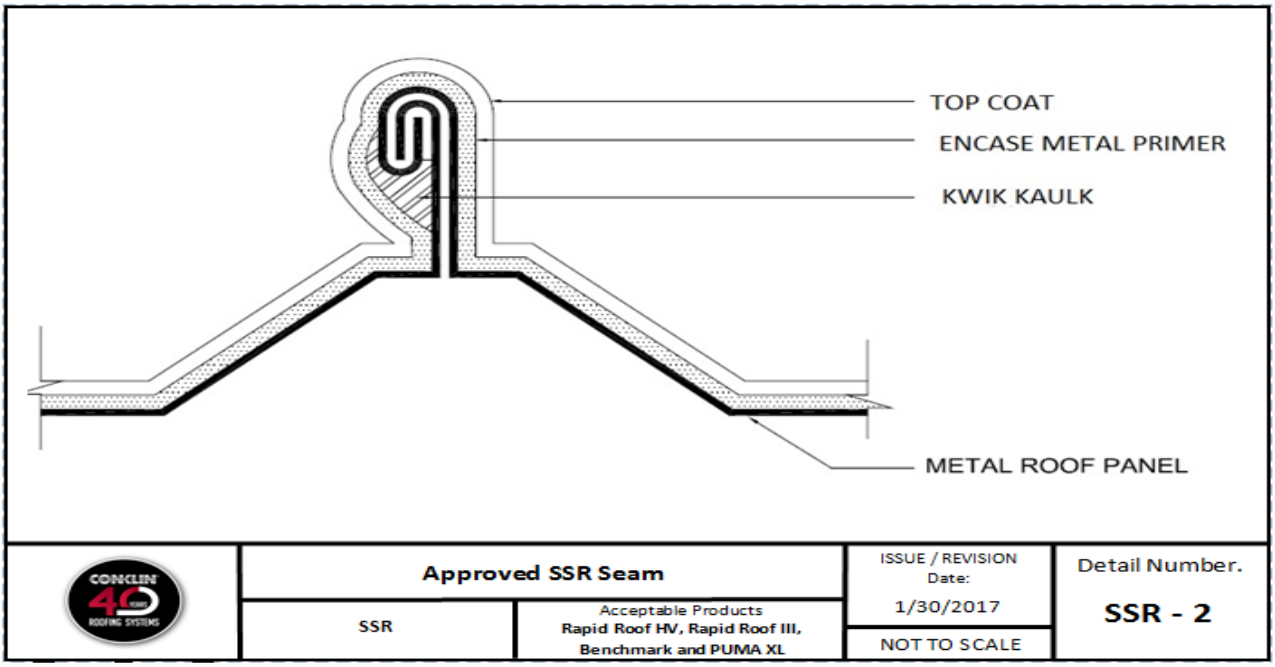
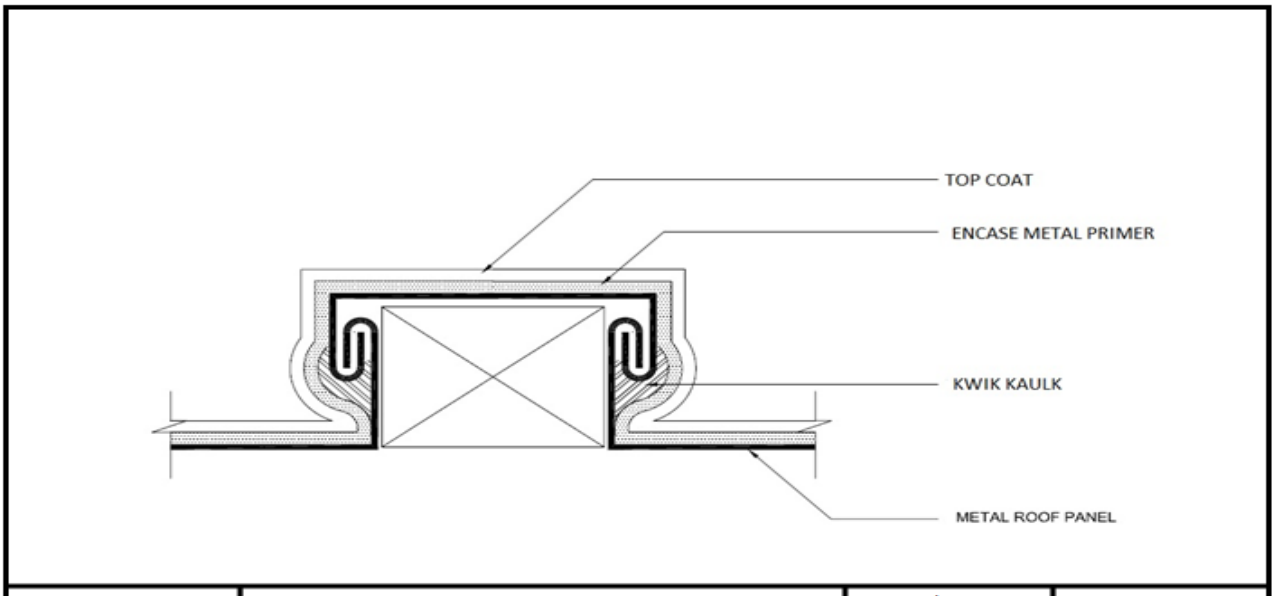
Figure #2



	Approved SSR Seam		ISSUE / REVISION Date: 1/30/2017	Detail Number. SSR - 2
	SSR	Acceptable Products Rapid Roof HV, Rapid Roof III, Benchmark and PUMA XL	NOT TO SCALE	

Figure #3



	Approved SSR Seam		ISSUE / REVISION Date: 1/30/2017	Detail Number. SSR - 3
	SSR	Acceptable Products Rapid Roof HV, Rapid Roof III, Benchmark and PUMA XL	NOT TO SCALE	