

## PRODUCT DESCRIPTION

### NO. 794-1

Berridge Manufacturing Company recommends the application of No. 30 Asphalt-Saturated Organic felt (refer to ASTM D226-94) on all solid substrates, including plywood, metal deck and rigid insulation -- immediately below its metal roofing assemblies. Felting is not used on open framed, non-decked metal roofing applications, generally of an industrial nature, where structural metal roofing panels are solely responsible for watertightness and batt insulation may be draped over the purlins or joists. All Berridge standing seam systems over plywood substrate require one layer of No. 30 Asphalt-Saturated Organic felt (refer to ASTM D226-94) for slopes over 3:12 and two layers for slopes between 1:12 and 3:12 (check with Berridge for minimum slope per panel system: Zee-Lock with vinyl weatherseal is allowed to 1/4:12 with Berridge Ice & Water Guard or equivalent as an underlayment). Ice & Water Guard is also recommended for applications over metal deck because workers tend to penetrate the felt at the voids during installation.

Felt is properly installed beginning at and parallel to the eave and working upward to the ridge. (fig. 1). Felt should be fastened with the combination of a standard galvanized roofing nail and the Berridge "Coated Felt Cap" (fig. 2). The use of Berridge Coated Felt Caps improves the flatness and overall weatherproof integrity of the felt underlayment used with Berridge architectural metal roofs. These caps are made from galvanized steel which prevents rusting which can spread to roof panels. Furthermore, Berridge Coated Felt Caps provide a secure attachment which protects the felt from tearing during wind storms while exposed to the elements awaiting roof panel installation. The broad, flat surface of Berridge Coated Felt Caps will not "telegraph" or read through the roof panel nor can it be easily overdriven into the substrate causing possible visual unevenness in the panel.

Properly installed felting provides a secondary line of protection against condensation on the underside of metal roofing panels as well as protection against water penetration caused by faulty installation of seams, flashing and trim. Because felting is impervious to water, any trapped moisture will evaporate or run down the felt and weep out at the eave line before causing damage to building materials below the felt line. Precaution should be taken in air conditioned buildings to specify a vapor barrier at the

## PROPER FELTING APPLICATION

underside of insulation. This will prevent the passage of vapor in conditioned air up through the insulation where it will condense at dew point on the underside of metal panels and cause corrosion. Finally, rosin paper should not be used as a substitution for felt. Rosin paper retains moisture, which will attack and corrode the underside of panels.

Air conditioned buildings with metal roofing are typically specified with rigid insulation, over which felting

should be applied. The Berridge "Cee-Lock" (fig. 3) and "Zee-Lock" metal roofing systems are particularly well suited for installation over rigid insulation. The Continuous Inner Ribs used by these two systems, rather than intermittent clips, act as continuous beams and spread loads down through the felt and rigid insulation into the metal deck which supports these non-structural materials. The exclusive Berridge Inner Ribs used with Cee-Lock and Zee-Lock eliminates the cost of an additional

layer of solid substrate to fasten the metal roofing to. Felting is applied directly over the rigid insulation per typical felting instructions.

It is of utmost importance that metal panels be installed immediately after the substrate is felted to avoid allowing the elements to dry out and wrinkle the felt and degrade its imperviousness to water. This may happen in as short as one week.

Wrinkled felt may also read through the metal roofing, thus causing visible waviness ("oil-canning") in the flat metal panels. Should this occur, replacement of felting is appropriate.

Barrel vault roofs with corrugated metal deck substrate dictate the use of Grace Ice & Water Shield as a total roof underlayment due to the susceptibility of this type substrate to foot traffic damage and the near-flat apex condition of barrel vault roof shapes.

Please call the Technical Department of Berridge Manufacturing (1-800-231-8127) for recommendations on custom conditions not covered here.

