

# Producing Felted Metal Building Panels That Lay Flat

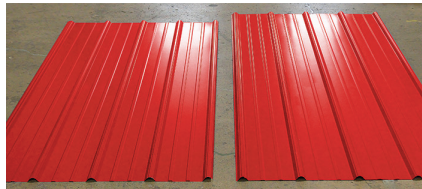
**M**etal building panels with felt underlayment applied can look just as good as the panels you produce every day without underlayment. However, it does take some changes in the roll tooling design.

The demand for felt applied metal roof and wall panels is growing. These panels are typically used for controlling condensation build up and occasionally for sound deadening. Many companies have tried to apply underlayment on their existing panel lines and have found it can be



**Fig 1: Panel with underlayment formed with typical standard tooling.**

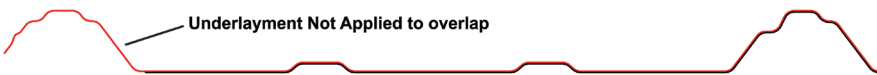
difficult to produce a panel without major cupping. (Ref Fig 1.) Usually the overlap and underlap sides of the panel curl up several inches, causing problems for panel producers because of the appearance of wavy panels after installation. To compensate for this issue, the roll-form line



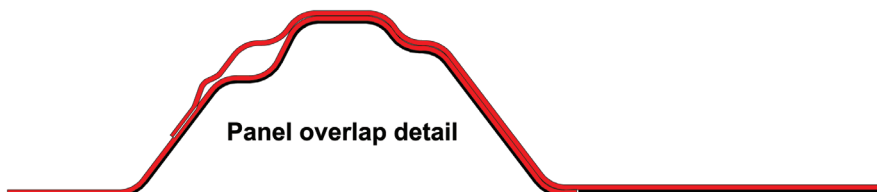
**Fig 4: Ag panel no felt (left) and ag panel with felt applied (right) when formed on specialized combination tooling.**

operators often try to raise the roll tooling to allow for the additional material thickness. However, by raising the tooling it loses the effective over form needed to keep the panel within specifications. To make the process even more difficult, the underlayment is typically not applied to the overlap. (Ref Fig 2 & 3.)

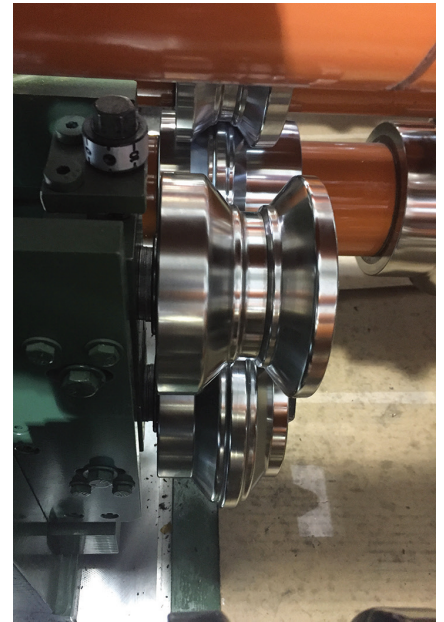
Experienced roll-forming equipment manufacturers have proven it is possible to design roll tooling to run regular building panels and panels with underlayment applied—both meeting the same panel tolerances. (Ref Fig 4.) This does involve additional passes to give independent control and side roll fixtures dedicated to the overlap rib. (Ref Fig 5.) To speed up the adjustment process between running felt and no felt panels, a manufacturer can equip the line with a single point adjustment on the stands. This allows the adjust-



**Fig 2: Profile drawing showing no underlayment applied to overlap.**



**Fig 3: Profile drawing showing detailed panel overlap.**



**Fig 5: Side roll fixture dedicated to the overlap rib.**

ments to be made from the operator side and keep the entire pass of tooling parallel.

When selecting the machine that best meets your needs for producing panels with and without underlayment, make sure the equipment manufacturer has felt underlayment experience and understands your manufacturing process. (Ref Fig 6.) **PB**



**Fig 6: High Speed underlayment fixture and Bradbury BOSS shear.**