



# Technical Bulletin

## Proper Attic Ventilation - Net Free Area Design Criteria

Proper attic ventilation is critical in the life expectancy and durability of an asphalt roof system. Proper attic ventilation can help ensure the maximum service life of roof assembly materials, and can improve heating and cooling efficiency. Ventilation is a system of intake and exhaust that creates a flow of air. Solar heat is transmitted through the roofing material and radiated to the ceiling insulation. As both the roof and insulation warm up, the attic air also becomes heated. Continual heat buildup can cause premature shingle deterioration and roof system component failure.

Shingles start to deteriorate at a faster rate when the temperature of the roof sheathing they are attached to is continually elevated. This can significantly shorten the life of a shingle. An overheated attic, combined with moisture, can cause a number of problems, including damage to roof decking and roof shingles, ice dam formation in cold weather and moisture accumulation in the deck and/or building insulation. This can lead to deck and shingle distortion and premature deterioration.

Atlas Roofing Corporation requires the attic ventilation installation to at least meet or exceed the FHA minimum requirements of at least one square foot of net free unrestricted air flow for each 150 square feet of attic floor space. While some model codes include an allowance for reduced vent area when the system is properly balanced, an unbalanced system may result in performance and durability issues.

The best approach is to employ the right amount of vent area, installed as part of a balanced system. It may be possible to reduce the minimum Net Free Ventilation Area ratio to as little as one square foot per 300 square feet of attic floor space with an approximately equally balanced system between the intake (lower) and the exhaust (upper). Always provide at least 50 percent, but no more than 60 percent, of the total required ventilation at the eaves or lowest portion of the roof if possible.

If possible, exceeding these requirements will benefit the life expectancy of the roof system.

The installation of this amount of ventilation in the described locations will maintain the requirements of the Atlas Roofing Limited Shingle Warranty.

**Check with the vent device manufacturer for the Net Free Area design capacity of specific vents.**