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## TECHNICAL BULLETIN LB-09-12A-R1

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### Buckling of Shingles Installed over Underlayment

This bulletin states Tarco's position regarding buckling of asphalt shingles installed over Tarco saturated felt and LeakBarrier roofing underlayments. This technical bulletin is effective **December 01, 2009**.

Tarco's position on this subject is identical to that of the Asphalt Roofing Manufacturers' Association.

Buckling of asphalt shingles installed over roofing underlayments is a common phenomenon and is usually caused by wrinkling of the underlayment or movement of the wood deck. During the summer months when humidity is high and as the old roof is removed, the wood deck is exposed and absorbs moisture. As the wood increases in moisture content it can cause movement of the decking. As the new roof is installed, moisture is trapped in the system, and roofing underlayment can absorb moisture and wrinkle.

Roof sheathing that is not spaced a minimum of 1/8" can cause buckling due to expansion and contraction. Lack of proper ventilation can also contribute to this problem; so it is necessary to allow moisture to escape the roofing system. Once the system reaches the proper moisture content, the roof should lay flat and the buckling problem should not return.

To fix this problem, remove the affected shingles, and if the underlayment is wrinkled, repair the wrinkles by cutting and re-nailing the underlayment so that it is flat and then replace the shingles. Ensure that the attic is properly vented. The minimum requirements are one square foot of free vent area per 150 square feet of attic floor space, or if you have a vapor barrier with a perm rating of 1 or less on the warm side of the ceiling or you can provide 50% of ventilation at the eaves and the other 50% at the upper portion of the roof; you can reduce your ventilation to one (1) square foot of free area per 300 square feet of attic floor space.

To prevent this problem from arising, do not expose decking materials to moisture either before or after application. Ensure adequate attic ventilation (e.g., a minimum of one square foot net free area per 150 square feet of attic floor space). Ventilate the attic space to eliminate excess moisture. The addition of exhaust fans may be necessary. Install shingles as per shingle manufacturers' recommendations.

If you have any questions or require additional information, please contact your local Tarco Sales Representative or email Tarco Technical Services at [technicalservice@tarcoroofing.com](mailto:technicalservice@tarcoroofing.com)