



Bow, Skew & Trueness of Edge of Broadloom Carpet

Much of the following information has been obtained from both national and international sources and the contributions of the various bodies is acknowledged.

Carpet, a textile floor covering, is subject to inevitable processing variations in the following three 'pattern' conditions:

- (1) Bow
- (2) Skew
- (3) Trueness of Edge

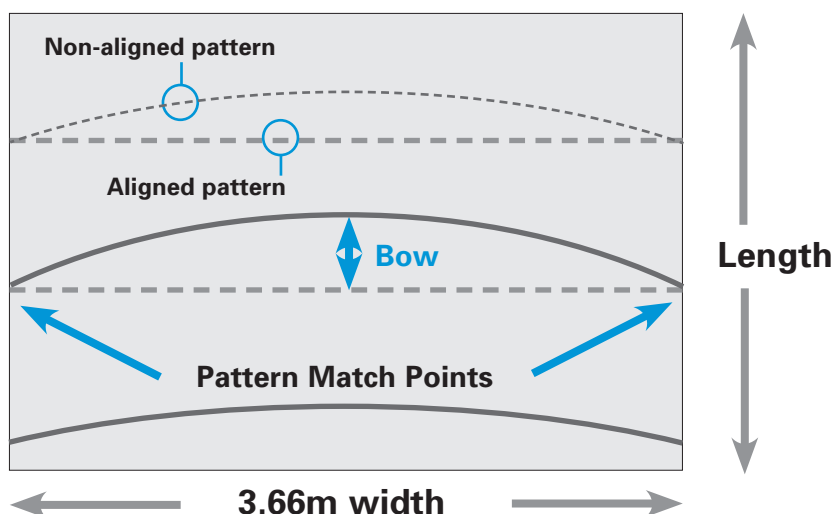
As there are no industry standards for pattern variations, individual carpet producers have developed their own strict manufacturing tolerances and measurement of these three conditions is carried out on a **pre-installation** width of carpet.

Bow

Bow occurs when seams or patterns are stretched out of alignment, curving away from and back toward a seam or centring point. A distortion visible as wavy or crooked pattern lines when viewed across carpet width is referred to as bow.

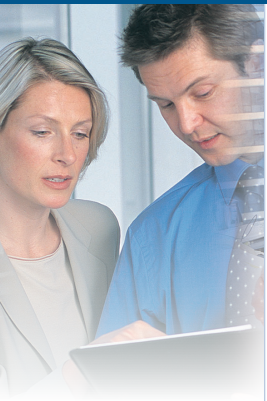
Manufacturing Tolerance (uninstalled):

Bow – approximately 1% of the width i.e. 40mm in 3.66m width.



Determining Bow in a broadloom width of carpet:

A chalk/string line is drawn/placed across the full 3.66m width from pattern match point on one side to pattern match point on the opposite side as close to the selvedge edge as possible. At all pattern points across the width, the design should be within approximately 1% of the chalk/string line. Multiple checks along the length followed by considering an average of the results is

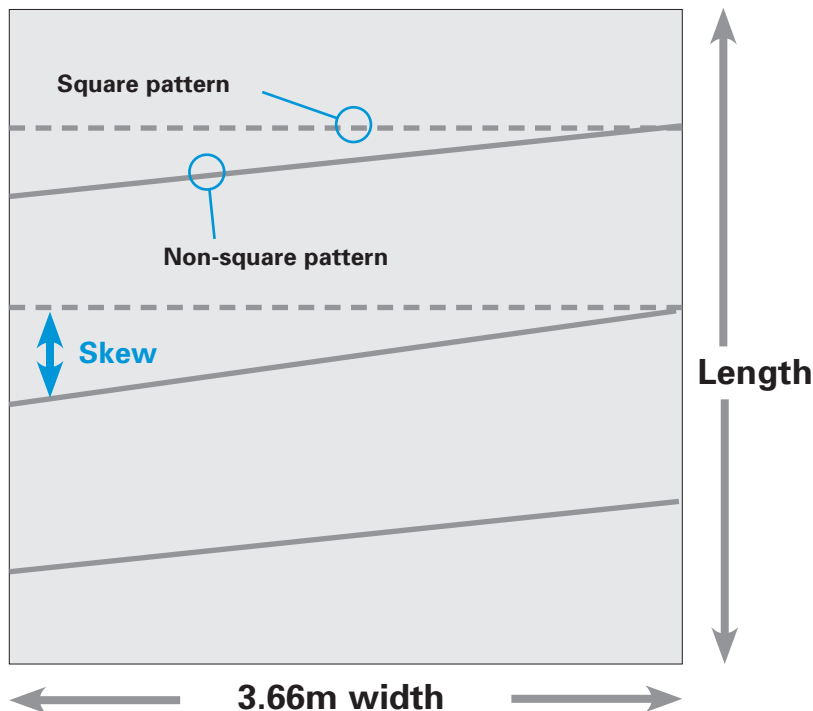


Skew

Skew is a distortion in pattern squareness visible when the pattern on one side is slightly ahead of, or behind the pattern on the other side.

Manufacturing Tolerance (uninstalled):

Skew – approximately 1% of the width i.e. 40mm in 3.66m width.



Should **Hooked Edges or Hooked Edges in combination with either Bow or Skew occur** resulting in wavy or crooked pattern lines, tolerances as noted for Bow and Skew are applicable.

Determining Skew in a broadloom width of carpet: Using a 1m – 2m T-Square, align the short edge of the T-Square along one pattern edge. Making sure that the Square's short side is parallel to the carpet pattern, place one end of the chalk/string line at the corner of the Square. Follow the pattern and line across the carpet width.

The difference between the pattern and the line should be approximately 1%. Multiple checks along the length followed by considering an average of the results is recommended.

NOTE: Do not assume the roll end is straight.

Trueness of Edge

Trueness of Edge is the term used in relation to 'Serpentine', 'Snaked' or 'S-shaped' edges that are nearly always present in some degree on all broadloom carpet.

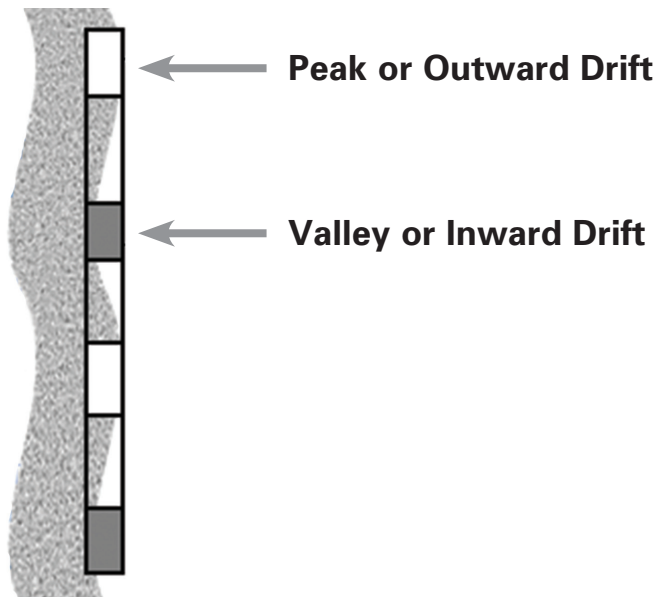
Even carpet that 'drifts' as much as 40mm-50mm may be able to be corrected as long as each an outward drift corresponds to an inward drift on the opposite side of the carpet width so that pulling one side of the carpet to a straight line has the effect of straightening the corresponding or opposite side of the carpet width.



Manufacturing Tolerance (uninstalled)

Trueness of Edge – approximately 0.6% of the width i.e. 25mm in 3.66m width.

S-shaped Carpet Edge



Determining Trueness of Edge in a broadloom width of carpet

Pull a straight line lengthwise down the carpet roll from one corner to another or to a corresponding 'peak'. The distance of the 'valley' from the straight line should establish the amount of drift.

If the carpet suddenly moves inward or outward on one side without having a corresponding peak or valley on the opposite side, it is unlikely that stretching the affected area will correct the problem.

NOTE: The key to recognizing trueness of edge problems is the S-shaped, Snaked or Serpentine drift.

Minimising the visual effect of bow, skew or S-shaped edges

While the following methods may be useful when considering attempts to minimise the visual effect of bow, skew or S-shaped edges in broadloom carpet, consultation with professional carpet installation personnel is recommended.

Method for reduction of Bow

The selvage edge needs to be removed by cutting on the pattern.

When cutting end seams or cutting to a wall, the cut must be on the pattern and then making the adjustment for bowing by working from end to end.

When installing the carpet over underlay, side seams need to be made first and care taken to match the pattern. After side seams are completed, both ends of the roll on the pattern are cut.

The carpet always needs to be pre-stretched to help adjust for bowing before seaming.

The short edges should be stretched to the wall to align the pattern. As needed, continue to stretch the carpet to align the pattern to each wall.



If installing direct-glue or direct-stick, the adhesive should be spread within 150mm of both carpet edges so seams can be made after the bow is straightened. The corners of the carpet should be pushed to the wall and 'stay' nailed, leaving the nails in for 24 hours. This will tend to create a ripple in the center of the carpet that can be worked through the adhesive using a power stretcher and stay nails. The adhesive is spread at the carpet edges and seam sealer applied together with matching the pattern as the final step.

Method for reduction of Skew

As with bowing, any end cuts must follow along the angle of the skew as well as maintaining pattern integrity.

The skew must then be pulled or pushed to a straight line with a power stretcher.

In a direct-stick application, 'stay' nails are used to hold the carpet in place until the adhesive is set.

In a stretch-in type installation, the tack strip serves to hold the carpet in place instead of the adhesive.

Method for reduction of S-shaped Edges

Like most other forms of pattern distortion, the carpet must be pulled to a straight line, even in adhesive. The straight line is held in place with stay-nails until the adhesive is set. The architectural or double tack strip functions in the same way as the adhesive in a stretch-in installation.

Further Information

Contact Carpet Institute of Australia Limited on 03 9804 5559, email info@carpetoz.com.au or visit our website www.carpetinstitute.com.au

About the Carpet Institute of Australia

The Carpet Institute of Australia Limited (CIAL) is the lead industry association for Australia's \$1.6 billion carpet industry. CIAL represents carpet manufacturers, carpet retailers and other suppliers of goods and services to the industry.

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