



ROYAL THAI

**Hand Tufted Carpet
Installation Procedures**



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1. Scope

This document establishes recommended manufacturer's installation standards for hand-tufted rugs.

2. Documents and References

- ASTM F-1869-98 – Test Method for Measuring Moisture Vapour Emission Rate of Concrete Sub-floor Using Calcium Chloride, American Society of Testing & Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428- 2959. www.astm.org

3. Terminology

Throughout this document the general terms “must,” “highly recommended” and “recommended” are used to compare and contrast the different levels of importance attached to certain practices.

It is impractical to issue blanket rules intended to apply to every installation situation. In extenuating circumstances, deviation from portions of this standard may be appropriate. Carelessness is never acceptable and common sense should prevail in all cases.

- **Must:** When the term must is used in this document, it means that the practice or procedure is required or mandatory.
- **Highly Recommended:** When the term highly recommended is used in this document, it means that the practice or procedure is the generally accepted method to be followed.
- **Recommended:** When the term recommended is used in this document, it means that the practice or procedure is advised or suggested.

4. Temperature and Humidity

Rugs must be installed when the indoor temperature is between 65-95°F (18-35°C) and the humidity ranges from 10% to 65%. If ambient temperatures are outside these parameters, the installation must not commence until the HVAC system is operational



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and these conditions are maintained for at least 48 hours before, during and 72 hours after completion.

5. Testing of Concrete Sub-Floors

Before making a glue-down installation, the owner or general contractor, or their designated testing agent, must submit to the flooring contractor a written report on the vapour emission level and the surface alkalinity of the concrete. Testing must conform to ASTM standards.

Note: It is recommended qualified independent testing agencies be used for determining vapour emissions and alkalinity in the floor surface. Testing by an independent specialist to determine suitability for installation is a prudent and necessary safeguard for general contractors, owners, architects, flooring products providers and installation contractors. As a minimum, testing agencies or individuals must demonstrate verifiable experience in vapour emission testing or be certified by recognised organisations, such as the Institute of Inspection, Cleaning and Restoration Certification (IICRC) or the equivalent.

5.1 Moisture Vapour Emissions Testing

Concrete floors, even with adequate curing time, can present an unacceptable moisture condition by allowing excessive amounts of moisture vapour to pass through to the surface. This can be a problem even on suspended concrete floors. All concrete floors should be tested for moisture emission rate using an anhydrous calcium chloride moisture test kit available from installation supplies and accessories distributors. This quantitative method must be conducted carefully with strict adherence to ASTM Test Method F 1869. Moisture emission rate is measured in pounds of moisture over a 1000 ft² area during a 24 hr period. Because the calcium chloride test requires a minimum of 60 hours to conduct, proper installation planning is required. As a general guideline, an emission rate of 3.0 lbs. (1.4 kg) or less is acceptable, unless otherwise specified by the carpet manufacturer.

5.2 Alkalinity Testing

A pH range of 5-9.0 is satisfactory, however, a reading above 9.0 requires corrective measures. Testing should be performed in accordance with ASTM Standard Practice F-710, or consult the adhesive manufacturer for recommended testing and corrective procedures.



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The results obtained reflect only the condition of the concrete floor at the time of testing. Further, the test site or building should be at the same temperature and humidity expected during normal use. These conditions must be maintained 48 hrs prior to, and during testing.

6. Planning

Royal Thai Carpets provides an Installation Manual, which includes installation procedures, a seaming diagram, production scrolls and packing list. This information must be made available at the job site. Roll quantities should be reconciled with the packing list and any discrepancies must be reported immediately to Royal Thai Carpets. Please call Technical Services on 800 433 2440 if assistance is required.

7. Recommended Rug Storage and Handling Procedures

7.1 Storage

The rugs must be stored in a well ventilated, climate-controlled, dry space and be adequately protected from soil, dust, moisture and other contaminants. The packaged rugs should be stored singly on a flat, even surface. Stacking heavy objects on top of the rugs or stacking rugs on each other must be avoided.

It is preferred that rugs be installed as soon as possible after delivery, however where installation delays occur, it is highly recommended that every six to eight weeks, the rugs be carefully removed from the packaging, rolled out onto a clean, dry surface and allowed to 'breathe' for two hours before carefully and securely re-packaging. This process will reduce the risk of possible mildew discoloration and pile crush that can be associated with prolonged storage.

Once removed from the original packaging, Royal Thai Carpets accept no responsibility for damage, discoloration or pressure marks associated with improper handling, inadequate re-packaging or storage.

7.2 Roll Crush

Roll crush usually appears across the width of the rug as areas of the pile yarn that have flattened due to the weight of the roll. Areas of crush may appear lighter or darker and usually are identified as widthwise bands. Roll crush is not a manufacturing defect.



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Most rolled rugs will exhibit some degree of roll crush immediately after the roll has been unwrapped. In most cases, minor roll crush will disappear after the yarn has been allowed sufficient time to "blossom" or undergo moisture regain.

7.3 Handling

Rugs must be transported in a manner that prevents damage and distortion. Bending or folding individual rolls is not recommended. When bending or folding is unavoidable for delivery purposes, the rug should be unrolled and allowed to lie flat immediately upon arrival at the installation site.

8. Preparation of Sub-Floor

Sub-floors must be clean, dry, and free from joints, cracks, depressions or protrusions that will show through the finished installation or cause premature wear.

While some floor preparation is "normal," it is not the floorcovering installer's responsibility to correct deficiencies in the work of other tradesmen, such as carpenters and concrete finishers.

9. Installation

9.1 Rugs Installed With No Cushion

Rugs installed with no cushion should be unrolled after conditioning in the required position. If slippery floor surfaces result in rug movement, materials are available from many retailers designed specifically to prevent such movement.

9.2 Rugs Installed Over Cushion

Where rugs are to be installed over a cushion, then it is recommended that the cushion be cut approximately three inches short on all sides to allow the edge of the rug to 'slope' or 'drape' toward the floor. Not only does this create a neat edge, but it also reduces the risk of a 'trip hazard'. The use of appropriate double-sided tape may be considered in order to secure the rug to the cushion.



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9.3 Installation of Rugs as an Insert in a Floor Recess

Where rugs are intended to be installed as an insert in a floor recess, then the instructions above also apply. Recess depth should be considered at an early stage in order to ensure that levels of the floorcovering and surrounding areas do not create a 'trip-hazard'.

Where it is necessary to trim the rug edges, a continuous 'bead' of seam sealant should be applied to the side of the edge where the face yarn enters the backing. Care should be taken to avoid any adhesive being transferred to the face yarn.

9.4 Rugs Installed Over Adhesive

Where it is chosen to install rugs over adhesives, then the adhesive manufacturers' recommendations should be followed (see section 10).

9.5 Rolling

Rolling should be performed with the lightest roller that will achieve proper transfer of the floor adhesive into the rug back. Roll in both directions, but do not over-roll.

10. Carpet Adhesive Recommendations

The use of carpet adhesive may be considered. Royal Thai Carpets Americas has developed and recommends its own carpet adhesives:

5615 - Ultra-Premium Carpet Adhesive

5809 - Pressure Sensitive Adhesive

Occasionally, installation companies have their own preferred adhesives and Royal Thai is asked if they are acceptable. Since adhesive manufacturers continually improve and update their product lines, it is virtually impossible for Royal Thai to test and monitor all of the products being made to install our products.

The manufacturers listed below also provide adhesives for installing Royal Thai products. Please check with them for their specific recommended product and warranties. Other manufacturers may also have acceptable products.



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AAT	800 228 4583
APAC	800 747 2722
Capitol	866 435 8665
Chapco	800 621 0220
Henry	800 232 4832
Mapei	800 426 2734
Parabond	800 763 7272
XL	800 367 4583

11. Protection of Indoor Installations

11.1 Materials for Protection

If it is required to protect the finished floor covering from dirt or paint, or if additional work is to be done after the installation, cover the rug with a non-staining building material paper

such as "Seekure" by Fortifiber (others are available). Protect the installation from rolling traffic by using sheets of hardboard or plywood in affected areas.

Caution: Plastic sheeting should not be placed over any rug installation because it may present a slip hazard. The use of plastic sheeting may also trap moisture, retarding adhesive cure and/or promoting mould and mildew growth. In addition, it may also be responsible for inducing pile shading/watermarking. Care should be taken when selecting protective films with tack-adhesive as some have been found to leave residual deposits, resulting in rapid soiling after removal of protective film.

11.2 Maintain Temperature

Temperatures of indoor-carpeted areas should never fall below 50°F (10°C), regardless of the age of the installation.



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12. Guidelines for Good Indoor Air Quality During the Installation Process

The consumer should always ventilate with fresh air during all phases of installation. This includes exhausting to the outside and avoiding re-circulation. Most emissions from the installation disappear quickly with adequate air exchange and ventilation.

- Vacuum any old carpet before removal to minimize the amount of dust particles.

Note: when selecting a new vacuum cleaner, look for units bearing the CRI Indoor Air Quality Program label. This label identifies vacuums that have been tested and meet minimum standards for dust containment, soil removal, and carpet appearance change.

- Vacuum the floor immediately after any old carpet and cushion have been removed.
- Continue operating the ventilation system at normal room temperature for up to 72 hours after installation. If possible, open doors and windows to increase the flow of fresh air.
- If any occupants consider themselves to be unusually sensitive, they may wish to avoid the area or leave the premises while the old carpet is being removed and the new carpet installed.
- If possible, unroll the new carpet in a well-ventilated area for 24 hours or more before installation.