KALEEN

INSTALLION GUIDELINES for KALEEN CARPETS

- A guide to Understand Natural Fiber Wool Carpets.
- Understanding the Techniques of Woven & Tufted Wool Carpet – Sales and Installation.
- General knowledge for Woven, and Tufted Wools

This book was designed for:

- Salespeople
- Architects
- Designers
- Installers
- Inspectors
- Mill Reps
- Estimators

www.KALEEN.com

Guidelines for Kaleen products:

When using a Kaleen product, unless it is a primary or secondary backing Kaleen recommends taking the backing off. The reason for this is….

When installing a wool product, a power stretcher should be used with the regular power stretcher head, never use a cotton head on wool carpet because a cotton head will cause the yarns to swell and will not be repairable.
When installing handmade carpet, specifically low profile it takes less stretch than a machine-made carpet.
When ordering these products it is recommended to order 3’ additional for the installer to familiarize himself with it.
When constructing a seam on these products unless the backing is a primary or secondary backing, any other backing should be taken off.
If cotton back is to remain on carpet there should be 2-3” cut off each side of the seam, to secure the seaming process, as indicated in the picture.
Pattern match in pattern carpet cannot be guaranteed, because of the carpet being handmade, the loops or cut pile are not consistent as they are in a machine made product. The process in preparing the seam is not as much for the pattern match as it is to secure the seam.

For a stretch in installation the pad recommended is a 32 oz. felt pad. For a double stick installation it is recommended to use a Kaleen Pad, Healthier Choice, Foundation SE or Tread Mor 21 lb.pad.

Note: Kaleen does not recommend head seams in any of these products. Plan accordingly.
Kaleen recommends prior to installation that the monks cloth backing be removed before stretching or gluing.

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WOOL:

Understand the properties of common carpet fibers (wool, nylon, polyester and olefin) and consider them carefully. Wool is a natural fiber that synthetics strive to emulate. The most familiar of all-natural fibers is Wool. It has been used for centuries as the yarn of choice in carpets and rugs. Wool goes back to 4000 BC and is considered by many to be the finest of all fibers. Resiliency is the ability of the carpet pile to spring back into its original position after being crushed or walked on. Its resiliency is due to the fact it grows naturally crimped. Loop pile or woven textures are styles that avoid traffic patterns and footprint tracks.

Wool is a natural flame retardant and reduces dryness and static. It is a safer choice for home or business. Wool is more resistant to soiling and staining. The hard-microscopic external scales on the fiber give it an easy care for quality. It is waxy and causes water to repel, and its acidity repels the soils.

Because wool has a higher pile density and weight than synthetics, wool will dissipate sound waves more effectively. Wool is good for the environment; it is a renewable fiber source that is bio-degradable at the end of the products life span.

Fact: Sheep can be shorn every nine to twelve months. The wool shorn from sheep is completely natural. It is composed entirely of amino acids, the building blocks of life. It takes less than 2 minutes for a professional shearer to shear a sheep. Shearing does not hurt the sheep; in fact, it is essential to the health of the sheep. A single sheep will offer approximately 9 lbs. of wool.

WHY WOOL:

NATURAL

Wool is a protein fiber formed in the skin of sheep, and is thus 100% natural, non-man made. Since the Stone Age, it has been appreciated as one of the most effective forms of all-weather protection known to man, and science is yet to produce a fiber which matches its unique properties.

RENEWABLE

As long as there is grass to graze on, every year sheep will produce a new fleece, making wool a renewable fiber source. Wool growers actively work to safeguard the environment and improve efficiency, endeavoring to make the wool industry sustainable for future generations.

BIODEGRADBLE

At the end of its useful life, wool can be returned to the soil, where it decomposes, releasing valuable nutrients into the ground. When a natural wool fiber is disposed of in soil, it takes a very short time to break down, whereas most synthetics are extremely slow to degrade.

NATURAL INSULATOR

Wool is a hygroscopic fiber. As the humidity of the surrounding air rises and falls, the fiber absorbs and releases water vapor. Heat is generated and retained during the absorption phase, which makes wool a natural insulator. Used in the home, wool insulation helps to reduce energy costs and prevents the loss of energy to the external environment, thus reducing carbon emissions.

BREATHABLE

Wool fibers are crimped, and when tightly packed together, form millions of tiny pockets of air. This unique structure allows it to absorb and release moisture – either in the atmosphere or perspiration from the wearer – without compromising its thermal efficiency. Wool has a large capacity to absorb moisture vapor (up to 30 % of its own weight) next to the skin, making it extremely breathable.

RESILIENT & ELASTIC

Wool fibers resist tearing and can be bent back on themselves over 20,000 times without breaking. Due to its crimped structure, wool is also naturally elastic, and so wool garments can stretch comfortably with the wearer, but are then able to return to their natural shape, making them resistant to wrinkling

and sagging. Wool therefore maintains its appearance in the longer term, adding value to the product and its lifespan. Wool is also hydrophilic – it is highly colorfast, without the use of chemicals.

MULTI-CLIMATIC/ TRANS SEASONAL

Thanks to its hydroscopic abilities, wool constantly reacts to changes in body temperature, maintaining its wearer's thermophysical comfort in both cold and warm weather.

EASY CARE

The protective waxy coating on wool fibers makes wool products resistant to staining, and they also pick up less dust as wool is naturally anti-static. Recent innovations mean wool items are no longer hand wash only. Many wool products cannot be machine washed and tumble dried.

A SAFE SOLUTION

Wool is naturally safe. It is not known to cause allergies and does not promote the growth of bacteria. It can even reduce floating dust in the atmosphere as the fiber's microscopic scales are able to trap and hold dust in the top layers until vacuumed away. Thanks to its high water and nitrogen content, wool is naturally flame-retardant, and has a far higher ignition threshold than many other fibers, will not melt and stick to the skin causing burns, and produces less noxious fumes that cause death in fire situations. Finally, wool also has a naturally high level of UV protection, which is much higher than most synthetics and cotton.

WOOL IS:

Wool is a very special complex and versatile textile fiber. It is a very strong resilient, comfortable and prestigious, yet practical fiber. It is the benchmark to which all other fibers are compared. It is excellent resistance to compression due to the physical nature of the wool fiber – natural crimp, because of millions of coiled molecules, rather than the artificially induced sinusoidal waves in man-made fibers. Due to its inherent structure, it can refresh itself repeatedly. The natural bulk of the wool fiber helps to resist tracking and flattening, providing a better-looking carpet for many years. The comfort factor is not only due to its softness or texture, but also the way that wool supports itself and ability to bounce back.

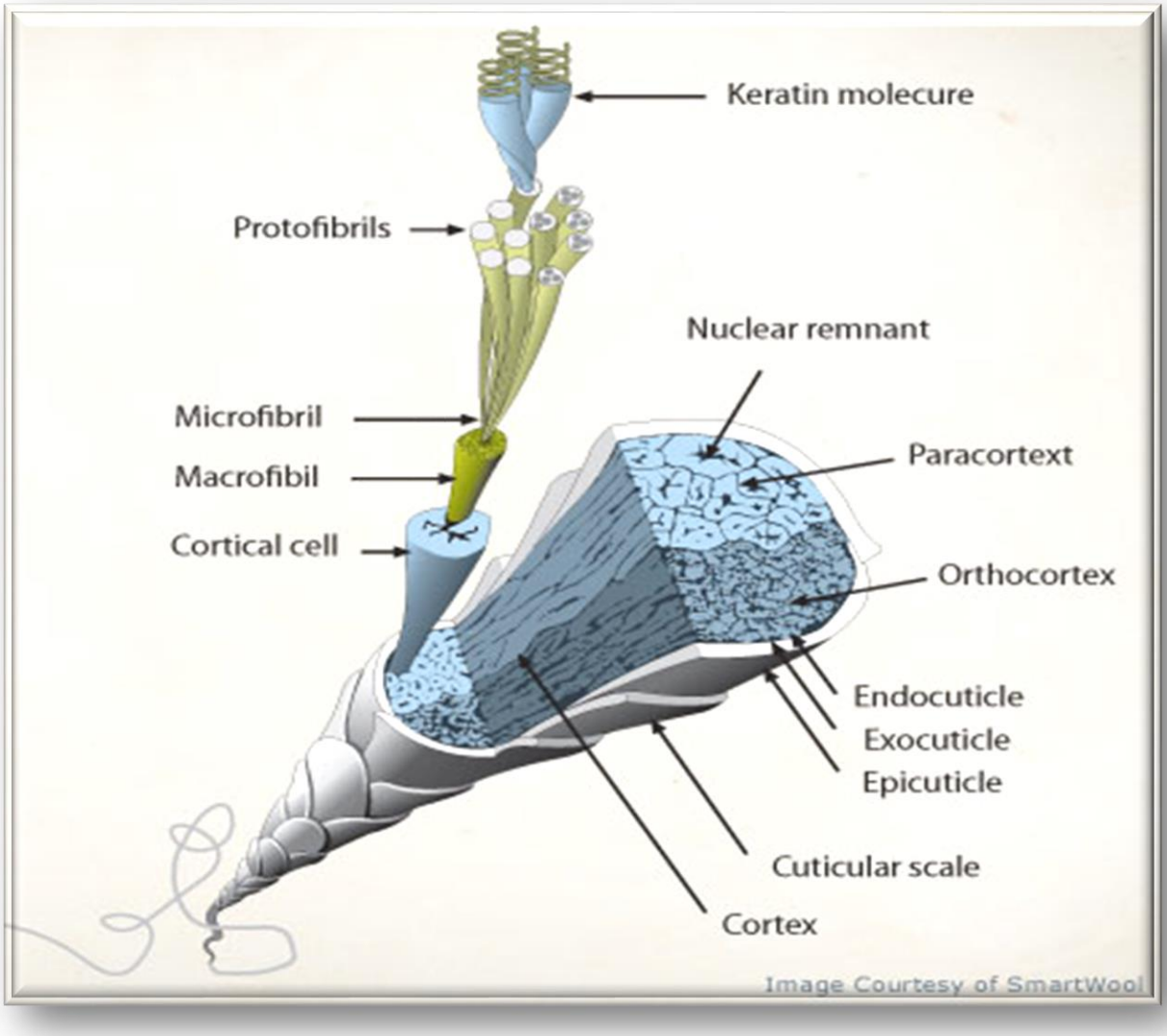
WOOL CAN:

Wool can be stretched to 30% without breaking. It can be absorbed up to one third of its weight in moisture. It has an outer membrane which repels water. It has a natural and high affinity for tufts enabling it to be dyed to the deepest and richest of colors. It is inherently flame retardant, difficult to ignite and self-extinguishing. It can have the ability to absorb moisture which means that pressure marks disappear completely when the fiber is gently moistened and allowed to recover naturally. It is the most versatile fiber known to man and it is used for:

Clothing	Blankets	Upholsery	Wall Coverings
Carpeting	Protective Garments	Shoe Linings	Tennis Ball Coverings
Industrial Felts	Filters	Mulch Matting	Insulating Materials

Wool is Natural ~ Wool is Beautiful ~ Wool is Practical ~ Wool is Durable
Wool is Safe ~ Wool is Good for the Environment

Wool Is A Very Special, Complex, and Versatile Textile Fiber



- Wool carpets have outstanding easy-care properties. Excellent soil resistance as well as clean ability, dry and wet, are characteristics inherent in the fiber and are not achieved by chemical treatments.
- The natural soil resistance of 100% wool and high-wool blend carpets generally mean that additional application of anti-soil agents is unnecessary.
- These agents do not affect the natural aesthetics, hand wear, or color fastness of wool carpets.
- Protective finishes tend to have limited durability on wool carpets and can cause problems with differential soiling and spot removal when partly worn.
- Silicone -based finishes should not be used because of their generally adverse effect on the soiling properties of wool carpets.

Carpets and Allergic Reactions in People ~

- Allergies are widespread in the developed world and the incidence is increasing for two main reasons: A greatly increased number of synthetic substances produced, and the improved diagnosis of allergic conditions.
- Wool fibers are too long and too course to be inhaled and therefore do not affect asthma suffers. Wool can help trap the dust particles in its minute scales and hold them until vacuumed.
- Wool is non-allergenic fiber and does not promote the growth of bacteria or dust mites or give off harmful emissions.
- The most common single cause of asthma is sensitization to house dust, or more precisely to the dust mite (Dermatophagoides pteronyssinus) and particularly its waste product.
- Dust mites feed on human skin flakes and live mainly in mattresses and similar warm and dark places. Bed making will make them airborne so they will be found in the floor dust, mainly in bedrooms.
- Carpets are one of the materials blamed for the incidence of allergic reactions and medical opinion tends to favor the use of hard floors in bedrooms. But hard wood floors do not hold the dust, they allow it to float around.
- Cumulative evidence now suggest strongly that wool carpet has a beneficial effect on people's health, provided of course that they are maintained regularly and properly.
- Research carried out in Sweden in the mid 1970's showed that when schools without carpeted floors were compared, the carpeted schools have fewer problems with allergy suffers.

The Customer……

When a customer selects a new carpet, seaming SHOULD be discussed.

Does the customer really want to SAVE money on less carpet and create more seams and the possibility of being dissatisfied?

Is the customer advised and given education options?

When just a few dollars more will avoid unnecessary seams, WHY opt for an inferior installation? There are some carpets in the market in which cross grain seams should NEVER be constructed.

The purchase of floor covering lasts for years and so should the BEAUTY of a good installation.

CUSTOMER COMPLAINT…. “I can see my seams”

EFFECTS OF LIGHTING ON SEAMS:

Carpet reflects light. Whenever possible, natural lighting should fall with the seam and NOT across the seam. Many things enter how the light source will affect the appearance of the seam… such as location of the windows and doors, the pile height, the pattern and variegated shades of the carpet, and the type of incident lighting that the carpet receives.

IT IS TOO LATE TO DISCUSS THE EFFECT OF LIGHTING ONCE THE SEAMING BEGINS!

CUSTOMER COMPLAINT…. “My carpet seams are peaking”

Explanation: Seam peaking, seam hinging and seam elevation are inherent characteristics of all seams. This occurs when the carpet is stretched. The hinging motion allows the seam to become elevated, which in turn creates the peaking effect.

PREPARE THE CUSTOMER THAT SEAMS SHOW!

SOME ARE JUST LESS VISABLE THAN OTHERS !

SEAMS ARE TO BE POSITIONED SO THAT…….

1. Main traffic runs along, rather than across the seam.
2. Natural light does not strike across the seam, whenever possible.
3. Seams are not constructed perpendicular to doorway openings
4. Seams are constructed away from the major traffic flow.
5. Seams are positioned away from the areas subject to pivotal traffic.
6. Cross grain seams are kept to a MINIMUM.

RESULTS OF AN IMPROPER CUSHION

1. Bubbles, buckling or looseness of the carpet.
2. Delaminating is when the primary backing releases from the secondary backing; bubbles or looseness appear which cannot be removed by stretching.
3. Furniture indentations: This is caused when heavy furniture comes in contact with face pile. This is noticed when the furniture is periodically moved and the indentations remain. With extremely heavy articles, indentations are inherent characteristic.
4. Fatigue: A very soft cushion will create a feeling of walking in sand.

An improper cushion will contribute to undesirable seams, bubbles and wrinkles. It can be re-stretched numerous times, but it will never be corrected. This is not an installation problem; it is the result of the incorrect choice of cushion. Industry standards recommend that the cushion thickness for a residential application is 7/16 inch and should not exceed ½ inch. For a commercial installation or heavy backed carpets, 3/8 inch is recommended.

Before making a determination, thoroughly discuss the proper cushion for the carpet to be purchased based on the carpet to be used and the amount of traffic and wear that it will receive.

Too often the cushion that is sold to support the carpet should *only* be used for upholstering furniture. If your uncertain, take a section of the light urethane cushion and rub it together with your hands. You will notice that the cushion will disintegrate. This is exactly what occurs when tennis shoes or crepe soled shoes are rubbed over the carpet. The cushion will disintegrate, and the carpet is left

without support, which contributes to the wearing process of the carpet. Serious attention should be given to the type of cushion selected for each purchase.

POWER STRETCHING….

It makes no sense to install new carpet and not require that the work be properly performed. If an installer arrives at a home or office without a power stretcher…

QUESTIONS SHOULD BE ASKED

If the carpet is to be direct glued to the subfloor and is patterned material, there is even a possibility that a power stretcher will be used to match the patterns. Otherwise, it is not required for this type (direct glue) of installation method.

If the installer says the carpet can be sufficiently installed with a knee kicker – this is incorrect. Knee kickers are only to be used to position the carpet. The result of this method will be looseness, bubbles, wrinkles and an unacceptable installation. The outcome of this may not appear till later even as much as six months or more.

Characteristics of Improper Cushion

Installing new cushion over existing cushion is NOT recommended. An improper cushion will contribute to undesirable seams, bubbles, wrinkles, furniture indentations, delamination, early break down of the backing of the carpet, difficulty vacuuming, matting and crushing of the fibers. It also reduces the life expectancy of the carpet and will cause fatigue.

For heavy commercial use:

TYPE	DENSITY FACTOR
Healthier Choice	no less than 12 pounds
Flat rubber cushion	no less than 21 pounds
Rubberized hair jute	no more than 32 oz.

Always remember, one type of cushion is not suitable for ALL applications. Special consideration is to be directed to the substrate as well as the use. Realizing that one product does not fulfill all requirements.

When installing natural fiber carpet, i.e., tufted and woven wools; it is not recommended to use rebond padding at any weight, for any reason with these products, due to the fact that it is a petroleum-based product. The glue in the rebond emits vapors causing the pad and the carpet not to be compatible. Some of the tufted products will delaminate and can cause wrinkling. Some of the tufted as well as the wovens, will soften, wrinkle and could cause the yarn to loosen. It is not the “wool” that is not compatible with the pad it is the jute that is the secondary back on tufted products, and the jute stuffer yarn in the woven products that is not compatible.

The function of the cushion is to support the backing of the carpet and to deflect the load the carpet will receive. A firmer product will always provide more support for areas that will receive heavy or rolling traffic, such as office chairs, wheelchairs, or kitchen table chairs. If the cushion is too soft, it will NOT support the backing of the carpet. It will allow the carpet to stretch. This condition will occur in heavy traveled areas and pivotal points. Prior to selecting the cushion, evaluate the traffic load.

In the majority of circumstances, a low profile and dense cushion will provide better protection for the carpet. Generally, carpet that is glued down to the floor will result in a loss of pile height much sooner than one that is installed over a quality cushion.

Remember: Problems that are the direct result of an improper cushion are NOT installation related.

Bubbles, Looseness, Buckles & Wrinkles

Correction:

If incorrect cushion was installed, it must be replaced! However, the installer can remove the bubbles or looseness, but the work cannot be guaranteed. The problem will surface again.

A power stretcher MUST be used; a knee kicker will not stretch the carpet. In many cases, because of the carpet backing, it may be necessary to install two pieces of one-inch wide tack strip or architectural tack strip to stretch the carpet sufficiently.

The installer is to power stretch the room in all four directions. The room is to be completely empty of all furniture. The installer should be prepared to reconstruct the seams. (Note – if Kool Glide iron was used, this procedure will be much easier.)

When the proper procedure is followed, the cost should be the same or more than the original installation. The restretch work should carry a minimum of one-year warranty on this installation, IF the correct cushion is used. If not, the work cannot be guaranteed, and the problem will reappear.

Delamination

This is when the primary backing releases from the secondary backing, causing bubbles or looseness to appear – which cannot be removed by stretching.

Correction:

The installer should push the bubbles to the wall. If this is possible, the carpet has not delaminated, but requires additional stretching. However, if the bubbles suddenly stop and the installers hand moves over the bubbles, this indicates delamination. If the condition is not severe, the carpet can be removed from the tack strip and folded back. Latex is to be applied to the delaminated or loose area. A heat gun may be used to accelerate the drying of the latex. The carpet is then to be reinstalled. This type of repair is for small areas of delamination. If delamination occurs in a large area or several areas the carpet could be classified as defective.

Furniture Indentations

The backing becomes stretched when heavy furniture comes in contact with the face pile. This is noticed when the furniture is periodically moved, and the indentation remains. With extremely heavy articles indentations are inherent characteristics.

Correction:

Indentations may be removed by applying steam. Wool fibers can be lifted and restored to an acceptable appearance. If the condition is severe, this action may not work. Remember, if the cushion is too soft or too thick, this corrective procedure will have no effect. To eliminate future problems, the cushion will require replacement.

Fatigue

A very soft cushion will create a feeling of "walking on sand" and make one tired. Too many times, the customer is sold on the idea that they need a "cushion into which they can sink into". This is a misconception. A firmer cushion will provide the qualities that are discussed in this section.

Correction:

The only solution to this problem is to replace the cushion with a denser product.

Carpet Fibers Are Matted & Crushed

The face fibers are receiving the constant load, which is causing matting, due to the cushion being too soft. The correct cushion will enhance the appearance of the carpet and support the backing, which increases the durability of the product.

Correction:

The only solution to this problem is to replace the cushion with a product that is recommended for the type of installation involved.

Splitting or Seams Opening

This happens because of the vertical movement in the soft cushion. The seaming tape can split. This is not an installation related problem if an incorrect cushion has been used. A "trampoline" effect has been created causing this.

Correction:

The furniture is to be removed from the room and the carpet removed from the tack strip. Remove the existing seam tape, reconstruct the seam and reinstall the carpet. However, this is a temporary repair because the cushion allows too much movement. The situation will occur again.

Soil Barriers:

To reduce the rate of soiling, use walk off mats at entrances to buildings to scrape both grit and moisture from shoes. Additional rugs or mats should be laid inside the entrances, especially during bad weather, to remove the fine particles of dirt which causes most of the discoloration of carpets. These soil traps or barriers should be cleaned frequently so they themselves don't become a source of soil. High traffic areas such as lobbies and elevators should be given priority attention with frequent vacuuming. This will reduce the maintenance time and cost for carpet in more remote locations.
In areas where spillages regularly take place (i.e., coffee break areas, bars, restaurants) or heavy traffic areas (i.e. main entrances, elevators, service areas) a soil retardant or stain repellent finish may be used. It can be applied either by the carpet manufacturer or after the carpet has been laid. Only fluorochemical compound finishes should be used. Compounds containing silicones must not be used because accelerate soiling. (Note: some carpet manufacturers do not accept responsibility for complaints when such topical treatments have been applied.) Because wool is a uniquely soil retardant fiber, the application of a fluorochemical finish is only justified on the very lightest and most soil sensitive colors.

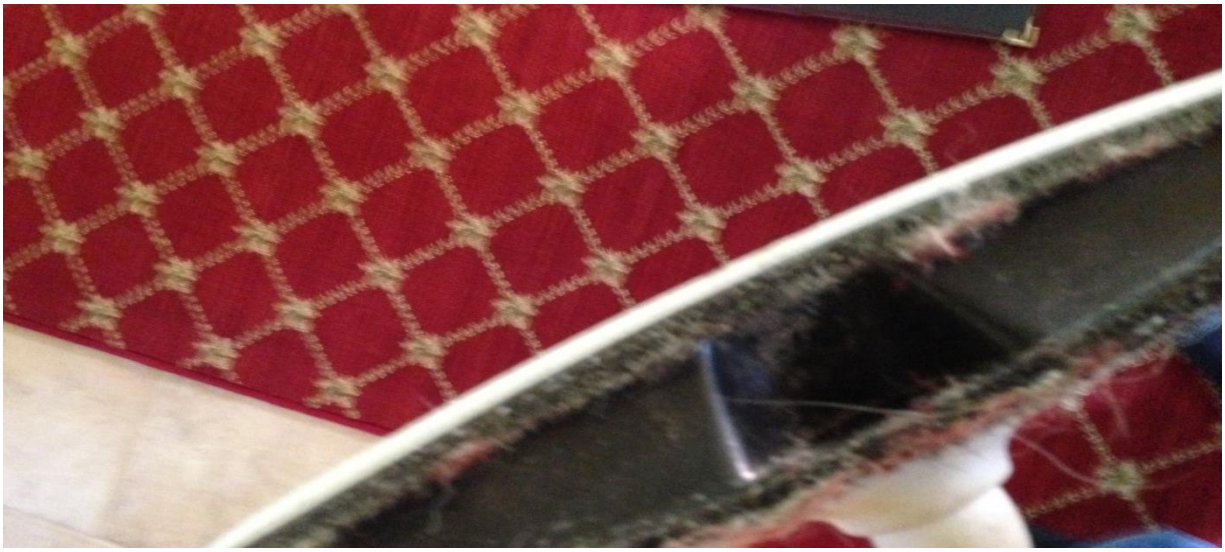
Vacuuming

Regular vacuuming: Routine carpet maintenance is made up of two elements: vacuuming and spot cleaning. Proper vacuuming on a regular basis is the most important of all cleaning procedures and is essential to obtain the longevity of wool carpet. A floor plan highlighting the heavy traffic areas should be part of the maintenance program. These heavy traffic areas should be vacuumed daily; medium traffic areas once or twice a week as determined by appearance. Thorough vacuuming requires that the vacuum move slowly back and forth over the areas several times (3 to 4 times in heavy areas). It is also important to ensure good suction, and that the vacuum bag is emptied frequently.

There are two main types of vacuum cleaners: plain suction and suction plus revolving brush/beater bar. An upright heavy duty with rotating brush/beater bar is recommended for cut pile carpets. Suction only types are best for wool carpet, whether it is a cut pile or a loop pile construction. Begin your vacuuming program as soon as the carpet is installed, unless the carpet is direct glue, then wait at least 72 hours.
Using a beater bar will cause the carpet to fuzz. The only way to repair that is to have the carpet micro sheered.

Important: Carpet cleaning should not happen for a minimum of 30 days.

Example of Improper Vacuum: **This picture illustrates how fragile wool yarn is. This vacuum, even though only suction, it has a brush around the perimeter of the head, and you see how much yarn was pulled out. Wool is a staple yarn, but wool is also more durable and will last longer than any synthetic carpet.**



Example of Improper Vacuum: **This picture illustrates what a beater bar vacuum will do. Should use suction only vacuum without a brush. Although this can be corrected with a tip shearing machine.**

SPOT REMOVAL CHART (THE VERY FIRST STEP SHOULD ALWAYS BE TO SCOOP UP OR BLOT EXCESS)

Spot	Order of Treatment			Other Treatments
Alcoholic beverages	1	2	-	
Bleach	1	2	-	
Blood	1	2	-	
Butter	4	2	-	
Candle wax	10	4	-	absorbent paper & hot iron
Chewing gum	5	4	-	
Chocolate	2	4	-	
Coffee	1	2	6	
Soft drinks	1	2	-	
Cooking oils	4	2	-	
Cream	2	4	-	
Egg	2	13	-	
Feces	2	3	13	
Floor wax	4	2	-	
Fruit juice	1	2	-	
Furniture polish	4	2	-	
Gravy and sauces	7	2	-	
Ink (ballpoint)	9	2	-	
Ink (felt tip)	7	2	8	
Lipstick	4	2	-	
Milk	2	4	-	
Mustard	2	-	-	
Nail polish	8	4	-	
Oil and grease	4	2	-	
Paint (oil)	12	4	-	
Paint (acrylic)	1	2	4	
Rust	6	2	-	
Salad dressing	2	4	-	
Shoe polish	4	2	-	
Soot	11	4	-	
Tar	12	4	-	
Tea	1	2	6	
Tomato Sauce	7	2	-	
Urine (fresh)	1	2	3	
Urine (old)	13	-	-	
Vomit	2	3	6	
Wine	1	2	6	
Unknown substance	4	2	-	

1. Cold water - blot
2. One teaspoon wool detergent, one liter of warm water.
3. Clear household disinfectant
4. Dry cleaning solvent, such as Murlex – WoolClean Spot removal *
5. Chill with aerosol freezing agent or ice cubes in a plastic bag. Pick or scrape gum.
6. 1/3 cup of vinegar and 2/3 cup water
7. Warm water- always blot
8. Clear nail polish remover (preferably acetone)
9. Alcohol or mineral spirits
10. Place absorbent paper over wax and apply hot iron to paper - wax will melt and be absorbed
11. Vacuum clean
12. Mineral turpentine
13. Seek professional carpet cleaner.
14. www.woolsnz.com

TROWEL SIZE - MINIMUM GUIDELINES

For Direct Glue Down Installation

Carpet Backing	Adhesive Type	Notch Width	Notch Depth (in Inches*)	Space Between	Notch Shape
Jute	Latex				
Rubber (foam & sponge	Latex				
Polyurethane Cushion	Latex	3/32	3/32	3/32	V, or
Jute/Vinyl	Vinyl	1/8	1/8	1/8	U
Vinyl/Foam	Vinyl				
Vinyl/Slab	Vinyl				
Vinyl/Coated	Vinyl				
Polypropylene Secondary	Latex	1/8 1/8	1/8 1/8	1/16 1/8	V, or U
Unitary	Latex	1/8 1/8	1/8 3/16	1/16 1/8	V, or U
Woven	Latex	1/8 1/8	1/8 3/16	1/16 1/8	V, or U
Hot Melt	Latex	1/8	1/8	1/8	U

For Double Glue Down Installation

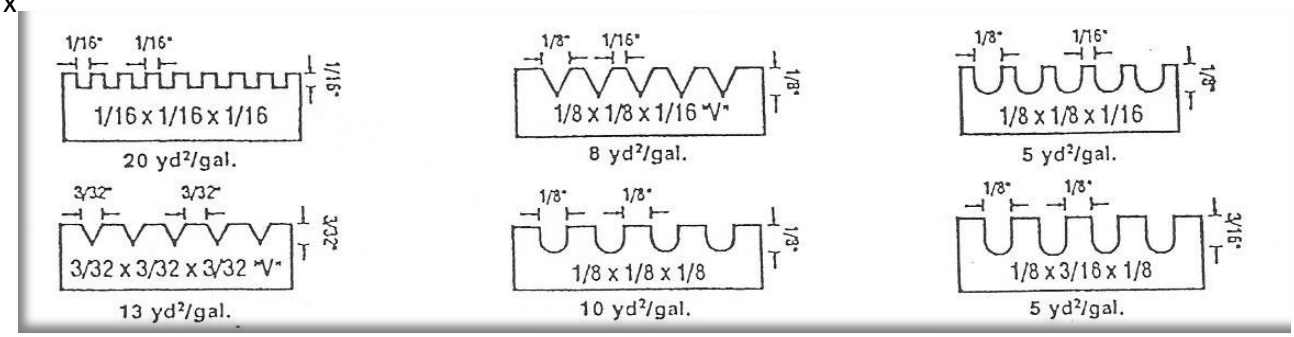
Between Floor and Cushion						
		Latex	1/16	1/16	1/16	SQ
Between Cushion & Carpet						
	-Smooth back carpet	Latex	1/8	1/8	1/16	U
	-Rough back carpet	Latex	1/8	3/16	1/8	U

*To convert dimensions to metric: 1/32=0.8mm, 1/16=1.6mm, 3/32=2.4mm, 1/8=3.2mm, 3/16=4.8mm

Note: The above guidelines should only be used when specific recommendations are not available from the carpet manufacturer and/or the adhesive supplier. Rough, porous concrete surfaces and heavily textured carpet backs may require a trowel with deeper notches than listed above. A 100% transfer of floor adhesive into the carpet backing while maintaining full coverage of the floor must be attained.

Actual size trowel notch and approximate spread rate

x



HAND WOVEN CUT PILE

Using an awl and pliers, begin deconstructing the seam edge, exposing 1 1/2 inches of weft yarn.

Apply a heavy bead of premium rubber-based latex on the seam edge, covering the chain stitch and folding the weft yarns down.

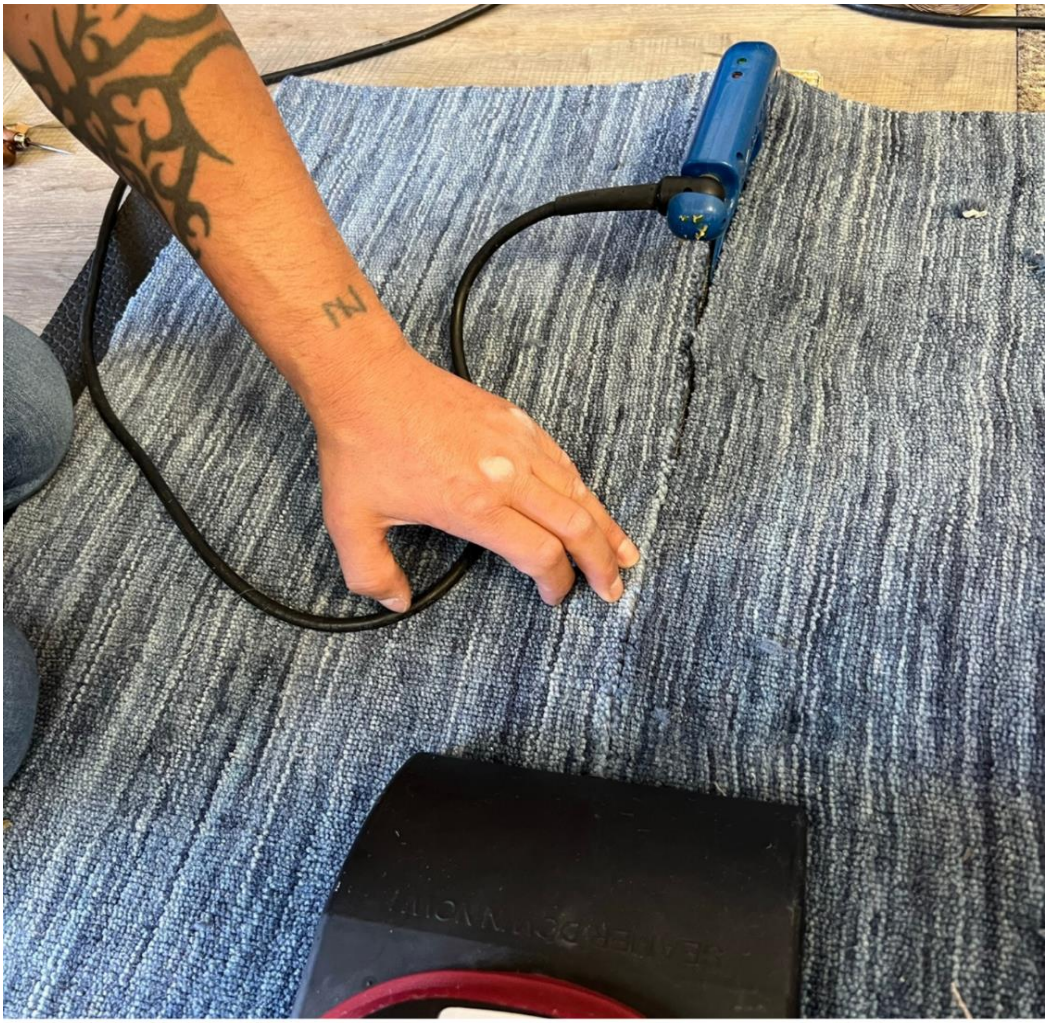
Apply a heavy bead of latex and spread it out, covering the entire 2" surface

Run a bead of latex on the edge of the backing, then fold the weft yarns into the latex.

Fold the primary backing into the wet latex, applying pressure and smoothing it out.

After the latex dries, trim off the excess primary backing.

Run another bead of latex, making sure the chain stitch is completely encapsulated.



Use a premium low-melt seam tape with your iron set no higher than 2.5. Always use a seam roller and applied pressure for maximum glue transfer.

The importance of understanding the construction of the product is as important as the installation itself. Understanding how to manipulate the product when needed to have it conform to its surroundings is essential.
Acclimation is a very important step in achieving this goal. Carpet should be cut and laid in the area it is to be installed, for a minimum of 24 to 48 hours before installation. Always add 3 inches to each cut, and when patterns are involved 3 inches plus full pattern should be added.

HAND WOVEN

The Hand Woven is the simplest form of a weaving loom. There is however a wide variety of texture and color effects that can be produced with either loop or cut pile of varying heights.

Hand Woven carpet yarns all appear on the face of the carpet. That means all the yarn is used to form the pile. Bulk is obtained by the warp, and stuffer yarns.

Variations in the grades of Hand Woven depend on the number of weft or shot yarns used per row of tufts to bind the yarn in place. The most common is a two shot construction; that is, each row of tufts is held by two shots of the weft yarn. Hand Woven carpeting may be multi-colored or solid.

Installation Guidelines for Hand Woven Carpet:

HAND WOVEN

Stretch-in Installation:

1. **Hand Woven carpet** - Tack strip to be used for Hand Woven is architectural strip with 3 rows of pins to “Tri tack” with 3 rows of pins.

1.2. **Architectural strip** with three rows of pins or two conventional strip with two rows of pins each, must be used for carpet with heavily latex backs, for most woven and Berber style carpet, and for any carpet in rooms exceeding 30 feet (9m) in length or width. To prevent possible injury to building occupants, the pins on tack strip must not protrude through the carpet be installed.

2. **A firm** should be used, preferably felt, horse hair, wool, rubber, Kaleen Pad, or Healthier Choice (frothed polyurethane foam, Greengard). Note: A soft pad will create looseness and give no support to the carpet. It is not recommended to use masking tape, due to the paper drying out over time. It is also not recommended to use duct tape, because over time it will cause an

unevenness from the pad wearing out on each side of the tape. This is the reason it is recommended to use duct tape on stair nosing, to keep the pad from wearing.

2.1 **To seam** Hand Woven use hot melt iron with premium seam tape. All methods require sealing with latex. Seam sealing is **mandatory!**
Carpet edges at seams must be trimmed using tools and techniques best suited for the carpet style (i.e. loop pile, cut pile and cut & loop pile). Trim edges far enough into the material to maintain the structural integrity of the carpet and to join edges without gaps or overlapping. Note: Although "row-cutting" both edges is preferred, other trimming techniques may be more suitable on some carpet. Many carpets do not lend themselves to all methods of cutting. Some woven carpet selvages must not be trimmed.

2.2 **Prior to seaming**, both trimmed edges of the carpet sections to be joined must be sealed with an appropriate seam adhesive. Latex seam sealer is acceptable.

Direct Glue Installation:

3. **Direct Glue** – The minimum trowel notch for direct gluing of Velvet is 1/8"x1/8"x1/8" U notch trowel.

Prior to installation the following conditions should be considered:
Carpet must be installed when the indoor temperature is between 65-95 degrees F (18-35 degrees C) with a maximum relative humidity of 65%. If ambient temperatures are outside these perimeters, the installation must not begin until the HVAC system is operational and these conditions are maintained for at least 48 hours before, during and 72 after completion.

3.1 **Before making an adhesive installation,** the owner or GC, or their designated testing agent, must submit to the flooring contractor a written report on the vapor emission level and the surface alkalinity of the concrete subfloor.
4. **Moisture** – Concrete floors, even with adequate curing time, can present an unacceptable moisture condition by allowing excessive amounts of moisture vapor to pass through to the surface. This can be a problem even on suspended concrete floors. Test all concrete floors for moisture emission rates using a hydrous calcium moisture test kit. This quantitative test method must be conducted carefully in strict compliance with ASTM Test Method F 1869. Moisture emission rate is measured in pounds of moisture over a 1000 sq. ft. area during a 24 hour period. Because calcium chloride testing requires a minimum of 60 hours to conduct, proper installation planning is required. As a general guideline, an emission rate of 3.0 lbs. (1.4kg) or less is acceptable unless otherwise specified by the carpet manufacturer.

5. **Alkalinity** – A pH range of 7-9 is satisfactory for alkalinity, however a reading above 9 requires corrective measures. Perform testing in accordance with ASTM Standard Practice F-710 or consult the adhesive manufacturer for recommended testing and corrective procedures.

6. **Adhesive Installations** – The owner or GC must have a concrete subfloor tested to determine the moisture emission rate and surface pH prior to installation. Caution: Any concrete floor, even when adequately cured and dry, can allow moisture vapor to pass through to its surface. Depending upon the type of carpet and method of installation, the moisture emission rate greatly influences the long term success of an installation. The use of a properly installed, uncompromised, approved moisture membrane is essential in preventing moisture migration into and through a concrete slab (Ref. ASTM F10).

7. **Relaxing/Acclimation** – To minimize wrinkling and buckling, and to facilitate installation, it is highly recommended that carpet be unrolled and allowed to relax in the installation area for a minimum of 24 hours at a temperature between 65-95 degrees F (18-35 degrees C). Carpet must be adequately protected from soil, dust, moisture and other contaminants. It is also recommended to pre-cut the carpet prior to acclimation.

8. **Ventilation** – During installation, maintain fresh ventilation using exhaust fans, and by operating the ventilation system at full capacity. Always exhaust air to the outside to avoid re-circulation. After installation, maintain fresh air ventilation for 48-72 hours at normal room temperature by operating the ventilation or exhaust fan system at full capacity. Open doors and windows, if possible. These procedures help exhaust, dissipate and eliminate lingering odors from the installation. There should be a minimum pf 18” of air space under wood sub-floors.

9. **Primers** – Using primers on floor surfaces generally is not required except for sanded wood sheet products, dusty, porous or acoustical concrete surfaces. Priming cannot overcome moisture vapor emissions and must not be used for that purpose. They must be compatible with adhesives, which should be applied only after the primer is cured. Where lightweight or acoustical concrete subfloor is present, refer to manufacturer’s recommendations for the proper installation procedure to use before the carpet is installed.

10. **Liquid adhesive removers** – There are a number of liquid adhesive removers available that effectively remove existing adhesive residue from sub-floors; however, there is evidence that some products may adversely affect the new adhesive or the new floor covering. Residues left in or on the concrete slab may cause failure of the new floor adhesive.

11. **Sweeping compounds** – These compounds may leave residue that interferes with adhesive bonding. They must not be used prior to an adhesive application. Vacuum dusty areas instead.

12. **Carpet layout** – Layout the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Align all carpet breadths to their proper position and trim seams.

13. **Adhesive application** – The floor adhesive must be spread uniformly over the subfloor with the appropriate trowel, leaving ridges of sufficient height to achieve full and complete coverage of the substrate and carpet backing, including penetration into the backing's deepest recesses

14. **Trowel notches wear down during use**. Maintain a clean and properly notched trowel throughout the installation process. After sufficient open time, the carpet must be pressed into the adhesive and rolled with the appropriate weight roller, as specified. Caution: Bond failure most often is caused by: inadequate adhesive application from the incorrect trowel notch size and/or trowel notch configuration * improper adhesive selection or quality * incorrect open time * residual curing and parting compounds * moisture related issues * premature traffic or cleaning before adhesives have adequately cured.

15. **Open time** – Appropriate open time varies depending upon environmental conditions, subfloor porosity, carpet backing system and adhesive type. Refer to the manufacturer for recommendations regarding open time.

16. **Seam adhesive** (sealer) – An appropriate direct-glue seam adhesive must be applied to the edges that are trimmed for seaming and cover the thickness of both the primary and secondary backing without contaminating the face yarns. The seam adhesive is applied to the cut edge of one side only, that side being the first one placed into the floor adhesive. When the edges are butted together to form the seam, and while the seam adhesive still is transferable, this seals the first edge as well as the second.

17. **Rolling** – After sufficient adhesive application and open time, the carpet must be pressing into the adhesive and rolled with the appropriate roller. Rolling must be performed with the lightest roller that achieves full and complete coverage of the substrate and carpet backing, including penetration into the backing's deepest recesses. The roller for direct glue installation should be no more than and no less than 75 lbs.

18. **All seams** should be sealed with the appropriate seam sealer. The roller to be used should no more than and no less than 75 lbs.

Double Glue Installation:

19. **Acclimation** (relaxing) carpet – Site conditions, environmental and ventilation conditions become even more important when performing double glue installations. In double glue installations, a separate cushion is adhered to the subfloor and the carpet is glue to the cushion

20. **Cushion installation** – Cushion must be installed in the longest continuous lengths possible with consideration to traffic patterns and carpet seam placement. Cushion seams must be at a right angle (90 degrees) to carpet seams or offset at least six inches. Cushion seams must be butted without compression, leaving no gaps.

20.1 It is important that the glue have time to off gas and set up. Without time for off gassing, bubbles can appear anywhere from immediately to 6-12 months after installation. The glue should be tacky to the touch, but not transfer onto your finger, (pressure sensitive glue).

20.2 The recommended pad to be used for double stick installation is a 21 lb. rubber slab pad, Kaleen Pad, or Healthier Choice pad. Felt pad and wool pads are NOT recommended for this type of installation.

21. **Carpet layout** – Layout the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Align all carpet breadths to their proper position and trim seams. Care must be taken to avoid cutting into cushion under seams.

22. **Trowel size** for double glue installation, is as follows:

> Pad to floor using pressure sensitive glue is 1/16”x1/16”x1/16” square notch trowel.
> Carpet to pad with a smooth back carpet, use a 1/8”x1/16”x1/8” U notch trowel.
> Carpet to pad with a rough back carpet, use a 1/8”x3/16”x1/8” U notch trowel.

23. The proper roller recommended for a double glue installation is a 35-50 lb. roller. Carpet should be rolled in both directions. After 2-3 hours, the carpet should be rolled again.

24. **Pattern adjustment** – Pattern adjustment during installation is possible and should be anticipated.

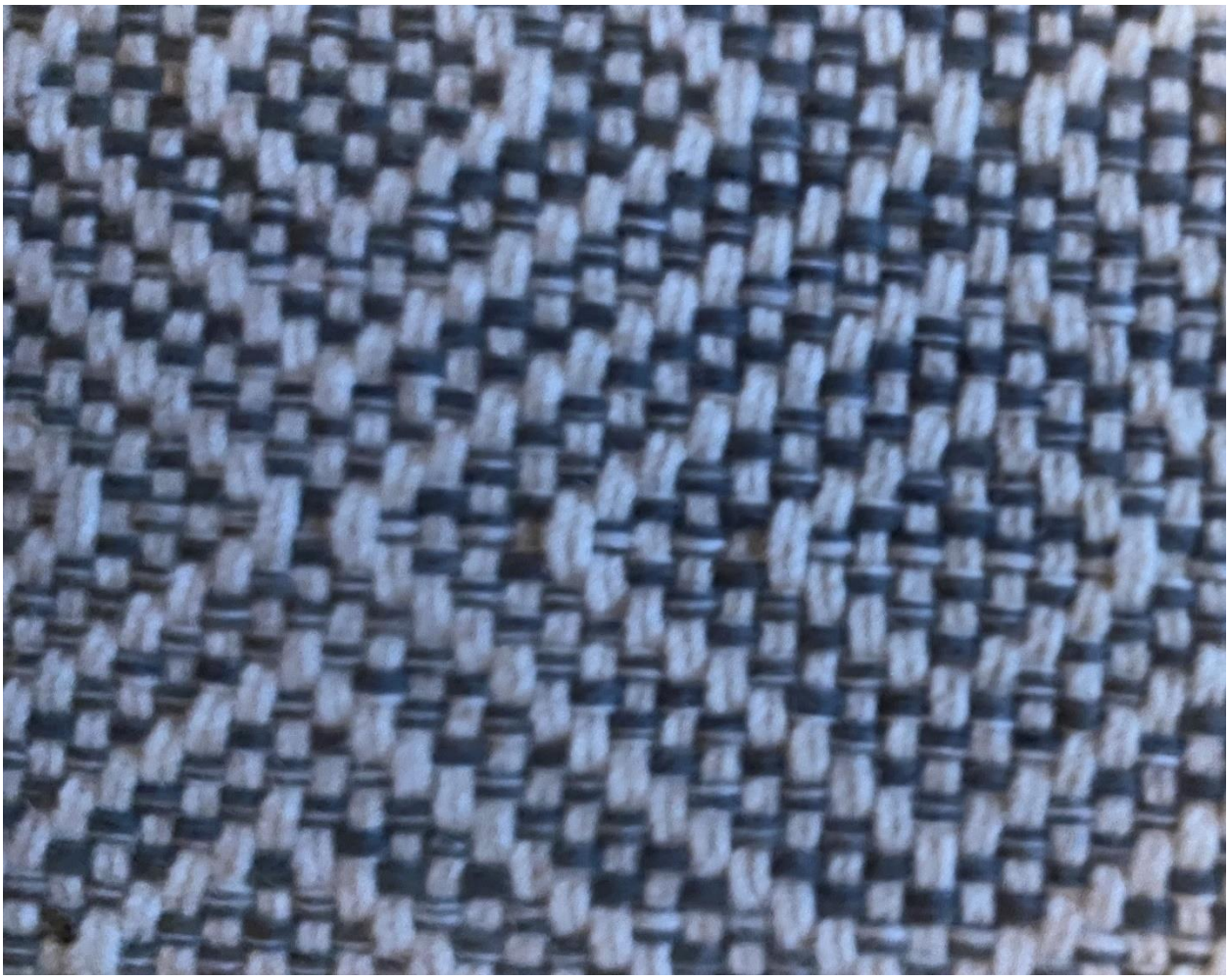
25. **Pattern alignment** – Match the pattern at the midpoint of the seams length. Work from the seam’s midpoint to the seams ends, bringing the pattern into register using appropriate tools that might include; power stretcher * knee kicker * dead man * “dry” line * stay nails * crab stretcher.

26. **Curing adhesives** – It is highly recommended that traffic over field applied adhesive installation be restricted for a minimum of 24 – 48 hours to allow adhesives to cure properly. Premature trafficking can cause installation failure. Restrict carpet exposure to water from cleaning or other sources for a minimum of 30 days.

27. **Materials for protection** – If required to protect the finished floor covering from soil or paint, or if additional work is to be done after the installation, cover it with a non-staining building material paper. Protect the installation from rolling traffic by using sheets of hardboard or plywood in potentially affected areas. Caution: Do not place plastic sheeting over any carpet installation because it may present a slip hazard and may leave residues that result in rapid soiling after removal. In addition, it may trap moisture, which may promote mold growth, and retard adhesive curing.

28. **Maintain temperature** – Do not allow the temperature of indoor carpet areas to fall below 50 degrees F (10 degrees C), regardless of the age of installation.

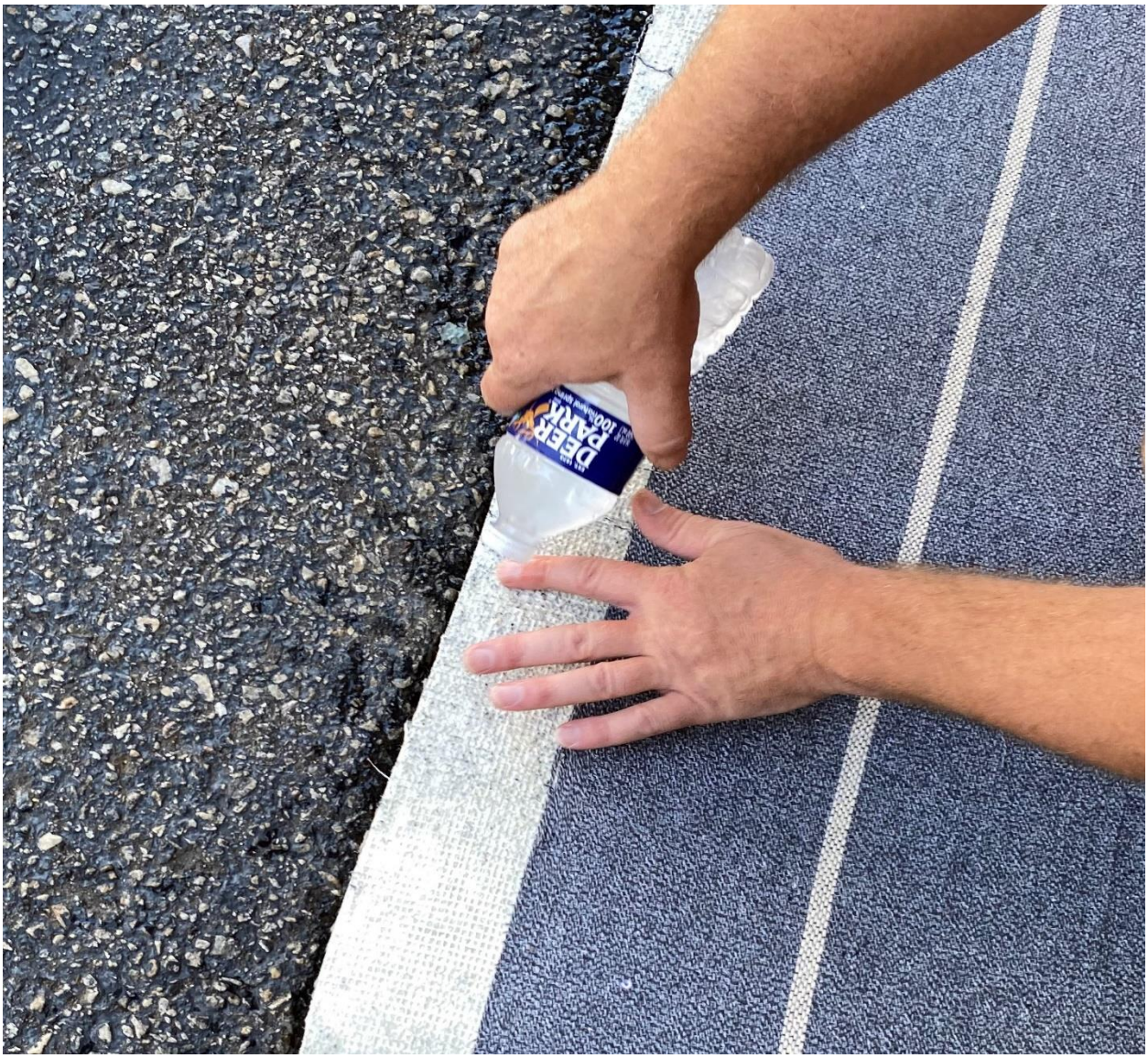
HAND WOVEN 100% WOOL LOOP PILE



Use an ice pick or sewing needle to pick out yarn to create a selvage edge by folding yarns under onto the back and glue with latex

Pick out about an inch to an inch and a half to be able to fold over and glue to the back

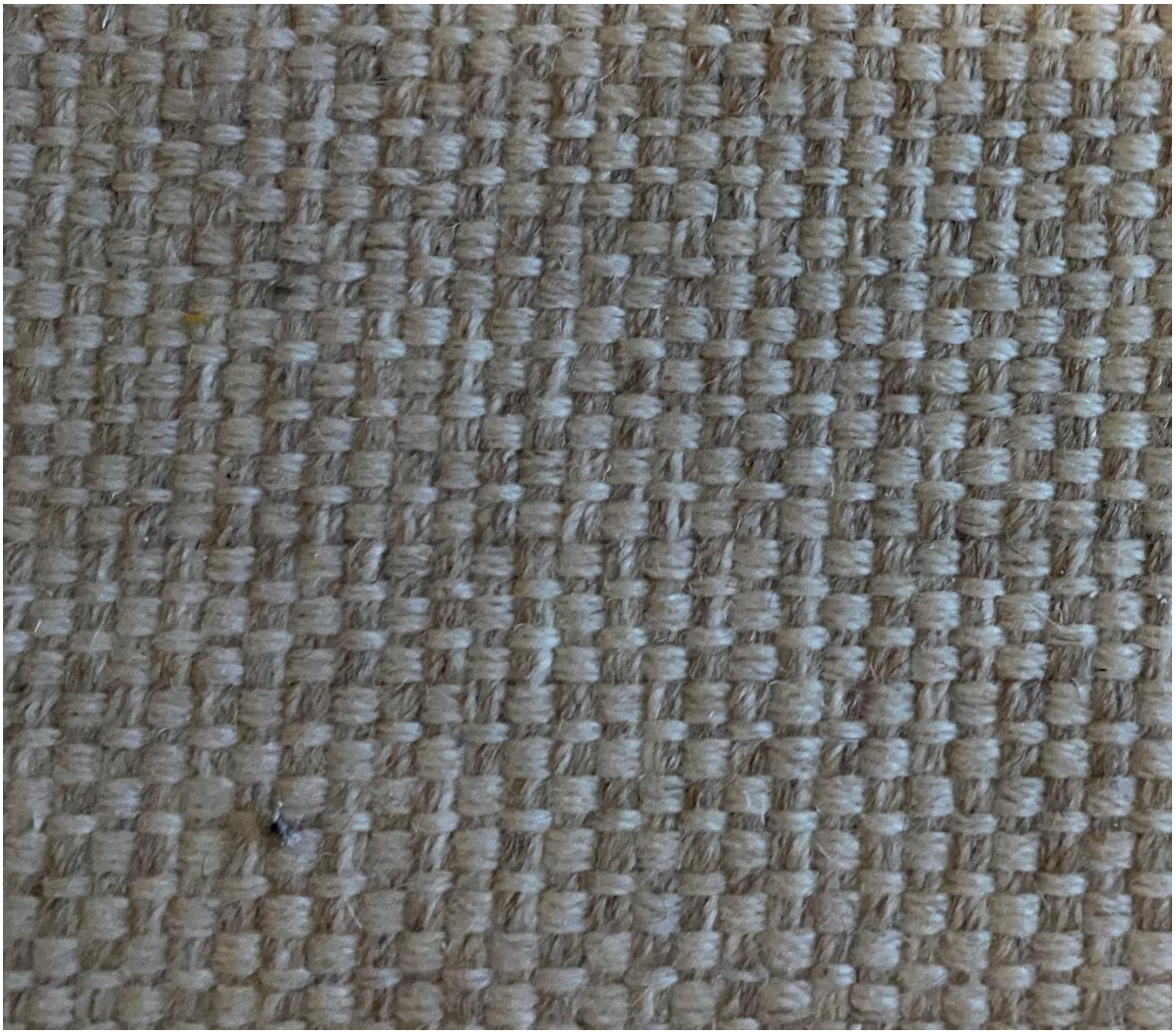
Use ice pick to separate the yarn from the secondary backing



Use water to break down latex in the backing

Holding the yarn out of the way. Use scissors to cut backing off so that yarn can be folded over and glued to the backing

HAND WOVEN 100% WOOL LOOP PILE



Pull warp yarns out approximately 1 ½ inches, leaving weft yarns loose to fold under for gluing to the backing

Before folding yarns under use the back of your knife and scrub the dry latex of the weft yarns

After scraping off old latex, cut off secondary backing then glue yarns to backing

Use seaming iron with thermostat on 2 using heavy tape

JACQUARD 100% WOOL

Using a ice pick, pull yarn out to construct seam

Pull 1 inch to 1 ½ inches to fold over and glue on backing

After yarn is pulled off to acceptable length, cut off secondary backing and fold yarn over and glue to the backing

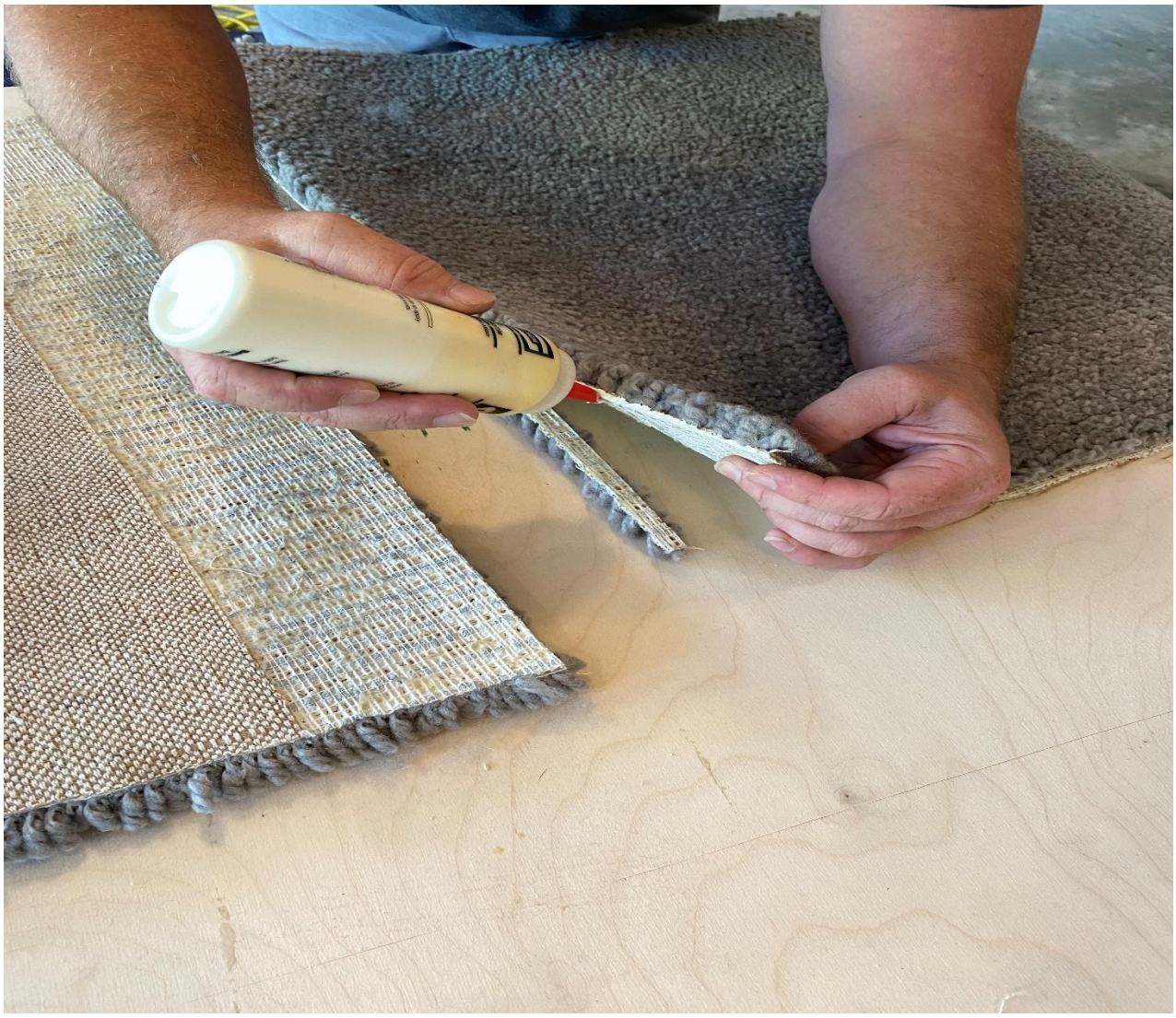
When seaming use seam tape with heavy glue and set iron temperature on 2, making a slow seam

The picture above shows half the sample seamed, and the other half the preparation.

HAND TUFTED 100% WOOL

There are no straight rows in hand tufted carpet. The tufts are inconsistent and need to be pulled out to create a straight row

Cut off the secondary backing when you have created a straight row of tufts. Ready to seal with latex



All seams should be sealed with latex

This product can be seamed with a seaming iron or hand sewn as seen here

The importance of understanding the construction of the product is as important as the installation itself. Understanding how to manipulate the product when needed to have it conform to its surroundings is essential.
Acclimation is a very important step in achieving this goal. Carpet should be cut and laid in the area it is to be installed, for a minimum of 24 to 48 hours before installation. Always add 3 inches to each cut, and when patterns are involved 3 inches plus full pattern should be added.

TUFTED WOOL

Stretch-in-Installation:

1.**Tufted wools** install differently than synthetic carpets, from the pad to the amount of stretch to be given the product. The amount of stretch on tufted wools is 1% in the width and 1% in the length, depending on the room size. Qualified installers know the amount of stretch by the pressure they put on the handle of the power stretcher – the power stretcher is mandatory ! When stretching across a seam there should be less stretch than if there was no seam, to lessen the amount of seam peaking. Rooms 29' and over, it is required that you use architectural tack strip, or double up standard tack strip. Pins should never show through the carpet. To avoid the pins showing through, you can cut the selvage off the side of the carpet and lay it across the tack strip to lower the pins.

1.2 **All seams** must be sealed with latex seam sealer to encapsulate both the primary and secondary backing. Care must be taken as to not get latex on the face yarn. Latex on the face yarn will draw dirt to the seam and cause a dark line to appear throughout the seam. Important: The sealing of the seams will help eliminate delamination and help with the tuft bind.

1.3 **Pad:** The proper pad for tufted wools with jute backing is most important, Petroleum based pad (rebond) should never be used. This type of pad will cause wrinkles, bubbles, delamination and seam separation over time. The pad recommended for this carpet is wool pad, felt pad, Kaleen Pad, or Healthier Choice pad (frothed polyurethane foam "Greengard")

1.4 **Seam peaking:** To repair a peaking seam you must empty the room of all contents; pull the carpet up back to the seam area, to where you can see the seam tape. Remove excess paper from the tape, use a lightweight sandpaper and rough up the tape. Next, cut out the pad approximately 1 ft. on each side of the seam, pull the pad up and then glue it back down. Next, glue the carpet to that area of the pad. Reinstall the carpet and add weight to the seam area

and allow the pressure to stay for 2-3 hours. This will allow the seam to lay flat. (To eliminate call backs, you can use this procedure when installing any low-profile carpet) The pad used for this procedure should be a pad used for double stick installation.

2. **Tack strip** must be a minimum of one inch (25mm) wide and ¼ inch (6mm) thick. Architectural strip with three rows of pins, or two conventional strips with two rows of pins each, must be used for carpet with heavily latex backs. Also, for most woven and Berber style carpet, and for any carpet in rooms exceeding 30 feet (9m) in length or width. To prevent possible injury to building occupants, the pins on tack strip must not protrude through the carpet being installed.

2.1 To avoid pins showing through, you can cut the salvage off the side of the carpet and lay it across the tack strip to lower the pins.

3. **A firm pad** should be used, preferable wool pad, felt pad, horsehair, rubber, Kaleen Pad, or Healthier Choice pad. A soft pad will create looseness and give no support to the carpet. It is not recommended to use masking tape, due to the paper drying out overtime. It is not recommended to use duct tape, because overtime it will cause an unevenness from the pad wearing out on each side of the tape. (Note: this is the reason it is recommended to use duct tape on stair nosing, to keep the pad from wearing in this high traffic area.)

3.1 **To seam tufted carpet** there are 3 methods to use; hand sewing, Kool Glide iron or a traditional iron. All methods require sealing with latex. Seam sealing is mandatory !

Carpet edges at seams must be trimmed using tools and techniques best suited for the carpet style, i.e., loop-pile, cut pile and cut and loop pile. Trim edges far enough into the material to maintain the structural integrity of the carpet and to join edges without gaps or overlapping. (Note: Although “row-cutting” both edges is preferred, other trimming techniques may be more suitable on some carpet. Many carpets do not lend themselves to all methods of cutting). Some woven carpet selvages must NOT be trimmed.

3.2 **Prior to seaming** both trimmed edges of the carpet sections that will be joined, edges must be sealed with an appropriate seam adhesive. Latex seam sealer. Seam adhesive must be applied in a manner that encapsulates both primary and secondary backings. Caution: Failure to properly seal seam edges often result in; edges raveling * edge delamination * tuft loss * seam separation * safety concerns.

Direct Glue and Double Stick Installation:

1.**Direct glue** installation with jute backing should be glued with a high solids adhesive, using a 1/8”x1/8”x1/8” U notch trowel. The carpet should be rolled both ways after installation with a 75lb roller. CRI standards should be followed for floor prep. Atmospheric conditions should also be considered in the amount of time needed for the glue to set up. The recommended pad to be

used for a double stick installation is a solid rubber pad, Kaleen Pad, or Healthier Choice pad. Felt pads or wool pads are NOT recommended for this type of installation. It is also recommended that the type of carpet for this installation should have a jute backing or a 10 pic action back or woven carpet. Proper notch trowel is also very important – for pad to floor a 1/16”x1/16”x1/16” square notch trowel should be used with pressure sensitive glue. For carpet to pad, smooth back carpet, use a 1/8”x1/16”x1/8” U notch trowel. For rough back carpet use a 1/8”x3/16”x1/8” U notch trowel with a high solids glue (approx. 68% solids). The carpet should be rolled both ways after installation with a 35 – 50 lb. roller.

For both direct glue and double stick installation the following restrictions apply – there should be no:
Foot traffic for 24 hours **** Wheel carts for 72 hours **** Vacuuming for 72 hours
Cleaning with water for 30 days

1.2 **It is important to have good ventilation**. Ventilation should begin 48 hours prior to installation, during installation and 72 hours after installation. There is to be a minimum of 18” of air space under wood sub-floors.

Direct Glue Installation:

1. **On direct glue installation** the minimum notch trowel for Tufted carpet is 1/8”x1/8”x1/8” U notch trowel.

Prior to installation some of the following conditions should be considered; Carpet must be installed when the indoor temperature is between 65-95 degrees F (18-35 degrees C) with a maximum relative humidity of 65%. If ambient temperatures are outside these perimeters, the installation must not begin until the HVAC system is operational and these conditions are maintained for at least 48 hours before, during and 72 hours after completion.

1.2 **Before making** an adhesive adhered installation, the owner or GC, or their designated tested agent, must submit to the flooring contractor, a written report on the vapor emission level and the surface alkalinity of concrete subflooring.

2. **Moisture** – Concrete floors, even with adequate curing time, can present an unacceptable moisture condition by allowing excessive amounts of moisture vapor to pass through to the surface. This can be a problem even on suspended concrete floors. Test all concrete floors for moisture emission rates using a hydrous calcium chloride moisture test kit. This quantitative test method must be conducted carefully in strict compliance with ASTM Test Method F1869. Moisture emission rate is measured in pounds of moisture over a 1000 ft. sq. area during a 24-hour period. Because calcium chloride testing 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.

3. **Alkalinity** – A pH range of 7-9 is satisfactory for alkalinity, however a reading above 9 requires corrective measures. Performing testing in accordance with ASTM Standard Practice F-710 or consult the adhesive manufacturer for recommending testing and corrective procedures.

4. **Adhesive installations** – The owner or GC must have concrete subfloors test to determine the moisture emission rate and surface pH prior to installation. Caution: Any concrete floor even when adequately cured and dry can allow moisture vapor to pass through to its surface. Depending upon the type of carpet and method of installation, the moisture emission rate greatly influences the long-term success of an installation. The use of a properly installed, uncompromised, approved moisture membrane is essential in preventing moisture migration into and through the concrete slab (ref ASTM F 10).

5. **Relaxing/acclimate Carpet** – To minimize wrinkling and buckling, and to facilitate installation, it is highly recommended that carpet be unrolled and allowed to relax in the installation area for a minimum of 24 hours at a temperature between 65 – 95 degrees F (18-35 degrees C). Carpet must be adequately protected from soil, dust, moisture and other contaminants. To facilitate relaxation (acclamation), pre-cutting the carpet is recommended.

6. **Ventilation** – During installation, maintain fresh ventilation using exhaust fans, and by operating the ventilation system at full capacity. Always exhaust air to the outside to avoid re-circulation. After installation, maintain fresh air ventilation for 48-72 hours at normal room temperature by operating the ventilation or exhaust fan system at full capacity. Open doors and windows, if possible. These procedures help exhaust, dissipate and eliminate lingering odors from the installation. There should be a minimum pf 18” of air space under wood sub-floors.

7. **Primers** – Using primers on floor surfaces generally is not required except for sanded wood sheet products, dusty, porous or acoustical concrete surfaces. Priming cannot overcome moisture vapor emissions and must not be used for that purpose. They must be compatible with adhesives, which should be applied only after the primer is cured. Where lightweight or acoustical concrete subfloor is present, refer to manufacturer’s recommendations for the proper installation procedure to use before the carpet is installed.

8. **Liquid adhesive removers** – There are a number of liquid adhesive removers available that effectively remove existing adhesive residue from sub-floors; however, there is evidence that some products may adversely affect the new adhesive or the new floor covering. Residues left in or on the concrete slab may cause failure of the new floor adhesive.

9. **Sweeping compounds** – These compounds may leave residue that interferes with adhesive bonding. They must not be used prior to an adhesive application. Vacuum dusty areas instead.

10. **Carpet layout** – Layout the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Align all carpet breadths to their proper position and trim seams.

11. **Adhesive application** – The floor adhesive must be spread uniformly over the subfloor with the appropriate trowel, leaving ridges of sufficient height to achieve full and complete coverage of the substrate and carpet backing, including penetration into the backing's deepest recesses. Trowel notches wear down during use. Maintain a clean and properly notched trowel throughout the installation process. After sufficient open time, the carpet must be pressed into the adhesive and rolled with the appropriate weight roller, as specified. Caution: Bond failure most often is caused by: inadequate adhesive application from the incorrect trowel notch size and/or trowel notch configuration * improper adhesive selection or quality * incorrect open time * residual curing and parting compounds * moisture related issues * premature traffic or cleaning before adhesives have adequately cured.

12. **Open time** – Appropriate open time varies depending upon environmental conditions, subfloor porosity, carpet backing system and adhesive type. Refer to the manufacturer for recommendations regarding open time.

13. **Seam adhesive** (sealer) – An appropriate direct-glue seam adhesive must be applied to the edges that are trimmed for seaming and cover the thickness of both the primary and secondary backing without contaminating the face yarns. The seam adhesive is applied to the cut edge of one side only, that side being the first one placed into the floor adhesive. When the edges are butted together to form the seam, and while the seam adhesive still is transferable, this seals the first edge as well as the second.

14. **Rolling** – After sufficient adhesive application and open time, the carpet must be pressing into the adhesive and rolled with the appropriate roller. Rolling must be performed with the lightest roller that achieves full and complete coverage of the substrate and carpet backing, including penetration into the backing's deepest recesses. The roller for direct glue installation should be no more than and no less than 75 lbs.

15. **All seams** should be sealed with appropriate seam sealer.

Double Glue Installation:

1. **Acclimation** (relaxing) carpet – Site conditions, environmental and ventilation conditions become even more important when performing double glue installations. In double glue installations, a separate cushion is adhered to the subfloor and the carpet is glued to the cushion.

2. **Cushion installation** – Cushion must be installed in the longest continuous lengths possible with consideration to traffic patterns and carpet seam placement. Cushion seams must be at a right angle (90 degrees) to carpet seams or offset at least six inches. Cushion seams must be butted without compression and leaving no gaps.

3. **It is important** that the glue have time to off gas and set up. Without time for off gassing, bubbles can appear anywhere from immediately to 6-12 months after installation. The glue should be tacky to the touch, but no transfer to your finger.

4. **The recommended pad** to be used for double stick installation is a 21 lb. rubber slab pad, Kaleen Pad, or Healthier Choice pad. Felt pad and wool pads are NOT recommended for this type of installation.

5. **Carpet layout** – Layout the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Align all carpet breadths to their proper position and trim seams. Care must be taken to avoid cutting into cushion under seams.

6. **Trowel size** for double glue installation, is as follows:
   Pad to floor using pressure sensitive glue is 1/16”x1/16”x1/16” square notch trowel.
   Carpet to pad with a smooth back carpet, use a 1/8”x1/16”x1/8” U notch trowel.
   Carpet to pad with a rough back carpet, use a 1/8”x3/16”x1/8” U notch trowel.

7. **The proper roller** recommended for a double glue installation is a 35-50 lb. roller.

Understanding Carpet Manufacturing Tolerances on Pattern Carpet:

1. **A successful patterned carpet** installation requires a thorough understanding of patterned carpet characteristics by designers, specifiers, and all others involved with the carpet selection and installation. Carpet is a textile fabric subject to inevitable process variations, which are more critical when patterns are involved. Most manufacturers provide established tolerances and specific installation instructions for their patterned goods, although most do not guarantee exact pattern match. Skilled responsible and competent craftsmen, who are experienced in the installation of pattered carpet can effectively make adjustments within manufacturer tolerances to provide a successful installation. To assist this process, manufacturer tolerances must be clearly understood, communicated and agreed upon by all parties prior to the specification, bid purchase and installation. There always must be an understanding about the additional carpet that must be allowed for pattern match.

2. **Factors affecting** an acceptable pattern match on the job site included but are not limited to; the method of installation, the condition and levelness of the floor and the type of carpet backing

system selected. It is imperative that all parties agree upon realistic levels of expectation before the carpet is installed.

3. **Installation of patterned** carpet requires more time and expertise often requiring the use of a power stretcher and additional staffing, which affects the cost of installation.

4. **Pattern size** – Selecting larger patterns will facilitate matching ease.

5. **Roll size sequence** – It is very important to keep rolls in roll sequence. Sequence carpet cuts working from the longest measured repeat gradually down the shortest repeat within the dye lot. Roll sequencing information is available from the carpet manufacturer.

6. **Pattern adjustment** – Pattern adjustment during installation is possible and should be anticipated.

7. **Pattern alignment** – Match the pattern at the midpoint of the seam's length. Work from the seam's midpoint to the seams ends, bringing the pattern into register using appropriate tools that might include; power stretcher * knee kicker * dead man * "dry" line * stay nails * crab stretcher.

8. **Curing adhesives** – It is highly recommended that traffic over field applied adhesive installation be restricted for a minimum of 24 – 48 hours to allow adhesives to cure properly. Premature trafficking can cause installation failure. Restrict carpet exposure to water from cleaning or other sources for a minimum of 30 days.

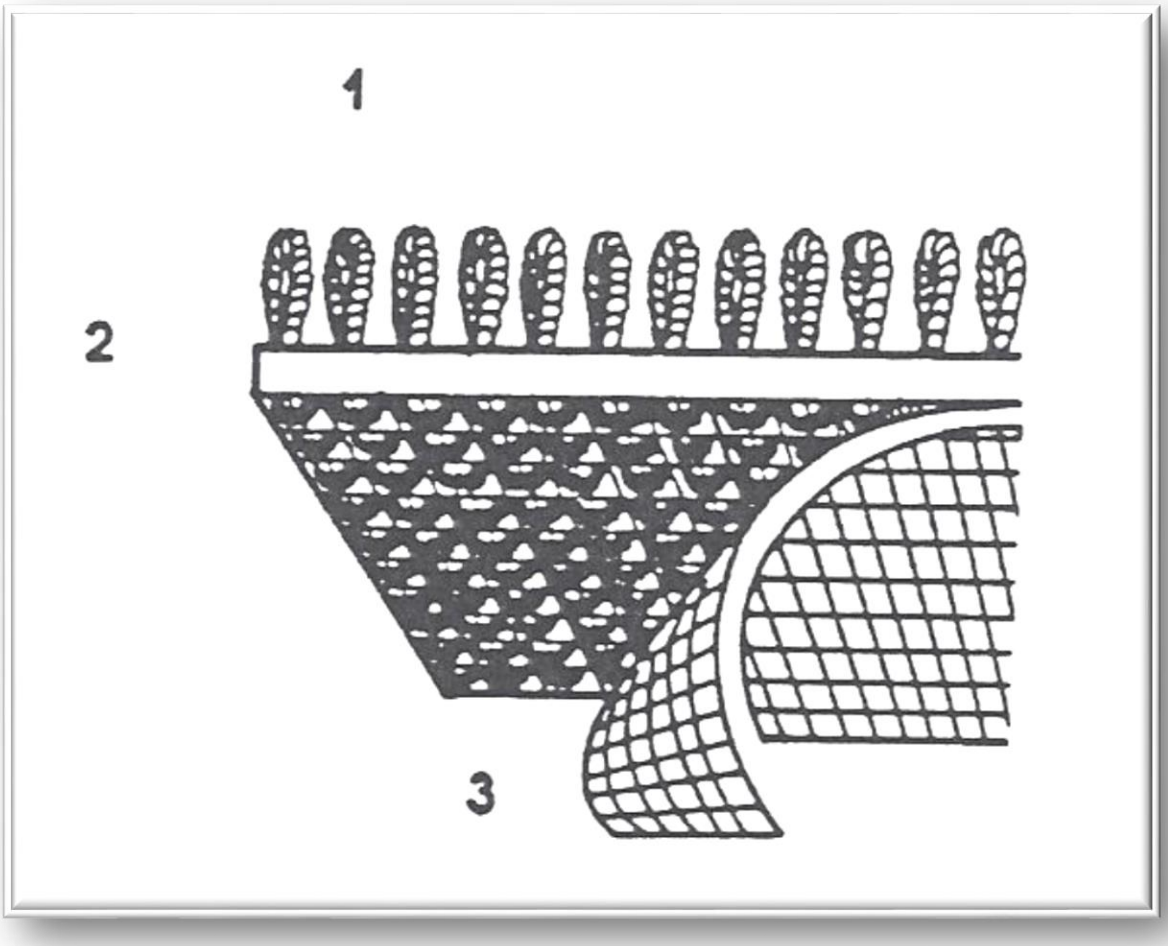
9. **Materials for protection** – If required to protect the finished floor covering from soil or paint, or if additional work is to be done after the installation, cover it with a non-staining building material paper. Protect the installation from rolling traffic by using sheets of hardboard or plywood in potentially affected areas. Caution: Do not place plastic sheeting over any carpet installation because it may present a slip hazard and may leave residues that result in rapid soiling after removal. In addition, it may trap moisture, which may promote mold growth, and retard adhesive curing.

10. **Maintain temperature** – Do not allow the temperature of indoor carpet areas to fall below 50 degrees F (10 degrees C), regardless of the age of concrete.

TUFTED CARPET COMPONENTS

Tufted Carpet:

1. Pile (face fiber)
2. Primary Backing
3. Secondary Backing



Tufted Carpet – In this form, tufted carpet is pile yarn pushed through primary backing and given body and stability by latexing the primary backing to the secondary backing. Pile can be level loop, cut pile or many combinations.

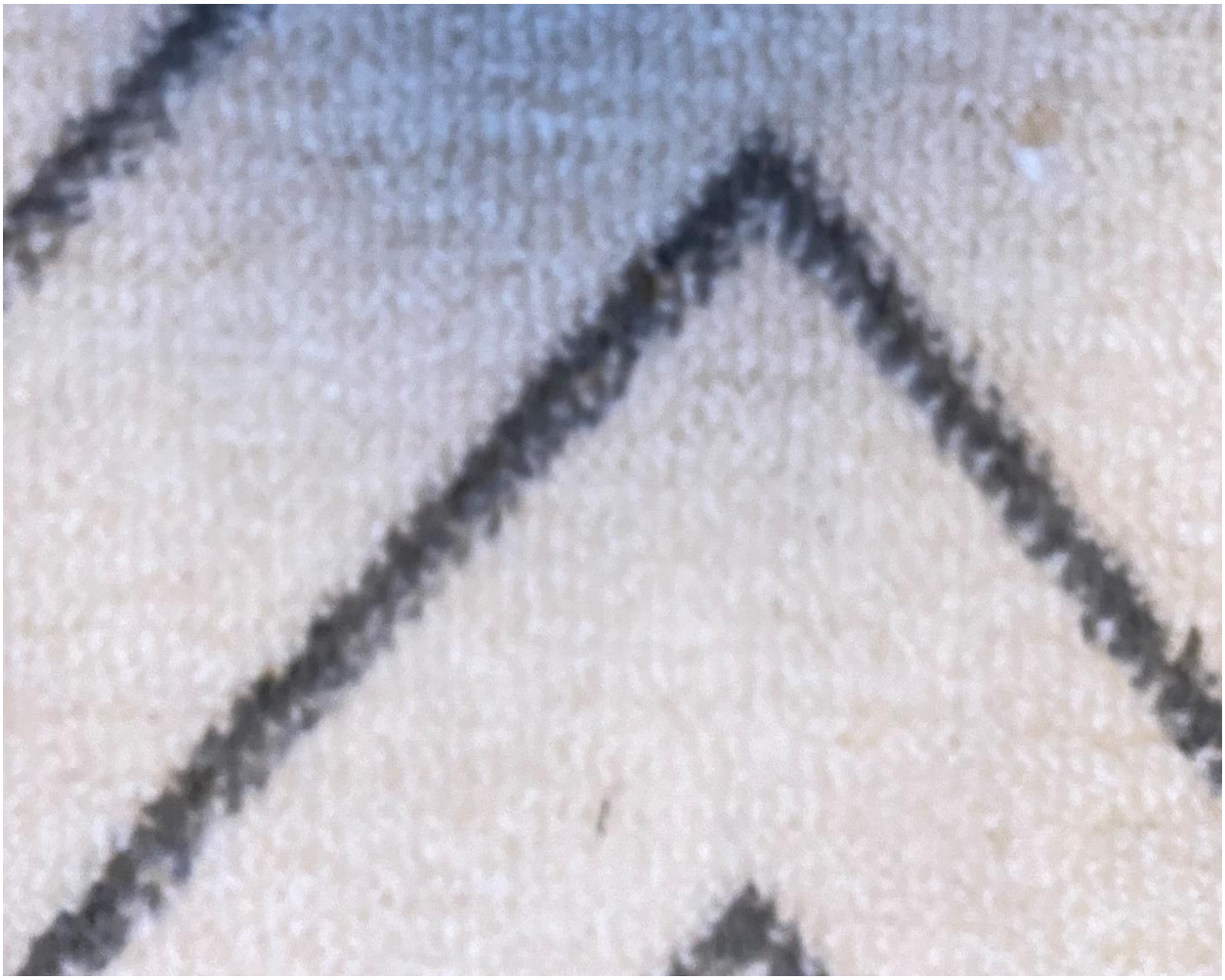
Seam Prep for Printed Pattern Loop Pile Carpet:

In most cases printed patterns do not align with the loop pile carpet, making it impossible for the installer to follow a row for a seam, and keep the pattern on.

Solution:

Do not row cut from the top of the carpet, but from the back. If installer cannot run a row next to the pattern, he must use your razor blade knife to make one-inch cuts next to the pattern every 3 feet. Then fold the carpet over and use your straight edge to line up against the cuts that were made (next to your pattern). With a straight edge cut through the backing but NOT the face yarn. At this point the face yarn should be connecting the backings together. Next, the installer should use scissors and cut the yarn at the base of the side you are going to discard. On the seam side use latex and run a bead at the base of the yarn, carefully folding the yarn over into the latex to keep the integrity of the loop that has been cut. Use this same procedure on the second piece that will be seaming onto. This procedure will keep the loop and the pattern intact. This is a slow and tedious process, but the results are well worth it.

KNITTED 100% WOOL



Cut 3 inches off the edge of the seam edge

Run a row and cut with a scissors to prep for seam

Seal edge with latex seam sealer


Medium Grade
de empalme

Use heavy seam tape and turn thermostat to 2 on seaming iron

The importance of understanding the construction of the product is as important as the installation itself. Understanding how to manipulate the product when needed to have it conform to its surroundings is essential.
Acclimation is a very important step in achieving this goal. Carpet should be cut and laid in the area it is to be installed, for a minimum of 24 to 48 hours before installation. Always add 3 inches to each cut, and when patterns are involved 3 inches plus full pattern should be added.

100% KNITTED WOOL

Stretch-in-Installation:

1.**100% Knitted wools** install differently than synthetic carpets, from the pad to the amount of stretch to be given the product. The amount of stretch on tufted wools is 1% in the width and 1% in the length, depending on the room size. Qualified installers know the amount of stretch by the pressure they put on the handle of the power stretcher – the power stretcher is mandatory! When stretching across a seam there should be less stretch than if there was no seam, to lessen the amount of seam peaking. Rooms 29' and over, it is required that you use architectural tack strip, or double up standard tack strip. Pins should never show through the carpet. To avoid the pins showing through, you can cut the selvage off the side of the carpet and lay it across the tack strip to lower the pins.

1.2 **All seams** must be sealed with latex seam sealer to encapsulate both the primary and secondary backing. Care must be taken as to not get latex on the face yarn. Latex on the face yarn will draw dirt to the seam and cause a dark line to appear throughout the seam. Important: The sealing of the seams will help eliminate delamination and help with the tuft bind.

1.3 **Pad:** The proper pad for tufted wools with jute backing is most important, Petroleum based pad (rebond) should never be used. This type of pad will cause wrinkles, bubbles, delamination and seam separation over time. The pad recommended for this carpet is wool pad, felt pad, Kaleen Pad, or Healthier Choice pad (frothed polyurethane foam "Greengard")

1.4 **Seam peaking:** To repair a peaking seam you must empty the room of all contents; pull the carpet up back to the seam area, to where you can see the seam tape. Remove excess paper from the tape, use a lightweight sandpaper and rough up the tape. Next, cut out the pad approximately 1 ft. on each side of the seam, pull the pad up and then glue it back down. Next,

glue the carpet to that area of the pad. Reinstall the carpet and add weight to the seam area and allow the pressure to stay for 2-3 hours. This will allow the seam to lay flat. (To eliminate call backs, you can use this procedure when installing any low-profile carpet) The pad used for this procedure should be a pad used for double stick installation.

2. **Tack strip** must be a minimum of one inch (25mm) wide and ¼ inch (6mm) thick. Architectural strip with three rows of pins, or two conventional strips with two rows of pins each, must be used for carpet with heavily latex backs. Also, for most woven and Berber style carpet, and for any carpet in rooms exceeding 30 feet (9m) in length or width. To prevent possible injury to building occupants, the pins on tack strip must not protrude through the carpet being installed.

2.1 To avoid pins showing through, you can cut the selvage off the side of the carpet and lay it across the tack strip to lower the pins.

3. **A firm pad** should be used, preferable wool pad, felt pad, horsehair, rubber, Kaleen Pad, or Healthier Choice pad. A soft pad will create looseness and give no support to the carpet. It is not recommended to use masking tape, due to the paper drying out overtime. It is not recommended to use duct tape, because overtime it will cause an unevenness from the pad wearing out on each side of the tape. (Note: this is the reason it is recommended to use duct tape on stair nosing, to keep the pad from wearing in this high traffic area.)

3.1 **To seam tufted carpet** there are 3 methods to use; hand sewing, Kool Glide iron or a traditional iron. All methods require sealing with latex. Seam sealing is mandatory !

Carpet edges at seams must be trimmed using tools and techniques best suited for the carpet style, i.e. loop-pile, cut pile and cut and loop pile. Trim edges far enough into the material to maintain the structural integrity of the carpet and to join edges without gaps or overlapping. (Note: Although “row-cutting” both edges is preferred, other trimming techniques may be more suitable on some carpet. Many carpets do not lend themselves to all methods of cutting). Some woven carpet selvages must NOT be trimmed.

3.2 **Prior to seaming** both trimmed edges of the carpet sections that will be joined, edges must be sealed with an appropriate seam adhesive. Latex seam sealer. Seam adhesive must be applied in a manner that encapsulates both primary and secondary backings. Caution: Failure to properly seal seam edges often result in; edges raveling * edge delamination * tuft loss * seam separation * safety concerns.

Direct Glue and Double Stick Installation:

1.**Direct glue** installation with jute backing should be glued with a high solids adhesive, using a 1/8”x1/8”x1/8” U notch trowel. The carpet should be rolled both ways after installation with a 75lb roller. CRI standards should be followed for floor prep. Atmospheric conditions should also

be considered in the amount of time needed for the glue to set up. The recommended pad to be used for a double stick installation is a solid rubber pad, Kaleen Pad, or Healthier Choice pad. Felt pads or wool pads are NOT recommended for this type of installation. It is also recommended that the type of carpet for this installation should have a jute backing or a 10 pic action back or woven carpet. Proper notch trowel is also very important – for pad to floor a 1/16”x1/16”x1/16” square notch trowel should be used with pressure sensitive glue. For carpet to pad, smooth back carpet, use a 1/8”x1/16”x1/8” U notch trowel. For rough back carpet use a 1/8”x3/16”x1/8” U notch trowel with a high solids glue (approx. 68% solids). The carpet should be rolled both ways after installation with a 35 – 50 lb. roller.

For both direct glue and double stick installation the following restrictions apply – there should be no:
Foot traffic for 24 hours **** Wheel carts for 72 hours **** Vacuuming for 72 hours
Cleaning with water for 30 days

1.2 **It is important to have good ventilation**. Ventilation should begin 48 hours prior to installation, during installation and 72 hours after installation. There is to be a minimum of 18” of air space under wood sub-floors.

Direct Glue Installation:

1. **On direct glue installation** the minimum notch trowel for Tufted carpet is 1/8”x1/8”x1/8” U notch trowel.

Prior to installation some of the following conditions should be considered; Carpet must be installed when the indoor temperature is between 65-95 degrees F (18-35 degrees C) with a maximum relative humidity of 65%. If ambient temperatures are outside these perimeters, the installation must not begin until the HVAC system is operational and these conditions are maintained for at least 48 hours before, during and 72 hours after completion.

1.2 **Before making** an adhesive adhered installation, the owner or GC, or their designated tested agent, must submit to the flooring contractor, a written report on the vapor emission level and the surface alkalinity of concrete subflooring.

2. **Moisture** – Concrete floors, even with adequate curing time, can present an unacceptable moisture condition by allowing excessive amounts of moisture vapor to pass through to the surface. This can be a problem even on suspended concrete floors. Test all concrete floors for moisture emission rates using a hydrous calcium chloride moisture test kit. This quantitative test method must be conducted carefully in strict compliance with ASTM Test Method F1869. Moisture emission rate is measured in pounds of moisture over a 1000 ft. sq. area during a 24-hour period. Because calcium chloride testing 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.

3. **Alkalinity** – A pH range of 7-9 is satisfactory for alkalinity, however a reading above 9 requires corrective measures. Performing testing in accordance with ASTM Standard Practice F-710 or consult the adhesive manufacturer for recommending testing and corrective procedures.

4. **Adhesive installations** – The owner or GC must have concrete subfloors test to determine the moisture emission rate and surface pH prior to installation. Caution: Any concrete floor even when adequately cured and dry can allow moisture vapor to pass through to its surface. Depending upon the type of carpet and method of installation, the moisture emission rate greatly influences the long-term success of an installation. The use of a properly installed, uncompromised, approved moisture membrane is essential in preventing moisture migration into and through the concrete slab (ref ASTM F 10).

5. **Relaxing/acclimate Carpet** – To minimize wrinkling and buckling, and to facilitate installation, it is highly recommended that carpet be unrolled and allowed to relax in the installation area for a minimum of 24 hours at a temperature between 65 – 95 degrees F (18-35 degrees C). Carpet must be adequately protected from soil, dust, moisture and other contaminants. To facilitate relaxation (acclimation), pre-cutting the carpet is recommended.

6. **Ventilation** – During installation, maintain fresh ventilation using exhaust fans, and by operating the ventilation system at full capacity. Always exhaust air to the outside to avoid re-circulation. After installation, maintain fresh air ventilation for 48-72 hours at normal room temperature by operating the ventilation or exhaust fan system at full capacity. Open doors and windows, if possible. These procedures help exhaust, dissipate and eliminate lingering odors from the installation. There should be a minimum of 18” of air space under wood sub-floors.

7. **Primers** – Using primers on floor surfaces generally is not required except for sanded wood sheet products, dusty, porous or acoustical concrete surfaces. Priming cannot overcome moisture vapor emissions and must not be used for that purpose. They must be compatible with adhesives, which should be applied only after the primer is cured. Where lightweight or acoustical concrete subfloor is present, refer to manufacturer’s recommendations for the proper installation procedure to use before the carpet is installed.

8. **Liquid adhesive removers** – There are a number of liquid adhesive removers available that effectively remove existing adhesive residue from sub-floors; however, there is evidence that some products may adversely affect the new adhesive or the new floor covering. Residues left in or on the concrete slab may cause failure of the new floor adhesive.

9. **Sweeping compounds** – These compounds may leave residue that interferes with adhesive bonding. They must not be used prior to an adhesive application. Vacuum dusty areas instead.

10. **Carpet layout** – Layout the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Align all carpet breadths to their proper position and trim seams.

11. **Adhesive application** – The floor adhesive must be spread uniformly over the subfloor with the appropriate trowel, leaving ridges of sufficient height to achieve full and complete coverage of the substrate and carpet backing, including penetration into the backing's deepest recesses. Trowel notches wear down during use. Maintain a clean and properly notched trowel throughout the installation process. After sufficient open time, the carpet must be pressed into the adhesive and rolled with the appropriate weight roller, as specified. Caution: Bond failure most often is caused by: inadequate adhesive application from the incorrect trowel notch size and/or trowel notch configuration * improper adhesive selection or quality * incorrect open time * residual curing and parting compounds * moisture related issues * premature traffic or cleaning before adhesives have adequately cured.

12. **Open time** – Appropriate open time varies depending upon environmental conditions, subfloor porosity, carpet backing system and adhesive type. Refer to the manufacturer for recommendations regarding open time.

13. **Seam adhesive** (sealer) – An appropriate direct-glue seam adhesive must be applied to the edges that are trimmed for seaming and cover the thickness of both the primary and secondary backing without contaminating the face yarns. The seam adhesive is applied to the cut edge of one side only, that side being the first one placed into the floor adhesive. When the edges are butted together to form the seam, and while the seam adhesive still is transferable, this seals the first edge as well as the second.

14. **Rolling** – After sufficient adhesive application and open time, the carpet must be pressing into the adhesive and rolled with the appropriate roller. Rolling must be performed with the lightest roller that achieves full and complete coverage of the substrate and carpet backing, including penetration into the backing's deepest recesses. The roller for direct glue installation should be no more than and no less than 75 lbs.

15. **All seams** should be sealed with appropriate seam sealer.

Double Glue Installation:

1. **Acclimation** (relaxing) carpet – Site conditions, environmental and ventilation conditions become even more important when performing double glue installations. In double glue installations, a separate cushion is adhered to the subfloor and the carpet is glued to the cushion.

2. **Cushion installation** – Cushion must be installed in the longest continuous lengths possible with consideration to traffic patterns and carpet seam placement. Cushion seams must be at a right angle (90 degrees) to carpet seams or offset at least six inches. Cushion seams must be butted without compression and leaving no gaps.

3. **It is important** that the glue have time to off gas and set up. Without time for off gassing, bubbles can appear anywhere from immediately to 6-12 months after installation. The glue should be tacky to the touch, but no transfer to your finger.

4. **The recommended pad** to be used for double stick installation is a 21 lb. rubber slab pad, Kaleen Pad, or Healthier Choice pad. Felt pad and wool pads are NOT recommended for this type of installation.

5. **Carpet layout** – Layout the carpet according to the seaming diagram. Carpet must be cut 3-4 inches longer than the area measurement. Where applicable, allow for pattern repeat. Align all carpet breadths to their proper position and trim seams. Care must be taken to avoid cutting into cushion under seams.

6. **Trowel size** for double glue installation, is as follows:
   Pad to floor using pressure sensitive glue is 1/16”x1/16”x1/16” square notch trowel.
   Carpet to pad with a smooth back carpet, use a 1/8”x1/16”x1/8” U notch trowel.
   Carpet to pad with a rough back carpet, use a 1/8”x3/16”x1/8” U notch trowel.

7. **The proper roller** recommended for a double glue installation is a 35-50 lb. roller.

Understanding Carpet Manufacturing Tolerances on Pattern Carpet:

1. **A successful patterned carpet** installation requires a thorough understanding of patterned carpet characteristics by designers, specifiers, and all others involved with the carpet selection and installation. Carpet is a textile fabric subject to inevitable process variations, which are more critical when patterns are involved. Most manufacturers provide established tolerances and specific installation instructions for their patterned goods, although most do not guarantee exact pattern match. Skilled responsible and competent craftsmen, who are experienced in the installation of pattered carpet can effectively make adjustments within manufacturer tolerances to provide a successful installation. To assist this process, manufacturer tolerances must be clearly understood, communicated and agreed upon by all parties prior to the specification, bid purchase and installation. There always must be an understanding about the additional carpet that must be allowed for pattern match.

2. **Factors affecting** an acceptable pattern match on the job site included but are not limited to; the method of installation, the condition and levelness of the floor and the type of carpet backing

system selected. It is imperative that all parties agree upon realistic levels of expectation before the carpet is installed.

3. **Installation of patterned** carpet requires more time and expertise often requiring the use of a power stretcher and additional staffing, which affects the cost of installation.

4. **Pattern size** – Selecting larger patterns will facilitate matching ease.

5. **Roll size sequence** – It is very important to keep rolls in roll sequence. Sequence carpet cuts working from the longest measured repeat gradually down the shortest repeat within the dye lot. Roll sequencing information is available from the carpet manufacturer.

6. **Pattern adjustment** – Pattern adjustment during installation is possible and should be anticipated.

7. **Pattern alignment** – Match the pattern at the midpoint of the seam's length. Work from the seam's midpoint to the seams ends, bringing the pattern into register using appropriate tools that might include; power stretcher * knee kicker * dead man * "dry" line * stay nails * crab stretcher.

8. **Curing adhesives** – It is highly recommended that traffic over field applied adhesive installation be restricted for a minimum of 24 – 48 hours to allow adhesives to cure properly. Premature trafficking can cause installation failure. Restrict carpet exposure to water from cleaning or other sources for a minimum of 30 days.

9. **Materials for protection** – If required to protect the finished floor covering from soil or paint, or if additional work is to be done after the installation, cover it with a non-staining building material paper. Protect the installation from rolling traffic by using sheets of hardboard or plywood in potentially affected areas. Caution: Do not place plastic sheeting over any carpet installation because it may present a slip hazard and may leave residues that result in rapid soiling after removal. In addition, it may trap moisture, which may promote mold growth, and retard adhesive curing.

10. **Maintain temperature** – Do not allow the temperature of indoor carpet areas to fall below 50 degrees F (10 degrees C), regardless of the age of concrete.