

Textile Reference Guide



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Introduction

HON offers a wide variety of textile materials and furnishing options. This guide will walk you through the process of material selection – giving you an introductory understanding of textile variance and industry nomenclature to help you make an informed decision. Before making a final decision on any material, be sure to read through this entire guide to understand any quality concerns and the COM approval process overall. For more details, visit honready.hon.com

If you have any questions, don't hesitate to contact our Tailored Products Coordinator, who will respond within 24-48 hours:

HONCOMTeam@honcompany.com

800.833.3964, Option 4

In some cases, a waiver may be required for approval. If you are comfortable with the possibility of a defect and would like to continue with a selected fabric, please contact our Tailored Products Coordinator to complete and sign the waiver form.

Expectations | Performance & Aesthetics

COLOR FASTNESS

Colorfastness is a material's resistance to fading from light and/or laundering. Note that colorfastness to light ratings are only based on 40 hours of exposure. Extended exposure to direct sunlight over time will cause visible fading in all textiles not specifically designed for outdoor application. Always avoid placing textiles in areas of constant or direct sunlight for extended periods of time.

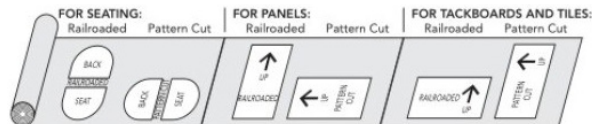


Top Stitch

STITCHING TECHNIQUES

There are several sewing stitch types that can be used on upholstered products. The most common stitch type used in sewing upholstery is the top stitch. There are two types of top stitches: the **single needle** and the **double needle**. Some of our products use no **top stitch**. This can create concern for certain fabrics as seams can pull if the material has too little or too much stretch. For these applications, additional seams or a different stitch type are required. When upholstering a product in leather, a **saddle stitch** is used. With a saddle stitch, both needles enter through top and bottom holes when sewn providing additional strength for leather textiles.

PATTERN VS. RAILROAD



PATTERN - Up the roll
RAILROAD - Across the roll

The application orientation of fabric plays a large role in the overall aesthetic of a finished product. Fabric suppliers will often note the orientation of fabric shown on their website. Some of our products can only be oriented in one direction due to material width constraints. For products like these, your COM test response will say "railroad only," meaning for this specific product the fabric must be applied in the horizontal direction or extra seams will be required.

For panel systems, application direction can also be restricted based on product size. Because some fabrics are only 54" wide, they can only be applied in pattern orientation on panels less than 48" wide and in railroad orientation on panels less than 48" tall. For instances like this, your COM test response will say "width pass," meaning the fabric width is too narrow for certain product sizes.

DOUBLE-RUB DISCLAIMER

The standard measurement for textile durability in the contract furniture market has always been abrasion values. However, the Association for Contract Textiles (ACT) and its partners have been investigating how accurately these values represent the longevity of a textile material. ACT states, "Wyzenbeek test results are not necessarily a reliable indicator of fabric lifespan. Comparative laboratory testing results on the same textiles frequently differ and testing methods do not necessarily correlate well with the variables encountered in actual use by the end-user." Additionally, ACT notes, "Multiple factors affect fabric durability and appearance retention, including end-use application and proper maintenance. Wyzenbeek results above 100,000 double rubs have not been shown to be a reliable indicator of increased fabric lifespan". Thus, abrasion values are not the ultimate determination of durability.

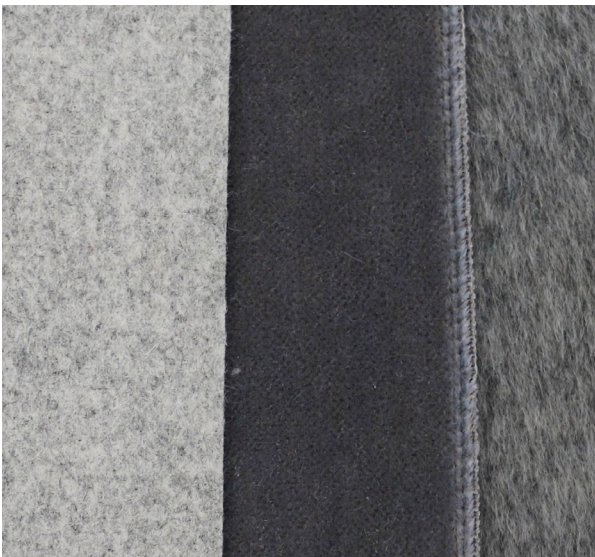
(Expectations Continued)



Leather Variance

LEATHER VARIANCE

Leather is one of the most unique textiles because it comes from the hide of a once living animal. The life experiences of each individual animal greatly affect the characteristics and visual appearance of each leather hide. Due to this, the quantity and severity of visual scarring and color variation can vary from hide to hide and should be expected for some leathers within our offering. The level of textile processing determines the quantity of natural characteristics and level of visual variation that can be expected from hide to hide. It is important to note that the presence of natural characteristics is not a direct indication of poor quality or defective material.



Wool

WOOL

Wool is a natural staple fiber that comes from the fur of animals. Wool yarn is constructed by twisting hundreds to thousands of wool fibers around one another. This is what gives wool its natural look and feel.

There are two types of wool: worsted and woolen. Worsted wool are often longer fibers than woolen; therefore, they often appear smoother once twisted into yarn. Woolen wool is the common "hairier" wool that has the classic texture associated with most wool fabrics. Woolen wool fabric often releases excess fibrous material during production, but over time these fibers will release from the material without affecting the quality of the material. This is part of the natural aesthetic and hand of woolen yarns due to the looser-wrapped fibers releasing from the yarn and creating the natural "fuzzy" look of woolen fabrics.



Welt Cords

WELT CORDS

A welt cord is a cable or string wrapped in a textile material that is used for aesthetics on the outer edge of seating upholstery. Welt cords can exaggerate certain properties within a textile that are not aesthetically pleasing. This is most common in pile fabrics where the individual yarns stick out in varying directions. It is important to always consider final aesthetic when specifying welt cord materials.

(Expectations Continued)

COM FABRICS

The HON Company cannot guarantee that a COM will meet the same performance durability requirements as a HON branded or partnership fabric. It is for this reason that COM specified materials are not covered under warranty. Extra care should be taken when specifying a COM fabric in understanding the end use requirements to ensure the product will hold up over time.

Please consider the following before specifying COM fabrics on your product:

1. End Use Environment
 - a. Indoor specified fabrics tend to perform poorly in outdoor environments.
2. Material Content
 - a. Woven fabrics with high natural fiber content can experience poor recovery leading to fabric puddling.
 - b. Polyurethane coated fabrics made of low-grade materials can experience poor recovery leading to fabric puddling.
3. Abrasion requirements
 - a. 30,000 or above is recommended for average use environments.
 - b. 50,000 or above is recommended for high traffic environments.

COM TEXTILE RELEASE

If a requested COM has failed or passed conditionally, a COM Textile Release can be signed. A COM Textile Release allows a customer to use a COM that has failed on a product by accepting and agreeing to the possibility of an aesthetic variation being present. The aesthetic variation can be, but is not limited to, the fail status provided on the COM response email. With a COM Textile Release, the customer accepts that the final product may have a varying degree of aesthetic variation present and that the performance and durability of the material may be affected. HON reserves the right to deny any COM Textile Release request for textiles that cannot be upholstered in the requested application to any degree of acceptable quality. A COM Textile Release Request must be submitted for every install location utilizing the requested textile. For a COM Release Order Code to be used, there must be a signed COM Textile Release associated with the specific order and install location. COM Textile Release forms are only available for COM textiles and cannot be applied to HON standard or partnership textiles.

COM Test Responses

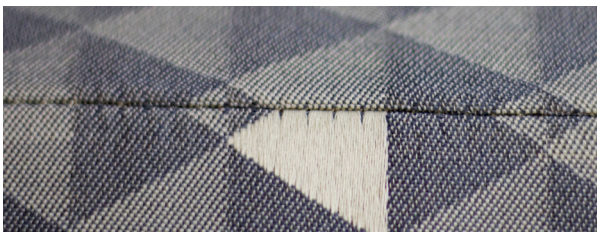
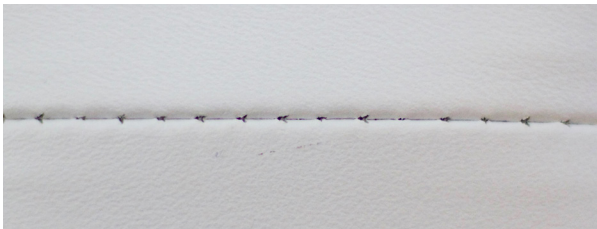


Additional Seams Required

ADDITIONAL SEAMS REQUIRED

COM TEST RESPONSE: ADDITIONAL SEAM/SEAMS REQUIRED

When applying fabrics on certain products, additional seams may be required. For larger lounge seating products, normal upholstery is not wide enough to cover the entire unit and additional seams are required. Seams are also used to decrease surface defects (puckers and wrinkles) on products with deep curvatures. Because the addition of seams can change the overall aesthetic, it is always advisable to obtain a rendering of the product before moving forward with additional seams.



STITCH TRACKS

COM TEST RESPONSE: STITCH TRACKS

“Stitch tracks” is the term upholstery experts use when the yarn of a fabric separates, or a background yarn is brought to the surface through sewing. Stitch tracks are seen more frequently in products that do not use a top stitch in all areas. This effect is more common in fabrics that have high contrasting colors. Fabrics that have looser construction or do not have a backer tend to experience this phenomenon more frequently. If you would like to consider the addition of a backer to your fabric, please consult our COM department for changes to lead time and pricing.



Cat Tracks & Thread Separation

THREAD SEPARATION

COM TEST RESPONSE: FRAYING | PULLS APART | RIPS

Fabrics constructed in a looser weave or using thicker yarns tend to unravel and separate when cut and experience surface defects when sewn together. When cut, the yarns will release and untangle, causing fabric fray and material loss. These fabrics will also pull apart or rupture under normal stresses and expose seam stitching and needle holes, or even separate entirely. In certain cases, adding a fabric backer can help solve these issues. If you would like to consider the addition of a backer to your fabric, please consult our COM department for changes to lead time and pricing.

THICK, THIN AND STIFF FABRICS

COM TEST RESPONSE: MATERIAL TOO THICK/MATERIAL TOO THIN

For certain products, fabrics that are too thick, thin or stiff cannot be applied without visual defects. Fabrics that are too stiff can bridge across deep curvatures, causing the fabric to “trampoline” or create a gap between the foam and fabric. Fabrics that are too thin can wrinkle around seat and back edges. These wrinkles are often very difficult to remove through conventional processes and can return over time. Fabrics that are too thick often bunch around tight corners or show too much selvage material creating an uneven surface. These materials are not recommended for pieces with square corners or sharp edges.

(COM Test Responses Continued)



Material Stretch and Set

MATERIAL STRETCH AND SET

COM TEST RESPONSE: EXCESSIVE STRETCH

Certain materials suffer from what is known as stretch and set. A material that is stretched beyond its normal length consistently over a period of time will never fully retract back to its original shape. This is what causes coated fabric upholstery in high-traffic areas to wrinkle and puddle over time. Not all coated materials suffer from this issue at the same rate. We recommend seeking direction from your dealer on the best fabrics for high-traffic applications.



TWO-WAY PATTERNS

COM TEST RESPONSE: TWO-WAY PATTERN

Numerous fabrics have geometric patterns that run both horizontally and vertically. With some of our lounge seating products as an example, these patterns can create a less-than-desirable aesthetic where the patterns clash.

LARGE PATTERN REPEAT

COM TEST RESPONSE: LARGE REPEAT

Some fabrics have patterns with very large repeats, which can be difficult to fully represent on smaller products. Additionally, the same section of the repeat may not be represented on every part of the product or consistently from product to product. In panel system applications, large repeats create difficulty in maintaining consistency across all panels.



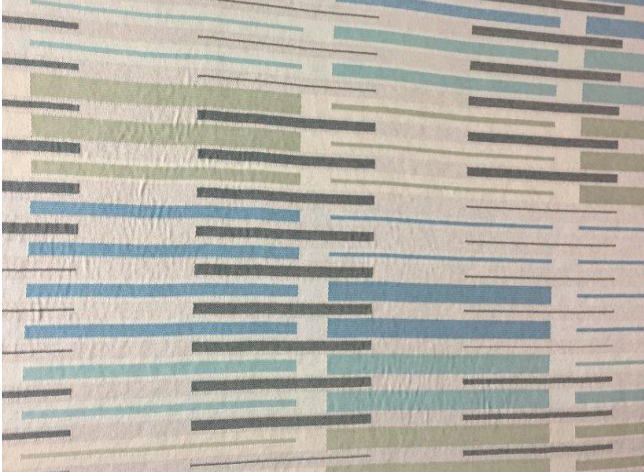
Pattern Match-up

PATTERN MATCHUP

COM TEST RESPONSE: PATTERN MATCHUP NOT GUARANTEED

HON does not guarantee pattern matching on products. This includes pattern matching from panel to panel in vertical applications. Patterns are not guaranteed to line up when placed next to each other or have any part of the pattern in the same location. Pattern positioning is not guaranteed to be consistent across the pieces of a single product or from product to product.

(COM Test Responses Continued)



Linearity Tolerance

LINEARITY TOLERANCE

COM TEST RESPONSE: LINEARITY TOLERANCE

In vertical applications, such as panel systems, the linearity of a fabric pattern can drastically alter the final aesthetic of the product and the entire space. Patterns that run linearly across their length can exhibit a “smiling” effect, or a gradual increase in the degree of pattern curvature across the panel. This disrupts the flow of the pattern from panel to panel. Also, the pattern may not match up perfectly from one panel to another, causing disruption in the patterning across all panels. Avoiding linear patterns is suggested for vertical applications.

NORMAL STITCH PROCESS NOT USED

COM TEST RESPONSE: NORMAL STITCH PROCESS NOT USED

Each stitch type has a unique aesthetic that can alter the look of a finished product. Depending on the type of fabric and selected application, an alternative stitch type may be used to combat upholstery problems. Most commonly, altering the normal stitch process entails sewing in a different direction or the addition or removal of a top stitch. In most cases the aesthetic difference will hardly be noticeable. If you would like to continue with the selected fabric without the use of an alternative stitch process, please complete and sign the waiver form linked on the COM website.



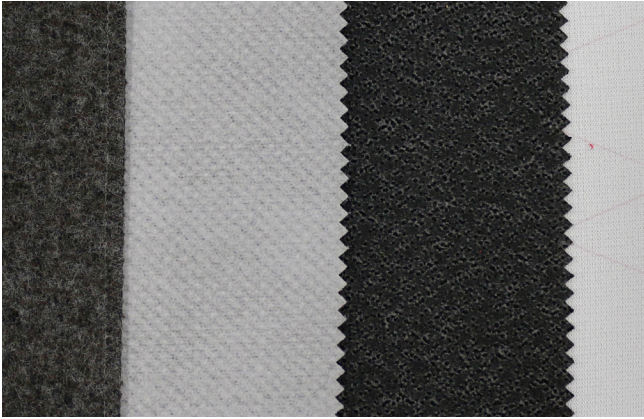
Material Fray

MATERIAL FRAY

COM TEST RESPONSE: FRAYING | PULLS APART | RIPS

Materials with a loose construction may experience fibers untangling from the fabric. These fabrics have difficulty maintaining strength in vertical panels and other applications with sharp corners and severe edges. Over time and usage this causes fraying on seams, edges, and corners on a given application leading to pull apart and ripping. The addition of a backer is suggested for these fabrics. If you would like to consider the addition of a backer to your fabric, please consult our COM department for changes to lead time and pricing.

(COM Test Responses Continued)



Fabric Backing

MATERIAL ROLL WIDTH

COM TEST RESPONSE: ROLL WIDTH TOO LARGE

The width of your chosen fabric influences which products it can be used on. For seating applications, fabrics must have a width between 54"-61". For panel applications, fabrics must have a width between 54"-66". Seating fabrics with a width of less than 66" can only be applied in certain applications based on size and direction. For further information regarding product availability by width, please review the Pattern vs. Railroad section.

Due to capability constraints, we cannot override this response with a waiver form.

GLUE RELEASE

COM TEST RESPONSE: GLUE TEST

Certain upholstery and panel products require the use of an adhesive. Fabrics with certain finishes, backers, and yarns occasionally have difficulty adhering or maintaining adhesion to the product. Finishes and backers designed to repel and release surface chemicals can prevent adhesives from bonding to the fabric. Olefin yarns are smooth and can repel glue rather than attach to it. Coated fabrics have difficulty with heat-activated, adhesive-based upholstery methods. Coated fabrics with surface texturing cannot be used with heat-activated adhesives as the processing can remove or damage the texturing. Thin fabrics have issues with visible surface defects when upholstered using adhesives – as glue can seep through the material surface or raised edges. Conversely, the natural weight of thick or heavy materials will cause the glue to fail and the fabric to pull away from the substrate.

If you would like to consider adding a backer to your fabric, please consult our COM department for changes to lead time and pricing.

FABRIC BACKING AND FINISHING

COM TEST RESPONSE: BACKER REQUIRED

In today's market, there are a variety of backers and finishes that can be applied to textiles to improve performance. A textile backer can be the alteration of the back of a material through mechanical means such as needle punching, or chemical additives such as latex or acrylic. Textile backers can act to reduce fraying and can increase durability and dimensional stability, all which aid in allowing a fabric to be upholstered; however, textile backers can also cause problems as it can limit glue adhesion. Textile backers are not applied to all textiles but may be applied with extended lead times and additional cost. This is also true for textile finishes. Finishes act to impart additional performance characteristics to a textile through chemical additives. Commonly applied textile finishes include stain repellency, moisture barrier, and antimicrobial. Textile finishes can cause some textiles to become stiffer and heavier which can limit their ability to be upholstered on some products. Always consult our Tailored Products Coordinator before requesting the addition of a finish or backing to a textile.

NATURAL FIBER CONTENT

COM TEST RESPONSE: NATURAL FIBER CONTENT

Fabrics with a material content containing greater than 30% natural fiber, especially cotton, cannot be approved for vertical panel applications. Natural fiber These fabrics are not guaranteed to pass the OSHA-required UL Safety Standards for Office Furnishings.

Due to OSHA requirements, we cannot override this response with a waiver form.



Surface Defects

SURFACE DEFECTS VISIBLE

COM TEST RESPONSE: SURFACE DEFECTS

In vertical panel applications, certain fabrics will show surface defects more readily than others. This is most common for light-colored and thin fabrics. For some light-colored fabrics, the background substrate materials will show through to the surface. For thin fabrics, the background substrate materials will create raised areas randomly throughout the surface.

In certain cases, the addition of a backer can reduce these defects. If you would like to consider the addition of a backer to your fabric, please consult our COM department for changes to lead time and pricing.



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