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Current Stock List

Exotics	PaperBacked
Walnut Burl	Cherry
Makore	Red Oak
Maple Burl	White Oak
Oak Burl	Teak
Tamo Ash	Walnut
Quilted Maple	Mahogany
Elm Burl	Maple
Zebrawood	Birch
Koa	Lacewood
Redwood	Anigre
Sapele	Rosewood
Chestnut Burl	Butternut

HEATLOCK™
Iron-On Veneer Adhesive
★ IN STOCK! ★

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Backed Veneer Guide

A Reference for Paperbacked and 2-Ply Veneer

What is paper-backed veneer?

Paper-backed veneer is exactly what the name implies. It's a real wood veneer permanently bonded to a paper backing. This backing is applied to keep intact the individual wood veneers used to make up the full width of the sheet. A four foot wide paper-backed veneer consists of multiple veneers glued together side by side. The backing also minimizes seasonal expansion and contraction of the wood caused by changes in ambient humidity.

The paper backing is generally available in a 10 and a 20 mil thickness. "Mil" or mil thickness is the common measurement of a coating. The 10 mil backer is .010" thick and the 20 mil backer is .020" thick. The veneer face add additional thickness. Keep in mind that the backing is not removable.

A 10 mil backing is best for most projects. However, a 20 mil version is available for situations where the substrate is less than perfectly flat. In this case, the extra paper thickness allows the veneer maintain a more consistent look after application. Keep in mind that the 10 and 20 mil thickness is a reference to the thickness of the paper backing, not the veneer face.

What is wood-on-wood or 2-ply veneer?

Wood-on-wood, also known as "2-ply veneer" is two wood veneers permanently bonded together. The face veneer grain is typically perpendicular to the backer veneer which provides protection against bubbling that can occur when a veneer is improperly bonded to the substrate. This type of "crossband construction" allows the veneer to bend on moderate curves in the horizontal or vertical direction. The veneer used on the back side of a 2-ply veneer is often an imported hardwood of lesser value.

What is a PSA backed veneer?

Pressure sensitive adhesive (PSA) veneer is a type of paper-backed veneer add-on. The adhesive layer is added at the factory if you select the PSA option. It is a simple and easy alternative for applying veneer without the need for a liquid adhesive. Utilizing 3M™ adhesive, PSA veneer provides a permanent bond to any smooth substrate that is dry and free of dust and contaminants. PSA-backed veneer is an excellent choice for cabinet refacing, hi-fi speaker building, and much more. It can be cut and trimmed with ordinary tools such as scissors or a razor knife.

What is the thickness of the sheet?

Wood-on-Wood or 2-Ply Veneer - .035" or just over 1/32"
10 Mil Paper-backed Veneer - .020" or 1/50"
20 Mil Paper-backed Veneer - .035" or just over 1/32"

All thicknesses may vary by .005".

What is the actual thickness of the veneer layer on the sheet?

Generally speaking, the actual wood part of a paper-backed veneer is .015" but the thickness can vary based on the amount of finish sanding done at the factory. The factory sands each veneer sheet until it is perfectly smooth.

Why would someone use a 20 mil veneer instead of a 10 mil veneer?

A 10 mil backed veneer is used when the substrate is smooth and flat. Some cabinetmakers will only use 10 mil veneer on vertical surfaces and 20 mil on horizontal parts such as desk and table tops.

Regardless of the project position, a 20 mil backed veneer or 2 ply veneer should be used if the substrate is not smooth since the thicker backer will help hide *some* substrate imperfections. Additionally, a 20 mil veneer is often used on curved projects.

Keep in mind that the 10 and 20 mil thickness is a reference to the thickness of the paper backing, not the veneer face.

What is a "plank" veneer?

A typical paper-backed sheet is made from several sequential veneers. This creates a repetition of pattern across the full-size sheet. Some users do not like this look since it can make a panel look a bit fake. A plank matched paper-backed veneer solves this problem. It is made from individual veneers from different logs of the same species which creates a look of solid lumber more so than any other type of veneer lay up. This type of veneer can be difficult to find but they are available at VeneerSupplies.com in the "Paper-Backed Veneer" category.

Where do I find paper-backed veneer?

VeneerSupplies.com has 5,000 veneer related products in one convenient place. You'll find paper-backed veneer, 2-ply veneer, and a wide array of exotic raw wood veneers.

How is a backed veneer measured?

The standard size for most backed veneer is 4' x 8'. The 4 foot measurement is the width of the sheet across the grain. The 8 foot measurement is the length of the sheet parallel to the grain. Most vendors cut the veneers oversized by ¼" on both the length and the width.

What material can paper-backed veneers be applied to?

The part of the project that the veneer is applied to is called the substrate. Here is a list of substrates and adhesive information. Keep in mind that the substrate must be smooth, clean, dry, and acclimatized prior to application of the veneer.

Substrate	Contact Cement	Heat Lock™ Veneer Glue	Cold Press Veneer Glue	PSA
MDF	Excellent	Excellent (1)	Excellent (1)	Acceptable (4)
Particle Board	Excellent	Excellent (1)	Excellent (1)	Acceptable (4, 5)
Plywood	Excellent	Excellent	Excellent	Excellent (4)
Wood	Very Good	Excellent	Excellent	Poor
Masonite™	Poor	Poor	Poor	Acceptable
Melamine	Acceptable (2)	Poor	Poor	Acceptable
Plastic Laminate	Acceptable (2)	Poor	Poor	Acceptable
Drywall	Excellent (3)	Excellent (3)	Excellent (3)	Excellent (3)

Notes:

1 - For cold press veneer glue and Heat Lock, sand the back side of the veneer and the face of the substrate with 150 grit sandpaper. This will make the surfaces more porous and allow the adhesive to bond the materials with exceptional durability.

2 - With adequate ventilation or a NIOSH approved respirator, melamine and plastic surfaces must be heavily sanded with 80 paper and wiped with a tack cloth before a solvent based contact cement can be applied. Do not use water-based contact cement on these substrate surfaces. The surface should then be cleaned with denatured alcohol prior to application of the adhesive. The veneer should be permanently bonded to the project with a veneer scraper.

3 - Though it has been done, I do not always recommend application of paper-backed veneer directly to drywall. Instead, I recommend covering the drywall with ½" MDF using construction adhesive. The veneer can then be applied to the MDF.

4 - It is always a good idea to coat porous substrates with shellac or oil-based polyurethane first and then sand it lightly when dry using 180 or 220 grit. Then apply the PSA veneer.

5 - Seasonal humidity changes can allow particle board to expand and contract more than some other substrates. This is only a problem if there is concern about "creeping" of the veneer. This movement is most prevalent on flat cut wood veneers (particularly maple). To minimize creeping issues, use MDF instead of particle board and consider using a hard setting adhesive like Ultra-CAT.

Can I use paper-backed veneer on exterior projects?

Paper-backed veneer can be used with projects that will be exposed to weather. However, we have found that epoxy when used as the adhesive and the finish coating will often withstand the outdoor environment.

How do I apply a backed veneer?

Before you begin, allow the veneer and substrate to acclimate in the same work area for 48 hours. This will ensure that the moisture content in the veneer and substrate has equalized.

Begin the acclimation process by unrolling the veneer and laying it flat. The ideal shop environment is relative humidity of 35% and a temperature of 70° to 80°F. It may be necessary to place weights on the ends of the veneer to keep it flat while it acclimates and loses its "rolled memory".

Contact Cement

One of the most overlooked aspects in contact cement veneering is adhesive coverage, yet it is the single most important part of this veneering method. It is critical that all areas of the veneer and substrate are coated with adhesive. Any areas left dry may result in the veneer bubbling after application. For solvent-based contact cement, it is a good idea to apply two coats (per side) with a glue roller. Water-based contact cement generally requires only one coat per side.

If you are using contact cement, you'll only need a veneer scraper to apply the veneer. A handheld roller is not suitable for applying veneer. It simply does not concentrate enough pressure over the contact surface to create a durable bond. A veneer scraper is a must-have tool!



Be sure to scrape the entire veneer surface (scraping with the grain) to achieve a maximum strength bond. Most manufacturers recommend scraping the surface twice. Always use the centerline technique shown below when using the scraper tool.



Figure 1: Scraping the veneer is critical to success.

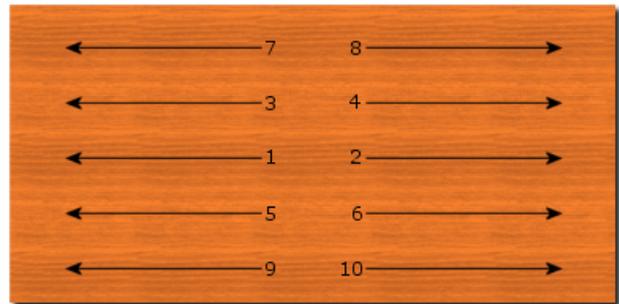


Figure 2: The centerline technique seats the veneer properly to the substrate. Follow this pattern with the scraper to avoid overstretching the veneer.

PSA Veneer

Veneers with a pressure sensitive adhesive backing require a veneer scraper to seat the adhesive and veneer firmly to the substrate. A handheld roller is not suitable for applying PSA veneer. It simply does not concentrate enough pressure over the contact surface to create a durable bond. A veneer scraper is a must! Be sure to scrape the entire surface of the veneer using the centerline technique to achieve a maximum strength bond. Most manufacturers recommend scraping the surface twice. Always use the centerline technique when using the scraper tool. Keep in mind that PSA adhesives bond instantly on contact. Be certain that you have the veneer positioned correctly before applying the veneer.

Iron-On Veneering with Heat Lock™ Glue

Heat Lock™ is an iron-on adhesive that can be successfully used with paper-backed veneer but is difficult to use with 2-ply veneer. Learn more about this superb adhesive on our website.

Cold Press Veneer Glue

If you have a vacuum press and want the ultimate bond strength, consider applying the backed veneer with Better Bond X-Press™ or Ultra-CAT™ veneer adhesives. It is very important that the back side of a paper-backed is scuff sanded with 80 to 120 grit paper prior to bonding with a cold press adhesive.

Inspecting and Troubleshooting

You can inspect the panel by shining a light across the grain. Any areas where the bond is insufficient will result in bubbles which will produce visible shadows. Bubbles that have occurred from insufficient pressure during application can be smoothed out with the appropriate tool (Heat Lock use clothes iron, contact cement or PSA use scraper tool, or cold press glue use vacuum press or clothes iron).

If the bubble is caused by a lack of adhesive, you can split the bubble open with a razor knife, inject more adhesive, and press the veneer again using the tool recommended for the adhesive.

Should I apply a coat of contact cement first if I am using a PSA veneer?

No. False information spreads on the internet faster than the damn coronavirus. If you are planning to use contact cement to bond your backed veneer to the project surface, then it is completely pointless to order a PSA veneer. Instead, just get a backed veneer without the PSA option and save the money.

And if you are going to order a backed veneer with the PSA option, then don't apply contact cement to the project surface. Apply a coat of shellac or oil-based polyurethane if the surface is very porous and it will be fine.

I've found no evidence that supports the idea that the PSA layer will not be corroded or oxidized by the solvents in contact cement. So, there is no point in getting a good bond now if it's going to fail later due to chemical incompatibilities between the contact cement and the PSA layer.

There are people who claim to use both contact cement and PSA on a project because at some point they had a veneer with edges that lifted. I suspect that the vast majority of these failures were simply from the failure to use a veneer scraper tool. Don't underestimate the importance of this simple tool and technique.

Does the substrate have to be stripped of any surface coatings first?

The chemicals in a solvent based contact cement can cause an existing coating on the substrate to turn to muck which can greatly affect the bond strength. If you opt to use a water-based contact cement instead, you will find that it requires a porous substrate surface. Since a top coating on the substrate would greatly reduce porosity, it must be removed before the adhesive is applied.

A paper-backed veneer can still be put over a painted or lacquered surface. Instead of a liquid adhesive, consider using a PSA (pressure sensitive adhesive) instead. All of the paper-backed veneers on the VeneerSupplies.com website have this option. Just make sure the surface coating is firmly bonded to the substrate. Otherwise the veneer will hold no better than the coating under it.

Is the veneer sheet a single piece of wood?

No. Each sheet is made up of several veneers called 'components' which are placed side by side with opposite sides showing. This is called bookmatching. The individual veneers used to make sheet of backed veneer can range from 3" to 8" in width. With the exception of burls, the face veneers are 8 foot in length on a 4' x 8' sheet.

Are there visible lines in between each sheet in the backed veneer?

The veneers used to make a 4 x 8 sheet are laid up in the sequence from which they were sliced from the tree. This creates a visually pleasing result. If you look close enough you might be able to see the joint line. The quality of the seam between each veneer is what defines the visibility of the joint. Our veneers are jointed with state-of-the-art machinery and are inspected by a trained QA staff member before shipping out. Only flawless veneers are shipped to our customers.

Is the paper or wood backing visible at the edges of a backed veneer?

The backer is barely visible on most species after the veneer has been stained and finished. The picture shown is my desktop with a paper-backed cherry veneer on top and edging in cherry hardwood. The line between the backing and the veneer is almost impossible to see.



Is a backed veneer better than raw wood veneer?

Advantages

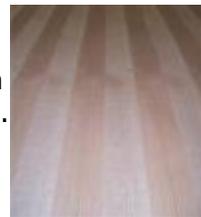
- If you have a large project to veneer, you'll find that a backed veneer is easier to work with because it is available in large sheets. From a production standpoint, a backed veneer is unbeatable.
- Backed veneers generally stay flat while being stored. They usually will not buckle unless the humidity levels are extreme. The only notable exception is maple which has a tendency to curl a bit in storage if it is not kept under a weighted board.
- Adhesive bleed-through in a backed veneer is highly unlikely.

Disadvantages

- Backed veneers are usually more expensive per square foot than raw wood veneers.
- Burl veneers with a paper or wood backing are shockingly expensive. A raw wood burl is often 1/4 of the price.
- The wood face on a backed veneer is thinner than standard raw wood veneer which makes it easier to sand through.

What is barber pole effect?

When veneer is sliced, a distortion of the grain occurs. The knife blade, as it hits the wood, creates a "loose" side where the cells have been opened up by the blade and a "tight" side. Because the "tight" and "loose" faces alternate in adjacent pieces of veneer in book matching, they may accept stain differently. This may result in a noticeable color variation called barber poling. Slip matching (all veneer faces are in the same direction) is often used in quartersawn and rift cut veneer to minimize the barber pole effect. This is an available option at VeneerSupplies.com.



SLIP MATCHING



Can a backed veneer be treated with veneer softener?

Super-Soft 2 can be lightly applied to paper-backed veneer. Dampen a soft cloth or paper towel with softener and pad it on to the veneer in light, overlapping motion. Do not saturate the veneer to the point at which the backing is wet. Since the wood face of the paper-backed veneer is very thin, a light coat of softener is all that is needed to give the extra flexibility that is sometimes needed on tight curves.



What is sequence matching?

Sequence matching is the process in which the factory ships the customer sheets of veneer that reasonably match each other in terms of color and grain pattern. This option is great for large projects where consistency is critical to success.

What do I do with the edges of the substrate?

You can apply edge banding to the sides of the substrate. Edgebanding is available in several species. If you can not find edgebanding in the species required, simply cut 1" wide strips from the veneer used for the main project and apply it to the edge of the substrate with Heat Lock veneer adhesive or contact cement.

Does a backed veneer require sanding?

The veneer is pre-sanded to 150 grit at the factory. However, many users find that they get a more even stain color if they sand the veneer one grit grade higher than the rest the project. If you sanded the solid wood parts of a project with 150 grit sandpaper, you might consider sanding the veneered parts with 180 grit.

How do I cut and trim a backed veneer?

Paper-backed veneer can be cut to size with scissors or a razor knife. Two-ply veneer can be cut with a hand saw. Trimming a veneered panel is most commonly accomplished with a flush-trimming ball bearing piloted router bit. You can also trim the veneered panel on a table saw with an 80-tooth saw blade.

How is a backed veneer shipped?

It is rolled up in a box and shipped via FedEx or USPS (depending on destination). The factory can usually ship 5 to 7 paper-backed veneers in a single box that is 10 " x 10" x 50". Two-ply veneers ship in a larger box because it can not be rolled as tightly as a paper-backed veneer.

How do I stain and finish a veneered project?

Since it is a real wood product, it stains just like a piece of solid lumber. However, many users find that they get a more even stain color if they sand the veneer one grit grade higher than the rest the project. If you sanded the solid wood parts of a project with 150 grit sandpaper, you might consider sanding the veneered parts with 180 grit sandpaper.

It is best to apply a protective finish to the veneer when the ambient humidity is 55% or less. Do not use heavy coats of finish. Instead build up multiple smaller coats which dry faster and trap less solvent under the finish. Additionally, most catalyzed finishes will check or crack if applied too thick.

Water based stains and top coats are not considered ideal choices paper-backed veneer. If you must use this type of finish, be sure to apply a vinyl or acrylic sanding sealer to the veneered panel before staining and finishing. This information applies to all backed veneers - 2-ply, paper-backed, and PSA.

How do I test my veneer to make sure it is bonded properly?

Since there are many combinations of veneer, substrates, adhesives, finishes, and environmental conditions, we highly recommend testing a small piece of veneer with your application and finishing process before you begin the main veneer work.

Be certain to check for bubbles before applying your finish. If bubbles are present, this may be the only time to address these issues. The best way to check for bubbles is to place a powerful light (such as a halogen work lamp) beside the veneered panel and no more than 15 degrees above it. Look for peaks and shadows across the panel. Most bubbles can be easily repaired.

PSA and Contact Cement: Place a piece of cotton or flannel cloth over the bubble and gently heat the bubble with a clothes iron. The heat will reactivate most contact cements. Keep the iron in motion to prevent overheating the veneer. Once the veneer is adequately heated, scrape the bubble again until the area cools down.

Heat Lock: Within 12 hours of application Heat Lock can be reactivated. Place a piece of cotton or flannel cloth over the bubble and gently heat the bubble with a clothes iron. Keep the iron in motion to prevent overheating the veneer. Once the veneer is adequately heated, scrape the bubble with a veneer scraper or block of softwood until the area cools down.

Cold Press Veneer Glue: When high quality cold press veneer glue is used with a vacuum press, bubbles are generally not a problem. In the event that a bubble does show, the ironing method described above will usually fix the issue.

Is backed veneer bendable?

Most paper-backed veneer species can take up to a 1" radius bend along the length of the grain and 5" radius bend across the grain. A light coat of veneer softener can increase the flexibility of the veneer and prevent splitting on tighter bends. In fact, I have achieved a 1/4" radius on the grain length when I treated the veneer with softener. Most 2-ply veneers can accept a bend up to 5" along the length of the grain and 8" across the grain. Veneer softener is generally not effective on 2-ply veneers.

If you choose to apply a paper-backed veneer over bendable plywood, we recommend first applying 1/8" MDF to the plywood to add strength and rigidity.