



The Difference:

Understanding the specifics that set us
Furniture Concepts Upholstered Seating
apart!



www.furnitureconcepts.com info@furnitureconcepts.com 800.969.4100



Quality is not an accident.

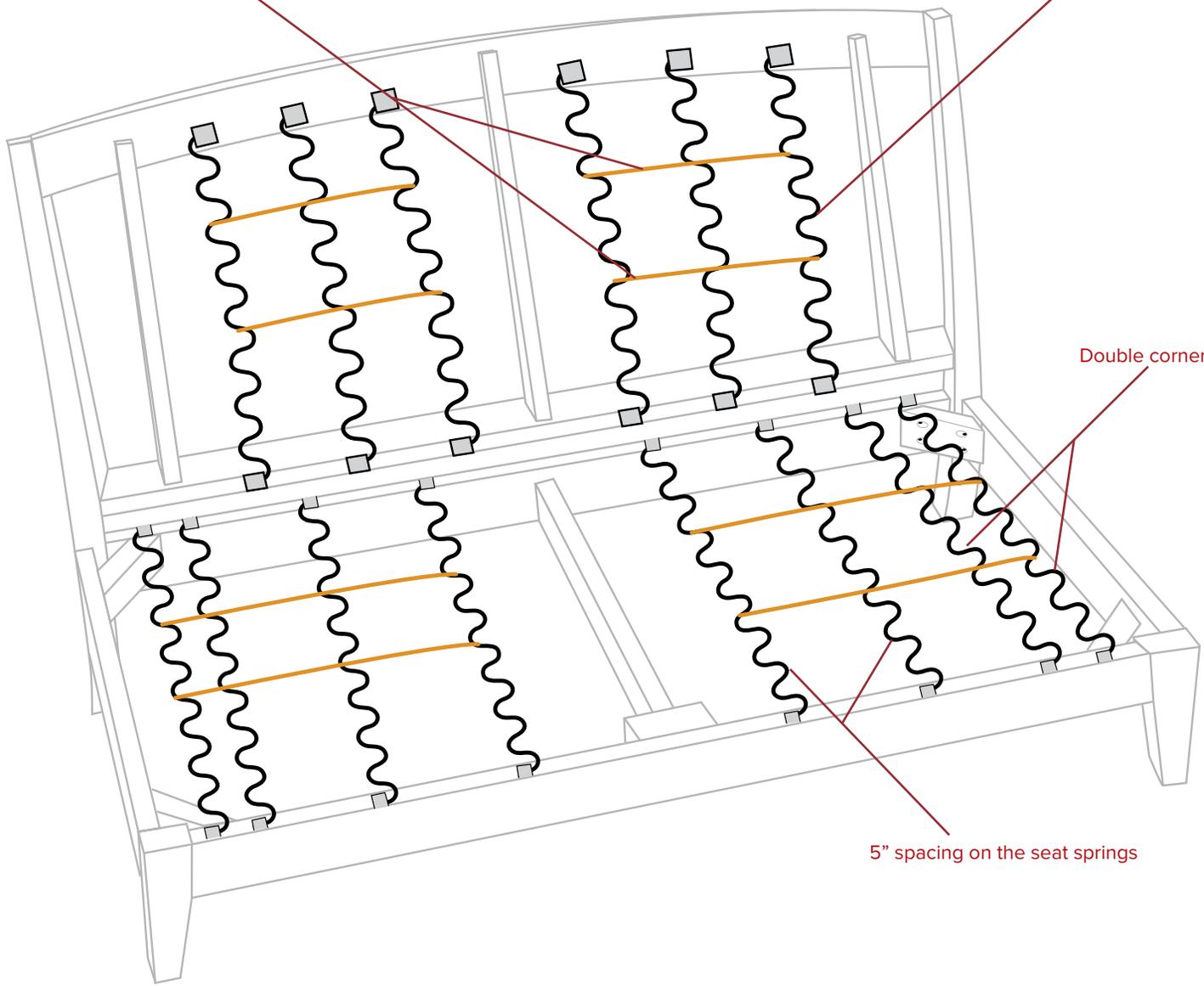
Everyday, upholsterers, finishers, woodworkers and engineers in plants in Valdese, North Carolina and Roanoke, Virginia, make thousands of decisions. Decisions driven by established protocols, years of experience, and attentiveness. Decisions that make a real difference in the durability, look, comfort and safety of Furniture Concepts products.

This document “The Furniture Concepts Difference”, attempts to explain some of these quality driven standards that set us apart, so that you can communicate these distinctions to the end user.

Spring Up

Some manufacturers use just one tie wire Furniture Concepts always uses two

8 Gauge Sinuous Wire

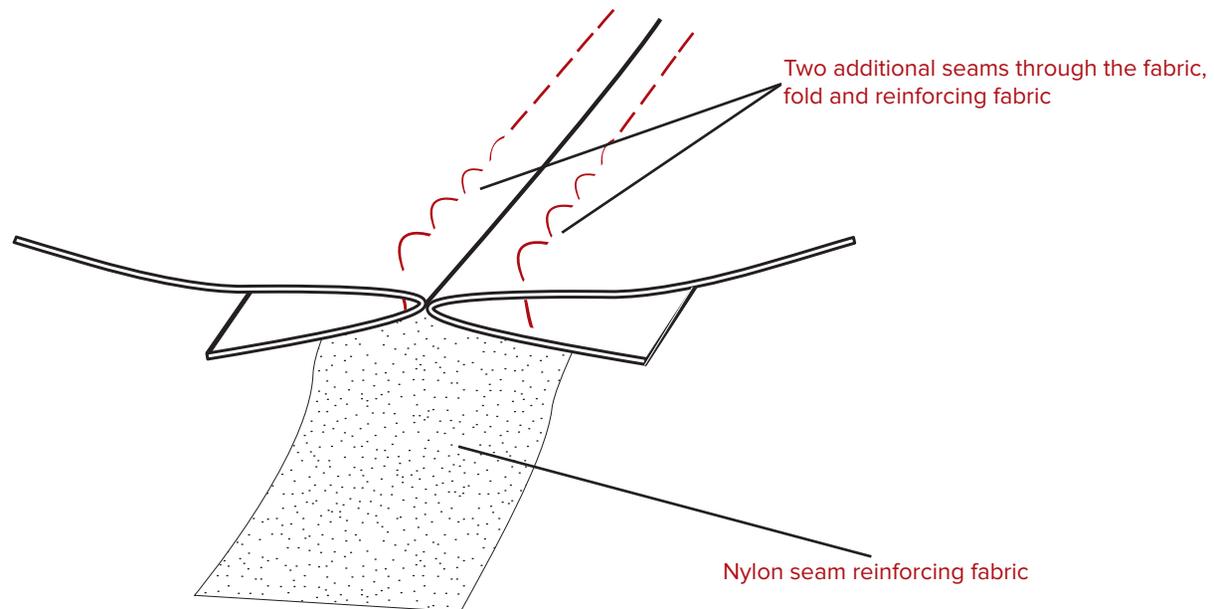
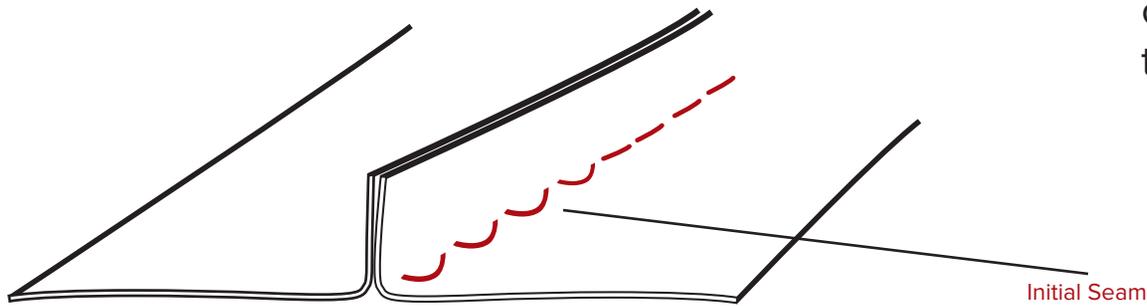


Double corner springs

5" spacing on the seat springs

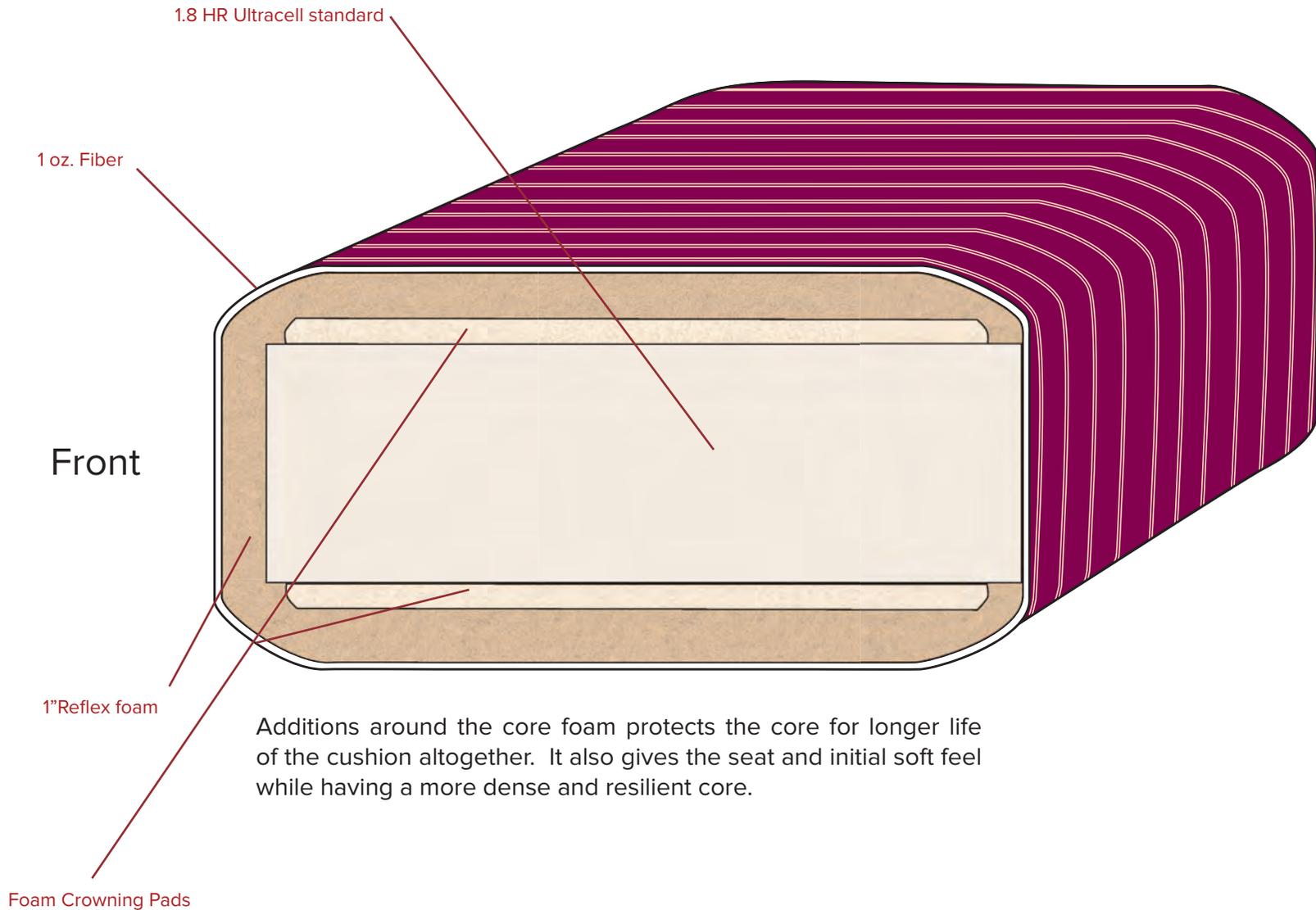
Reinforced Seams

-Taped double needle seams placed on all high stress seams and where there is no welt connection.

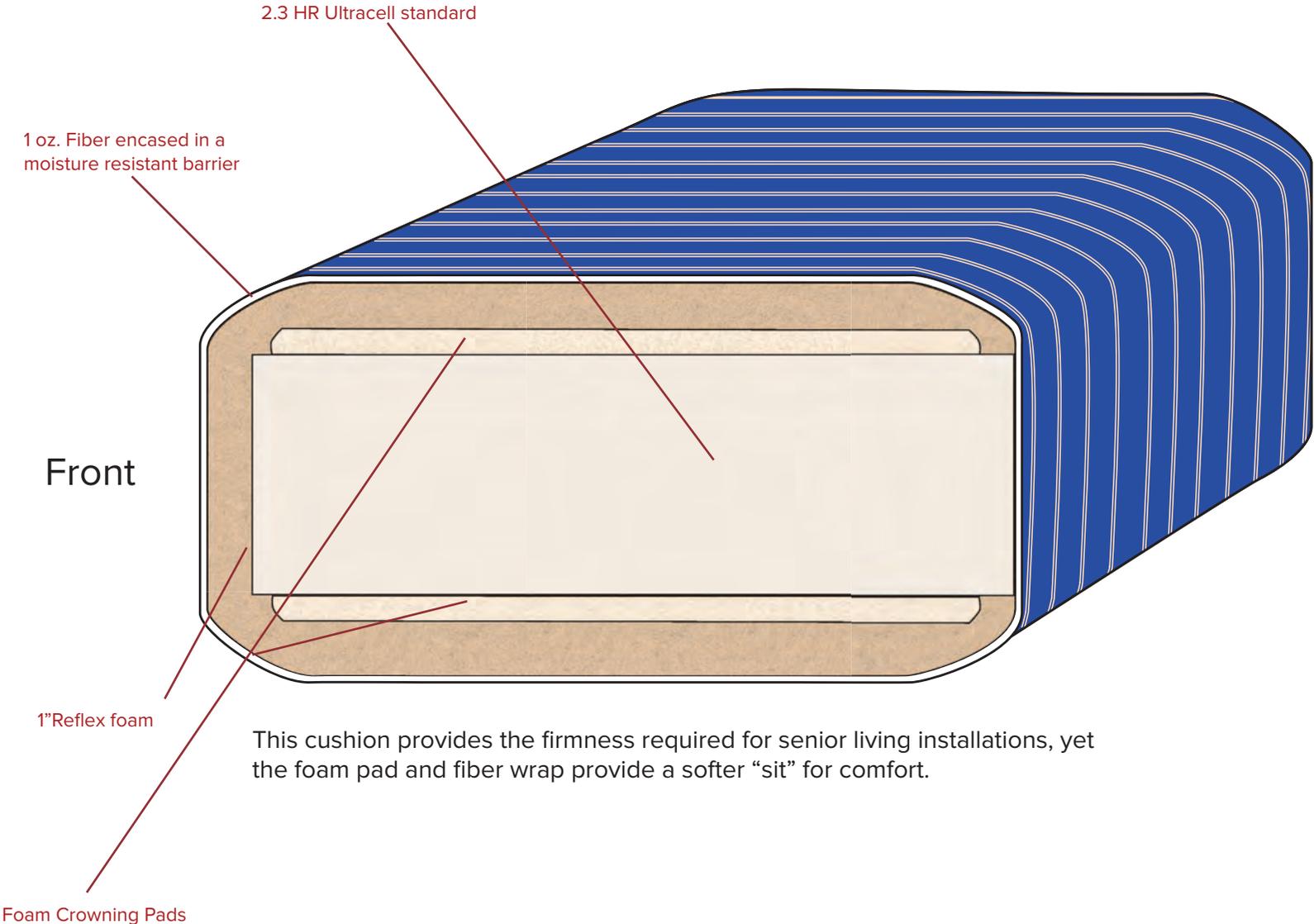


Furniture Concepts Seat Cushion Construction for Standard Seating.

Simply a higher standard

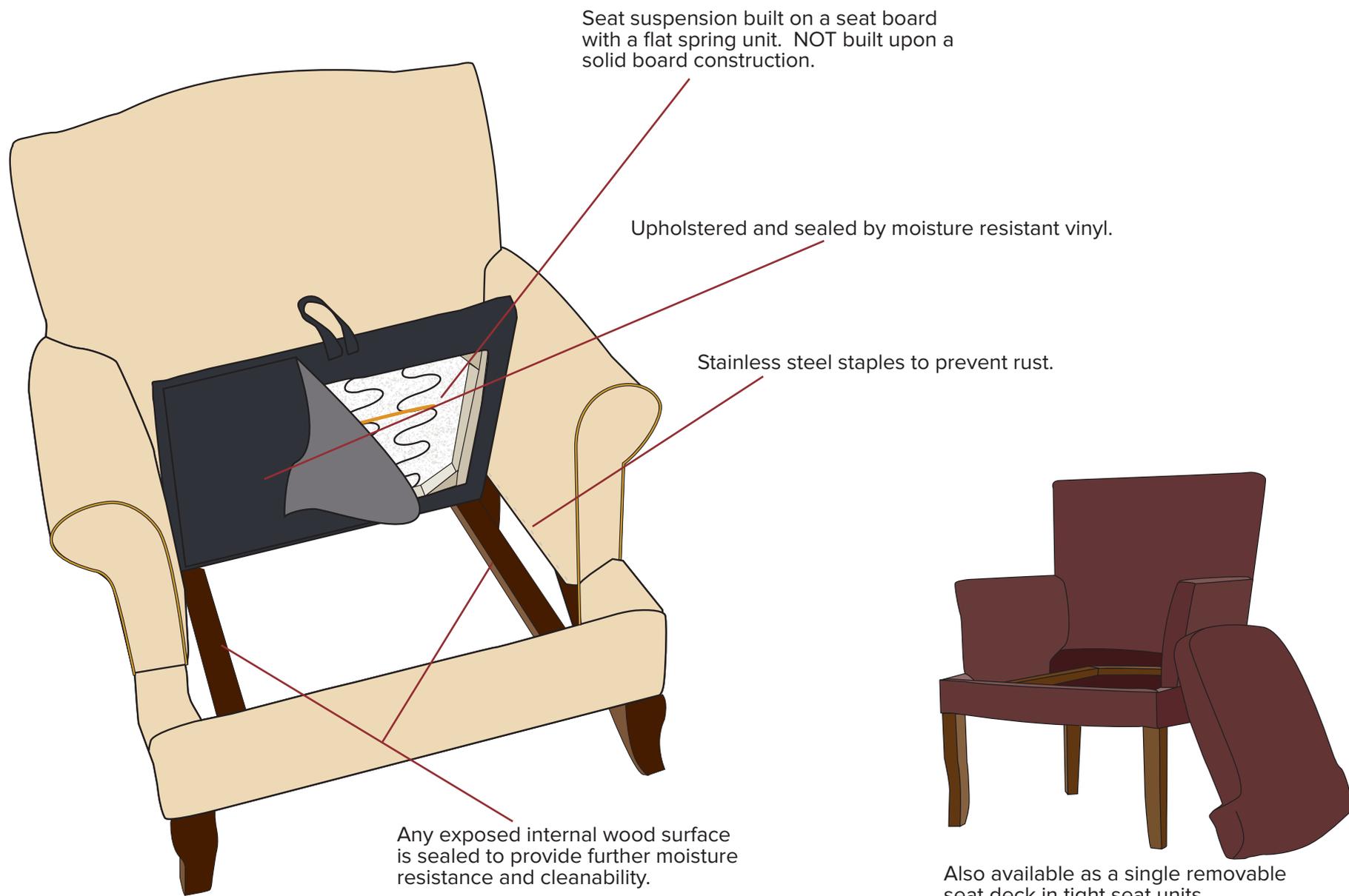


Comfort Firm Cushion Construction for Healthcare Use.



This cushion provides the firmness required for senior living installations, yet the foam pad and fiber wrap provide a softer "sit" for comfort.

Removable Seat Deck





Wood

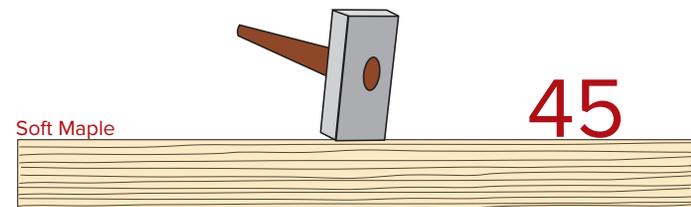
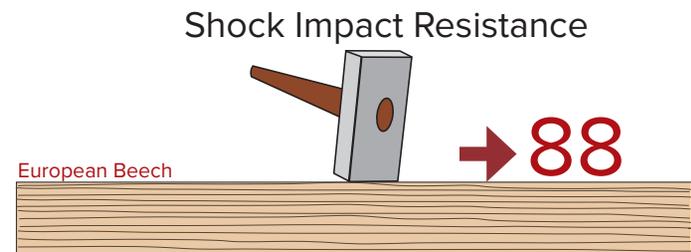
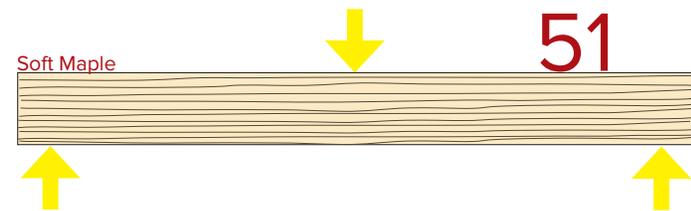
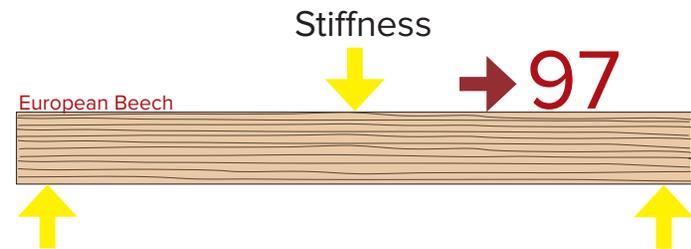
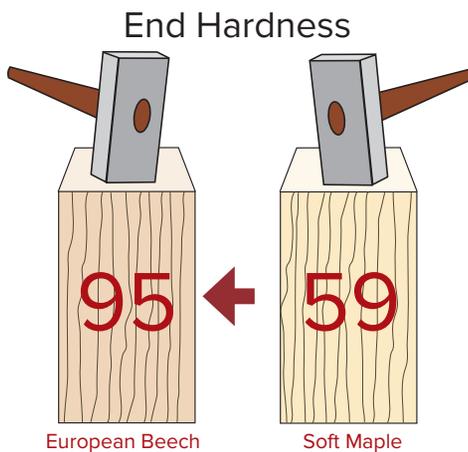
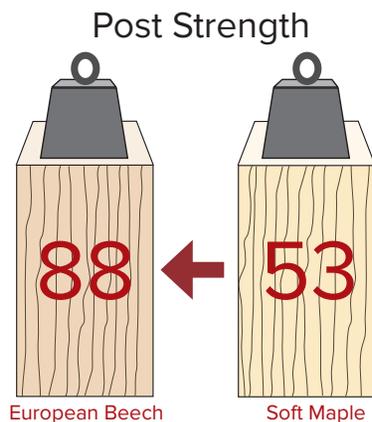
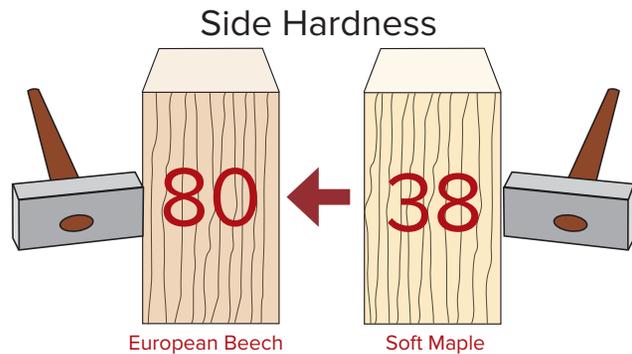
Furniture Concepts exposed wood products utilize some of the most sophisticated engineering and wood working techniques currently available. With an in house staff of engineers and the latest in CNC equipment, Kellex wood products are among the most durable products on the market.

The majority of Furniture Concepts Wood products utilize PEFC (Programme for the Endorsement of Forest Certification) German Beech. Lumber with a great story to tell about sustainability, strength, and color consistency.

European Beech Construction

Furniture Concepts Wood Exposed Wood frames made of sustainable yield certified European Beech offering superior strength, long term durability, stainability and color consistency.

Strength compared to Domestic Soft Maple



European Beech Construction

In Germany sustainability is not a fad, it's a culture.



By the early 1700s Germany was learning the hard way about the importance of sustainability. Hans Carl von Carlowitz, thought of as a father of modern sustainable forestry, was actually the minister of mining. He watched as the country's forest resources were sucked in to mining timbers and fuel for smelters. The German economy was brought to its knees as resources dwindled and lumber prices skyrocketed.

To save the German economy he instigated measures to see that harvest was coupled with strict regulations on replanting and forest management.

The German Beech used by Furniture Concepts is exclusively PEFC (Programme for the Endorsement of Forest Certification).

This international certification assures timber is harvested from land that combine harvesting, environmental protections and recreational enjoyment in a single forest.

PEFC promotes:

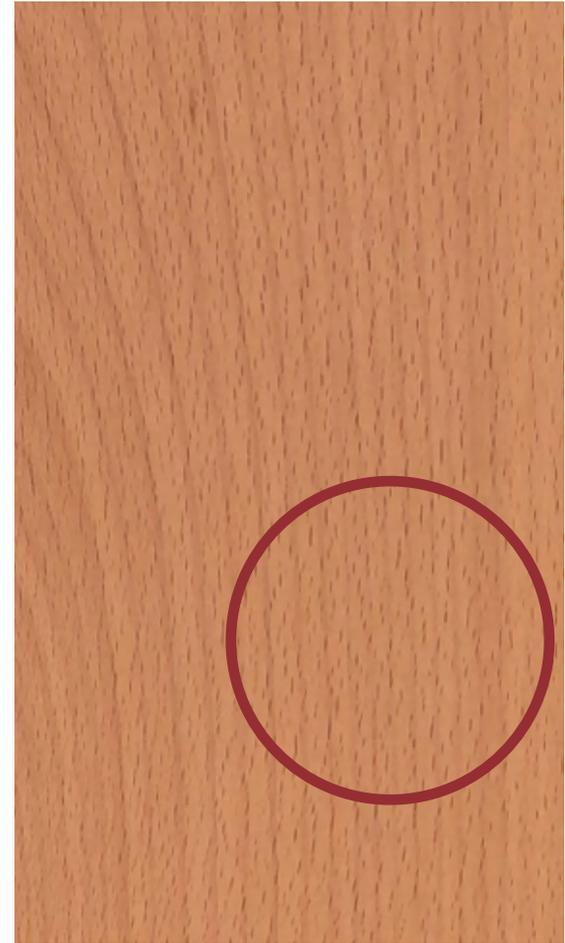
- Mixed species forestry that matches the local conditions
- 100% ban on clear cutting
- Complete ban on the use of herbicides

European Beech Construction

Color Consistency



One of the species specific traits of Soft Maple are streaky pith flecks that are widely spaced through out the board. When finished this can lead to a “splotchy” look.

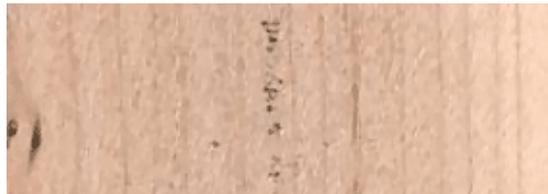


European Beech is also flecked, but the markings are more concentrated and consistent, enhancing the character of the finished product.

European Beech Construction

Color Consistency

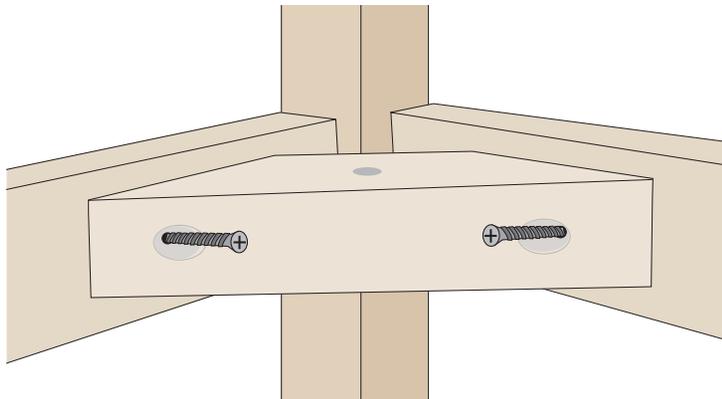
Furniture Concepts European Beech is processed at a single German Sawmill to exacting kiln standards. It's also exposed to light steam to prevent graying, and create a consistent hue across all products. Soft maple with or without a similar level of attention can create a wide spectrum of colors.



Additionally, European Beech is less susceptible to the fungus that causes spalting in soft maple, and pests that cause the holes in wormy soft maple.

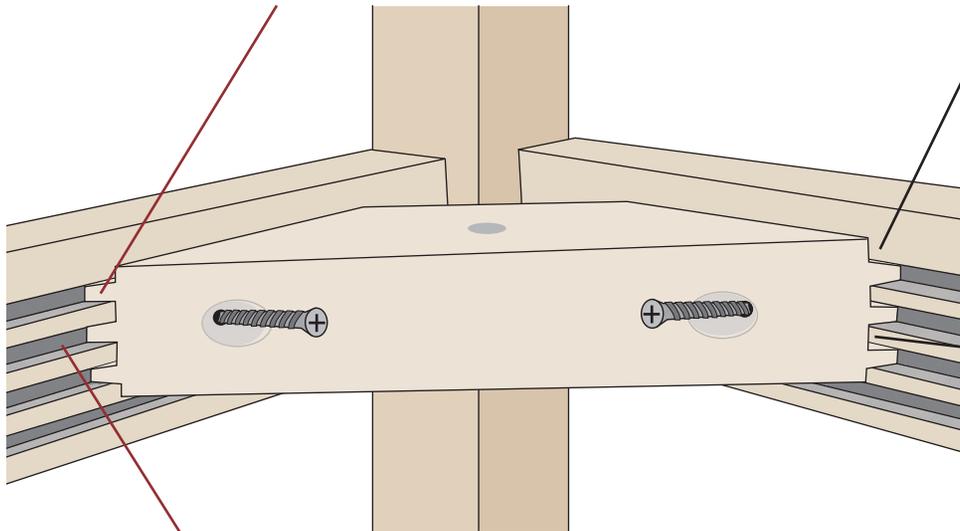
Lock Block Construction

The plane of the seat rails is the foundation of chair strength. The Lock Block construction holds this seat plane stable even under extreme stress – thereby making the entire chair exponentially stronger.



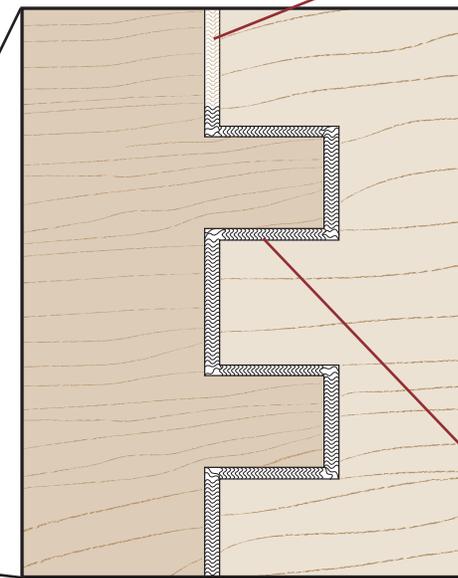
Standard Corner Block

Corner blocks are finger jointed



Locking Corner Block

Seat rails are precision machined to match the corner block finger joint.



Glue

This allows for a “side grain to side grain” wood connection – the strongest type of wood adhesion.

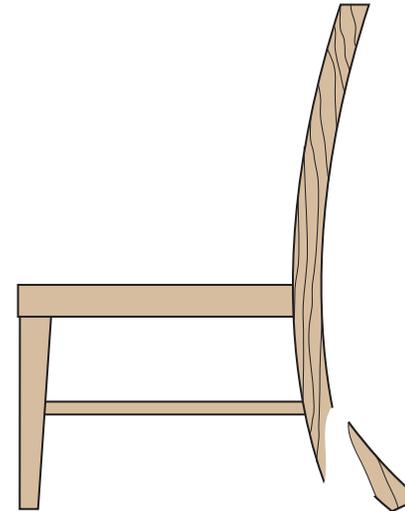
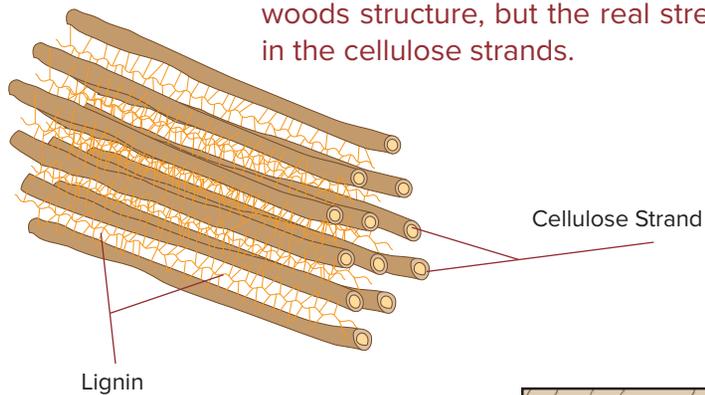
Side grain to side grain

Lock blocks more than doubles the glue bond surface. As with standard blocks are screws add additional support. The seat frame will not flex out of its intended shape and transfer stress to other points of the chair.

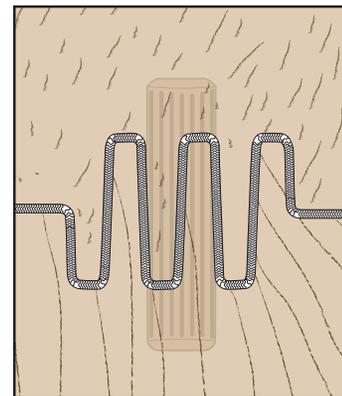
Grain Line Controlled Back Post

Careful control of the grain direction in the rear leg / back post of the chair reduces the chance of breakage and particularly of catastrophic failure with someone seated in the chair. It is an often overlooked point of quality but it has major durability and liability ramifications.

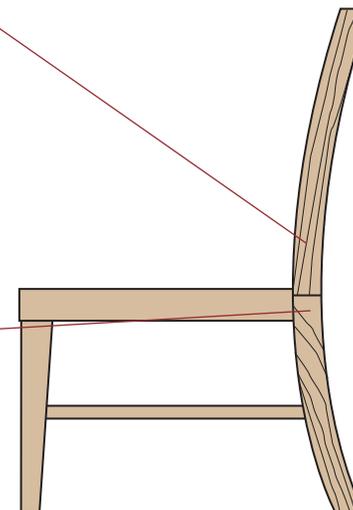
Wood on a molecular level is made of strands of cellulose suspended in a web of lignin. The lignin matrix is essential to wood's structure, but the real strength is in the cellulose strands.



If for instance the back post is cut from a single piece of wood, the stress is along the grain and will eventually cause a break.



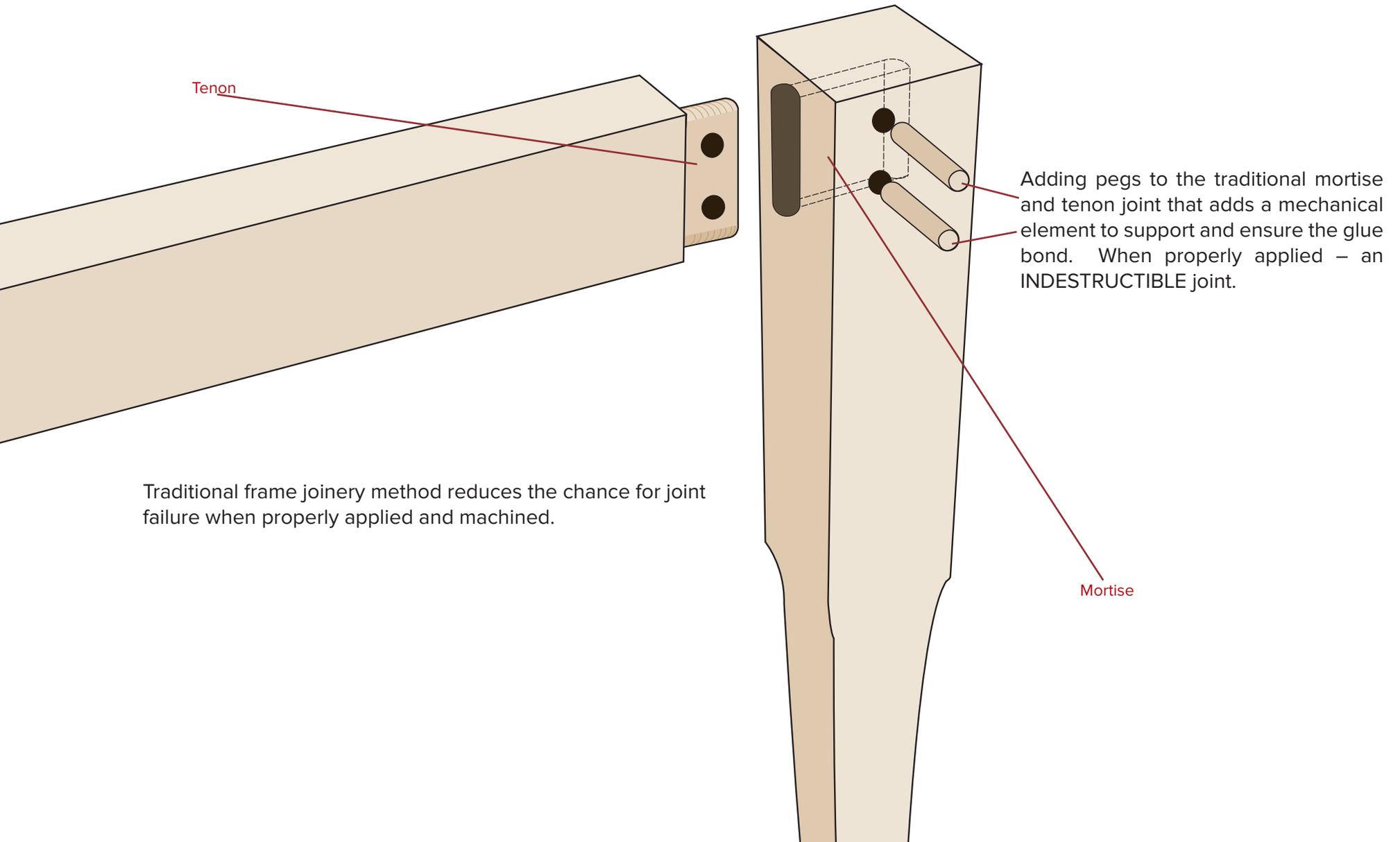
This critical joint is assembled with a dowel and finger joint. A joint that mimics wood's natural structure.



To solve the grain problem, we create a back post from two pieces of wood. Now the grain is aligned properly to assure the parts' strength.

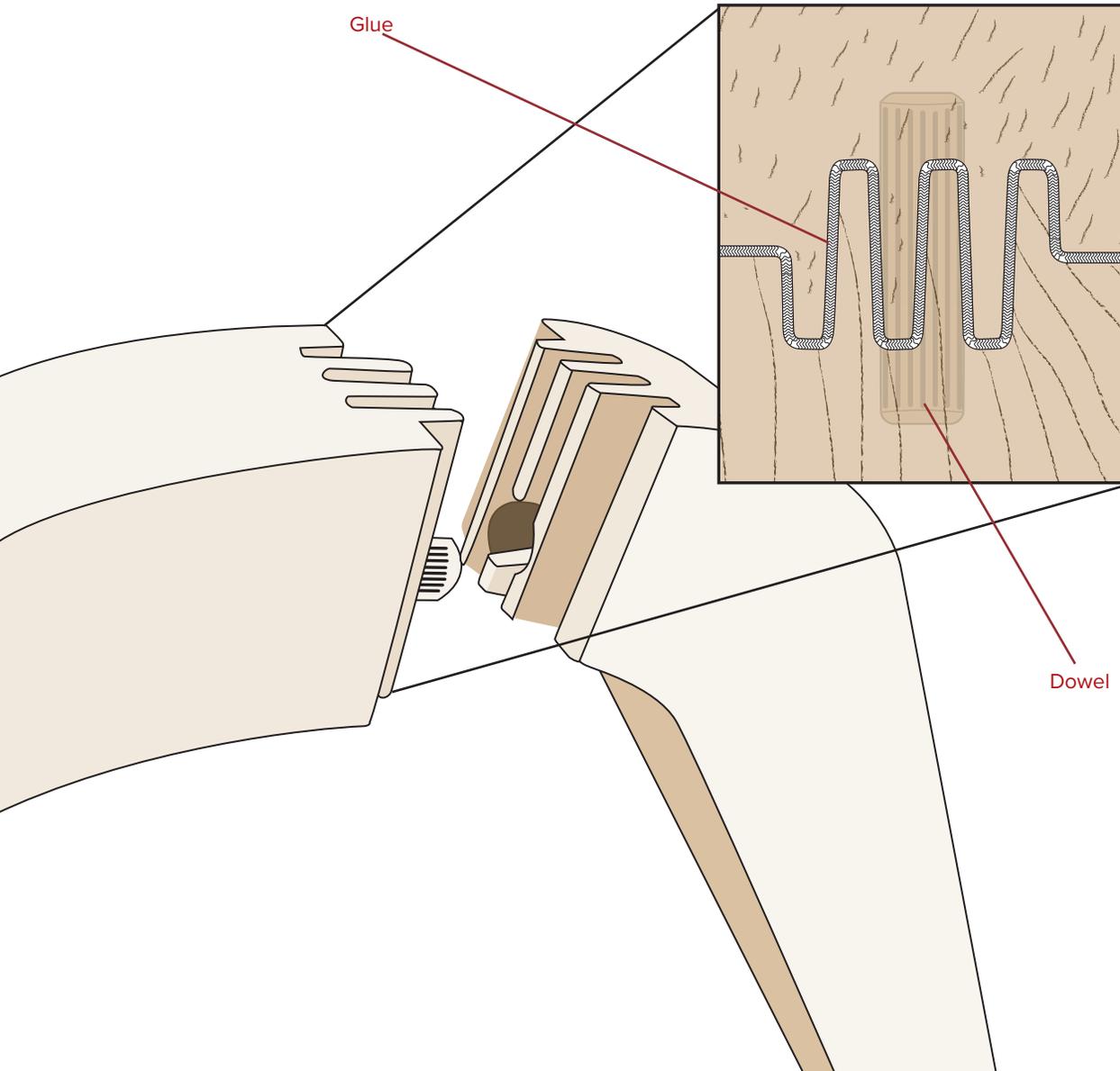
Peg Locked Mortise and Tenon

Mortise and Tenon is the second most common wood joint. In this diagram a rail with tenon is attached into a post with mortise.

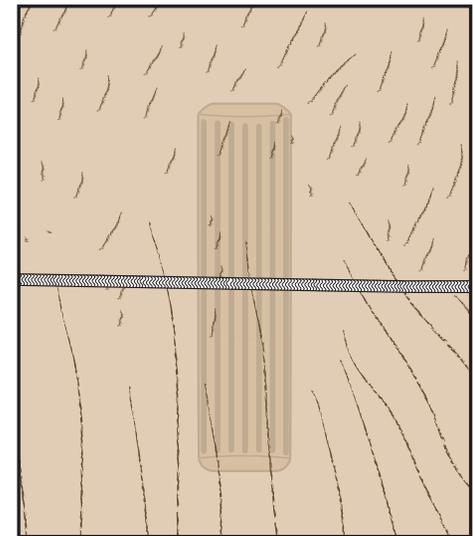


Doweled Finger Joint

Specialize tooling and machine centers used to create high strength joints that utilize both matched finger jointed surfaces along with a standard dowel all in one joint.



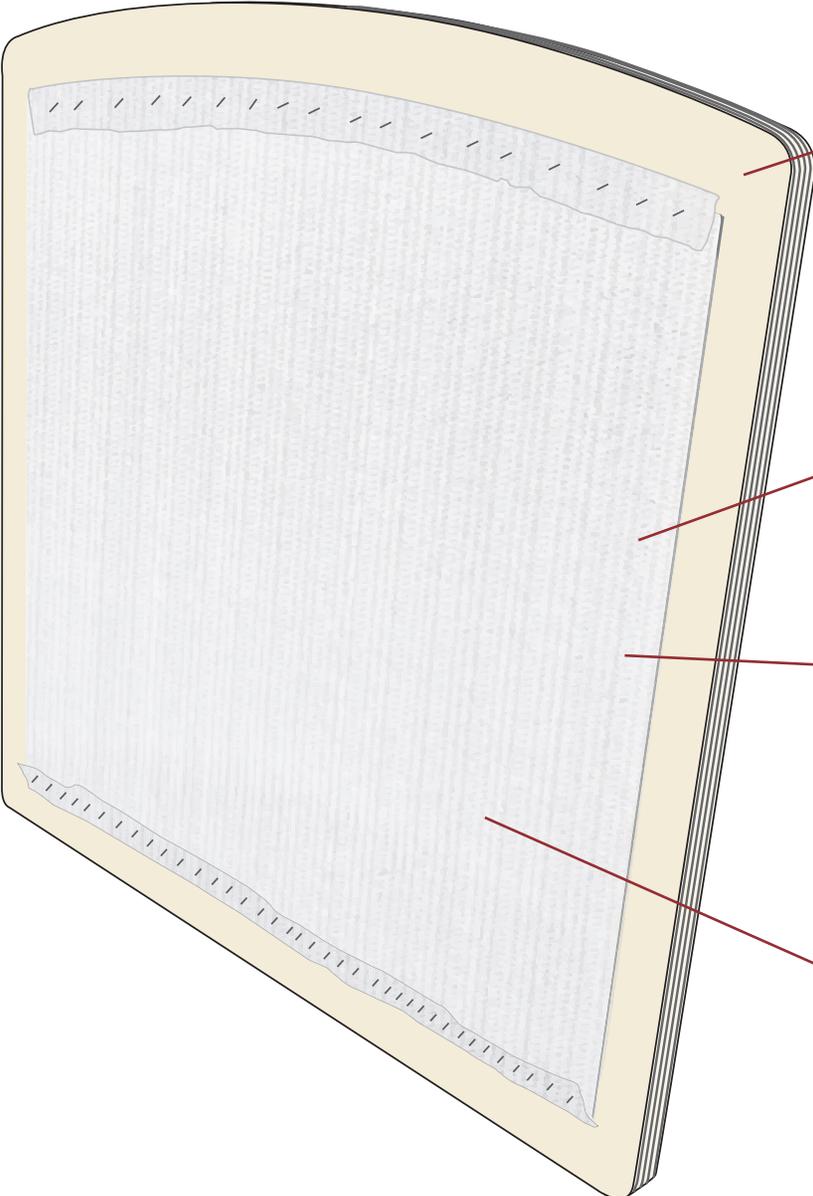
Most technically advanced joint. In many ways – the best of all worlds. Dowel adds long grain strength against shear forces and aids in alignment during assembly. The finger joint increases the overall joint surface and allows for side grain gluing for enhanced glue bond.



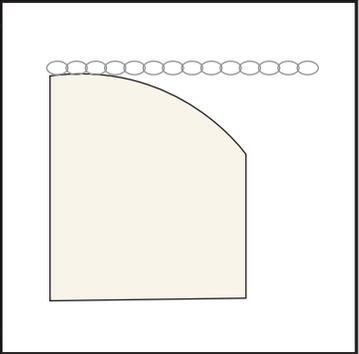
Standard Dowel Joint

Enhanced Seat Board Construction

Special hardwood seat board construction utilized on Furniture Concepts Wood Chairs



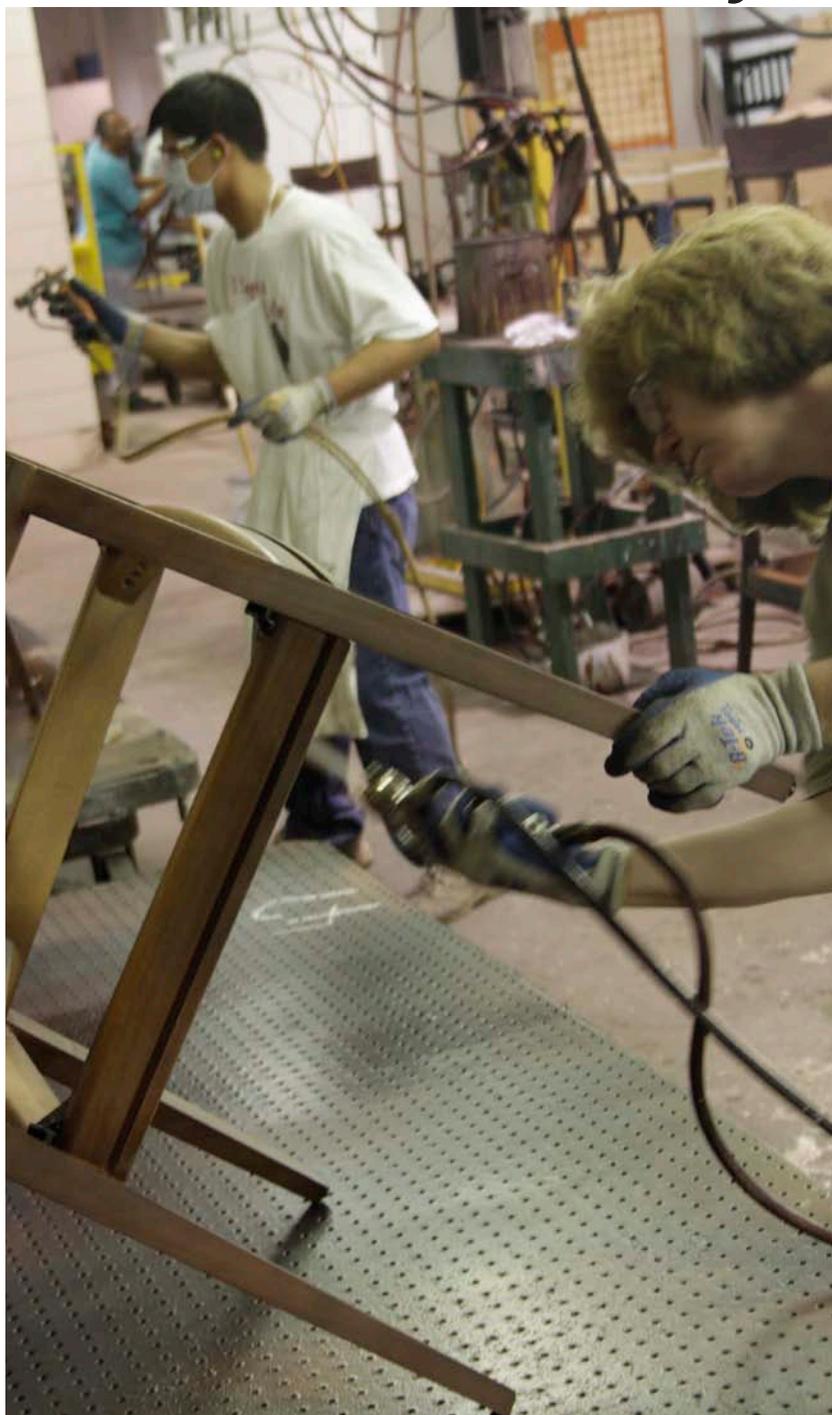
Hardwood plywood seat board (not MDF) is precision routed on CNC 3 Axis router.



All internal edges are eased in order to reduce webbing wear.

Upgraded sheet webbing is applied with overlapping staples. Webbing has cycle rating up to 200,000 seating cycles.

The What and Why of Conversion Varnish



What is Conversion Varnish?

Conversion varnish is an advanced wood coating technology utilized for the most demanding performance environments.

As compared to most conventional wood finish technologies – Conversion varnish offers the following advantages:

- Superior coating Strength – much stronger coating to resist scratches and corner wear.
- Superior Moisture Resistance – Coating keeps the underlying wood protected from moisture and associate problems of coating cloudiness and breakdown
- Vastly Superior Chemical Resistance – conversion varnish is not broken down by even the harshest chemicals and cleaners. Things such as alcohol that can quickly breakdown lacquers are impervious to Conversion Varnish. Typical commercial cleaners are much less of a concern for use on the surface when finished with Conversion Varnish.
- Superior Adhesion – Simply put – the coating sticks to the wood much better. Even in heavy abuse environment – Conversion Varnish is much less likely to “peel” and separate from the wood substrate.
- Great Surface Feel – Properly applied and cured conversion varnish achieves this performance without losing a silky natural hand feel – other technologies (i.e. urethanes) have high performance but end up with unnatural plastic feel to the touch.

The What and Why of Conversion Varnish



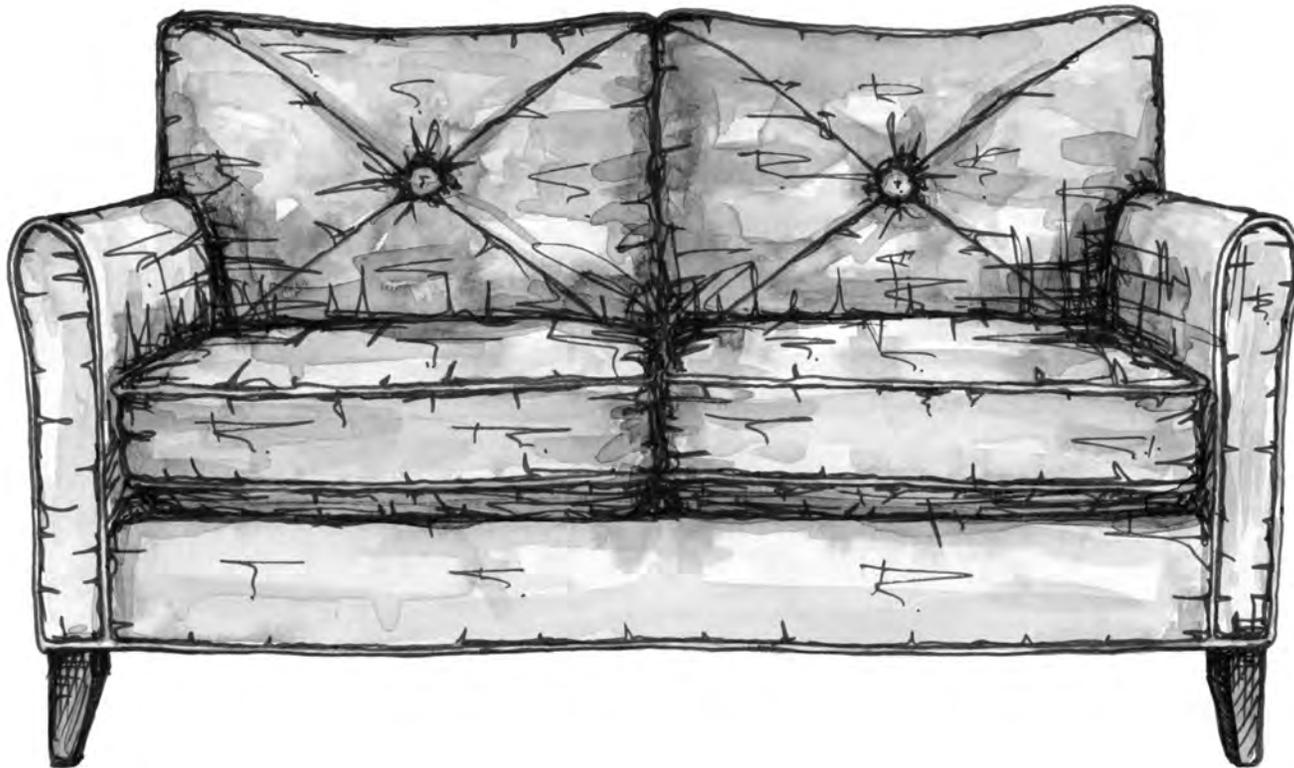
Furniture Concepts Conversion Varnish

- We utilize a high solid formulation that is catalyzed as it is sprayed onto the surface. It builds the coating thickness uniformly and ensures complete cross linking in each application step.
- All of our conversion varnish includes an anti microbial additive that protects the surface of the product from microbial growth.
- Additionally – all Furniture Concepts conversion varnish is enhanced with a UV inhibitor to provide protection from sun exposure and additional product life without fading.

The Application Process

Utilizing the right coating technology is critical but not sufficient for the highest performance finish. Furniture Concepts wood seating is produced in a unique process to ensure the highest performance standard:

- No Vinyl Sealers Used – many finishing processes begin to seal the wood after staining by applying a cost effective spray on vinyl sealer between the wood and the top coat. Vinyl sealers are fine – but they have lower grade adhesion than conversion varnish. We therefore achieve the greatest coating adhesion by using the Conversion Varnish as the first sealer instead of a cheaper vinyl sealer.
- Oven Capacity – The best conversion varnish applications require a great deal of heat and oven curing time for complete cross link and curing. Since we manufacture our own wood parts – we have ample wood waste which is recycled into heat for our curing ovens. Each chair travels on a precisely controlled 3750 feet long conveyor through each finishing step and through 5 high temperature curing ovens.
- Consistent Focused Application – Advanced coating systems are most often offered as an up charge. Everything we do in the Furniture Concepts Wood Seating operation receives this same coating system. It allows us to focus on the process for consistent results. Superior Adhesion – Simply put – the coating sticks to the wood much better. Even in heavy abuse environment – Conversion Varnish is much less likely to “peel” and separate from the wood substrate.
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