

1. **Polyurethane**

It is a type of varnish used in the finishing of floors, cabinets and other woodwork. It is a desirable choice of varnish because it is transparent, water-, fungus- and mildew-resistant, and resists abrasions. It also dries more quickly than other types of varnish and comes in flat or glossy sheens. Brush or rag apply.

It makes the surface durable and scratch-resistant. There are 3 types of finishes: Satin based, Gloss based, and Semi-gloss based. The differences between the 3 is up to personal preference. Satin based is less glossy because it has less flattening paste. Gloss and semi-gloss based is more glossy because it has more flattening paste.

Pros: common finish, durable, scratch-resistant. Less odor and toxic for water-based

Cons: Long drying process, toxic when touched/inhaled, flammable in liquid form/when applying (be in ventilated area during application), color may turn yellow, not good with heat

Price: \$15.97 (32oz) - Water-Based Clear Gloss

<https://www.homedepot.com/p/Varathane-1-qt-Clear-Gloss-Water-Based-Interior-Polyurethane-200041H/100193658>

Selection of Water and Oil Based Polyurethane

<https://www.homedepot.com/b/Paint-Interior-Stain-Waterproofing-Polyurethanes-Shellacs-Lacquers/N-5yc1vZaqst>

What is Polyurethane: <https://homeguides.sfgate.com/polyurethane-varnish-98832.html>

Differences between satin-based, gloss-based, semi-gloss based finished:

<https://www.hunker.com/12003697/satin-polyurethane-vs-semigloss>

Pros/Cons:

<https://www.doityourself.com/stry/how-to-wash-sticky-polyurethane-off-your-hands>

2. **Lacquer Wood Finish**

A liquid made of shellac dissolved in alcohol, or of synthetic substances, that dries to form a hard protective coating for wood and metal. Spray-on apply.

Pros: durable, resistant to damage

Cons: discolors and scratches over time, need ventilated area to apply

Price: \$14.98 (32oz) Clear Gloss Lacquer Wood Finish

<https://www.homedepot.com/p/Watco-1-qt-Clear-Gloss-Lacquer-Wood-Finish-63041/305562510>

What is Lacquer and Pros & Cons:

<https://pittsburghsprayequip.com/2016/08/30/lacquer-vs-varnish-vs-shellac-vs-polyurethane-vs-conversion-varnish-wood-finishing/>
<https://www.diynetwork.com/how-to/skills-and-know-how/painting/whats-the-difference-between-polyurethane-varnish-shellac-and-lacquer>

3. **Shellac**

Non-toxic common wood finish. Functions as a tough natural primer, sanding sealant, tannin-blocker, odour-blocker, stain, and high-gloss varnish. Brush apply

Pros: non-toxic, safe for surfaces children will be exposed to, easy application and easy removal with alcohol/water/ammonia

Cons: **Deteriorates easily** (condensation may leave a mark, heat deforms finish, alcohol causes blemishes)

Price: \$14.98 (32 oz) Clear Shellac Traditional Sealer and Finish

<https://www.homedepot.com/p/Zinsser-1-qt-Clear-Shellac-Traditional-Finish-and-Sealer-00304H/100203332>

What is Shellac:

<https://www.thesprucecrafts.com/get-beautiful-woodworking-finishes-with-shellac-3536494>

Pros/cons:

<https://www.doityourself.com/stry/how-to-wash-sticky-polyurethane-off-your-hands>

4. **Vinyl Coating**

A type of coating that is composed of synthetic resin or plastic. It is a thin layer of a protective covering substance, **deposited or applied on the surface of an object, mainly to improve its properties and to create a protective barrier against surface deterioration due to the object's reaction with its environment.**

Pros:

Abrasion and scratch resistance

Moisture resistant

Release or nonstick properties

Resistance against general wear, erosion, pitting and cavitation

nonporous

Cons:

Can be **difficult in maintaining connection to wood**

Cannot remove water if it gets under vinyl coating

Does not look natural

Definition:

<https://www.corrosionpedia.com/definition/6079/vinyl-coating>

Pros and Cons:

<https://www.corrosionpedia.com/definition/6079/vinyl-coating>

https://www.ehow.com/how_6589563_paint-vinyl_coated-wood-furniture.html

Alternate: Vinyl coated polyester

Definition: is a material frequently used for flexible fabric structures. It is made up of a polyester scrim, a bonding or adhesive agent, and an exterior PVC coating. The scrim supports the coating (which is initially applied in liquid form) and provides the tensile strength, elongation, tear strength, and dimensional stability of the resulting fabric.

Depending on its formula, the PVC coating makes the material waterproof and resistant to dirt, mildew, oil, salt, chemicals and UV rays and gives the material added strength and durability. It can be sewn or heat sealed by way of RF(Radio Frequency) welding or hot-air welding.[1]

The base fabric's tensile strength is determined by the size (denier) and strength of the yarns and the number of yarns per linear distance. The larger the yarn and the more yarns per inch, the greater the finished product's tensile strength.

The adhesive agent acts as a chemical bond between the polyester fibers and the exterior coating and prevents fibers from wicking, or absorbing water into the scrim. This prevents damage caused by absorbed water during a freeze thaw cycle.

The PVC coating (vinyl Organisol or Plastisol) contains chemicals to achieve the desired color, water, mildew resistance, and flame retardancy. Fabric can also be manufactured with levels of light transmission that range from very transparent to completely opaque. After the coating has been applied to the scrim, the fabric is put through a heating chamber that dries the liquid coating.

Pro:

no hazard to health with application

Cons:

requires more work to adhere to table

Might have gaps depending on how it is applied

Price: 16.75/ yard

5 KILZ Over Armor Textured Wood/Concrete Coating

Definition:

Over Armor offers an innovative solid color coating that brings old, weathered wood or concrete back to life with an advanced and durable 100% acrylic resin formula.

Pros:

textured coating bridges cracks, hides imperfections, and gives a uniform look to old, weathered wood and concrete

Waterproof

Cons:

Do not know how it interacts with chemical cleaners

Price: \$36.99/ gallon on amazon

\$38.73/ gallon Walmart

https://www.amazon.com/KILZ-Textured-Concrete-Coating-gallon/dp/B06XPYYLT6/ref=asc_df_B06XPYYLT6/?tag=hyprod-20&linkCode=df0&hvadid=216743026518&hvpos=1o1&hvnetw=g&hvrnd=12479106563148933471&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlcint=&hvlcphy=9005637&hvtargid=pla-390436237132&psc=1

6 Epoxy Coating

<https://protective.sherwin-williams.com/tools/epoxy-coating-troubleshooting/>

<https://www.hunker.com/12000202/can-epoxy-paint-be-applied-to-wood-floors>

<http://timberridgedesigns.com/epoxy-coating-for-wood-a-diy-guide-to-clear-casting-epoxy-resin-for-wood/>

Pricing: \$36.50

<https://www.amazon.com/Finish-Varnish-Provides-Gorgeous-Appearance/dp/B000PEGLBS>

Pros

- Waterproof

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Cons

- Difficult to apply

- Requires primer before epoxy coating applied

- Use rolling brush

- Specific temperature and humidity to apply

- Long dry time

Marine Varnish