

Performance Characteristics→ Basic Coating type ↓	Chemical/ Moisture Resistance	Scratch/Mar resistance	Solids Content /Build	Color Fastness /Tendency to yellow over time	Adhesion/Elasticity /Creep	Gloss Level/ Polish	Depth of Clarity
Pre-catalyzed Lacquers (Nitrocellulose)	Usually satisfies KCMA requirements but definitely on the lower end spectrum the more coats the better it gets	Usually satisfies KCMA requirements but definitely on the soft side of the spectrum	Medium solids to get more build more than 2 coats are usually required	Will flip and yellow over time	Great elasticity and creep properties for normal builds, may shrink and crack over time	Easily polished for high gloss apps	2-3 mils DFT with two coats Usually medium solids May have amber tint to clear
Post catalyzed lacquers	Usually satisfies KCMA requirements but definitely on the lower end spectrum the more coats the better it gets	Usually satisfies KCMA requirements but definitely on the soft side of the spectrum	Medium solids to get more build more than 2 coats are usually required	Will flip and yellow over time	Modest elasticity and creep properties for normal builds will may shrink and crack over time	Easily polished for high gloss apps	2-3 mils DFT with two coats Usually medium solids May have amber tint to clear
Acrylic Lacquers	Usually satisfies KCMA requirements better than the nitrocellulose	Usually satisfies KCMA requirements but definitely on the soft side of the spectrum	Medium solids to get more build more than 2 coats are usually required	Less likely to flip and yellow over time	Less brittle and more flexible, shrinks less than Nitrocellulose	Polishes for high gloss but slightly more difficult than the nitrocellulose	Closer to water white clarity
Post-catalyzed varnishes (CV)	Good moisture/ Chemical Resistance	Better than most lacquers usually surpass KCMA	Higher medium solids mid 30% can achieve 2-3 mil DFT builds in coats Total dry film builds usually limited to 5-6 mils	Due to acid catalyst the color especially in pigmented versions can flip UV absorbers help	Has least elasticity than most lacquers and other standard coatings in this chart	One of the most difficult coatings to buff and polish	Easier water white clarity than most lacquer Less likely to blush than lacquer

Polyurethane 1K	Creates more moisture and chemical resistance than CV or lacquers when applied correctly good enough for high humidity/moist ure environment	Better than most lacquers and CV easily passes KCMA when applied correctly	Higher builds of 10 mils+ can be achieved with higher solids and body	Provides better color fastness to the previous acid cure coatings	Will fill in cracks/wood grain and hold elasticity better in high humidity and moisture environments	Usually easier than a conversion varnish to polish in high gloss situations	Easier water white clarity than most lacquer Less likely to blush than lacquer deeper clarity than CV
Polyurethane 2-3K	Similar to the 1K PUR but higher moisture and chemical resistance	Similar to the 1K PUR but higher scratch resistance	Similar to the 1K PUR but slightly higher solids and build	Similar to 1K PUR	Similar to 1K PUR	Similar to 1K PUR but more difficult to polish in high gloss applications	Similar to 1K PUR
Polyesters	Higher moisture and chemical resistance per coat than 1-2K PUR	Higher scratch resistance than Lacquers, CV, or PUR	Polyester is +/- 96% solid content polyurethane is between 50% to 65% solid content. One of the highest builds per coat in a sprayable application	Similar to 1K PUR	Similar to 1K PUR	Similar to 1K PUR but more difficult to polish in high gloss applications	Maintains good clarity even in fewer coats
Solvent based UV	Higher moisture	Higher scratch	Sealers are 30-	Dyes and	Adhesion is good especially	Can achieve	Maintains good clarity even in

medium/high solids 30-60% Sprayable	and chemical resistance than CV and lacquers but less than PUR and Polyesters with same coats and build	resistance. Hybrid flooring formulations have some of the highest mar and scratch resistance along with polyester/PUR 2-3K	60% and topcoat/self-seal are 30-40%	pigments must be color fast to UV lamps. After UV curing there will be very little yellowing or flip in color.	when using self-sealing or inner coat chemistry. Can be used with other coatings such as polyurethane and water based as tie coat. Elasticity is good. Creep is good as well after it cools down.	high gloss but polishing is sometimes difficult without tie coats or multiple coats	fewer coats
100% solids Sprayable UV	Has the highest moisture and chemical	Has similar scratch resistance to Polyesters and	100% has the highest film build in one	Dyes and pigments must be color	Adhesion can be marginal due to low solvent and binder content elasticity is also	Can achieve high gloss but typically not	Clarity is good as film is in coat is the highest but the whitewood/stain and pigment

	resistance per coat along with the polyester	Polyurethane	coat of most wood coatings	fast to UV lamps. After UV curing there will be very little yellowing or flip in color.	marginal.	easy to polish	must not bleed into the clear.
Water based UV Medium/medium high solids	Similar to slightly better than CV	Similar to slightly better than CV	29-41% solids good film builds and inner coat adhesion especially with self-sealing	Very little yellowing or flipping of colors	Due to resin emulsion and cross linking the elasticity is good and the creep in the joints is good.	Can achieve high gloss and polishing for softness and gloss.	Clarity can be an issue depending on wet film build and DFT and other process factors such as agitation and spray method But can be applied water white
Water based 2 K	Similar to a conversion varnish	Similar to a conversion varnish	Similar to a conversion varnish	Does not yellow or flip like a CV or lacquer	Due to resin emulsion and cross linking the elasticity is good and the creep in the joints is good.	Can achieve high gloss and polishing for softness and gloss.	Clarity can be an issue depending on wet film build and DFT and other process factors such as agitation and spray method But can be applied water white
Water based 1K (Polyacrylic)	Similar to lacquers	Similar to lacquers	Similar to lacquers	Typically, there is no flip in the color and little yellowing	Elasticity is good but creep in the joints may break the coating.	One of the easier coatings to buff and polish for high gloss scenarios	Clarity can be an issue depending on wet film build and DFT and other process factors such as agitation and spray method But can be applied water white