

Wood Coating Additives

Micronized Waxes and PTFE for surface modification

Wood coatings need to have different performance features in different areas: e.g. abrasion resistance for parquet lacquers and a good slip and hand feel for furniture surfaces, as well as water beading to resist rain and moisture for exterior wood protection. Waxes and micronized PTFE provide excellent performance for a wide range of wood coatings.

Shamrock Technologies offers a wide range of materials and delivery forms to ensure the best products for your application: Micronized waxes, dispersions or emulsions based on synthetic or bio-based waxes.

Depending on chemical bases, particle size and delivered form, waxes can have influence on many properties like matting, slip or on the negative side influence the clarity of a film.

The spider diagram visualizes the performance to be gained if certain chemistries are used in the formulation of wood coatings. It is a general description, to give an overview – not to recommend specific products. Depending on system demand it can give indications which way to go.







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Gloss readings

Diagram 1 illustrates the matting efficiency of several wax additives incorporated into a waterborne system at 3% total formula weight. Our testing data shows that adding these selected wax additives can significantly reduce the gloss level from a high-gloss sheen down to a satin or matte finish. Test data based on 60° gloss angle measurement.

Taber abrasion

Taber abrasion resistance is a key feature of protective wood finishes. Diagram 2 shows the overall improvement in abrasion resistance compared to a control without any additive. The addition of 1.5% wax additive to the formula enhances Taber abrasion resistance by approximately 47-82%.

Scratch Resistance

Scratch resistance is an important property of wood coatings. This chart shows the force in newtons required to scratch down to the substrate. The addition of 1.5% wax additive to the formula improves scratch resistance by approximately 11–31%.





All diagrams are based on tests done in a 1K wb polyurethane dispersion, with 1.5% wax addition.

PFAS-fre additives

Product	Description	MP Wax (°C)	MV (µm)	Feature	WB	SB	UV
BioSLIP® 222	Micronized bio-based wax alloy	102-106	5	Mar and slip	1		1
BioSLIP® 275	Hard bio-based wax alloy	125 - 128	5	Abrasion/mar/scuff resistance	1	1	1
BioSLIP® C-521	Modified carnauba wax alloy	82-85	7	Hard wax for abrasion and black heel mark resistance (BHM)	1	1	
BioSLIP® E-400	Micronized plant based wax	142-145	5	Slip, anti-blocking and water resistance	1	1	1
BioSLIP® EA-65	Modified stearic based wax	147	5	Abrasion resistance, matting	1	1	
BioSLIP® EC-722	Amide based wax alloy	141-145	4	Slip and anti-blocking	1		1
HydroPEL QB	Paraffin based wax alloy	93	9	Water repellency	1	1	
MaxWax® 421	Modified synthetic wax	125-128	5	General slip and abrasion resistance	1	1	1
NonSKID 59	Polypropylene	150	8	Anti-Slip, matting, BHM resistance	1		1
S-156	Densified polyethylene	126	8.5	In-can stability, matting, abrasion resistance	1	1	1
S-363	Synthetic wax alloy	140	5	Water repellency	1	1	1
S-379-N8	Synthetic wax	100	12	Slip, mar/abrasion resistance	1	1	1
S-394-N5	Synthetic wax	112	7	Excellent slip and abrasion resistance	1	1	1
S-395-N1/N5/SP5	Polyethylene	125	5/8/10	Mar/scuff/abrasion resistance	1	1	1
UltraMATTE 56	Synthetic wax dispersion	100	12	Flattening, abrasion resistance	1		



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