

## Bio-based wax additives

Shamrock Technologies develops and offers effective bio-based wax additives which can be used in a wide variety of long-lasting formulations, providing performance-enhancing benefits needed in the inks and coatings industry.

By developing bio-based options, we seek to:

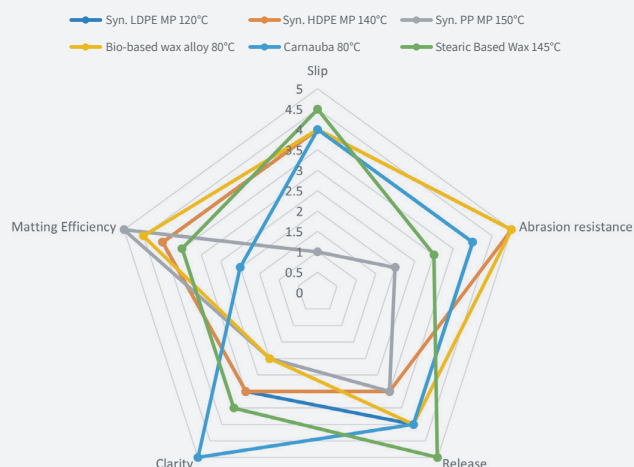
- Rethink fossil-based value chains
- Return to more natural sources without depleting feedstock
- Reimagine a greener future with less impact on the environment

Shamrock Technologies offers a range of sustainable plant-derived natural wax additives as a part of our dedication towards green initiatives and promoting the circular economy. We are committed to helping the environment through our working practices of using bio-renewable resources and conservative energy processing methods.

In keeping with this approach, we are proud to announce the expansion of our bio-based wax additives within our new BioSLIP® series. Our expanding BioSLIP® product line offers outstanding slip and mar resistance with a controlled impact on gloss and clarity. BioSLIP® products integrate naturally sourced materials into ink and coatings formulations, improving their performance and extending the useful life of the products.

### Performance Comparison

This diagram illustrates the various attributes each wax can enhance in an ink or coating formula. Comparing bio-based waxes to synthetic waxes, it demonstrates that choosing a bio-based wax does not mean having to sacrifice performance. In certain cases, such as clarity, slip and release, bio-based waxes can outperform synthetic waxes.



# Bio-based wax additives

**NATURAL WAX:** Sustainable micronized waxes for outstanding slip and mar resistance with controlled impact on gloss and clarity.

Product	MP (°C)	Typical MV (µm)	Composition	Notes
BioSLIP® 222	102-106	5	Micronized bio-based wax alloy	Mar and slip for general industrial and can coatings
BioSLIP® 275	125	5	Hard carnauba wax alloy	Abrasion resistance for metal coatings
BioSLIP® E-400	142-144	5	Micronized plant based wax	Slip, release and hydrophobicity
BioSLIP® 655	108-110	5	Medium hard natural wax alloy	Rub and slip for offset inks
BioSLIP® 659	124-128	6	Hardened rice bran wax powder	Slip, rub and scratch resistance
BioSLIP® 677	83-85	8	Soft bio-based wax alloy	Slip and rub resistance
BioSLIP® 678	83-85	8	Soft natural wax alloy	Slip and gas release for powder coatings
BioSLIP® C-519	82-85	11	Carnauba Wax Powder	rub resistance, slip, clarity/transparency
BioSLIP® C-521	82-85	7	Modified carnauba wax alloy	Rub and release for toners and intaglio inks
BioSLIP® EA-65	147	5	Modified stearic based wax	Mar and matting additive
BioSLIP® EC-641	141-145	4	Micronized wax complex	Excellent slip and scratch for metal coatings
BioSLIP® EC-722	141-145	4	Amide based wax alloy	Slip and release for internal can coatings



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