Airable
RESEARCH LAB
WHERE SUSTAINABLE SOLUTIONS START

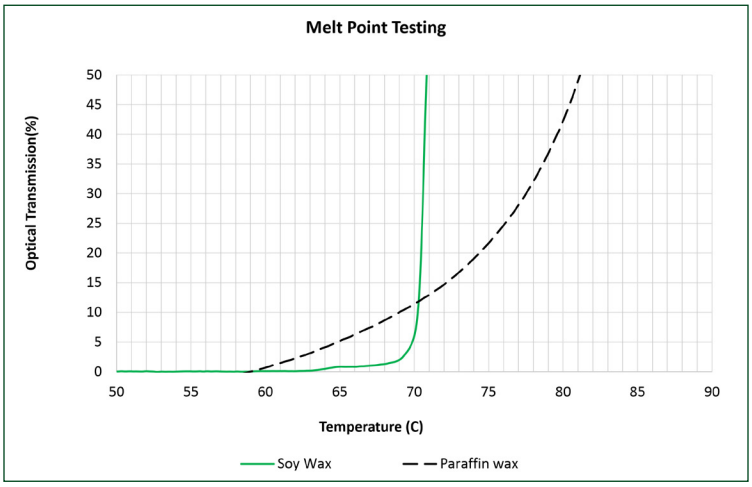
Wax Coating Solution

THE CHALLENGE

Gear Head's fifth wheel grease pads are a simple and effective way to handle and apply grease to trucks' coupling joints. The pads have a paraffin wax coating that allows them to be conveniently packed in boxes. The grease can be applied by hand (no tools needed).

THE SOLUTION

Airable identified an appropriate soy-based wax grade that proved better for this application. Soybean oil can be fully hydrogenated, increasing the melting onset point and crystallinity. The processing yields a wax with a higher melting temperature and thermal stability than partially hydrogenated oils typically used in food, candles, or personal care products. Airable formulated the soy-based wax into a usable product that provides a durable, water-repellant coating that is easier to handle and store in warm-to-hot ambient temperatures.



Airable researchers used optical melt point testing to characterize the onset of the wax melting. The paraffin wax melts (and becomes sticky) at a lower-than-ideal temperature.

Airable Research Lab and Gear Head Lube partnered to identify a commercial soy-based wax formulation that provides an alternative to petroleum-based microcrystalline wax. Gear Head is using the bio-based wax in its fifth wheel lubricant product.

THE VALUE

- **Free of petroleum-based paraffins**
- **Higher melting onset temperature**
- **100% bio-based carbon**
- **Made from widely available renewable resources**
- **Durable**
- **Water-repellant**

"I'm a mechanical engineer, so it was great to have access to the wealth of soy-based chemistry knowledge Airable provides. And as a small business owner, it was a refreshing change to have outside support. I really appreciate Airable's approach to increasing bio content while adding practical value."

Todd Whiting, Director of Product Development, Gear Head

FIFTH WHEEL GEAR HEAD LUBRICANT

Barry McGraw | Founder and Chief Laboratory Officer ✹ (614) 704-1250 ✹ bmcgraw@soyohio.org