



DISCOVER PTFE ALTERNATIVE ADDITIVES FOR SOLVENT & WATERBORNE WOOD COATINGS

| Improved abrasion resistance at low coefficient of friction

PTFE (Polytetrafluoroethylene) is a fluoropolymer used in a large variety of industrial applications due to its desirable properties such as low coefficient of friction, abrasion resistance, etc.

Honeywell's Specialty Additives Business understands that customers, like you, may be looking for alternatives to PTFE polymers.

We are excited to share viable alternatives to PTFE polymers that also deliver improved performance.

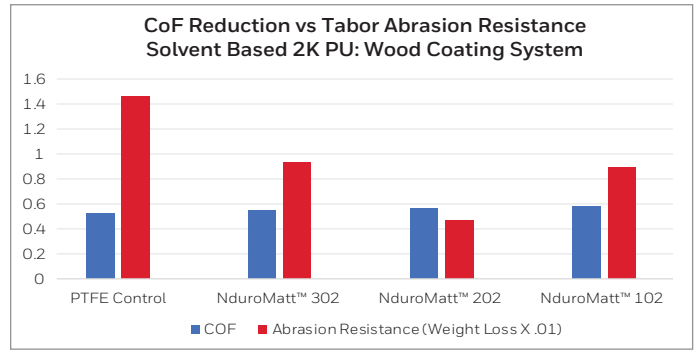
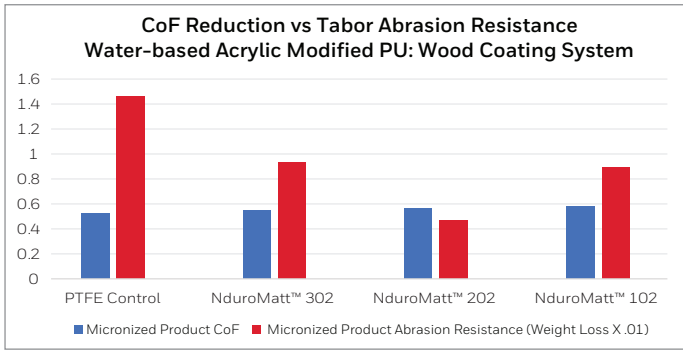
NDUROMATT™ MULTI-FUNCTIONAL ADDITIVES

Honeywell tested NduroMatt™ multi-functional additives performance compared to traditional PTFE in waterborne and solvent-borne coating systems. We tested this against a few

key attributes such as coefficient of friction, rub resistance, abrasion resistance, scratch resistance, gloss, and color transfer. The findings highlight that Honeywell NduroMatt™ is a viable replacement for micronized PTFE polymers in solvent and waterborne coatings. NduroMatt™ will also enhance surface properties such as abrasion & rub resistance, without increasing the coefficient of friction.

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PTFE VERSUS NDUROMATT™ - COEFFICIENT OF FRICTION AND ABRASION RESISTANCE IN WATER-BASED AND SOLVENT-BASED WOOD COATING SYSTEMS



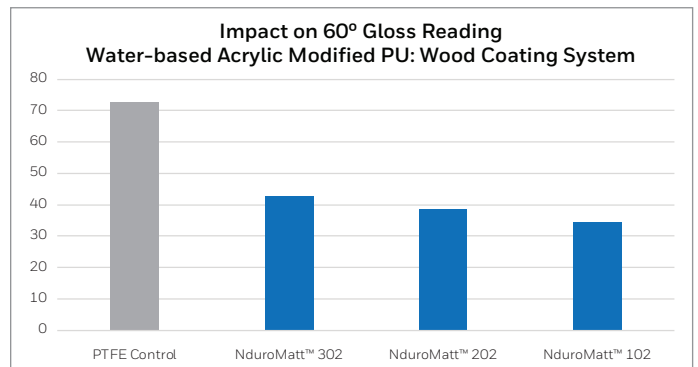
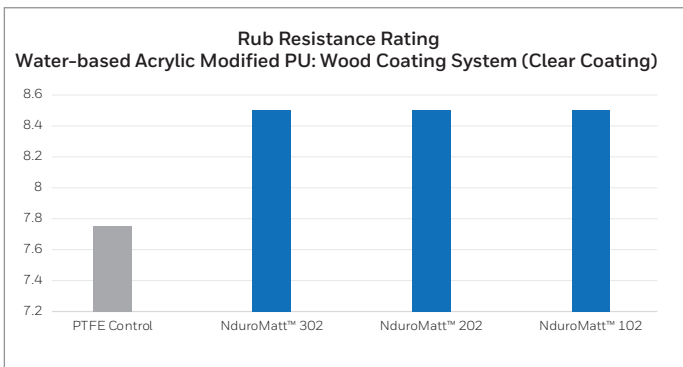
Why are Coefficient of Friction (CoF) and abrasion resistance crucial in solvent and waterborne wood coatings?

- **CoF:** This measures the slipperiness of the surface. In coatings, a controlled CoF ensures that surfaces have the desired level of grip or slip, contributing to the functional and safety aspects of the wood product. For example, floor surfaces should be designed to prevent slipping while allowing smooth movement.
- **Abrasion Resistance:** This refers to the coating's ability to resist wear-and-tear such as scuffing, scratching, and erosion. High abrasion resistance ensures the coating can protect the wood surface over time, maintaining its aesthetic and structural integrity despite heavy usage.

By optimizing both CoF and abrasion resistance, coatings provide durable, long-lasting protection and finish, enhancing the functionality and lifespan of wood products.

As shown, CoF reduction is comparable between PTFE and NduroMatt™ grades while NduroMatt™ delivers better abrasion resistance for both waterborne and solvent-borne coating systems.

PTFE VERSUS NDUROMATT™ - RUB RESISTANCE AND GLOSS READING IN WATERBASED AND SOLVENT-BASED WOOD COATING SYSTEMS



What is the importance of rub resistance in waterborne wood coatings?

Rub resistance indicates the durability of the coating against wear-and-tear such as physical contact or friction. High rub resistance ensures that the coating can withstand constant usage, maintaining its physical appearance as well as protective function over time. This is especially important for surfaces that are frequently touched or used, like furniture, floors, and cabinetry. It helps prevent damage, thus prolonging the life and aesthetics of wood surfaces.

Of the 4 grades tested, and rated on a scale of 0-10, with 10 being the highest performance, all the NduroMatt™ grades rated: 8.5, while the pure PTFE Grade rated: 7.75, thus surpassing the performance of PTFE throughout.

Gloss (Initial)(60°): Gloss reduction was in the order of: pure PTFE lowered gloss the least (72.7) < NduroMatt™ 302 (42.9) < NduroMatt™ 202 (38.6) < NduroMatt™ 102 (34.5).

What makes gloss a crucial factor in choosing wood coatings?

Gloss in waterborne wood coatings affects the aesthetic appeal and functional characteristics of the finished surface. Gloss selection is tailored to the intended use of the wood product, with different gloss levels offering varying degrees of resistance to wear and visibility of imperfections.

NduroMatt™ improves coating performance while enabling lowering the gloss to desired levels.

SUMMARY

In both waterborne and solvent-borne wood coating systems, NduroMatt™ grades outshine pure PTFE. They excel in key performance metrics including **Haze, Rub Resistance, and Abrasion Resistance**. NduroMatt™ materials also offer more gloss reduction, which is beneficial for applications where a less reflective finish is preferred. The consistent performance of NduroMatt™ across various critical tests, coupled with its ability to achieve a desired matte finish, makes it a superior choice in wood coating formulations, where durability and lower gloss are prioritized.

If you're looking for a PTFE alternative for waterborne and solvent-borne coating applications, get in touch with us to explore a variety of solutions, and learn how they can enhance surface properties and coating performance at reduced coefficients of friction.

For more information, [visit our website](#) or [get in touch](#) with a Honeywell representative.

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