EFFICIENT MATTING. ENHANCED LONGEVITY. UNRIVALED DURABILITY.

NduroMatt™ multi-functional additives for Paints and Coatings



PROVED COATING

SERVICE LIFE

Matte coatings are more prevalent than ever before, yet the requirements for durability and longevity remain the same. Conventional matting agents make coatings susceptible to surface defects such as burnish, mar, and scratch, negatively impacting the durability of matte paints and coatings. Honeywell's new NduroMatt™ provides a 2-3 fold improvement over conventional matting agents.

NDUROMATT™ MULTI-FUNCTIONAL ADDITIVES FOR COATINGS

Honeywell's NduroMatt product line consists of three product groups that offer a wide range of performance attributes for architectural, wood, industrial, and functional coatings. NduroMatt™ products can completely replace conventional matting agents, or can be used to supplement matte coatings to enhance surface properties.

PRODUCT	DESCRIPTION	PERFORMANCE ATTRIBUTES*	BURNISH RESISTANCE*	SCRUB RESISTANCE*	RUB/MAR RESISTANCE*	STORAGE STABILITY*
NduroMatt™ 100 series	For use in water or solvent- based, semi-gloss to flat paints and coatings, providing superior surface properties when compared to conventional matting agents.	Matting Efficiency	+	+	+	+
NduroMatt™ 200 series	For use in water or solvent based, semi-gloss to flat paints and coatings, that require an additional boost in surface properties over NduroMatt™ 100.	50% faster incorporation** Limited or no foam and dust	++	++	++	+
NduroMatt™ 300 series	For use in water based pigmented semi-gloss to flat paints and coatings, requiring a polar matting agent for ease of dispersion, and superior surface properties when compared to conventional matting agents.	generation** Limited or no impact on viscosity**	++	++	++	++

Versus synthetic silica based matting agents.

⁺ Better than conventional matting agents

⁺⁺ Significantly better than conventional matting agents

 $Burnish \, resistance \, test-MPI \, \#139 \, (March \, 2018) \, modified \, with \, additional \, 500g \, weight \, and \, 250 \, cycles. \\ Scrub \, resistance-Per \, MPI \, \#60, \, March \, 2018 \, (referencing \, ASTM \, D2486-17). \\$

Rub/Mar resistance - Per modified MPI #139 (March 2018) Burnish resistance test, visual inspection of damaged surface.

^{*} Storage stability – Stored at room temperature for 42 days, visual inspection of coating.

NDUROMATT™ PRODUCT GROUPS

Honeywell's NduroMatt products come in 6 micron to 18 micron particle sizes that are suitable to be used with coatings and inks of various dry film thicknesses. The varying sizes also allow customers to mix & match these products, to achieve the most optimal visual, as well as performance characteristics.

PRODUCT	18 MICRON	12 MICRON	6 MICRON
NduroMatt [™] 100 series	100	101	102
NduroMatt [™] 200 series	200	201	202
NduroMatt™ 300 series	300	301	302

EFFICIENT MATTING, ENDURING PROTECTION

Recommendation for 100% replacement of conventional matting agents:

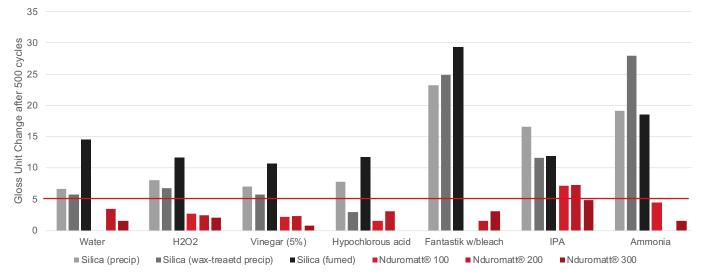
VALUE PROPOSITION	WATER-BASED ACRYLIC/VINYL	SOLVENT-BASED 2K POLYURETHANE	SOLVENT - BASED ALKYD
Matting Efficiency*	+	-	=
Burnish Resistance*	++	++	++
Rub/Mar Resistance*	++	++	++
Viscosity Control*	+	=	+

- Slightly less efficient than conventional matting agents
- = Is equal to conventional matting agents
- + Better than conventional matting agents ++ Significantly better than conventional matting agents

- Matting Efficiency Measured using BYK Gardner Micro-Tri-Gloss Meter.
 Burnish resistance test MPI #139 (March 2018) modified with additional 500g weight and 250 cycles
- Rub/Mar resistance Per modified MPI #139 (March 2018) Burnish resistance test, visual inspection of damaged surface
- * Viscosity Control Viscosities are measured with a standard Brookfield Viscometer



ENDURABILITY OF MATTE FINISH - HOUSEHOLD CLEANERS



Gloss readings are at 85° gloss angle using the BYK Gardner Micro-Tri-Gloss Meter. 5% w/w loading level post added in water-based acrylic coating. Burnish tested after 500 cycles with 4 pounds (1.81 kgs) weight.

Test Conditions:

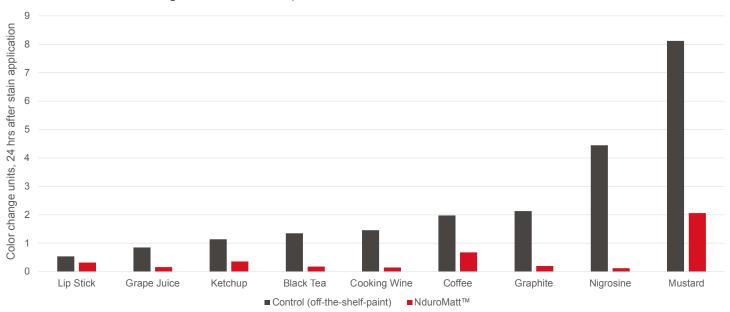
BYK Gardner abrasion/scrub tester, rayon pad, 200 cycles with an additional 500 grams of weight. Matting agent loading level 5% w/w in high gloss water based acrylic coatings.

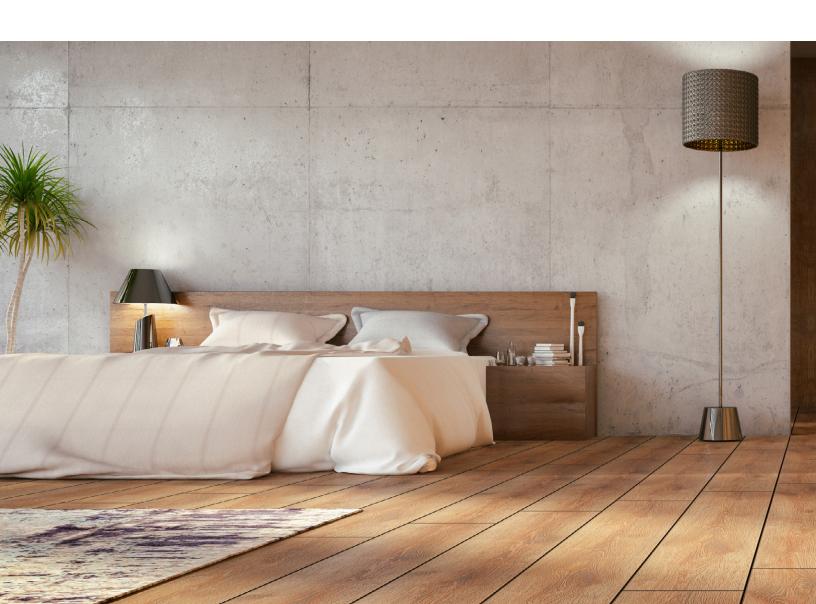




NDUROMATT™ STAIN RESISTANCE

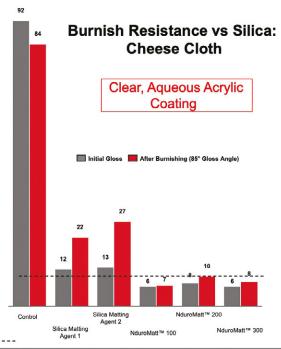
Nduromatt $^{\mathsf{TM}}$ s resist the staining of even off-the-shelf paints

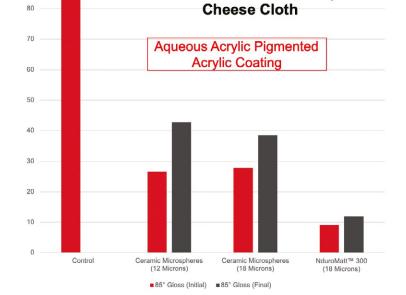




NDUROMATT™ BURNISH RESISTANCE

Advantages of Nduromatt™ VS Competitive Materials

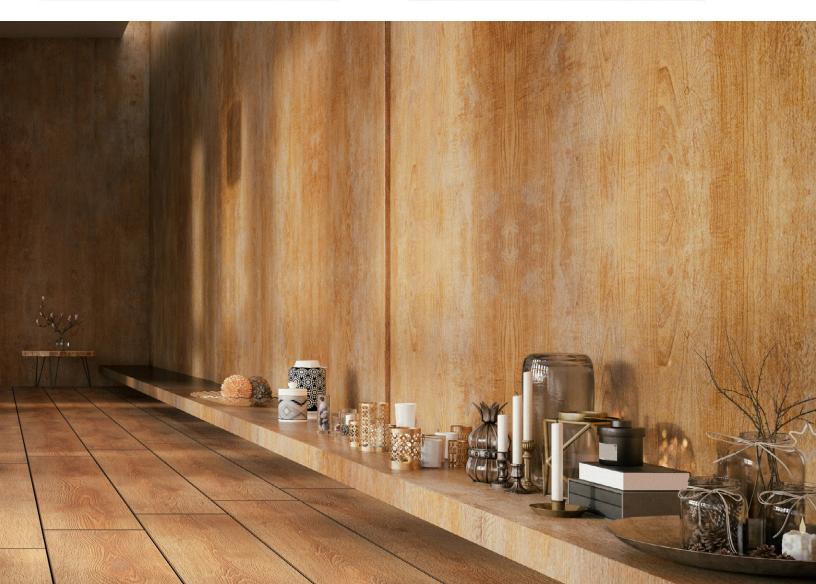




Burnish Resistance vs Microspheres:

Byk Gardner Abrasion Tester: 300 cycles and an additional 500 grams of weight

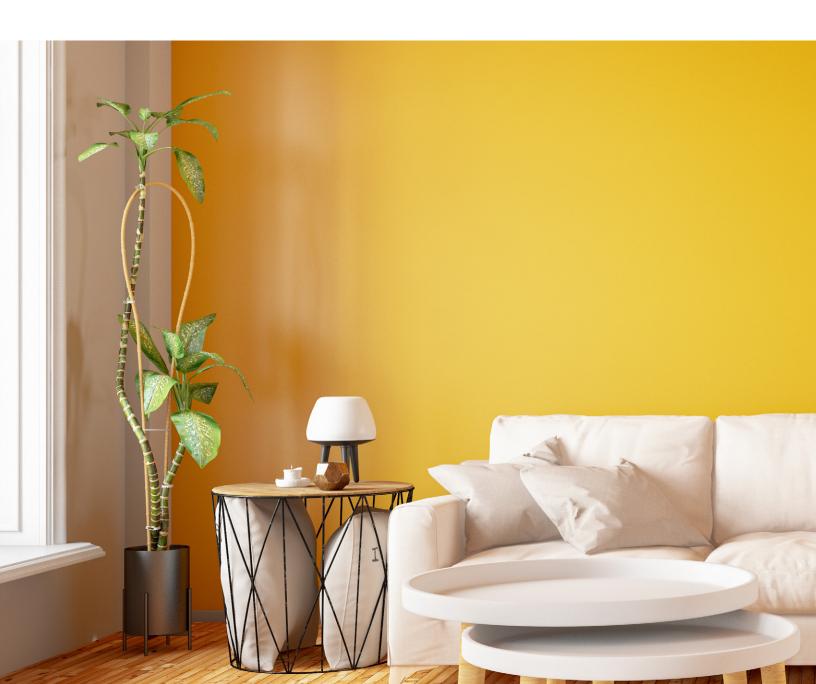
Byk Gardner Abrasion Tester:200 cycles and an additional 500 grams of weight



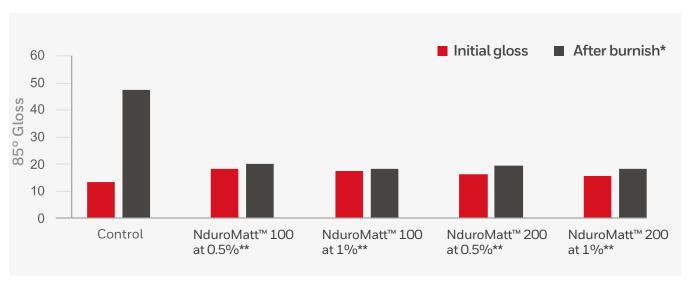
Recommended loading levels to improve performance in low gloss coatings, matted with conventional matting agents (0.5 – 2% w/w, post add):

VALUE PROPOSITION	WATER-BASED ACRYLIC/VINYL	SOLVENT-BASED 2K POLYURETHANE	SOLVENT- BASED ALKYD
Burnish Resistance*	++	++	++
Rub/Mar Resistance*	++	++	++
Storage Stability*	+	+	+

- + Better than conventional matting agents
- ++ Significantly better than conventional matting agents
- * Burnish resistance test MPI #139 (March 2018) modified with additional 500g weight and 250 cycles
 * Rub/Mar resistance Per modified MPI #139 (March 2018) Burnish resistance test, visual inspection of damaged surface
 * Storage stability Stored at room temperature for 42 days, visual inspection of coating



Burnish resistance improvement with the addition of NduroMatt $^{\!\scriptscriptstyle\mathsf{TM}}$ to matte coating.



^{* 400} cycles with 4 pounds (1.81 kgs) weight ** Post added w/w loading





or to contact us, please visit Phone: (800) 451-9961 <u>honeywell-additives.com</u>

