

NuWet™ 550

NuWet* 550 Hydrophilic Silicone Finish

nonmigrating finish for nonwovens

Description

NuWet 550 hydrophilic silicone finish is a novel water dispersible, nonmigrating organomodified durable hydrophilic silicone finish for polyester, polypropylene and polyethylene nonwovens. It helps enhance the hydrophilic properties of diaper coverstock, transition layers, shoe interliners, adult incontinence products, surgical and facial wipes, as well as feminine care products. NuWet 550 hydrophilic finish, once applied to the nonwoven, can help minimize migration to unwanted areas such as the hydrophobic leggings and waist areas of a diaper.

NuWet 550 hydrophilic finish is an excellent material in terms of all the attributes desired in a hydrophilic finish. This patented technology combines softening, wettability, durability and non-migrating properties into one molecule. NuWet 550 hydrophilic finish can be applied by pad bath, spray or printing equipment. Depending on the composition and geometry of the nonwoven, typical application concentrations range from 0.2 to 1.0 weight percent.

Key Features and Benefits

- Durable hydrophilic finish
- Rapid strike-thru
- Non-migrating
- Softening properties
- Low VOC
- Water dispersible

Typical Physical Properties

Percent Actives	100
Form	Liquid
Appearance	Clear
Color, GVS (Gardner Varnish Scale)	2
Nominal Viscosity, cSt, 25°C	1000
Ionic Nature	Nonionic
Specific Gravity, 25°C	1.02

Processing Recommendations**Performance Data**

100% Spunbonded Polypropylene Nonwoven (22.0 g/m², 0.65 oz/yd²)

Test Protocol**1. Application**

The finishes were spray-applied to one side of the nonwoven from aqueous dispersions such that after air drying, 0.5 or 1.0 weight percent silicone solids resulted on the nonwoven.

2. Hydrophilicity

Two test procedures were used:

(a) AATCC Test Method 79-1995 (Absorbency of Bleached Textiles)

(b) EDANA, Liquid Strike-Through Time (Method 150.3-96)

3. Durability

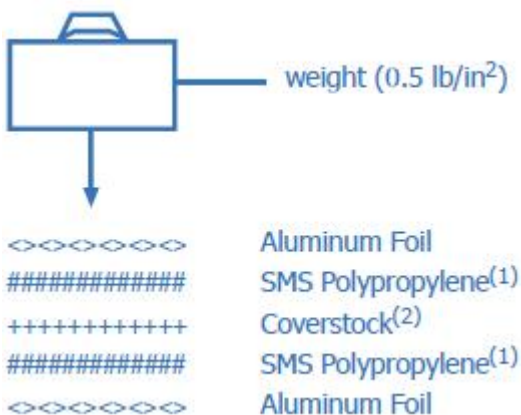
The EDANA Liquid Strike-Through Time (Method 150.3-96) was repeated 5 times on treated and untreated 100% spunbonded poly propylene nonwoven samples to simulate durability. Three hours elapsed time was allowed between insults. In the EDANA test, any value ≥ 5.0 seconds is judged as being not durable (see Table 1).

Note: The aqueous media used for all the testing (hydrophilicity, migration, and durability) was a 0.9 weight percent sodium chloride solution.

4. Migration

Untreated 100% spunbonded SMS polypropylene webs (Spunbonded/Meltblown

/Spunbonded) were placed beneath and above the 100% spunbonded polypropylene non woven web treated on one side only. A weight (0.5 lb/in²) was placed on the nonwovens for 1 week at 50°C to simulate storage and all layers evaluated for hydrophilicity. The desired result is to have the top and bottom layers remain hydrophobic and the treated nonwoven to remain hydrophilic (see Table 2).



The nonwovens were stacked as follows:

(1) 18.0 g/m² (0.53 oz/yd²), Untreated

(2) 22.0 g/m² (0.65 oz/yd²), Treated with Hydrophilic Finish

Test Results

Test results are shown in the following Tables.

Table 1: Wetting Times for 100% Spunbonded Polypropylene Nonwoven Using 0.9% NaCl Solution

Durability Test: EDANA Strike-Through Time	Wetting Time, sec					
	Untreated	Product A		Product B	NuWet 550 Hydrophilic Finish	
(Method 150.3-96)	(As Rec'd)	0.5% ⁽²⁾	1.0% ⁽²⁾	0.5% ⁽²⁾	0.5% ⁽²⁾	1.0% ⁽²⁾
1 Insult	>180 ⁽¹⁾	3.0	2.6	2.8	2.9	2.8
2 Insult	>180 ⁽¹⁾	11.8	9.1	3.4	2.7	2.7
3 Insult	>180 ⁽¹⁾	10.6	8.4	3.8	3.1	2.9
4 Insult	>180 ⁽¹⁾	18.0	15.1	4.7	2.6	2.4
5 Insult	>180 ⁽¹⁾	19.5	19.4	9.1	2.9	2.7

(1) Test terminated after 180 sec; treatment considered hydrophobic

(2) Total finish level added to fabric on a dry weight basis

Table 2: Wetting Times for 100% Spunbonded Polypropylene Nonwoven Using 0.9% NaCl Solution

Migration Test: TAATCC Test 79-1995 (After aging under pressure for 5 days at 50°C)	Wetting Time, sec					
	Untreated	Product A		Product B	NuWet 550 Hydrophilic Finish	
	(As Rec'd)	0.5% ⁽²⁾	1.0% ⁽²⁾	0.5% ⁽²⁾	0.5% ⁽²⁾	1.0% ⁽²⁾
SMS Top Sheet	>180 ⁽¹⁾	>180 ⁽¹⁾	2.6	2.8	>180 ⁽¹⁾	>180 ⁽¹⁾
Coverstock (0.65 oz/yd ²)	>180 ⁽¹⁾	2.0	1.4	1.4	20.0	13.0
SMS Bottom Sheet	>180 ⁽¹⁾	>180 ⁽¹⁾	17.0	5.0	>180	>180 ⁽¹⁾

(1) Test terminated after 180 sec; treatment considered hydrophobic

(2) Total finish level added to fabric on a dry weight basis

Patent Status

Protected by U.S. Patent 5,811,482.

Standard copy to come

Product Safety, Handling and Storage

Standard copy to come

Limitations

Standard copy to come

Contact Information

Email

commercial.services@momentive.com

Telephone

Americas	Latin America	EMEAI- Europe, Middle East, Africa & India	ASIA PACIFIC
+1 800 295 2392	Brazil	Europe	China
Toll free*	+55 11 4534 9650	+390510924300	800 820 0202
+704 805 6946	Direct Number	Direct number	Toll free
Direct Number			+86 21 3860 4892
			Direct number
*All American countries	Mexico	India, Middle East & Africa	Japan
	+52 55 2169 7670	+ 91 44 71212207	+81 3 5544 3111
	Direct Number	Direct number*	Direct number
		*All Middle Eastern countries, Africa, India,	Korea
			+82 2 6201 4600

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services,

recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*NuWet™ is a trademark of Momentive Performance Materials Inc.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.