



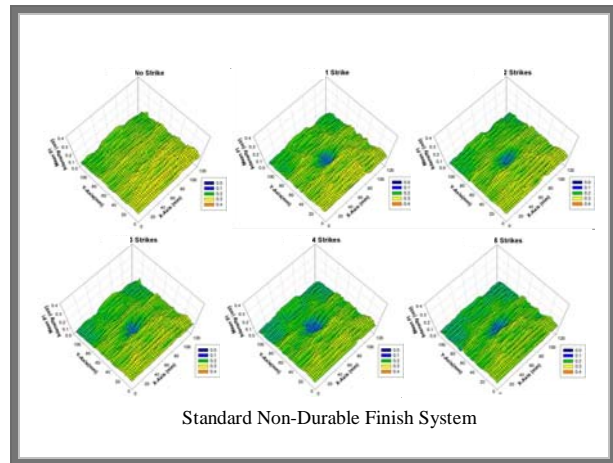
Press Release

Advancements in Topical Treatments for Nonwovens

Nonwovens producers continue to develop new products for existing applications, taking advantage of a more cost effective production scheme. One example is the replacement of rayon with polyester or polypropylene nonwoven fabrics. The performance demands of these fabrics remain the same, but the challenge is in replacing rayon with fabrics exhibiting similar hydrophilic and anti-static properties. Hydrophilic and anti-static properties can be imparted to polyester and polypropylene fabrics by way of topically applied additives that enhance or modify the fabric surface. Goulston Technologies, Inc. offers several variations of topically applied treatments that provide non-durable or semi-durable hydrophilic properties, hydrophobic properties, and anti-static properties.

Non-durable Hydrophilic Surface Modifiers

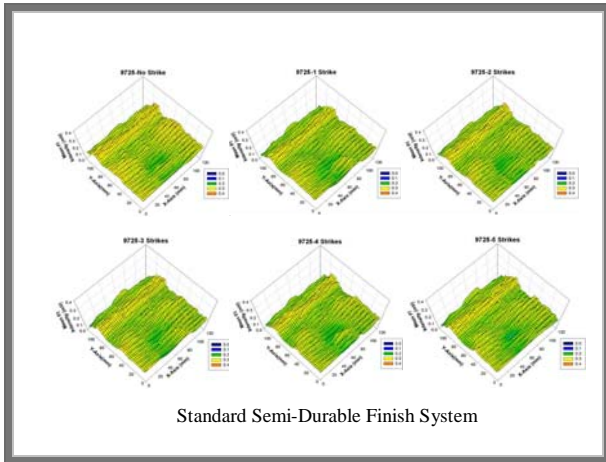
Nonwovens end-uses requiring products that exhibit hydrophilic properties and are designed for single use applications usually require a non-durable hydrophilic finish system. These finishes are designed to impart good initial hydrophilic character but are easily washed off revealing the underlying hydrophobic substrate. Characteristics of these treatments include excellent emulsion quality and stability, lower surface tension values (leading to uniform coverage on the fiber surface), and static protection. This specially formulated finish chemistry can be applied as a spin finish or a topcoat finish by spray, kiss roll, or dip bath application.



Semi-durable Hydrophilic Surface Modifiers

Newer markets require finish chemistries that provide hydrophilic properties thru multiple insults, or are not easily removed from the surface of the fiber. Semi-durable finishes are designed to have greater affinity for the fiber surface so they do not wash off easily. Finishes that maintain semi-durable hydrophilic characteristics typically contain

components with a balanced hydrophile-hydrophobe structure. As semi-durable hydrophilic performance increases, emulsion stability may decrease and make application to the substrate more difficult.



Hydrophobic Surface Modifiers

There are markets that require the nonwoven fabric to be hydrophobic. The challenge in these markets is to provide lubricity and antistatic protection required for processing without compromising the hydrophobicity of polypropylene inherent to the fiber surface. While silicones are the most commonly used hydrophobic topical treatment, other options include fluorochemical and low viscosity specialty esters for end uses where silicone may not be a viable option.

Antistatic Surface Modifiers

Whether hydrophilic or hydrophobic, many nonwovens products require static protection. Goulston Technologies, Inc. has the expertise necessary to assist you with the proper antistat selection.

Comparison Table of Commercially Available Finish Systems

Test	Luroi® PP-912	Luroi® PP-6753	Luroi® PP-9725	Luroi® PP-10074	Luroi® PP-L323	Luroi® PP-L324
Strike Through (Fifth Strike)	>300sec	2.75sec	4.78sec	85.17sec	6.12sec	2.18sec
24 hr. emulsion stability	Clear, colorless, Stable	Milky, opaque, mild creaming	Milky, Opaque, Stable	Light yellow, translucent, stable	Milky, Opaque, Stable	Milky, Opaque, Stable
Antistat	Yes	No	No	Yes	Yes	No
Activity	92%	40%	100%	88%	30%	50%

Multiple Strike-through Data

Reported in seconds

Sample ID	1st Strike	2nd Strike	3rd Strike	4th Strike	5th Strike
Commercial Non-Durable Finish	2.43	125.58	>300	>300	>300
Luroi PS-9725* Commercial Semi-Durable Finish	2.45	2.79	3.15	3.35	4.78

Nonwoven PP samples applied at 0.5% on weight of fabric

*Antistat may be incorporated if necessary

Antimicrobial Treatment

Today's consumer and commercial applications often require the incorporation of an antimicrobial treatment to the nonwoven fabric. Goulston Technologies, Inc. is proud to offer Luroi® AM-7 for use in conjunction with our topical systems. Benefits of this system include control of objectionable odors, unsightly stains and product deterioration. Ask your Account Representative for more information about this exciting enhancement for your nonwoven fabrics.

Multiple Strike-through Data

Reported in seconds

Sample	1st	2nd	3rd	4th	5th	6th	7th	8th
Luroi® PP-9725	2.58	3.23	3.28	3.13	2.96	3.08	3.40	3.86
Luroi® PP-9725 w/AM-7	2.14	3.39	3.24	3.04	3.03	3.12	3.52	4.10

Nonwoven PP samples applied at 0.7% on weight of fabric + 0.1% Luroi® AM-7