EXHIBIT N

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF CONNECTICUT

INTERMARK FABRIC CORPORATION, *Plaintiff*, v. MICROFIBRES, INC. *Defendant.*	Civil Action No. 3:02 CV 1267 (AVC)

EXPERT REPORT OF PROFESSOR RONALD S. PERRY, PH.D
PURSUANT TO RULE 26 (A) (2) F.R.C.P.

I. INTRODUCTION

This report is directed to the expert testimony that I will give with respect to the invalidity of U.S. Patent No. 5,981,021 (the "'021 patent"). I reserve the right to supplement my analysis in light of any critique of my report or alternative opinions advanced by or on behalf of the Defendant, Microfibres, Inc. I further reserve the right to supplement the support that I have provided for my opinions.

In summary, it is my opinion that the '021 patent is invalid in light of several different and independent examples of prior art, including but not limited to, (1) the prior sale of the accused Frosty and Flash products by Intermark Fabrics Corporation ("Intermark") starting in 1989 which is more than a year before July 31, 1992, which is the date on which Microfibres filed its patent application that eventually led to the '021 patent; (2) the public disclosure in the United States of the Leathertex sample prior to the conception and reduction to practice of the

invention claimed in the '021 patent; (3) public disclosure and sale of the Culp sample prior to the conception and reduction to practice of the invention claimed covered in the '021 patent; (4) the public disclosure of the invention in literature and prior art patents, described below; and (5) the sale of flocked fabrics by Microfibres using dark pigmented adhesives which were heat set and manufactured at reduced pressures (contrary to what the inventor represented in the patent application proceedings) more than a year before July 31, 1992.

It is also my opinion that one of ordinary skill in the art could not ascertain the best mode of practicing the invention known to the applicant from the specification submitted to the Patent Office. Specifically, the improvements concerning "heat setting" which Microfibres considers a trade secret, and which provide better and consistent results in terms of quality, were entirely omitted from the patent application.

a. Professional Background And Publications

I currently reside at 2355 North East Ocean Boulevard, 27A, Stuart, FL 34996. I am presently Professor of Textile Chemistry, *Emeritus*, at the University of Massachusetts, Dartmouth. I received a Bachelor of Science degree form the New Bedford Institute of Technology (now known as University of Massachusetts at Dartmouth) in 1958 in Textile Chemistry. I received a Master of Science degree in Textile Chemistry form the Lowell Technological Institute in 1960 (now known as University of Massachusetts at Lowell), a Master of Science Degree in Chemistry in 1962, and a Ph.D in Chemistry from Lowell Technological Institute in 1965 where I majored in Organic Chemistry and minored in Polymer Chemistry.

From 1973 through 1999, I was a Professor of Textile Chemistry at the University of Massachusetts, Dartmouth, where I taught a variety of courses including: Textile Chemistry,

Physical Chemistry of Dyeing, Physical Chemistry of Surface Active Agents, Color Science, Chemical Technology of Finishing and Polymer Chemistry.

From 1973 through 1989, I was the Chairperson of the Textile Sciences Department at the University of Massachusetts. From 1965 through 1968, I worked initially as a Chemist in the Research Department and then as a Chemist in the Technical Service Department (both positions were within the Textile Chemical Division) of I.C.I. Organics, Inc. and from 1968 through 1973 I worked initially as a Lab Manager and then as a regional Technical Service Manager in the Textile Chemical Division of Sun Chemical Corporation.

I have worked extensively in the field of the textile sciences since the 1960's. Over these past thirty five years, in addition to teaching courses covering the Textile Sciences, I have published numerous technical papers, lectured, provided consulting services to various chemical companies and textile companies, participated in many investigative research projects, and participated in various professional societies and organizations. Attached as Exhibit 1 is a copy of my curriculum vitae which details my academic background, professional experience, professional affiliations and honors, professional activities, and selected publications.

b. Rate of Compensation and Prior Testimony

I am being compensated as an expert witness for services I am providing in this case, including research, fabric analysis, literature review, report preparation, deposition and trial court testimony in the amount of $275/hour. I have not testified as an expert witness in the last four years.

II. DOCUMENTS AND ITEMS REVIEWED

The information I considered in forming the opinions expressed in this report include:

a. The '021 patent and file history

b. The deposition testimony of William Laird

c. The deposition testimony of James Fulks

d. The deposition testimony of James McCulloch

f. Letter from Spectro Coating Corp. dated October 10, 1991

g. Letter from Upholstery Prints to Spectro Coating dated January 24, 1992

h. Leathertex sample (1991) and facsimiles dated July 11, 1991 and August 11, 1991

i. Culp sample (1991)

h. Intermark Flash sample (1990)

i. Intermark Flash cord sample (1989)

j. Intermark Frosty sample (blue adhesive) (1989)

k. Intermark Frosty sample (black adhesive) (1989)

l. Intermark Cosmos sample (1989)

m.	2,308,429	Smith et. al.
n.	3,099,514	Haber
o.	3,568,594	Johnston et. al.
p.	3,999,940	Freeman
q.	4,018,956	Casey
r.	4,049,374	Rejito
s.	4,108,595	Pappas
t.	4,294,577	Bernard
u.	4,309,179	Heuser, et. al.
v.	4,314,813	Masaki

w.	4,427,414	Orton
x.	4,963,422	Katz et. al.
y.	4,895,748	Squires
z.	3,867,171	Ellsworth
aa.	4,233,027	Albero
bb.	4,319,942	Brenner
cc.	4,483,951	Brenner
dd.	4,666,771	Vesley Et. Al.
ee.	5,401,562	Akao
ff.	5,508,111	Schumucker
gg.	WO 92/20524	Blanton

hh. Document entitled "The Flocking Process" authored by G.P. Van Heel

ii. Document from Vertipile, Inc. entitled Experimental Production Run dated May 16, 1985

jj. Document entitled "Transfer Printed Pile Fabrics" authored by K. Ember and published by Textilveredelung (12 (1977) No. 5)

kk. Document entitled "Textile Flocking" authored by Brenner in Textilbeflockung.

ll. Document entitled "Influences of Composition and Polarity of an Adhesive on its Properties" authored by Dr. U. Zorll and published by Flock (Volume 14 No. 46/1987)

mm. Document entitled "Colour Differences in Flock and Flocked Articles" authored by H. Schubert and presented at the 8th International Flock Symposium in 1984.

nn. Document entitled "Adhesive Formulations for Flock Applications" by Farbenfabriken Bayer AG, technical services department, Leverkusen published in 1964.

oo. Document entitled Flock Technology - AATCC Symposium in December of 1971.

pp. Textile Technology Digest database search results.

qq. Letter from Charles O'Brien dated March 4, 2003.

rr. Microfibres' Answers to Interrogatories Propounded by Intermark

III. OPINION AND BASIS FOR THE OPINION

a. The '021 Patent

The '021 patent teaches and claims that the use of dark pigmented adhesives, such as black, blue and green, for transfer printing flocked fabric is novel.

Claim1 states:

> 1. A transfer printed, flocked fabric comprising a textile substrate, raised thermoplastic fibers on the substrate, a dark pigmented adhesive adhering to said fibers to said substrate and disperse dye distributed in a pattern in upper portions of said thermoplastic fibers.

In the Summary of the Invention, the inventor implies that the use of dark pigmented adhesives in the manufacture of flocked fabrics is novel. In that regard, the '021 patent provides: "The disperse dye makes a deep, dark colored print. In a preferred embodiment, the pigment is black. Other dark pigments usable include those which are blue, green or red." Col. 2 lines 4 – 7.

Flocked fabrics may be used for transfer printing, wet printing, piece dying, and other forms of processing. The Patent Office rejected the patent claims several times during the examination of the patent. The examiner focused on United Sates Patent No. 2,308,429 to Smith, et. al. (the "Smith Patent") which disclosed a "blue cement" in a flocked fabric. Office Action dated November 3, 1993, p. 4 – 5. The Smith Patent was not directed to transfer printing but was cited by the examiner. The inventor distinguished the invention on the basis that the concentration of the blue cement disclosed in the Smith Patent would not impart significant color. Response to Office Action dated January 24, 1994, p. 4.

The applicant also represented that the invention allowed reduced pressure settings while transfer printing, in the neighborhood of 10 to 59 psi:

> Typically, when using the method of the invention the printing step may include pressing the fabric to a transfer print paper as pressures lower than in conventional transfer printing. For example, the pressure may be between about 10 and 59 pounds. See Col. 2, lines 40-45.

During the patent application process, the examiner stated that "[i]n essence Applicant's method (claims 13 – 25) is at low pressure (10-59 pounds per square inch) to transfer print a flock nylon." Office Action dated March 17, 1993, p. 2 The examiner also said that the pressures are critical to the Applicant's invention and asked the applicant to explain: "What are the conventional transfer printing pressures." See Office Action dated April 18, 1994, p. 3-4; and Office Action dated March 17, 1993, p. 5. According to the testimony of William Laird, Microfibres had been using such pressure ranges for at least for four years prior to the patent application.

Therefore, it is clear from the record of the proceedings at the patent office, that the examiner was focused on the coloration of the adhesives as well as the pressure used to manufacture flocked fabrics having pigmented adhesives.

b. Prior Art

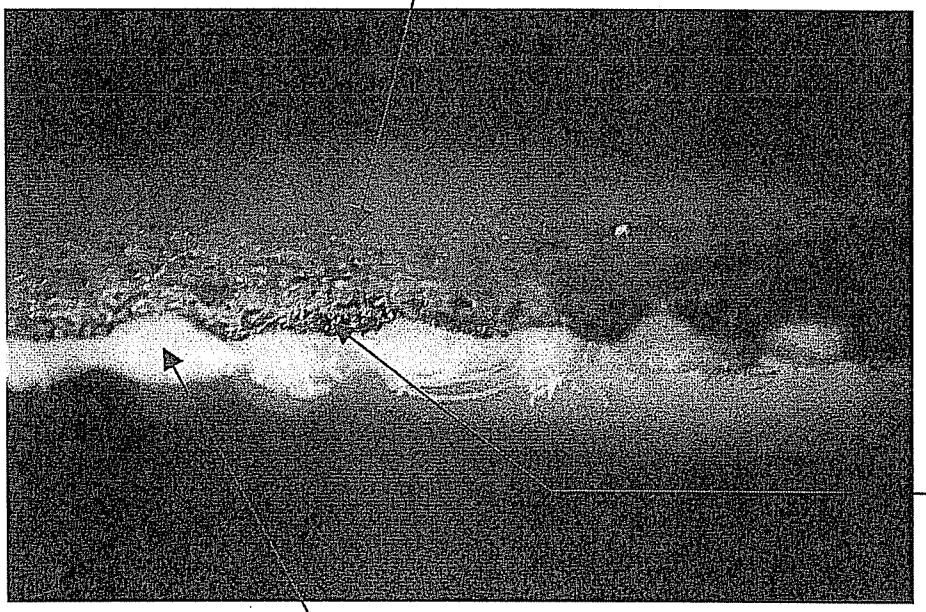
There is no question that dark pigmented adhesives were known in the art. As testified to by William Laird, in the early 1980's, Microfibres was using dark pigmented adhesives in the manufacture of flocked fabric. This information was not communicated to the Patent Office, despite the examiner's citation to the Smith Patent.

Dark pigmented adhesives and transfer printing are shown in several pieces of prior art. The invention was previously described in a printed publication more than one year before the patent was applied for on July 31, 1992. "The Flocking Process" authored by G.P. Van Heel from the 1970's teaches transfer printing flocked fabric and pigmented adhesives. Likewise, the United States Patent 4,896,784 to Squires (the "Squires Patent") teaches a transfer printed, flocked fabric comprising a substrate (which includes a foamed polyurethane element and a polyester raschel knit fabric), a colored adhesive adhering the fibers to the substrate and a disperse dye distributed in the fibers. The product made using the Squires Patent is a textile.

I examined the Culp sample, the Leathertex sample, the Flash sample, the Frosty sample (blue adhesive), the Frost sample (black adhesive), the Flash chord sample and the Cosmos sample in the following manner: with the naked eye, under a linen glass, and under a zoom binocular microscope at magnification ranges approximately between 10X to 60X. I also examined the Culp sample and the Leathertex sample under a monocular microscope at magnification of 50X and 100X. While examining the samples under the zoom binocular microscope, I took photomicrographs of each sample. As an example, Figure 1 below is a photomicrograph of a side view of the Culp sample (black adhesive) at a magnification level of approximately 30X. The Culp sample (black adhesive) consists of a transfer printed, flocked fabric, with a textile substrate, raised thermoplastic fibers on the textile substrate, a black

pigmented adhesive adhering the fibers to the substrate and disperse dye distributed in a pattern in upper portions of the thermoplastic fibers. Additionally, as can be seen in Figure 1, the pattern-forming disperse dye in the Culp sample (black adhesive) does not penetrate to the depth of the nap.

FIGURE 1



It is my understanding that Microfibres does not have any records to establish the conception or reduction to practice of the invention prior to the filing date. See letter of Charles O'Brien dated March 4, 2003 and Microfibres' Answers to Interrogatories Propounded by Intermark (setting forth the conception date in 1992). Therefore, the Leathertex sample and the Culp sample, I am informed, constitute prior art.

Various dependent claims in the '021 patent are directed to the processes of heat setting, thermal brushing, and air texturizing, all of which have been known in the textile industry for

decades. Dependent claims are also directed to specific colors of pigmented adhesives (black, blue and green) and nylon and polyester fibers, all of which have been known in the textile industry for decades.

Therefore, it is my opinion within a reasonable degree of scientific certainty that each of the above mentioned references invalidates all of the claims of the '021 patent. It is my further opinion that the Flash and Frosty samples, commercially sold by Intermark starting in 1989, as represented to me, were created using a natural flock and dark pigmented adhesives.

Finally, it is my opinion that one of ordinary skill in the art could not practice the best mode of producing flocked fabrics having the claimed features from reading the patent. Specifically, Microfibres developed a heat setting process which is altogether omitted from the patent application.

Signed under the pains and penalties of perjury on this 28 day of May, 2003.

Ronald S. Perry

Ronald S. Perry, Ph.D