

Innovazione nell'ambito della tradizione

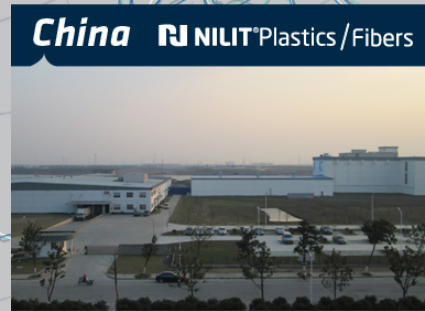
Pierluigi Berardi,

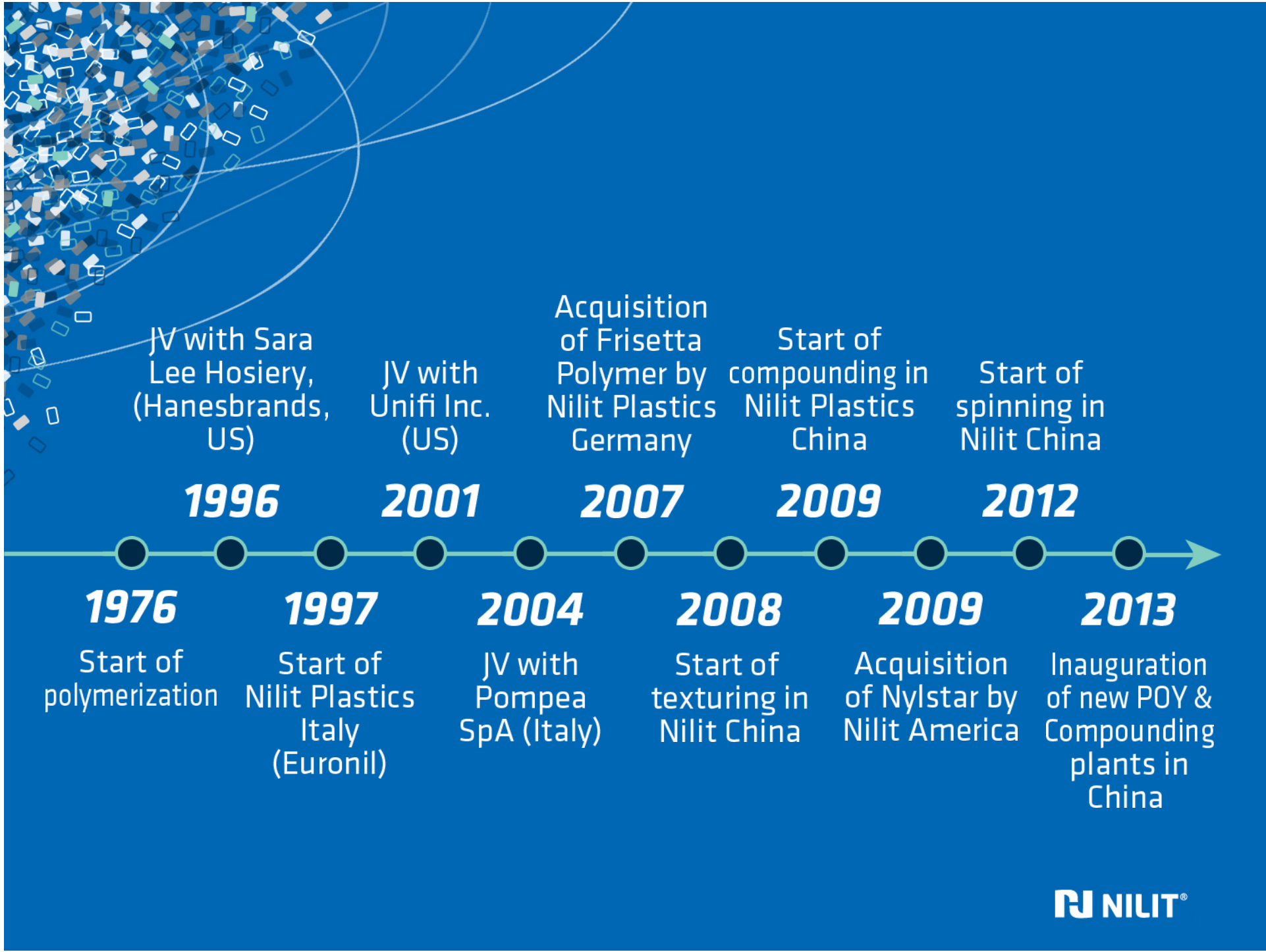
Direttore Marketing NILIT Italia

NILIT[®]

7 Production sites worldwide

5 Commercial subsidiaries





JV with Sara Lee Hosiery, (Hanesbrands, US)

1996

JV with Unifi Inc. (US)

2001

Acquisition of Frisetta Polymer by Nilit Plastics Germany

2007

Start of compounding in Nilit Plastics China

2009

Start of spinning in Nilit China

2012

1976
Start of polymerization

1997
Start of Nilit Plastics Italy (Euronil)

2004
JV with Pompea SpA (Italy)

2008
Start of texturing in Nilit China

2009
Acquisition of Nylstar by Nilit America

2013
Inauguration of new POY & Compounding plants in China

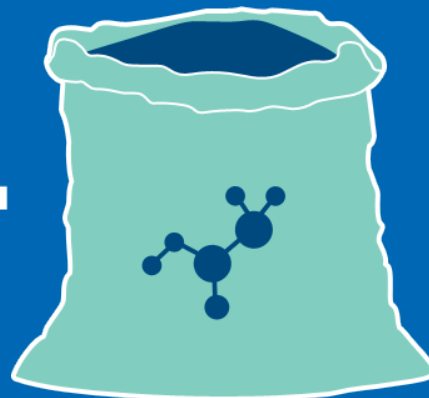
First we produce
Nylon polymer

Polymerization



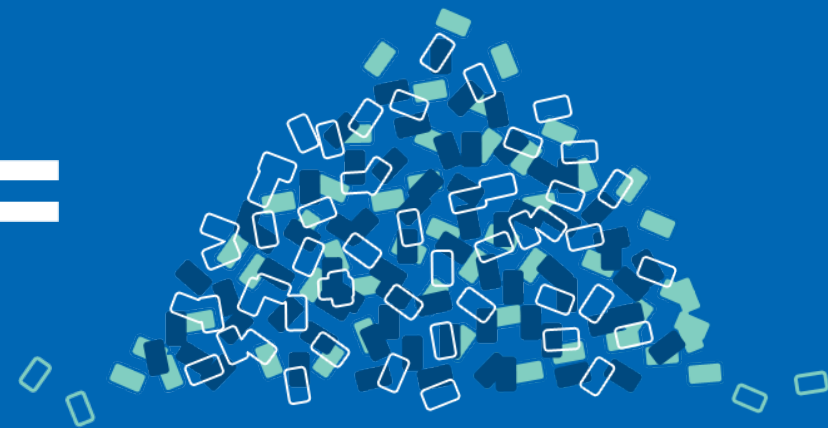
HMD
Hexamethylene
diamine

+



AA
Adipic Acid

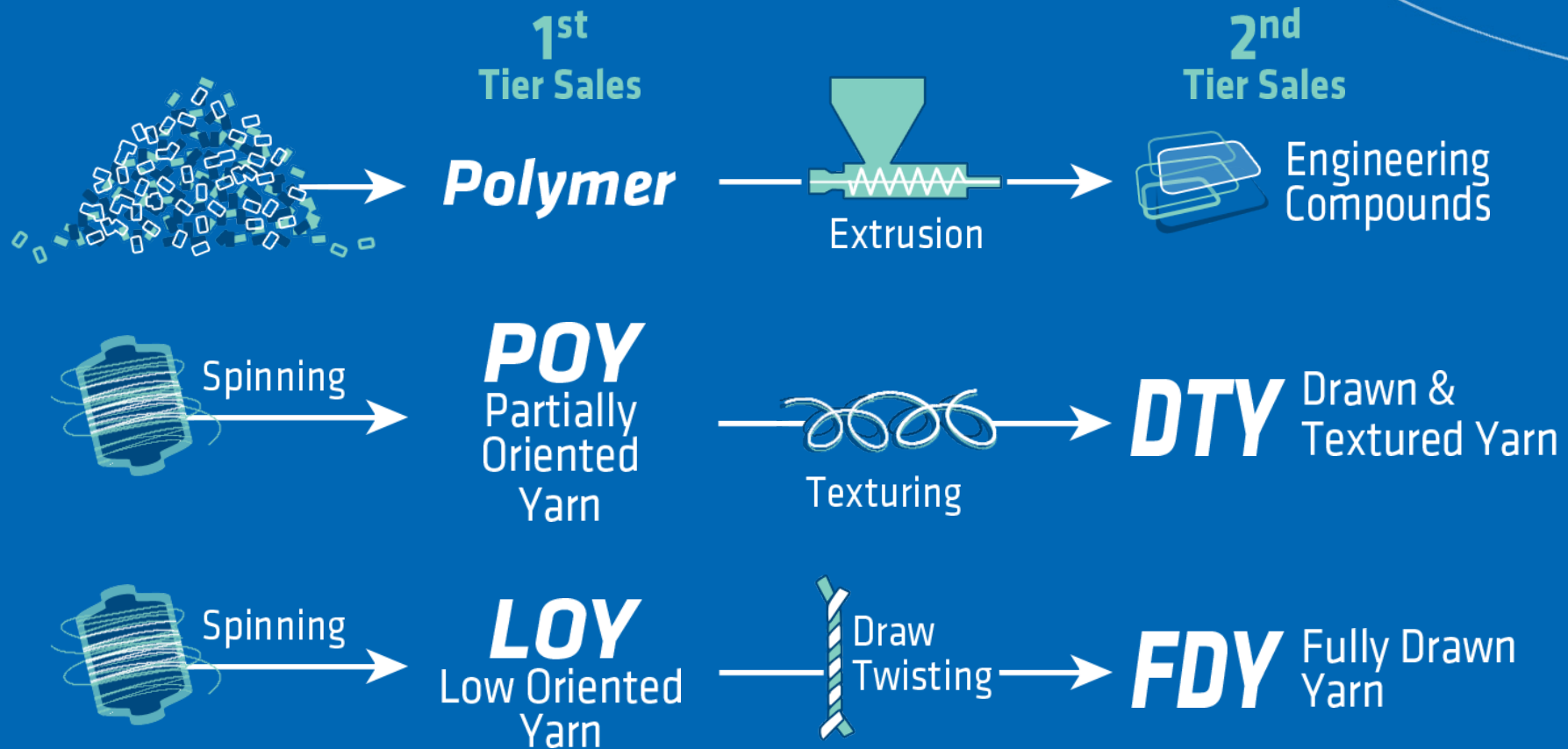
=



SALT → **POLYMER**

Then Production Chain

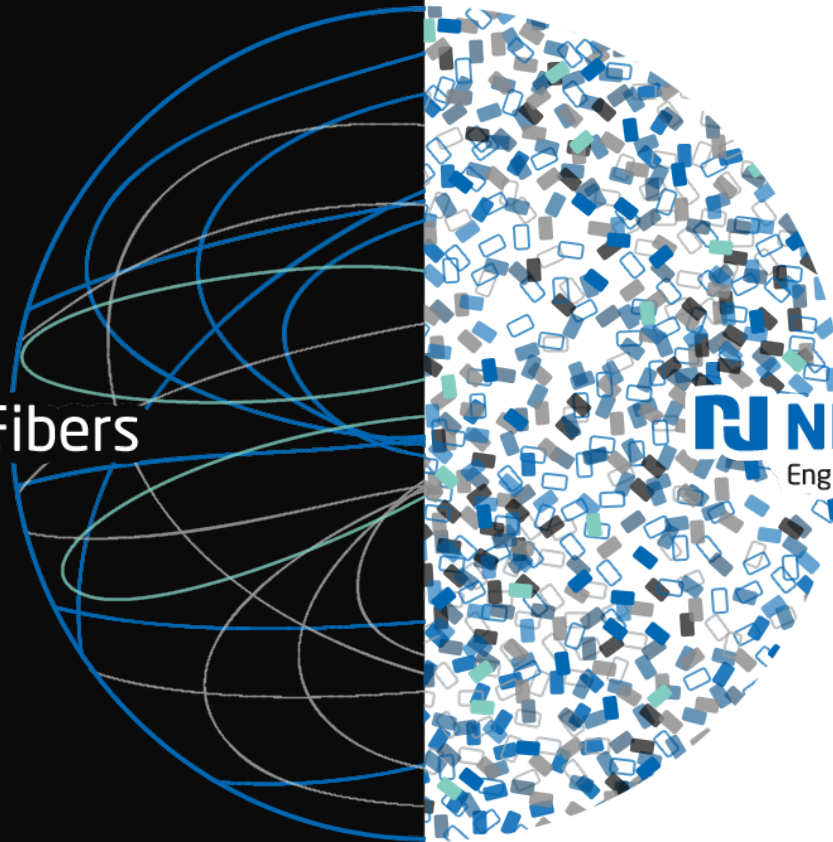
Backward integrated site



Our 2 Business Units

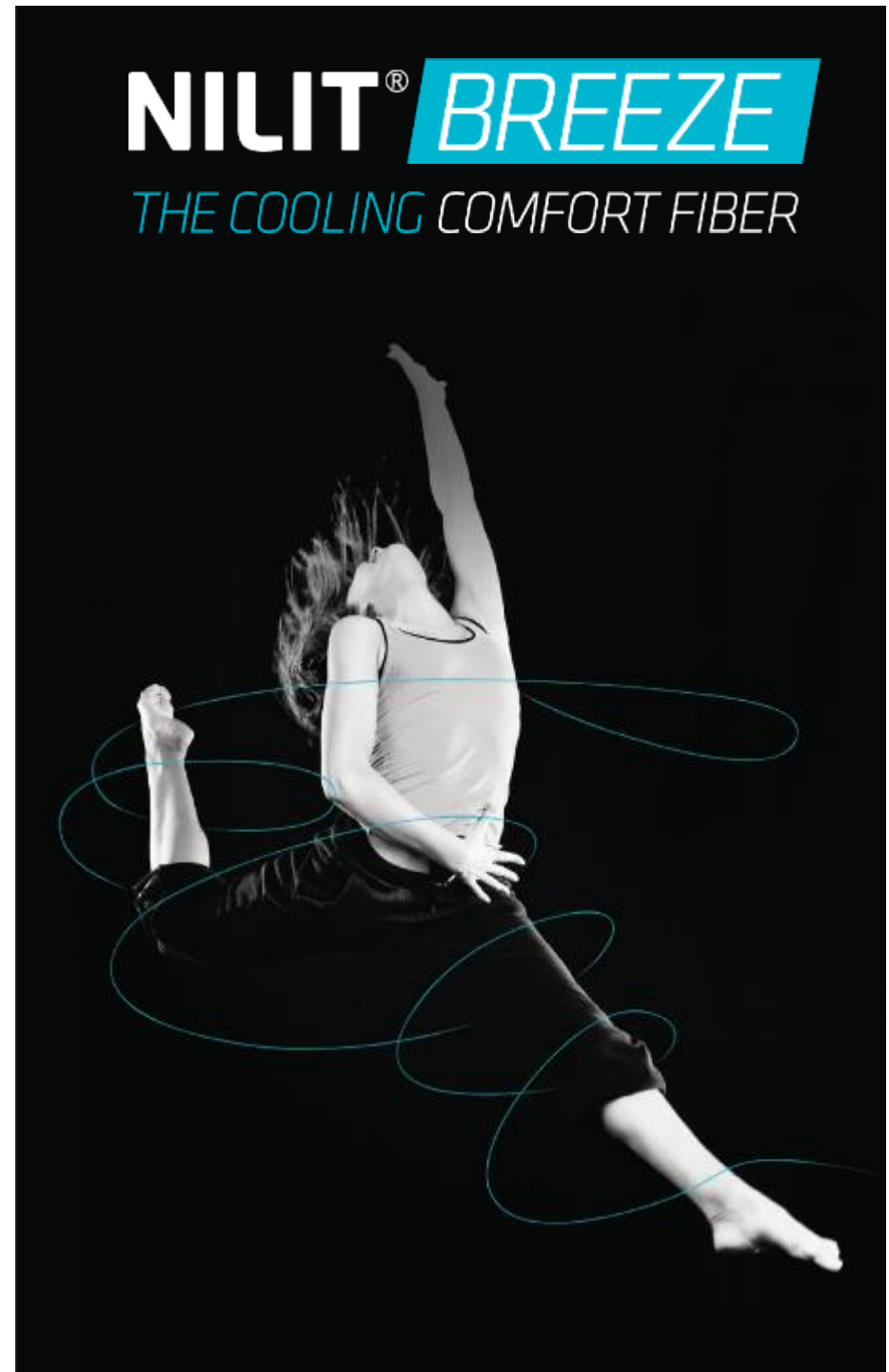
 **NILIT®** Fibers

 **NILIT®** Plastics
Engineering compounds



Caratteristiche

- Effetto Rinfrescante
 - ✓ La particolare sezione della fibra aiuta lo scambio e la dissipazione del calore corporeo garantendo comfort e benessere anche in condizione di temperature elevate.
- Flessibilità d'utilizzo
 - ✓ Disponibile in una vasta gamma di titoli per ampie possibilità d'utilizzo: intimo, sport, calzetteria, shapewear.
 - ✓ Tessuti leggeri caratterizzati da mano morbida e setosa. Possibile l'utilizzo in diverse tecnologie (maglieria circolare, seamless, tessitura e calzetteria).
- Protezione dai raggi UV
 - ✓ Grazie alla conformazione del polimero dotato di caratteristiche esclusive



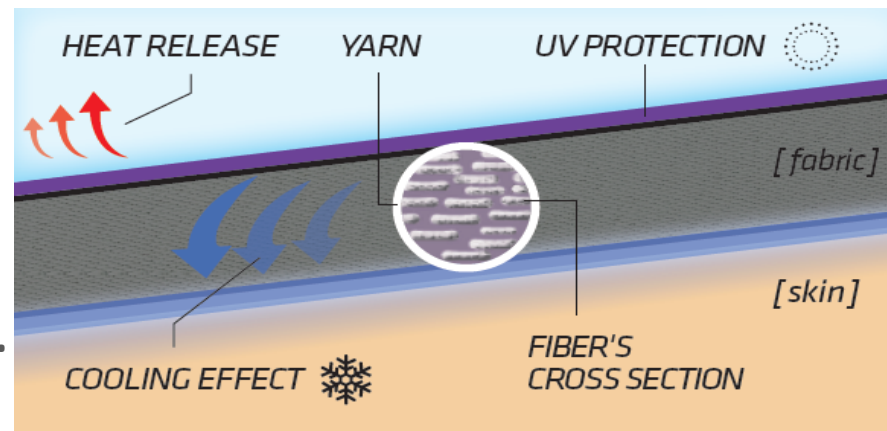
NILIT Breeze deve le sue caratteristiche ad una combinazione di 3 fattori:

1. Struttura a sezione piatta con ampia superficie per un rapido scambio di calore corporeo
2. Unica formulazione con particelle inorganiche che aumentano ulteriormente la superficie della fibra creando micro canali che favoriscono il raffreddamento
3. Il filato viene lavorato a bassi valori di testurizzazione che favoriscono il volume a discapito dell'elasticità. Massima trapirabilità e ventilazione

Disponibile in un ampia gamma di titoli:

- 78f68 a 1 o 2 capi testurizzati
- 44f34 a 1 o 2 capi testurizzati
- 14f4 e 17f4 parallelo liscio

Utilizzo ideale per: **Sportswear . Shapewear . Lingerie . Hosiery**



NILIT Breeze

Test di Laboratorio / 1

- Test sono stati organizzati presso il laboratorio indipendente CENTEXBEL - Textile Research Center in Belgium.
- Durante i test è stata misurata la temperatura superficiale di un speciale manichino durante fasi alterne di esercizio e riposo.
- Le braccia sono state ricoperte con una manica prodotta con fibra NILIT Breeze ed una con Nylon 66 come materiale di controllo.
- I test hanno dimostrato una differenza di temperatura pari ad almeno 1°C in favore di NILIT Breeze.



NILIT Breeze

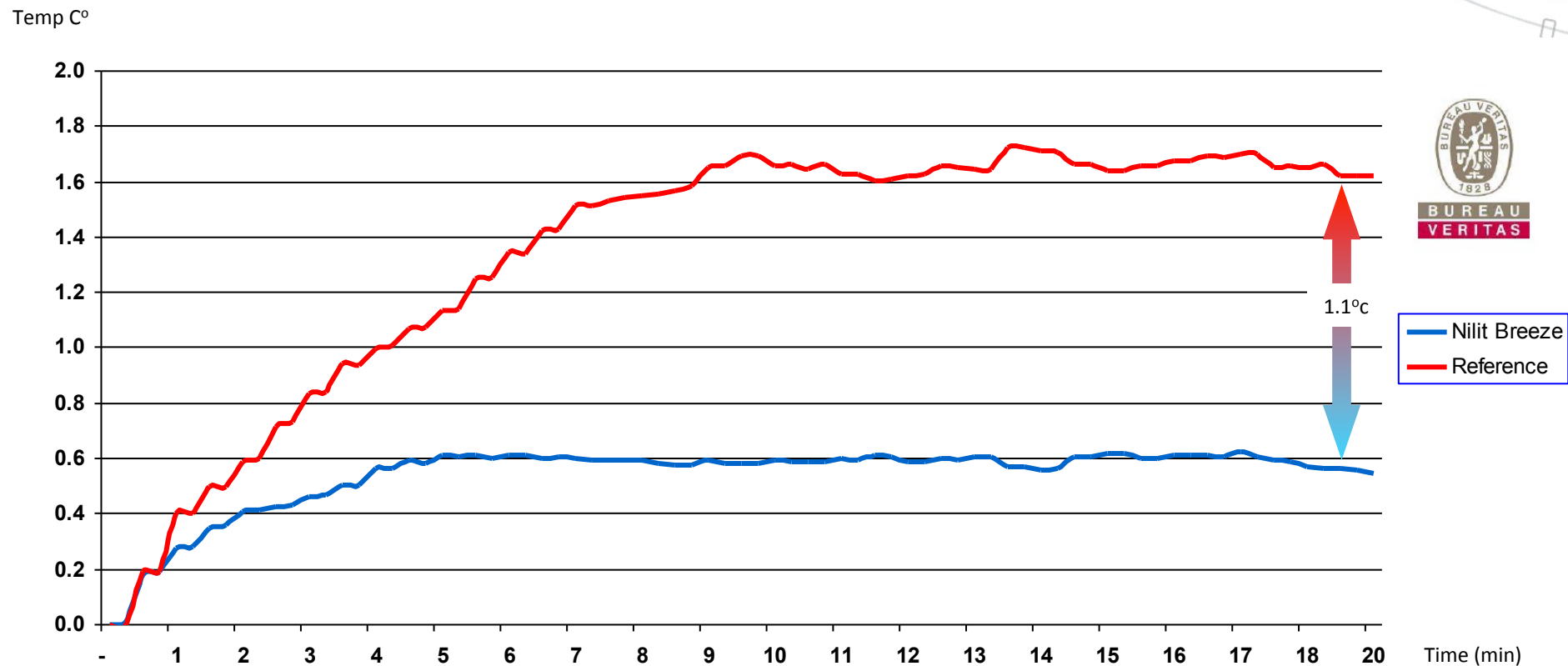
Test di Laboratorio / 2



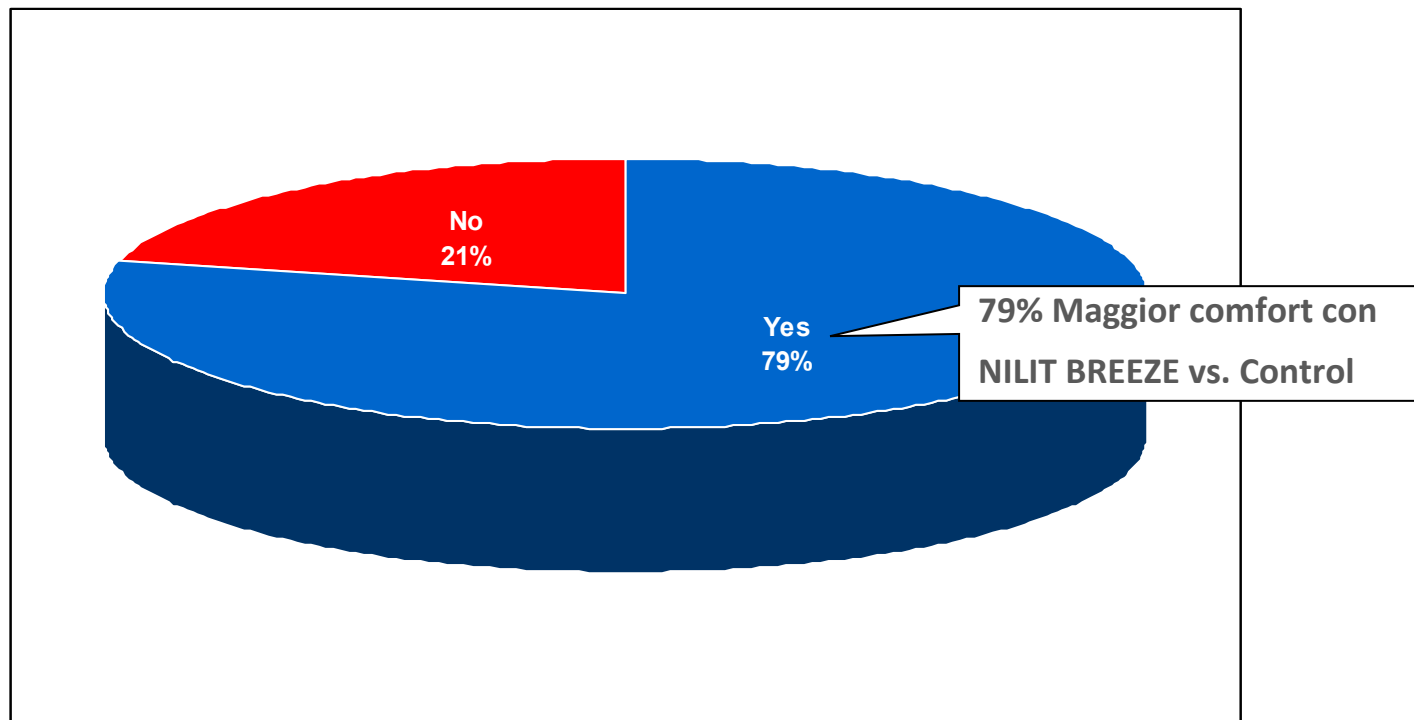
NILIT Breeze

Test di Laboratorio / 2

Temperatura corporea registrata durante l'attività sportiva
NILIT BREEZE vs. controllo



Grado di comfort percepito dopo esercizio fisico NILIT BREEZE T-shirt vs. Ref.



NILIT® BREEZE



NILIT[®] BREEZE



COOLING COMFORT
The garment is made of 100% Coolmax® fabric with moisture-wicking properties. This helps you stay cool and comfortable throughout the day. The moisture-wicking properties also help you stay dry and comfortable throughout the day.

REINFORCED BRIEFS
The reinforced briefs provide extra support and control in the waist, hips, and thighs. They are made of a special fabric that helps you stay firm and comfortable throughout the day.

Brief COTTON GUSSET
The cotton gusset provides extra comfort and support in the groin area. It is made of a soft, breathable fabric that helps you stay cool and comfortable throughout the day.

Texture SEMI SHINE
The semi-shine texture gives your legs a smooth, polished appearance. It is made of a special fabric that helps you stay firm and comfortable throughout the day.

Foot REINFORCED TOE
The reinforced toe provides extra support and control in the foot area. It is made of a special fabric that helps you stay firm and comfortable throughout the day.

Wash with similar colors
Machine washable. Do not use bleach. Do not use fabric softener. Do not use dryer. Do not use iron. Do not use steam. Do not use dry cleaning.

Material composition
95% Nylon 5% Spandex

Manufacturer: NILIT BREEZE



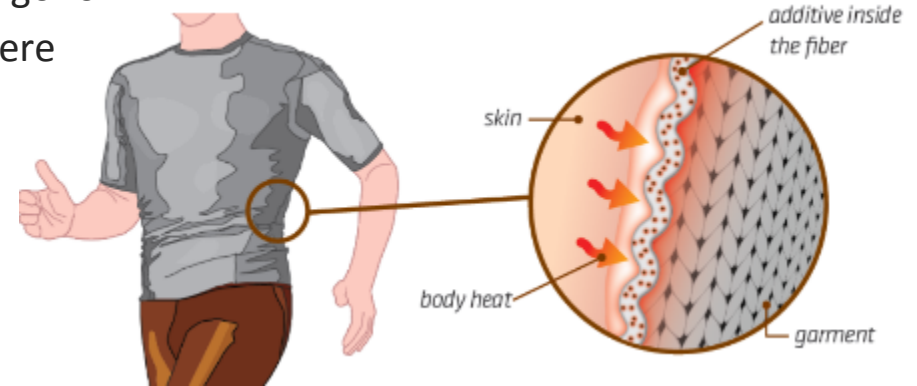


NILIT[®] HEAT

Come è fatto?



- Un materiale unico, naturale ed utilizzato come additivo durante la filatura. Il composto proviene dagli scarti del caffè e dal guscio dei semi stessi del caffè.
- Piccole percentuali di particelle ossidanti vengono aggiunte per migliorare l'efficacia e per raggiungere elevati valori di resistenza ai lavaggi.
- L'additivo è stato verificato essere inerte dermatologicamente e senza pericolo per il corpo umano.



Prodotto testato e approvato come OEKO-TEX[®] Standard 100 – class 1



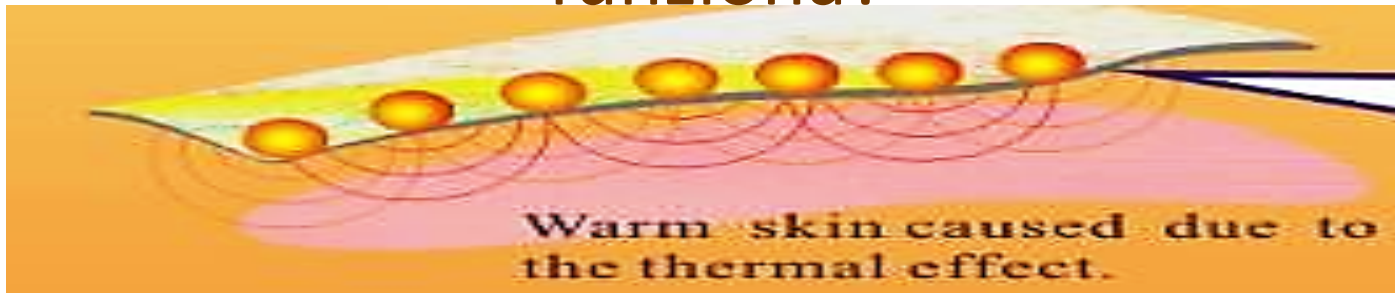
Product class I: Textile items for babies and toddlers up to 3 years (clothing, toys, bed linen, terry cloth items etc.)



NILIT[®] HEAT



Qual è l'effetto sul corpo? Come funziona?



- Il nostro corpo emette calore che viene assorbito dall'additivo naturale a base di caffè incluso nel polimero.
- La composizione speciale del carbone di caffè trattiene il calore per poi restituirlo quando necessario
- I massimi risultati si ottengono quando i capi vengono utilizzati come «base layers», cioè per capi che stanno a contatto del corpo.
- Questo permette alla struttura complessa del polimero che forma il filato di isolare, catturare il calore e mantenerlo così nel capo



NILIT[®] HEAT

Caratteristiche del carbone di caffè

- Il materiale è ricavato dagli scarti della lavorazione del caffè
- 100% naturale e skin friendly
- Elevato isolamento termico completamente naturale
- Elevato potere deodorante
- Caratteristiche anti batteriche
- Colore naturale

Natural Warmth Insulation

NILIT[®] Fibers



Test di valutazione potere anti-batterico

Textile Laboratory

Test Report

No: TX80105 /2012 /PL

Date: Aug. 21, 2012

Page: 1 OF 3

NILIT Ltd.

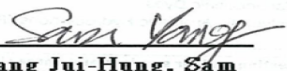
P.O.B. 276, Maurizio Levi Road,
Migdal Haemek, Israel

The following sample was submitted and identified by the client as:

- Sample Description : (As declared)
One sample of knitted NILIT Coffee Charcoal sleeves
in dark gray
- Sample Receiving Date : Aug. 03, 2012
- Test Performance Period : Aug. 03 to Aug. 21, 2012
- Test Performed : Selected test(s) as requested by applicant.
- Test Results : For further details, please refer to the following page(s).



Signed for and on behalf of
SGS Taiwan Ltd.


Yang Jui-Hung, Sam
Supervisor

"Unless otherwise stated the results shown in this test report refer only to the sample(s) tested, and such sample(s) are retained for 3 months only." This test report cannot be reproduced, except in full, without prior written permission of the Company.
"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.
Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law."

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 31, Wu Chyuan Road, New Taipei Industrial Park, Wu Ku District, New Taipei City, Taiwan / 新北市五股區新北產業園區五權路 31 號
t (886-2) 2299-3939 f (886-2) 2299-3227 www.tw.sgs.com

Member of the SGS Group



Textile Laboratory
Test Report

No: TX80105 /2012 /PL

Date: Aug. 21, 2012

Page: 2 OF 3

Test Result:

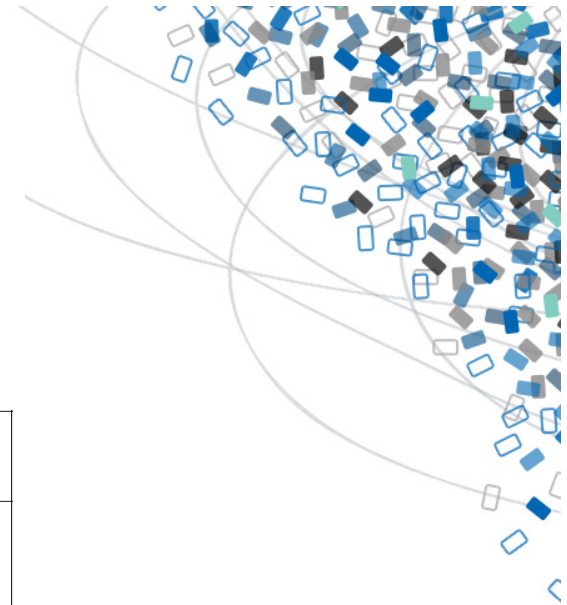
Antibacterial Activity Value of Textiles by Absorption Method (ISO 20743:2007)

Name of test bacteria (strain number)	<i>Staphylococcus aureus</i> (ATCC 6538)	Requirement with reference to JIS 1902:2008	Comment
Number of bacteria obtained from test specimen of sample immediately after inoculation, $T_{0(A)}$ (CFU/ml)	1.09E+05	/	/
Number of bacteria obtained from test specimen of sample after incubation, $T_{t(A)}$ (CFU/ml)	8.45E+06		
Log T_0	5.0		
Log T_t	4.9		
Antibacterial activity value (Bacteriostatic activity value) of sample ($\log C_t - \log C_0$) – ($\log T_t - \log T_0$)	2.8	≥ 2.0	Pass

Note: Antibacterial activity value (Bacteriostatic activity value) shall be 2.0 or over for the antibacterial-treated sample. This antibacterial efficacy requirement is with reference to JIS 1902:2008. JIS 1902:2008 bacteriostatic activity value is equivalent to ISO 20743 bacteriostatic activity value.

Remarks: Growth value of control fabric ($\log C_t - \log C_0$) ≥ 1.0

Name of test bacteria (strain number)	<i>Staphylococcus aureus</i> (ATCC 6538)
Number of bacteria obtained from test specimen of control fabric immediately after inoculation, C_0 (CFU/ml)	1.24E+05
Number of bacteria obtained from test specimen of control fabric after incubation, C_t (CFU/ml)	6.50E+07
Log C_0	5.1
Log C_t	7.8
Growth value of control fabric ($\log C_t - \log C_0$)	2.7



Test Result:

Antibacterial Activity Value of Textiles by Absorption Method (ISO 20743:2007)

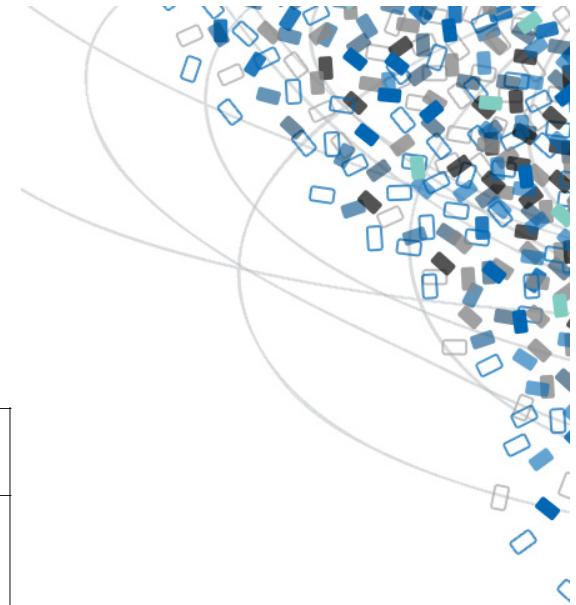
Name of test bacteria (strain number)	<i>Klebsiella pneumoniae</i> (ATCC 4352)	Requirement with reference to JIS 1902:2008		Comment	
Number of bacteria obtained from test specimen of sample immediately after inoculation, $T_{0(A)}$ (CFU/ml)	1.55E+05	/	/		
Number of bacteria obtained from test specimen of sample after incubation, $T_{t(A)}$ (CFU/ml)	5.50E+01				
Log T_0	5.2				
Log T_t	1.7				
Antibacterial activity value (Bacteriostatic activity value) of sample ($\log C_t - \log C_0 - (\log T_t - \log T_0)$)	6.1	≥ 2.0		Pass	

Note: Antibacterial activity value (Bacteriostatic activity value) shall be 2.0 or over for the antibacterial-treated sample. This antibacterial efficacy requirement is with reference to JIS 1902:2008. JIS 1902:2008 bacteriostatic activity value is equivalent to ISO 20743 bacteriostatic activity value.

Remarks: Growth value of control fabric ($\log C_t - \log C_0$) ≥ 1.0

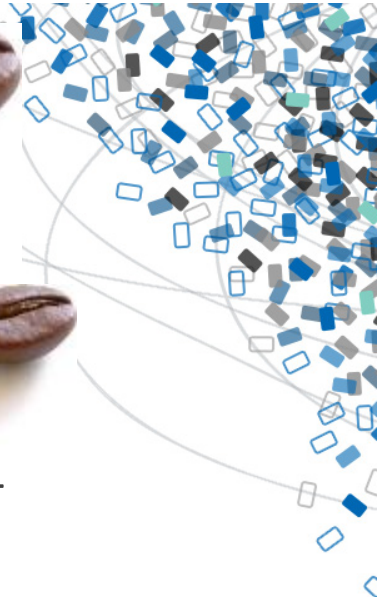
Name of test bacteria (strain number)	<i>Klebsiella pneumoniae</i> (ATCC 4352)
Number of bacteria obtained from test specimen of control fabric immediately after inoculation, C_0 (CFU/ml)	1.58E+05
Number of bacteria obtained from test specimen of control fabric after incubation, C_t (CFU/ml)	5.85E+06
Log C_0	5.2
Log C_t	7.8
Growth value of control fabric ($\log C_t - \log C_0$)	2.6

Tested by relevant SGS laboratory.





NILIT[®] HEAT



Metodologia e risultati

- Test condotti presso 3 laboratory (TTRI- Taiwan, Centexbel - Belgium, SGS)
su tessuti di controllo e contenenti NILIT HEAT, tinti e non tinti.
- Metodologia:
 - ✓ Tessuti irradiati con calore prodotto da lampade alogene.
 - ✓ Durante il test è stato misurato l'aumento di temperature del tessuto per un periodo di 10 minuti.

Il test ha dimostrato che i tessuti prodotti usando NILIT HEAT hanno registrato una temperatura superiore di 10°c rispetto al controllo.



NILIT[®] Fibers



Halogen Lamp TEST REPORT

Experiment Conditions :

The lamp source-detector separation leaves 50 centimeters. Halogen lamp power is 500 tiles. The heating-up time is 600 seconds. Lamp source angle is 35 degrees.

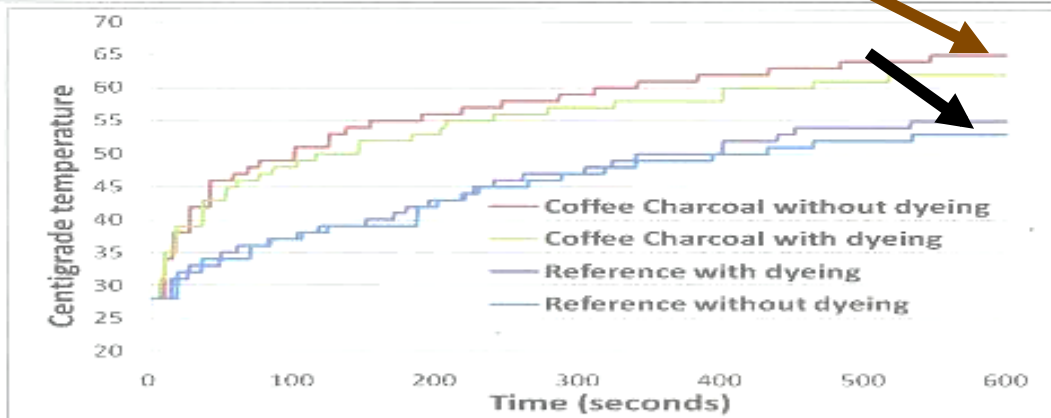
Sample origin : NILIT

Sample name : A : Coffee Charcoal without dyeing B : Coffee Charcoal with dyeing

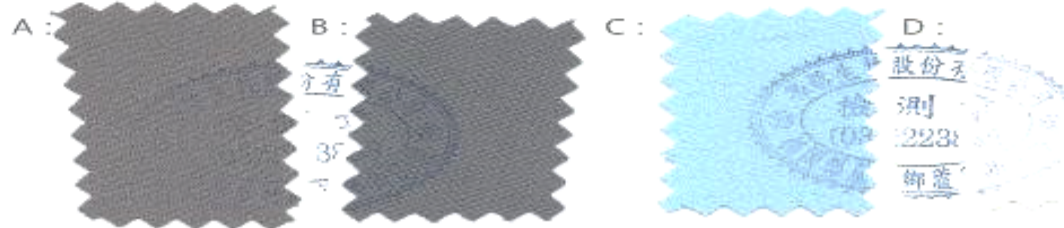
C : Reference with dyeing D : Reference without dyeing

Test Results : A cloth elevates temperature to 65 degree C.
B cloth elevates temperature to 62 degree C.
C cloth elevates temperature to 55 degree C.
D cloth elevates temperature to 53 degree C.

Elevation of temperature diagram of curves



Sample



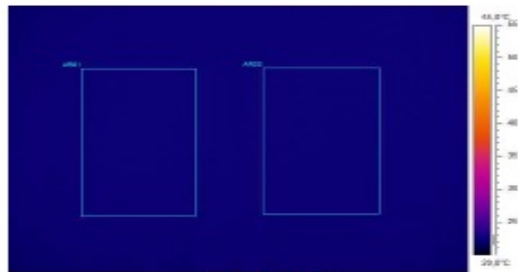
Operator : 徐建發

Date : 100.09.30

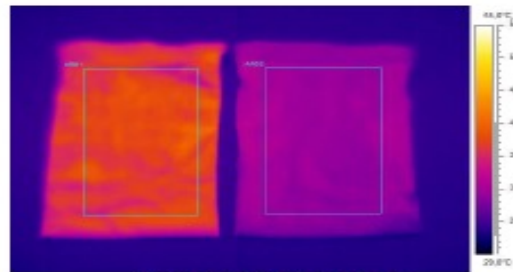


The fabric knitted with NILIT HEAT yarn shows the highest temperature elevation up to 65°C compared with the ref. fabric.

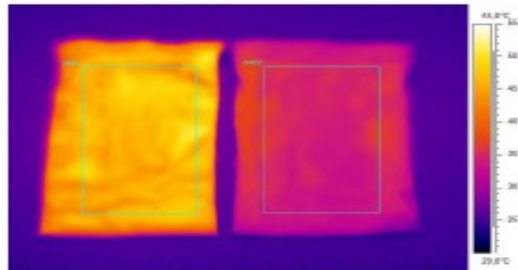




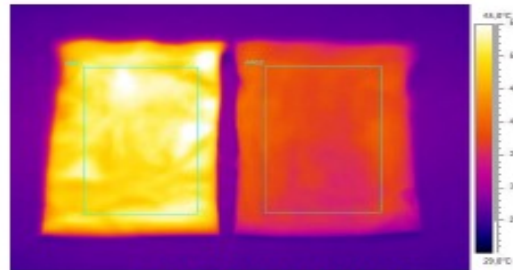
Initial state



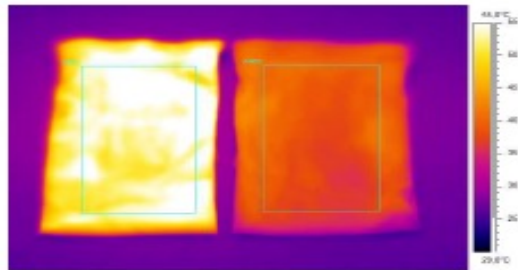
After 10s (spotlight on)



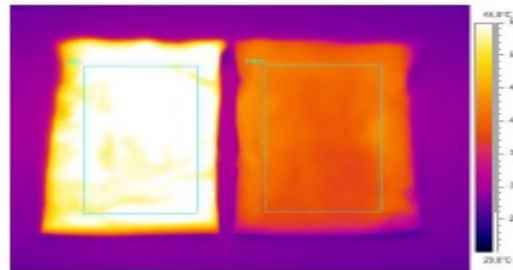
After 30s (spotlight on)



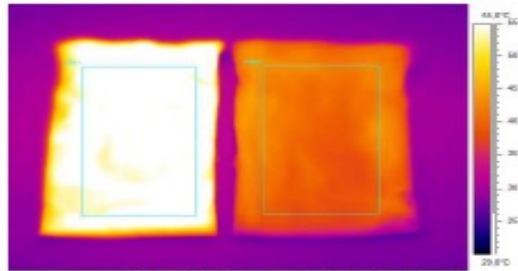
After 50s (spotlight on)



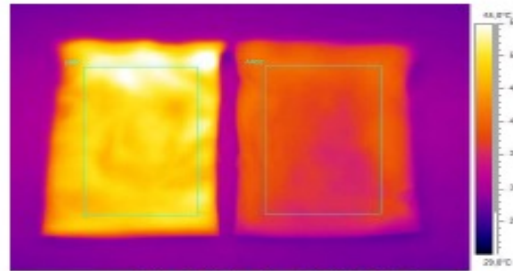
After 70s (spotlight on)



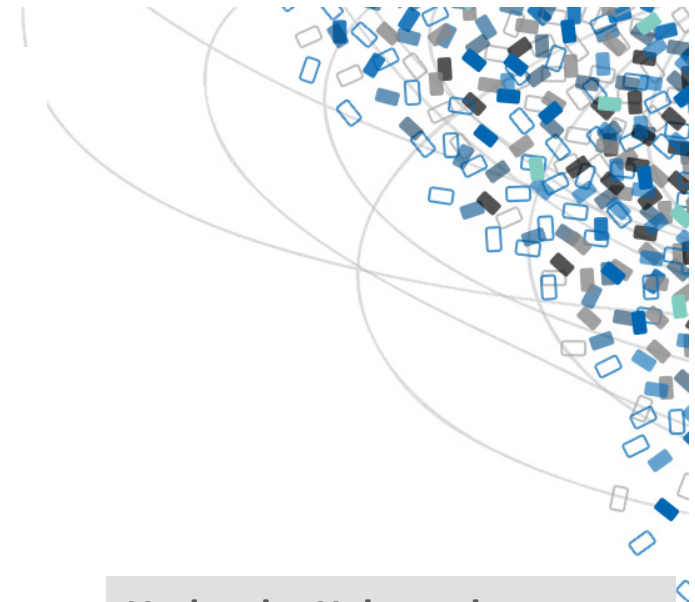
After 90s (spotlight on)



After 110s (spotlight on)

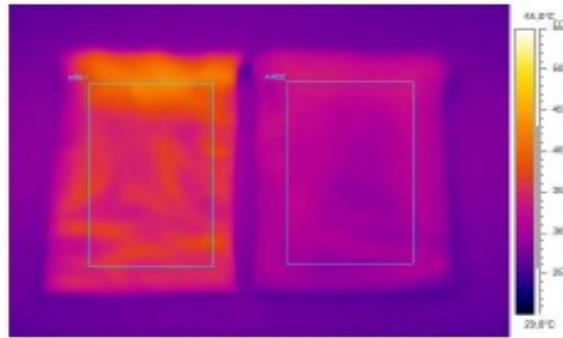


After 130s (spotlight off)

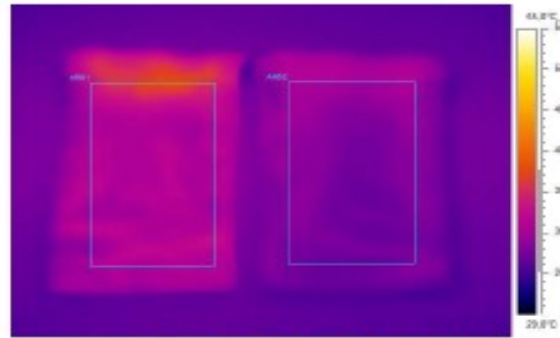


Under the Halogen lamp
The fabric with NILIT HEAT
(on the left)
Warms up faster & reaches
a much higher temperature

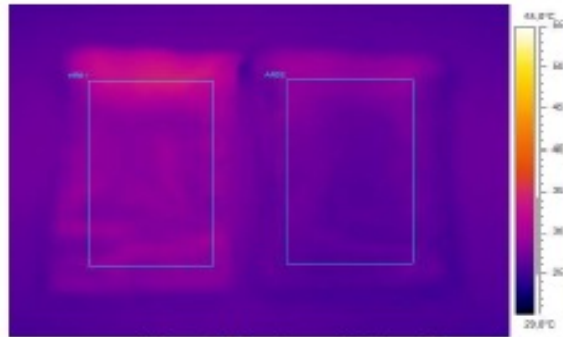




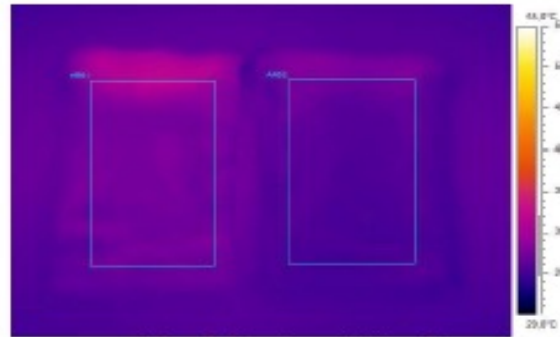
After 150s (spotlight off)



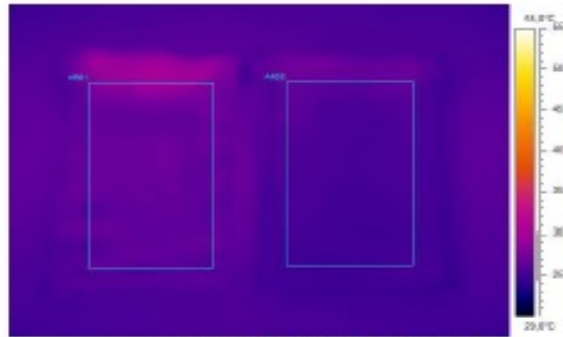
After 170s (spotlight off)



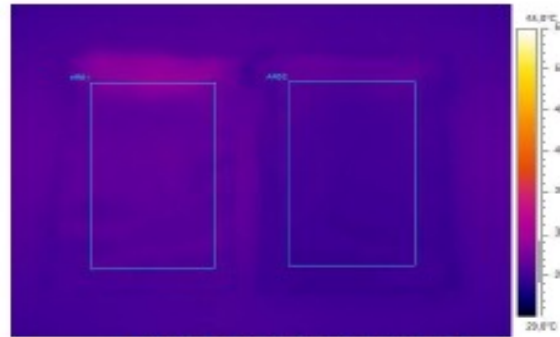
After 190s (spotlight off)



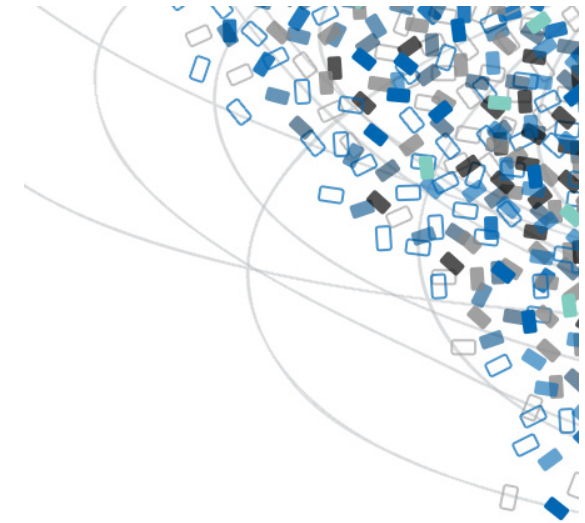
After 210s (spotlight off)



After 230s (spotlight off)



After 250s (spotlight off)



After halogen lamp is removed
 It is evident that the NILIT
 HEAT
 fabric (on the left) Keeps a
 higher temperature for a
 longer period of time.
 In the case of the human body,
 the natural heat transmitted,
 will continue.



UNIQUE COLOR RESULTS IN ONE DYE BATH

NILIT Fibers

NILIT *HEAT*

NORMAL COLOR DYE TAKE

SPECIAL COLOR DYE TAKE

Greggio



< VIRGIN FIBER WITHOUT DYE >



Greggio



NILIT Fibers



GRAZIE

Pierluigi Berardi