
WITH COEX®
NATURE
PROTECTS YOU
AND YOU
PROTECT NATURE
COEX®
NATURALLY FIREPROOF

COEX®, Naturally Fireproof

INDEX

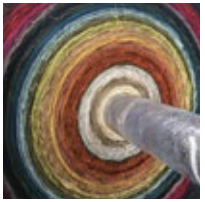
SOMETIMES EVEN IMPOSSIBLE THINGS BECOME BEAUTIFUL REALITY, BRINGING TOGETHER SKILLS AND CREATIVITY

The collaboration between two Italian companies, Torcitura Padana and Zanolo, gave rise to COEX®, the company that bears the name of the innovative completely natural fireproofing technology, the result of research and the desire to innovate in respect of people and the environment.






COEX



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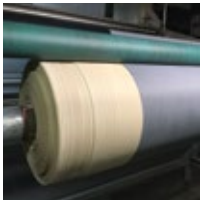







COEX

Simona Pesaro








m²


COEX® IS A FIREPROOF PATENTED TECHNOLOGY, 100% NATURAL, BASED ON CELLULOSE MOLECULE

WHEREVER YOU ARE, WHATEVER YOU ARE DOING, WHETHER YOU ARE WORKING, TRAVELLING, HAVING FUN OR RELAXING, WITH COEX® NATURE PROTECTS YOU AND YOU PROTECT NATURE

COEX® PROTECTS PEOPLE FROM FIRE USING NATURE

It does so thanks to a process that completes the characteristics of the cellulose together with other elements present in nature, which reinforce it, without genetically modifying it.

COEX® protects people in any setting they find themselves in, reinforcing all materials of a vegetable nature, to create a healthier and safer environment for all. Thanks to nature, COEX® can also guarantee protection to people against the side effects generated by the use of materials and synthetic or oil-derived substances. COEX® does not use flame retardant chemical additives or fire-retardant resins that can come into contact with the skin and the environment.

PEOPLE, NATURE, SAFETY: THESE ARE THE CORE VALUES OF COEX®

People

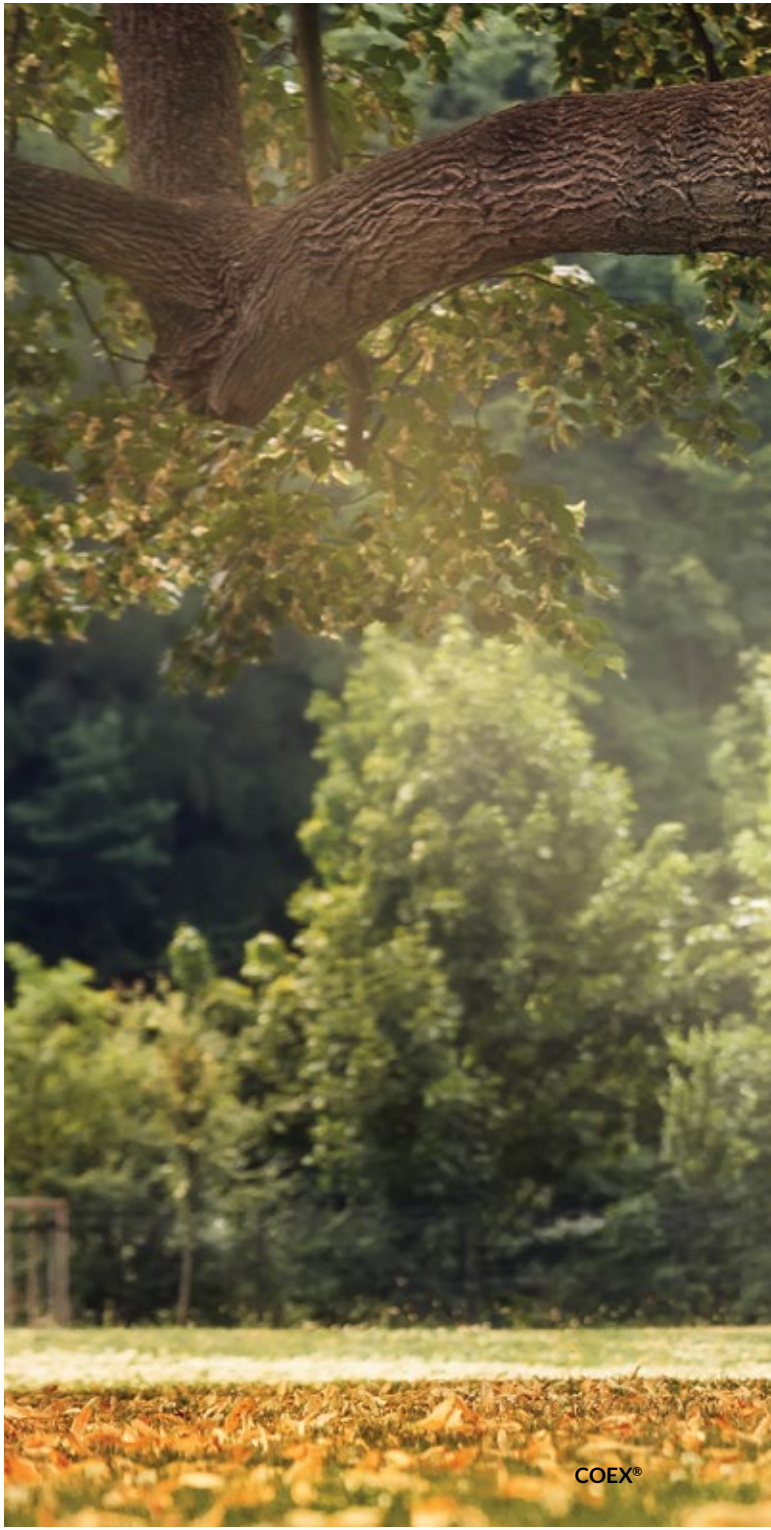
People are at the heart of the values of COEX®. Health, comfort, well-being and safety are always the priority.

Nature

All COEX® solutions are developed and designed in respect of nature and in search for less impacting and more environmentally friendly production processes.

Safety

COEX® offers solutions for any situation, setting or application where there is a cellulose-based material, to offer greater safety to living beings, respecting nature.



COEX® AND NATURE

THE GIFTS OF NATURE

Of all the natural fibres, vegetable fibres really stand out, which have ancient origins and have always been appreciated for comfort and breathable and regenerating properties, as well as being biodegradable for a perfect Cradle to Cradle cycle.

THE COMFORT OF COTTON.
Cotton is one of the most breathable natural fibres In addition to having a good absorption capacity (hygroscopicity) it favours the evaporation and dispersion of humidity and allows air to pass, accommodating a constant and physiological drying process. It is not very elastic and is resistant to ironing, so it is also washable at high temperatures, but it is not to light and acidic substances and can encourage the growth of mould and bacteria.

THE FRESHNESS OF LINEN.

Linen is breathable and very resistant. Especially when it is wet, it has a greater absorption capacity than cotton and a better thermal conductivity, so it is particularly fresh-feeling when used in clothing. One of its specific properties is that it is hypo-allergenic and therefore particularly suitable for sensitive skin. It is not very elastic and as such it is characterised by a wrinkled appearance that makes it both practical and glamorous.

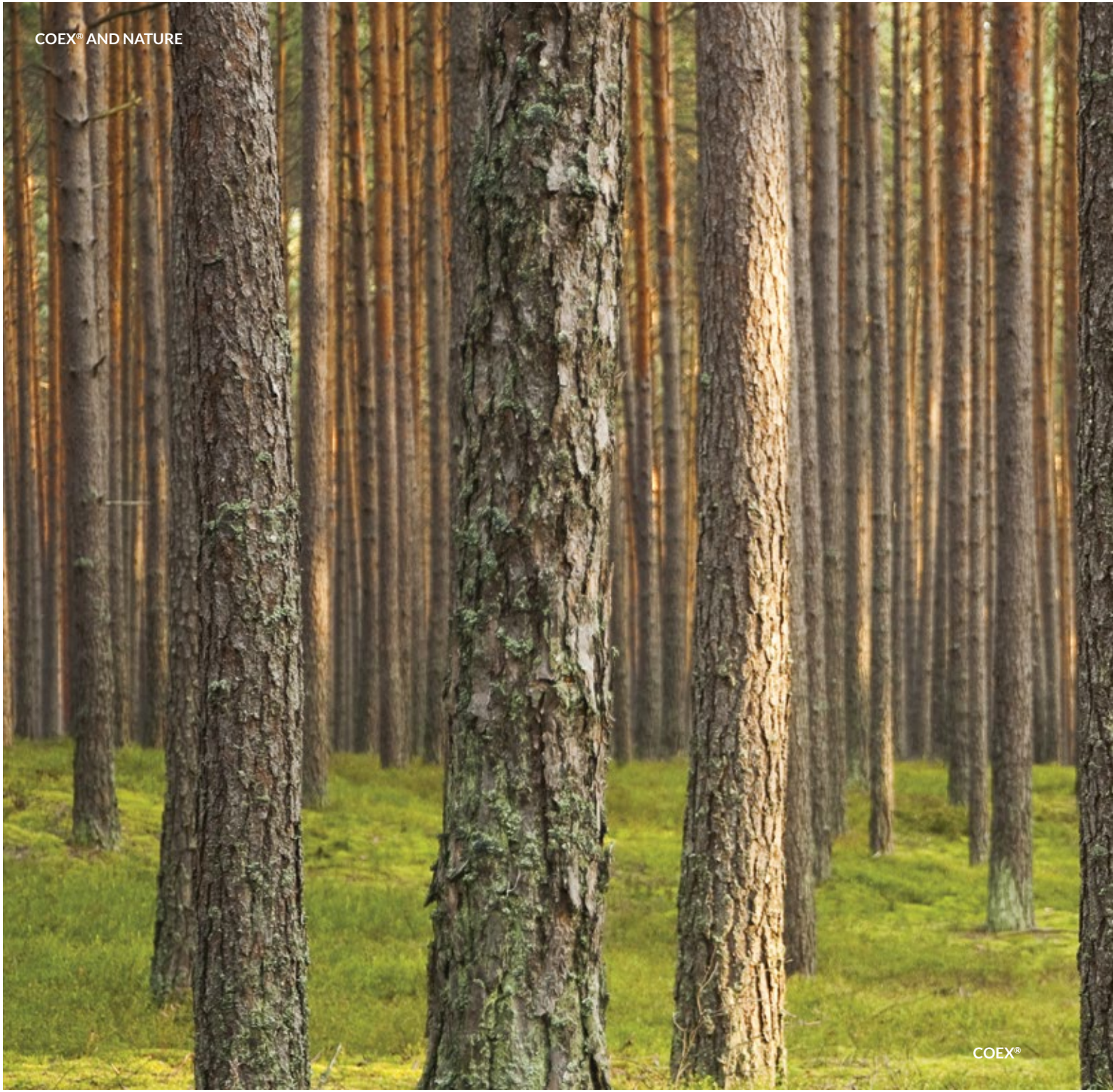
SOY, A VEGETABLE CASHMERE.

Soy fibreare known for being very soft and nice to touch and so they are referred to as "vegetable cashmere". Like bamboo, soy also has antibacterial qualities, is breathable, air-permeable, UV-resistant and biodegradable.

HEMP REGENERATES.
Hemp has good thermal conductivity and an excellent absorption capacity. Its hollow fibre can absorb moisture from the body and keep it dry, giving you a feeling of great comfort.

It possesses anti-bacterial and regenerative properties that exceed any other natural fibre. Cultivation has a very low environmental impact because it requires little water, is self-compatible and does not require any pesticides. It is very wear-resistant and is a natural filter for UVA rays.

THE ANTIBACTERIAL BAMBOO.
Bamboo is considered the eco-fibre of the moment due to its multiple properties: it is breathable, absorbent and particularly hypo-allergenic and antimicrobial, making it especially suitable for delicate skin and for allergy sufferers. Thanks to a bio-agent present in its molecular structure, the "bamboo kun" guarantees high antibacterial, anti-mite, anti-moth protection (even after many washes). Greatly prized for underwear, due to the hygiene and natural freshness, it is also naturally stretch and UV-resistant.



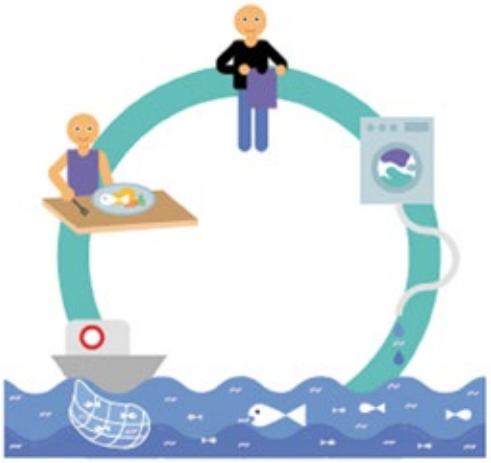
WOOD.

Wood brings home nature and healthiness and helps create an oasis of peace and well-being. It is not only used in furniture, it is also used for the structures, walls, fornitures and flooring. Wood in various different cuts and essences, as well as the bamboo, have excellent beneficial properties.

NO MORE PLASTIC AND MICROFIBRE

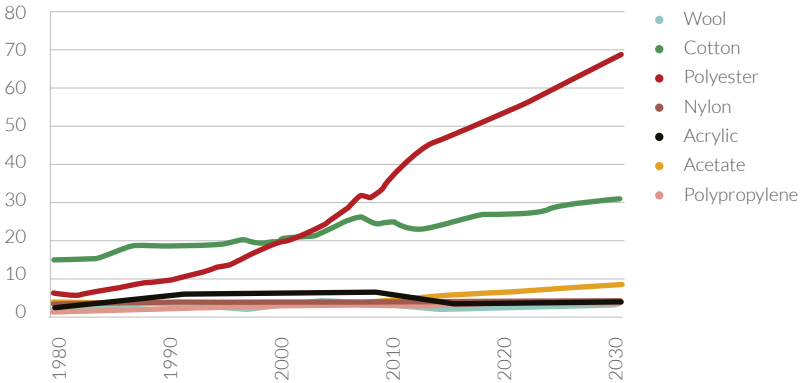
Polyester is contained in approximately 60% of the fabrics produced throughout the world.

Synthetic fibres, plastics and microfibres do not decompose in nature and are therefore causing enormous damage to the environment, animals and people. Polyester is contained in about 60% of the world's fabrics and cheap synthetic fibres have proved to be a disaster for oceans and dangerous for fish and the humans that ingest them. But, until today, there was no alternative solution to protect ourselves against fire and make our environments safer and healthier.



Source: "NEW TEXTILES ECONOMY: REDESIGNING FASHION'S FUTURE" by Ellen MacArthur Foundation and Circular Fibres Initiatives - Fig. 10 | page 66

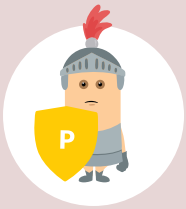
Total textile fibre demand (millions of tons)



Source: "NEOMATERIALI NELL'ECONOMIA CIRCOLARE" by Marco Richetti - page 20 | data from: PCIFibres

NATURE ITSELF RAISES A BARRIER AGAINST FLAMES

COEX® uses natural elements to strengthen the cellulose molecule and make it immune to fire. At the end of the process there are no releasable chemicals.



Phosphorus

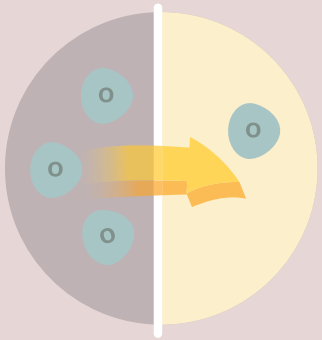
Raise a barrier against the flame.

Nitrogen

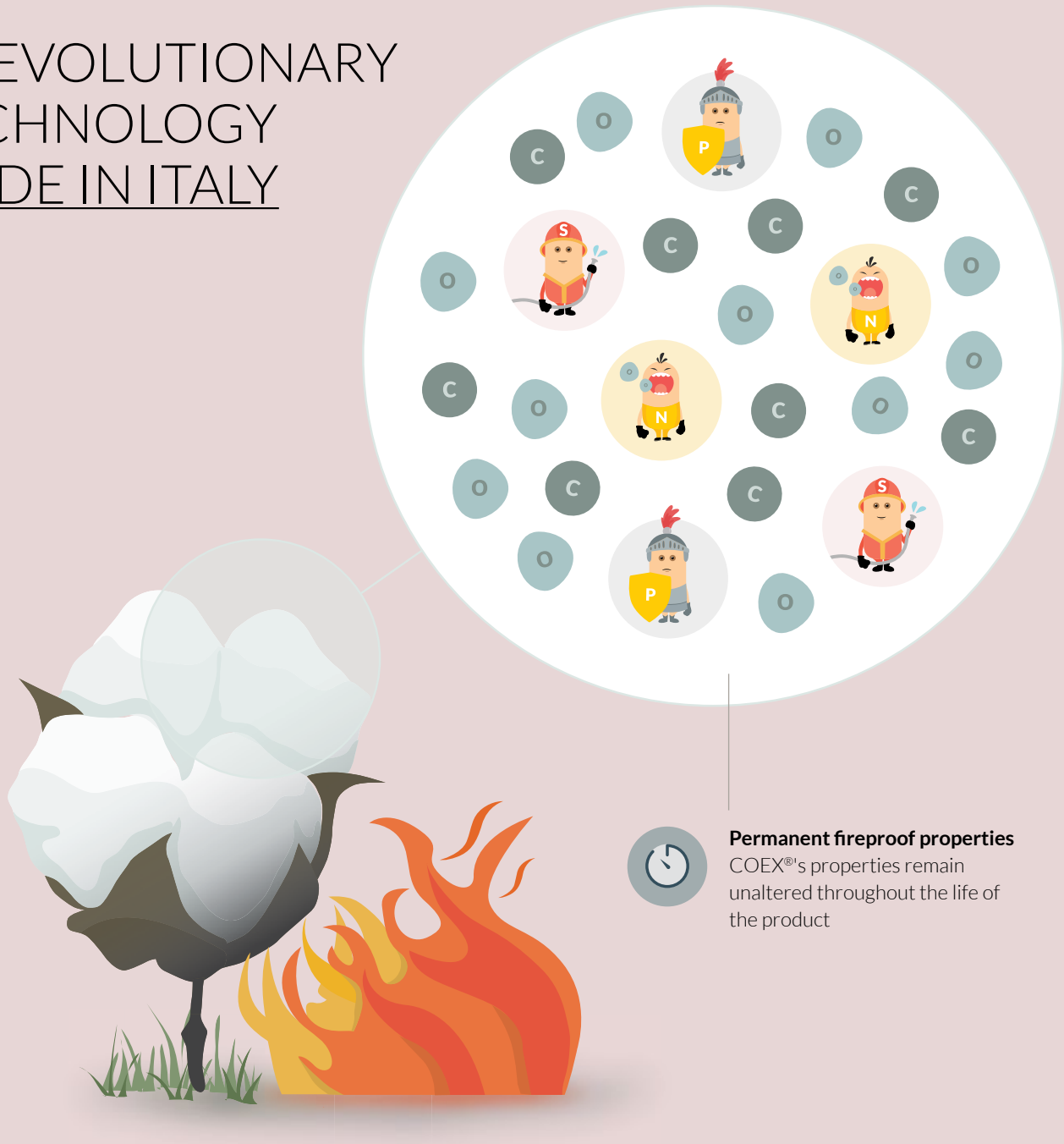
It reduces oxygen by reducing the combustion process.

Sulphur

Helps carbonisation by blocking flames.



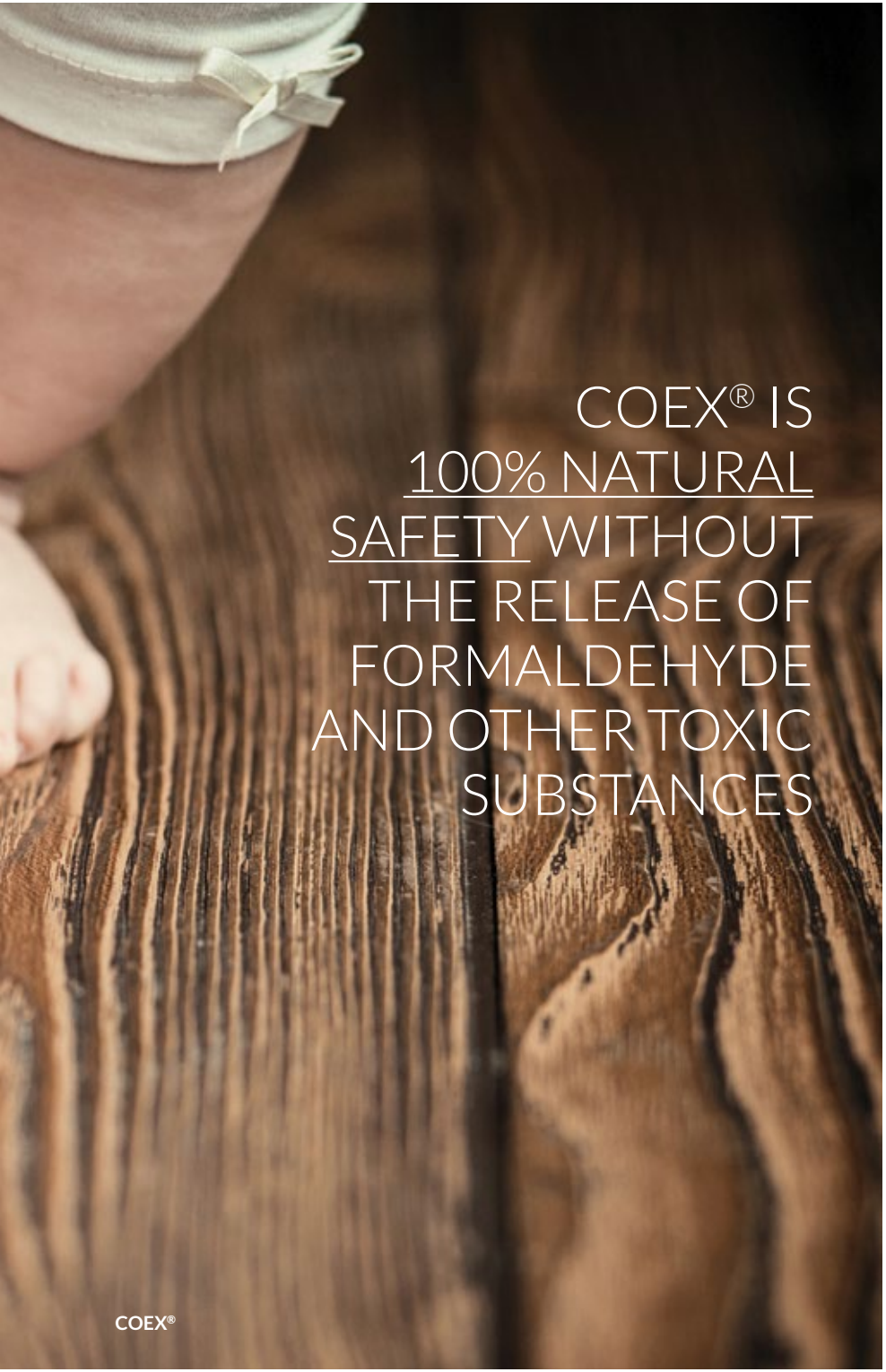
A REVOLUTIONARY TECHNOLOGY MADE IN ITALY



Permanent fireproof properties
COEX®'s properties remain unaltered throughout the life of the product

0% FORMALDEHYDE, AN ACHIEVABLE OBJECTIVE

Formaldehyde is a highly toxic substance, both by contact and by inhalation, so much so that today it is considered one of the main culprits for so-called indoor pollution, which we are exposed to daily in closed places such as offices, shops and last but not least our home.



COEX® IS 100% NATURAL SAFETY WITHOUT THE RELEASE OF FORMALDEHYDE AND OTHER TOXIC SUBSTANCES

Since 2004, the International Agency for Research on Cancer (IARC) has included it in the list of substances considered carcinogenic to humans and from 1 January 2016 Community legislation (EU Regulation 605/2014) has limited its use within certain limits (0.1 mg/m3 of average concentration in 30 minutes), but not eliminating the health risks, particularly for sensitive people, such as children or allergy sufferers.

The awareness of these risks has prompted the ECHA, European Chemicals Agency, to add formaldehyde in the SVHC (Substances of Very High Concern List), which could have serious and often irreversible effects on human health and the environment.

COEX® IS THE ONLY FIREPROOF PRODUCT IN THE WORLD THAT CAN OBTAIN SOME OF THE MOST IMPORTANT GREEN CERTIFICATIONS

Yet today formaldehyde continues to be widely used as a basic substance in the chemical industry and is used in a great deal of products, from building materials (foams, insulating resins) to pressed wood and MDF used for furniture, and parquets, from household products and detergents (thanks to its antibacterial power) to cosmetics and even as a food preservative.

Even in the textile sector, formaldehyde has always been used, for example in stain-proof or "anti-crease" resins, with which the fabrics are treated, in order to facilitate maintenance. Moreover, until a few years ago, it represented an inevitable by-product of all the “wash resistant” fireproofing treatments available on the market.

One of the objectives that led to the development of COEX® was to completely eliminate the release of formaldehyde and other toxic substances (such as halogenated molecules), thus creating a 100% natural product without using flame retardant chemical additives or fire-retardant resins that can come into contact with the skin and the environment.

CERTIFICATIONS

Today, COEX® is the only fireproof product in the world that can obtain numerous certifications, such as GOTS (Global Organic Textile Standard), the most important international standard for textiles made with natural fibres from organic farming and Oeko-Tex®, one of the best-known certifications in the world that ensures the human-ecological safety of textile products.

GOTS
Global Organic Textile Standard

International recognition for textiles made from natural fibres from organic farming.

REACH

Complies with all European regulations regarding the absence of harmful substances in the production process.

Oeko-Tex Certification

COEX® it has been included in the list of approved products for the production of fabrics that obtain the Oeko-Tex certificate and therefore do not use harmful substances.

According to the Test Report 15/000157295 of the Chelab Siliker laboratory, on behalf of the University of Padua, Made of COEX® fabric has been classified in the NON-IRRITANT category, if applied to intact human skin.*

* test conducted on a significant reference sample

WOOD

WOOD

COEX® acts on cellulose molecules that make up about 40% of the wood structure, but also on lignin, present on 25%.
These two molecules represent the framework of the wood and, thanks to COEX®, acquire the fireproof properties, remaining 100% natural.

Types of materials that can become COEX®

- Wood veneers for decorative use
- Plywood
- Recomposed wood
- Multilayer
- Solid wood

Types of essences

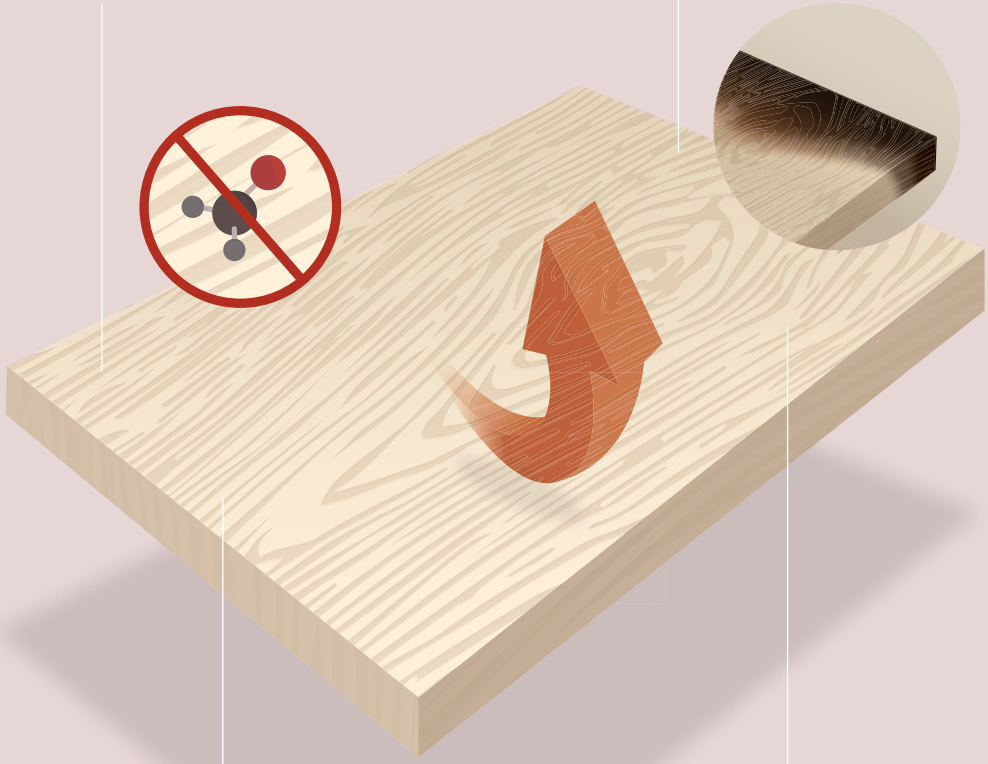
COEX® can be used with all types of wood

Compatibility with other materials

COEX® has a high compatibility with other materials used during processing, such as glues or paints.

0% Formaldehyde
It does not contain formaldehyde, a carcinogen frequently present in flame retardant traditional solution

Non-toxic
It does not emit toxic fumes, such as dioxin



100% natural
It does not modify the surface of the material, allowing “open-pore” processing and effects. It is not necessary to apply fireproof coatings.

Fireproof wall
Carbonising creates a protective wall against fire

ADVANTAGES

Compared to previous fireproofing technologies, applied on wood by impregnation, COEX® has several advantages:

UNI EN 13501-1 standard

According to the Italian and European standard UNI EN 13501-1, which assesses the "Reaction to fire of building materials", COEX® is integral with the material, does not migrate and is uniform, so it does not contain and release formaldehyde during use, application and fire. Therefore COEX® can be Classified in Category Bs1d0*.

* **Main classification**
(the code $_{fl}$ after the class indicates the floor materials)

A1 / **A2**	+++++	classes of non-combustible materials (glass, fibreglass, metals, porcelain, etc.)
B	++++	non-flammable combustible materials
C	+++	combustible materials that are not easily flammable
D	++	
IS	+	
F	-	highly flammable materials

Accessory classification

s	**1**	++	(best)	**s**=smoke: production of smoke during combustion
	2	+		
	3	-	(worst)	
d	**0**	++	(best)	**d**=dripping: drip during combustion
	1	+		
	2	-	(worst)	

WOOD COEX® CAN BE USED IN DIFFERENT SECTORS

STRUCTURAL USE

The use of wood in structural functions is making a big come-back, thanks also to the bio-architecture and prefabricated structures that blend well with the characteristics of this strong, healthy and versatile material.

- Fittings
- Wooden houses

COEX®

DECORATIVE USE

Wood can have many uses in interior design: from furniture to wall cladding and flooring. Making it safer, while maintaining its natural properties, allows warmer, more welcoming environments, without sacrificing well-being.

Furniture

Wainscoting

Floors

FABRICS

COEX® STRENGTHENS THE CELLULOSE PRESENT IN PLANT FIBRES maintaining and enhancing the NATURAL characteristics and enriching them with fire protection properties

Cotton

Linen

Hemp

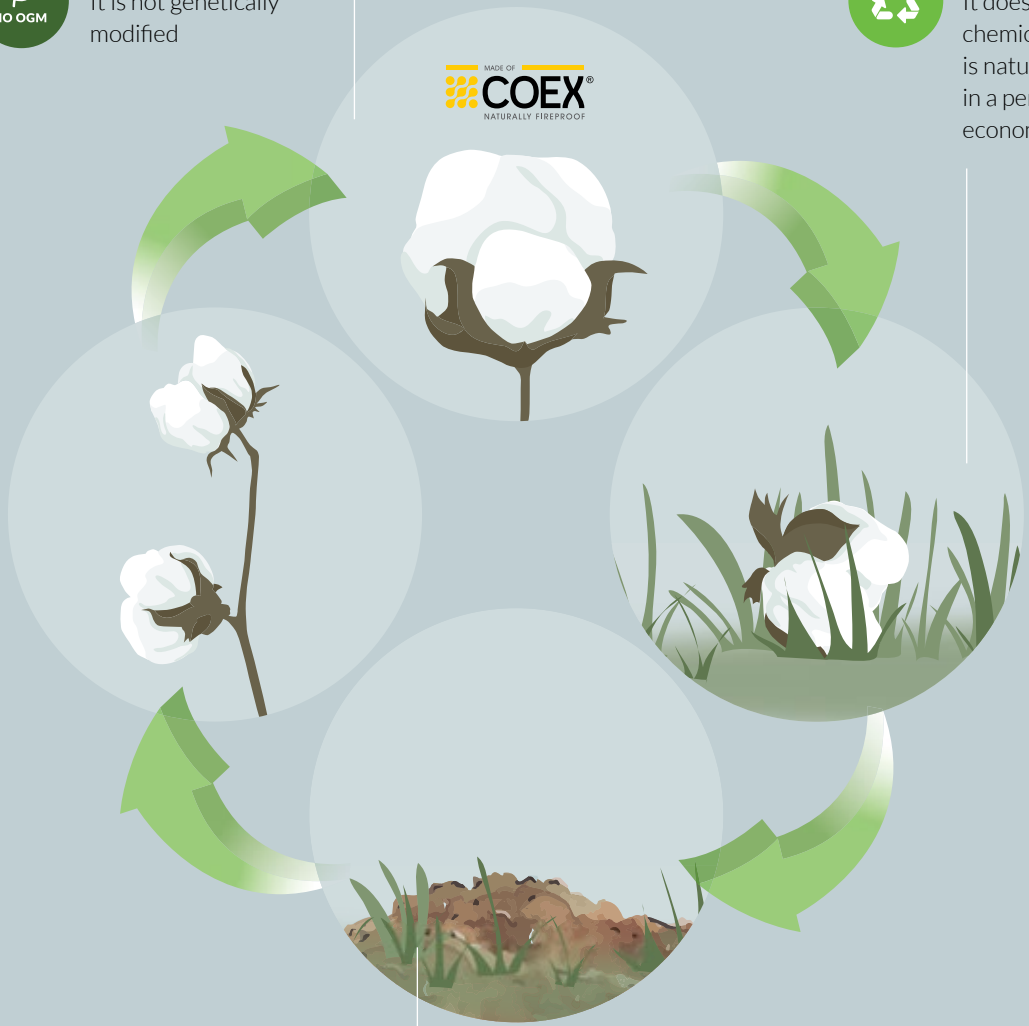
Soy

Bamboo

COEX® PRESERVES AND ENHANCES THE ECOSYSTEM AND NATURE'S BIOLOGICAL CYCLE

No GMOs
It is not genetically modified

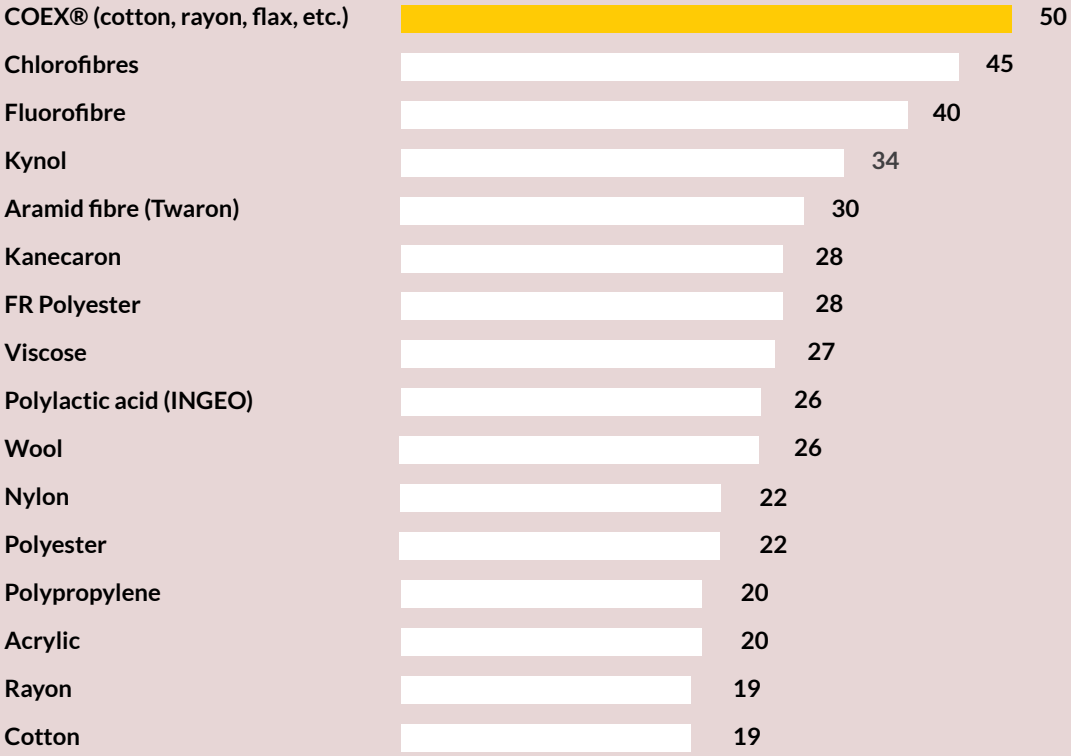
Biodegradable
It does not contain any chemical additives so it is naturally degradable in a perfect circular economy cycle



Compostable
Under certain conditions, it can also be compostable

THE LOI VALUE OF COEX® IS 50, THE HIGHEST VALUE FOR FIBRES

The LOI index indicates the amount of oxygen needed for combustion of a fibre. The higher the value, the lower the capacity of that fibre to burn.




Polyester FR
Viscose Linen
Viscose Linen COEX®

100% NATURAL COEX® FABRICS

COEX® natural fabric does not irritate the skin and does not cause allergies* when it comes into contact with the skin.
It absorbs sweat and facilitates natural body transpiration.

Breathable
It ensures that the breathability of the natural starting fabric is unchanged.

Comfort and softness
It maintains the same softness of the starting fabric

Total white
Unique fire-retardant fabric available in total white

Hypoallergenic
It is also suitable for use in children's clothing. The highest degree of tolerability for fabrics*

Low Pilling
Improve fabric pilling resistance, keeping it nice for longer**

*Patch Test carried out on a significant reference sample by the University of Padua

**According to the regulation N ISO12945-1, which defines the pilling evaluation scale, the resistance of Made of COEX® fabrics is 1 point higher than the same fabric not made of COEX®

WITH COEX®, A NEW CATEGORY OF FIREPROOF FABRIC IS BORN: DMMFP (Durable Molecular Modified Fire Proof Fabric)

DMMFP (Durable Molecular Modified Fire Proof Fabric). It is a molecularly-modified fabric that blocks flames. It is a fabric obtained by modifying the molecular structure of the cellulose fibre so that the product does not burn, creating a protective barrier against fire. It maintains its properties throughout its life span.

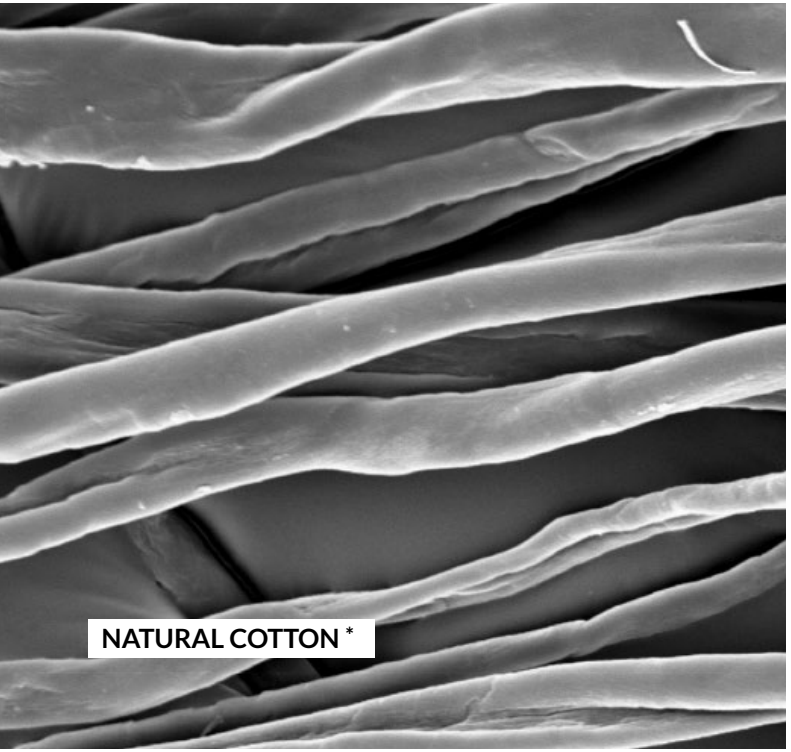
Before COEX®, fireproof fabrics were classified into 4 categories:

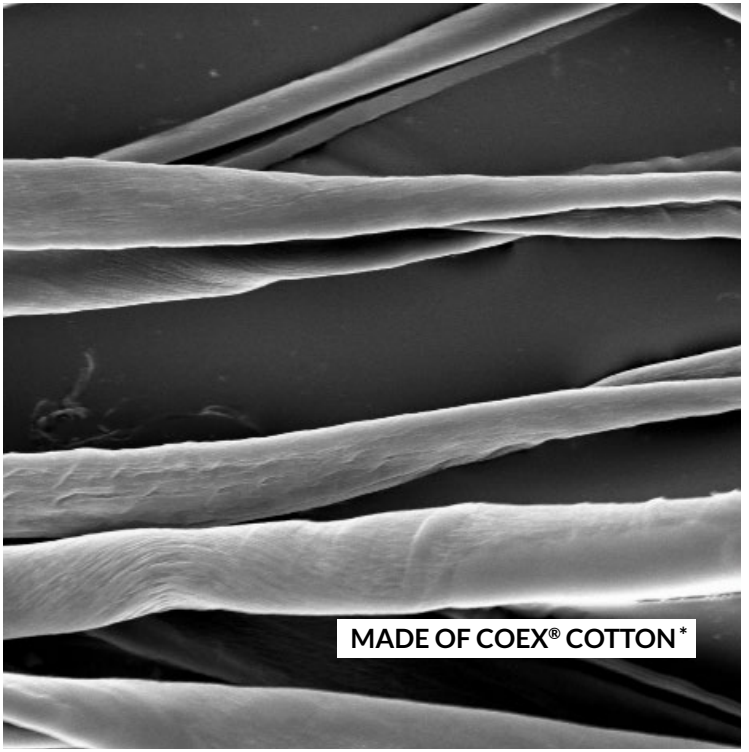
FR (Flame Retardant Fabric). Fabric that hinders flames. Fabrics that are more resistant to flames than others. Definition that complies all the other categories.

DFR (Durably Flame-Retardant Fabric). Fabric that hinders flames in a durable way. Obtained with polymeric filaments (nylon and polyester) and chemical additives that bind to the fibres and allow it to resist flames and not react to water. It maintains its properties throughout its life span.

TFR (Treated Flame Retardant Fabric). Treated fabric that hinders flames. Made with threads that do not resist fire, but treated with flame retardant chemicals to comply with regulations.

IFR (Inherent Flame Retardant Fabric). Fabric that is inherently flame retardant. Built with flame retardant threads without special treatments or the addition of chemicals. Its properties remain unaltered throughout its lifespan and despite being washed.





From the analysis of electron microscopy it is clear how COEX® does not modify the natural starting fibres, unlike the other fireproofing technologies on the market.

*Images created using the Cambridge S240 Electronic Scanning Microscope (SEM). 500X magnification. By CNR-ISMAC, Institute for the Study of Macromolecules.

PRESTIGE AND EXCELLENCE AT INTERNATIONAL LEVEL

RECOGNITION

Awards received in various categories.

ITMA - Future materials awards 2015

Award for the best technological innovation obtained by the FM Awards panel, during the 2015 Exhibition, in the Best Innovation - Home Textile category.

AIT-Trend Award 2018

The prestigious German architecture and interior design magazine AIT has given the **Made of COEX® feischee collection**, the cotton fabric collection by Maasberg, the **AIT-Trend 2018** award for innovation in the textile sector, thanks to COEX® technology, which was chosen as the most innovative of the new innovations presented at the exhibition by a panel made up of German architects and interior designers.

Enel and the Symbola foundation

Enel and the Symbola foundation have selected COEX® as one of the 100 best innovations in the circular economy.

THE COEX® WORLD

THE COEX® WORLD RANGES FROM INTERIOR DECORATION, TO CLOTHING, OBJECTS, ARCHITECTURE, AND MORE.
Discover where nature can protect you, without sacrificing comfort

INTERIOR DECORATION
Furnishing fabrics, curtains, wall coverings, cushions and much more...a world of all-natural and fireproof textiles

FURNISHINGS
Natural fireproof fabrics and wood, for comfortable and protective furniture

Hotel&Contract

The hospitality sector requires fireproof standards that, until now, could only be satisfied with non-natural products Today it is possible to combine protection and naturalness with COEX®, not just in interior decoration but also for bed linen.

Hospitals

Today, it is possible to have fireproof,natural sheets and bed linen for total comfort and safety for patients and doctors.

Offices

Sound-absorbent panels, seats, sofas and natural interior decoration are now also possible in offices.

KIDS WORLD

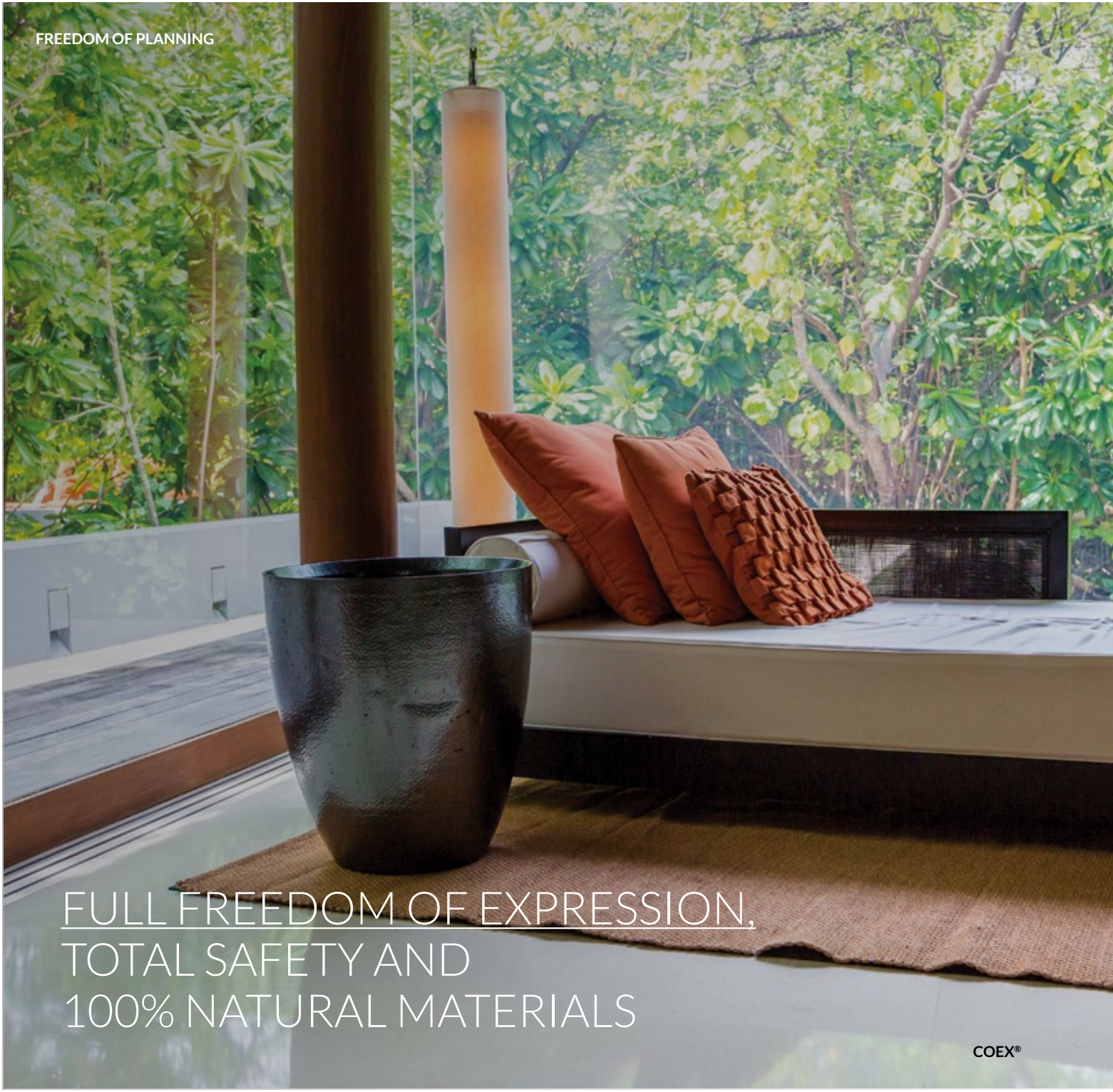
From toys to items such as strollers, sunbeds and much more for children... today you can protect yourself from fire with totally natural and safe products.

TRANSPORTATION

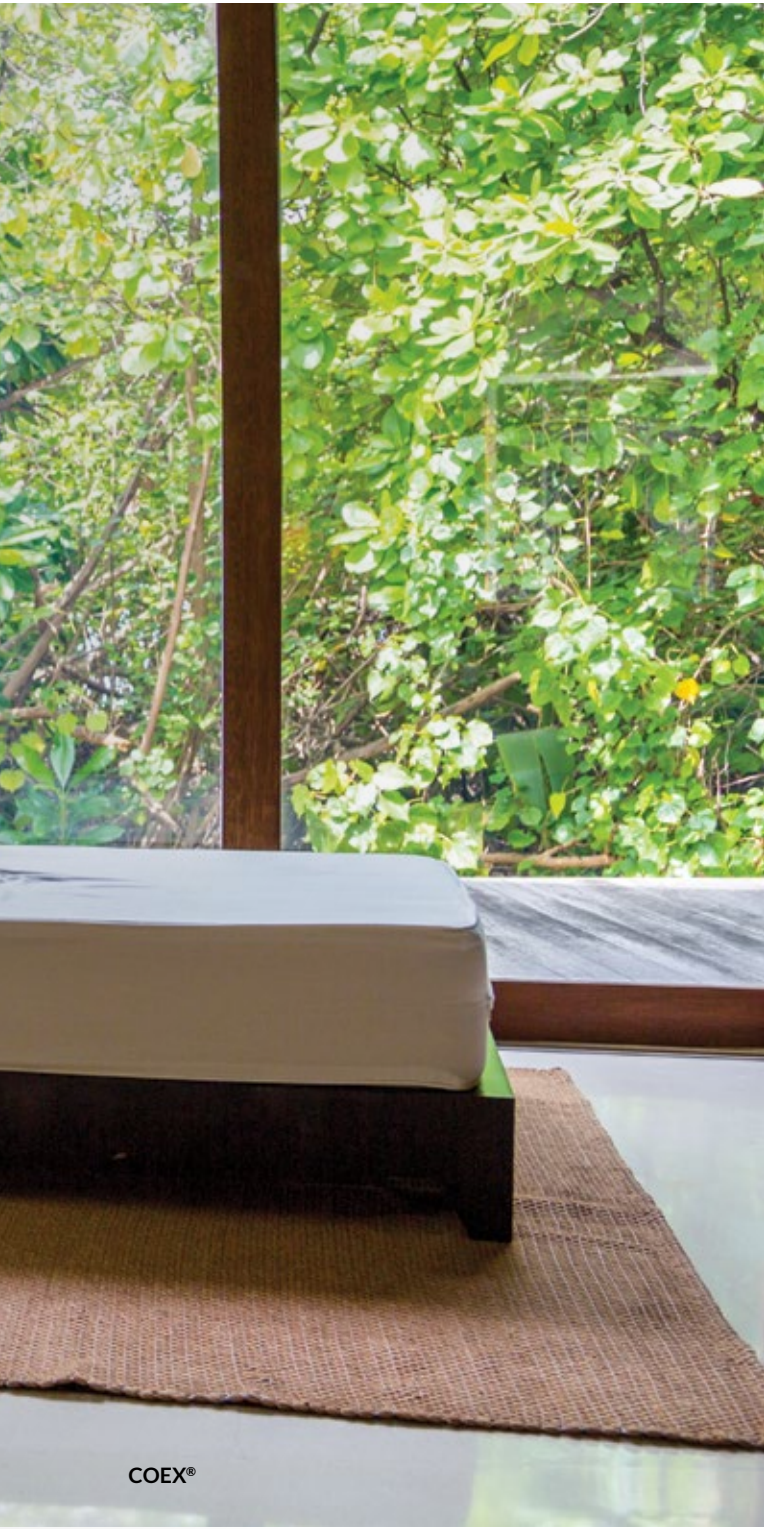
From the maritime sector, to trains, planes and much more, COEX® opens up new possibilities for fireproof, natural bed linens, coatings and furnishings.

CLOTHING

From the motorsport sector, to technical or military clothing, to children's clothing...now you can protect yourself against fire and have comfortable, breathable garments.



FULL FREEDOM OF EXPRESSION, TOTAL SAFETY AND 100% NATURAL MATERIALS



INTERIOR DESIGN AND BIO-ARCHITECTURE HAVE NEVER BEEN SO FREE

The comfort of natural fibre, the safety of hypo-allergenic materials and the pleasure and beauty of a natural environment are just a few of the advantages of COEX®.

With COEX®, it is now possible to carry out the interior design of contract and domestic environments using fibres and materials of vegetable origin without having to sacrifice health, safety and comfort.

COEX®

THE NATURAL MADE OF COEX® HOUSE

The green house has furniture that focuses on natural materials and fibres and on the well-being provided by a new-found contact with nature. But it was not always possible to combine naturalness and safety!

Well-being in architecture means carefully selecting the materials furnishing, favouring natural materials over chemically-treated ones.

In fact, we often ignore that "faux wood" can be worked with formaldehyde and other volatile compounds, which is an irritant for the respiratory tract and sight.

Conversely, natural fabrics and materials are "living" and permeable, they absorb and so maintain a certain degree of humidity in the environment, regenerating the air and helping to create a healthy microclimate.

Artificial or synthetic fabrics and materials, which tend to be cheaper and more practical, instead "charge" the air with positive ions, attracting dust and polluting particles that tire us out, and cause allergies and inflammation of the respiratory tract.

Today, materials such as linen and hemp are also used in architecture because they are valued for their thermal insulation and transpiration properties, making them suitable for building fully eco-sustainable homes.

The natural home "breathes" because it is in harmony with the cycles of nature and with COEX® today it is possible to combine naturalness and safety, for total protection and well-being.

"THE BAR" - THE BAR OF THE FUTURE
Designed by architect Simone Micheli

"ThE BaR", the bar of the future of the Ventura - Lambrate district designed by architect Simone Micheli was inaugurated during the Milan Design Week 2017.

Designed to become the most attractive place to meet up and socialise in the area, "ThE BaR" is an ethical and smart design where safety and sustainability are guaranteed through the use of COEX® fabrics lining the decorative, interactive and sound-absorbing E.WALL™ panels, of Treviso Made.

E.WALL ™ Made of COEX®
improves acoustic comfort, but is
also a complement of interactive
light furniture that moves with
customisable or predefined scenarios,
creating a dynamic scene that imitates
the movement of people, their
gestures and thoughts and makes the
environment comfortable and safe.

The architect Simone Micheli's
idea was to give life to a unique and
dynamic experiential place that moves
and interacts with people, fragments
of life put on stage in a place to meet
and socialise, faces and scenographies
that create relationships and tell
experiences to live and share.
All respecting nature and ensuring
maximum safety from fire, essential for
public places.

COEX®

TOWN HOUSE HOTEL DUOMO
By the architect Simone Micheli

Town House Hotel Duomo is the project designed by Simone Micheli for the prestigious TownHouse Hotels brand in Galleria Vittorio Emanuele II in Milan. One of the most exclusive hotels in the world will soon inaugurate three suites designed by architect Simone Micheli characterised by an extremely distinctive and fascinating setting.

The suites will have pure linen totally fireproof COEX® curtains and one of the suites will also have a bed, sofas and chairs upholstered in COEX® fabrics for a totally eco-sustainable and safe environment.

MADE OF COEX® PRODUCTS

MADE OF COEX® PRODUCT DEVELOPMENT PROCESS

COEX® is a technology and as such adapts to different needs. Developing a Made of COEX® product means starting a project that involves the development of a new line of products designed specifically to obtain the best Made of COEX® result.

1

Choice of the product to be made

Basic requirements are required to make Made of COEX® products.

2

Instructions for dyeing/ printing finishing

The fabrics that are to become COEX® must be dyed using specific methods.

3

Selection of the regulations

COEX® is a "tailor-made" technology based on the requirements and standards that are to be respected.

4

Preliminary COEX® Setup

It allows you to check and correct the setup process to obtain the best production process.

5

Production of mini batches and pre-tests

Testing and production of mini-batches needed to proceed with the certification.

6

Certification

All COEX® fabrics are manufactured and tested to the highest international fire protection standards.

7

Production

Once all the phases are finished, the product can be put into production to become MADE OF COEX®.

COEX® is a registered trademark and ensures excellence and quality of the product.

The use of COEX® technology is subject to the obligation to respect the image and the rules for using the logo.

1 CHOICE OF THE PRODUCT TO BE MADE

Natural materials

The 100% cellulosic materials are perfectly compatible. All 100% vegetable fibres can become Made of COEX®, i.e. transformed into COEX® and thus becoming completely flame retardant.

“Ad Hoc” projects

Cellulose Fibres, mixed with synthetics, can become Made of COEX® but require a special design that must be followed by the technical laboratory to be validated.

Keep in mind during the fabric selection process:

Weight of the fabric

IT is possible to make Made of COEX® any fabric weight. During treatment, the different weights will be managed separately. After treatment, the fabric weighs 10% more.

Ratio between weight and toughness

During the Made of COEX® product manufacturing phase the fabric loses about 15% of its toughness.
It is important to take this into account!

CREATIVITY IN TOTAL SAFETY.

2 DYEING/PRINTING AND FINISHING INDICATIONS

Rules for dyeing and printing BEFORE the Made of COEX® process

The fabrics that must become COEX® must be dyed using specific methods.

Whites:

It is possible to obtain an excellent degree of whiteness. For a preliminary examination of the fabric, contact the R&D department.

Colours:

- Selected LEVAFIX CA reagents or similar
- INDANTHRENE
- Sulphur
- Printed reagent
- Printed pigment

IMPORTANT: the dyes may have small variations compared to the original colour. The final colour obtained is stable and repeatable.

Rules of dyeing and printing AFTER the Made of COEX® process

It is possible to dye and carry out finishings on Made of COEX® fabrics, but it depends on the article, so it is necessary to request the operating instructions directly from the R&D department, before performing any procedure.

N.B.: it is not possible to dye and print reagent.

Finishing

Softeners or stain removers are allowed, which are usually strictly prohibited in classic fireproof products. The finishing process includes a series of treatments aimed at improving the tactile and/or visual characteristics of the fabric.
The finishing of a "Made of COEX®" product is carried out in the last phase of the process and must be carefully assessed.
This phase largely conditions the passing of the flame tests established and regulated by the various countries.

3

CHOICE OF REGULATIONS

The Made of COEX® process can be modulated according to the fireproof properties that are to be obtained

This is why it is essential to establish in advance what the reference standards to be respected are.

Contact the Research & Development office for more information.

SOME REFERENCE REGULATIONS

Curtains

N 13 773 (Europe)
BS EN 1101 (Europe)
UNI 8456 (Italy)
UNI 917402 (Italy)
DIN 4102 (Germany)
NF P 92-503 to 92-505 (France)
BS 5867-2 / 5438 (UK)
NFPA 701 (USA)

Furniture

EN 1021-1 and 1021-2 (Europe)
UNI 9175 (Italy)
DIN 4102 (Germany)
NF P 92-503 to 92-505, 92-507 (France)
BS 5852 / BS 7176 (UK)
California TB 116, 117, 133 (USA)

Bed linen/mattresses

16 CFR PART 1632-1633 (USA)
BS EN 12952 1-2 (Europe)
BS EN 597 1-2 (Europe)
BS 6807 SOURCE 5 - BS 7177 (USA)

Clothing

EN ISO 15025 (Europe)
ISO 9151 FIA (Europe)
BS EN 1103 (Europe)

Maritime

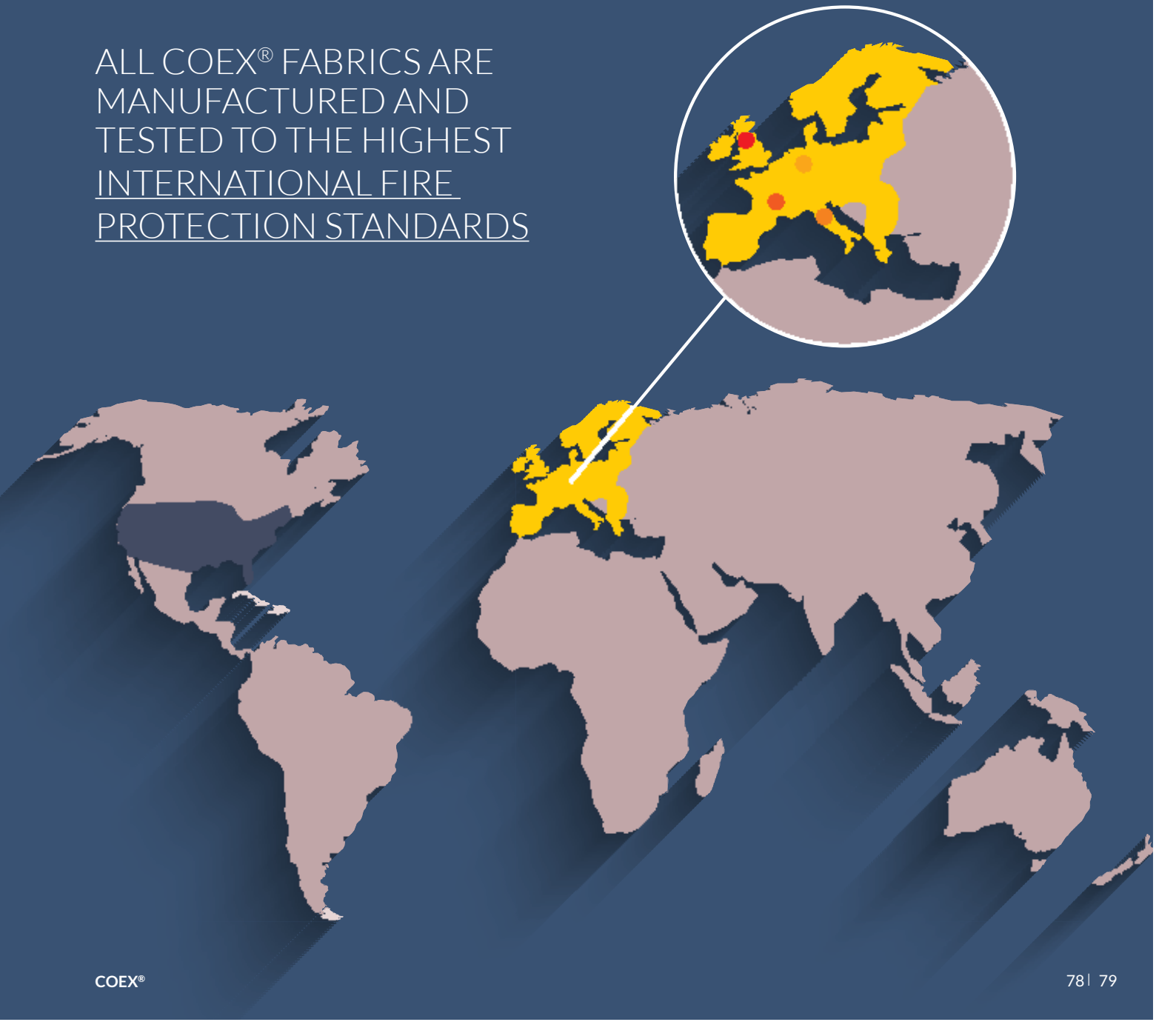
IMO-Drapes, decorative fabrics (curtains) (World)
IMO-Upholstery fabrics (wall covering) (World)
IMO-Wall coverings (wall cladding) (World)
IMO-Bedding (bed linen) (World)

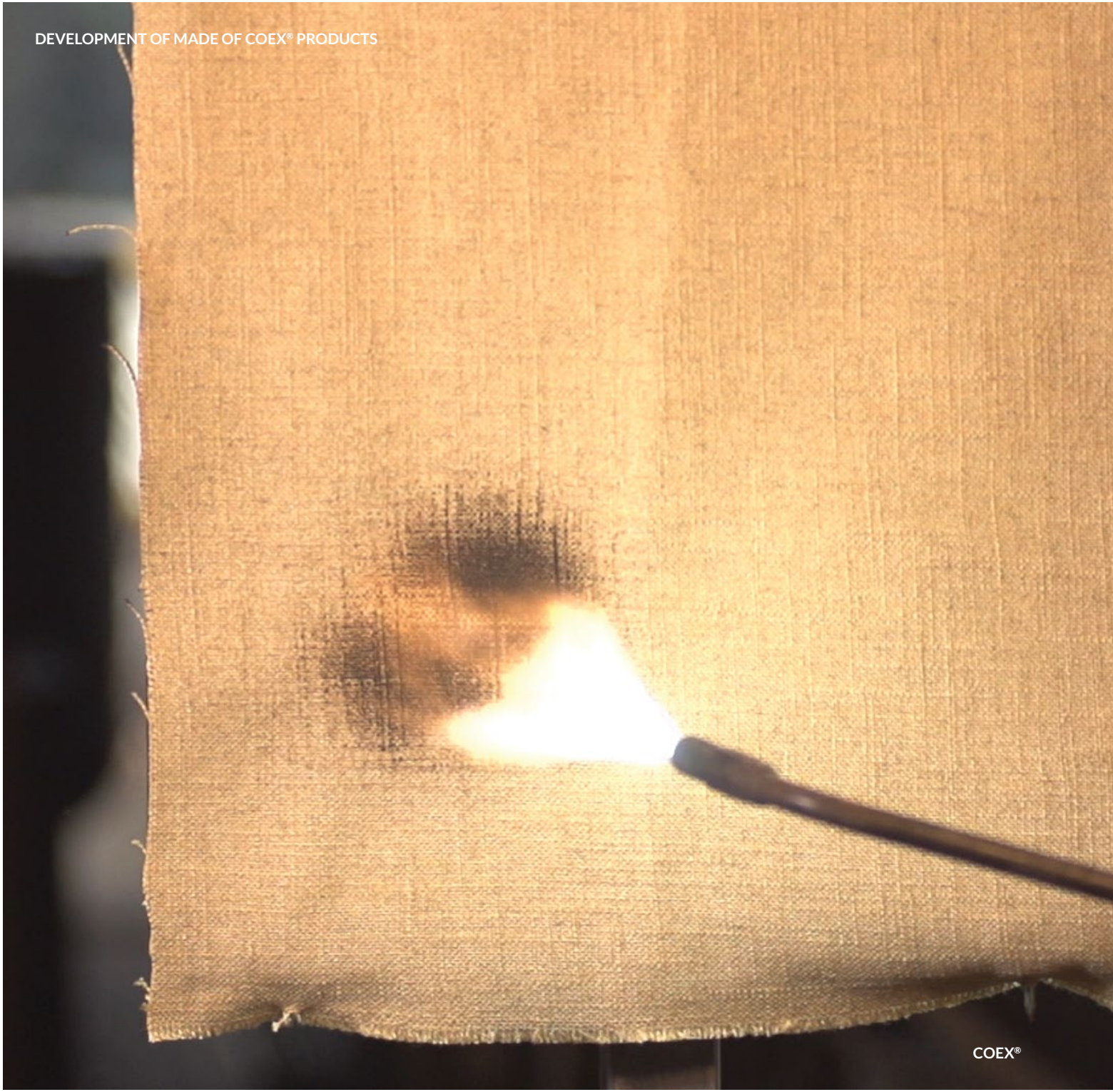
Aviation

FAR/CS 25.853 (World)
ABD 0031 (World)

This is a selection of some of the reference standards for the textile industry

ALL COEX® FABRICS ARE MANUFACTURED AND TESTED TO THE HIGHEST INTERNATIONAL FIRE PROTECTION STANDARDS





4

PRELIMINARY COEX® SETUP

Testing in COEX® laboratories

A4 format
Tests carried out in the COEX® laboratory
Waiting time: 7 working days

The COEX® laboratory imitates the production phase for the flame resistance and toning characteristics, but it cannot verify the characteristics of: toughness, abrasion, weight, height, degree of whiteness and other physical parameters.
These parameters must ALWAYS BE CORRECT in the PRODUCTION phase.

5

MINI-BATCHES AND PRE-TEST PRODUCTION

Mini-batch production

This phase allows you to perform a test to proceed with the certification only when the results are verified, optimising costs.

Mini-batches for the pre-test

Flat fabrics:
Height: 80cm min. - 85cm max
Length: 10m min. - 20m max
Waiting time: 15 working days

PAYMENT production:
€ 150 for a mini-batch

This phase perfectly imitates the production due to the flame resistance characteristics, but it cannot verify the characteristics of: toughness, abrasion, weight, height, degree of whiteness and other physical parameters. These parameters must ALWAYS BE CORRECT in the PRODUCTION phase.

COEX® approval

After the production of the mini-batches, COEX® performs a pre-test to verify that the product complies with the indications. If the result is correct, a document will be issued stating the approval of the use of the logo.

COEX® provides a set of communication materials that help explain the technology and its revolutionary innovation, as well as its characteristics, which are unique on the market.

EXCELLENCE AND INNOVATION ACCORDING TO THE HIGHEST INTERNATIONAL STANDARDS

6 CERTIFICATION

Recommended laboratories

COEX®recommends using laboratories that have already tested Made of COEX® products and are familiar their characteristics.

Italy

Centro Tessile Serico Spa is an analysis laboratory, accredited by Accredia UNI CEI EN ISO/IEC 17025 (LAB Certificate No. 0045) authorised by the Ministry of the Interior to issue Test Certificates for the Ministerial Homologation of materials for the purposes of fire prevention pursuant to Ministerial Decree 26/04/1984 et seq.
Via Castelnuovo 3, 22100 COMO
Tel: + 39 031 3312120
Fax: + 39 031 3312180
Mail: mailbox@textilecomo.com
www.textilecomo.com

Viale Lombardia 20/B, 20021 Bollate (MI)
Tel: +39 02 383301
Fax: +39 02 3503940
Mail: info@csi-spa.com
www.csi-spa.com

France

Laboratoire national de métrologie et d'essais
29, avenue Roger Hennequin
78197 Trappes cedex
Tel : 01 30 69 10 00
Fax : 01 30 69 12 34
www.lne.fr

Germany

Prüfinstitut Hoch
Lerchenweg 1D-97650 Fladungen
Tel: +49 (0) 9778 / 7480-200
Fax: +49 (0) 9778 / 7480-209
Mail: hoch.fladungen@t-online.de
www.brandverhalten.de

UK

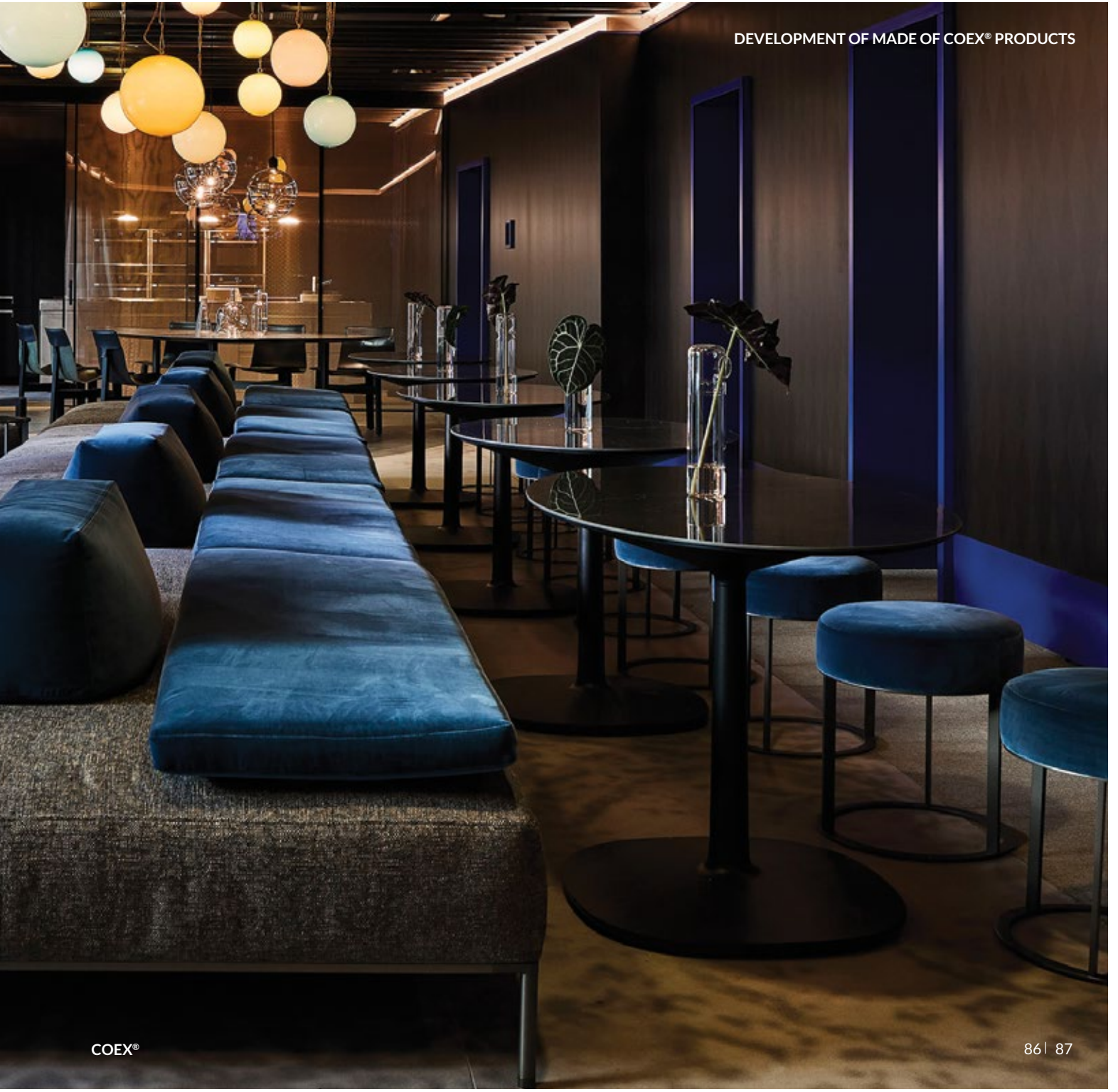
Textile and Apparel Solutions Center
The Warehouse, Brewery Lane, Leigh
Lancashire, WN7 2RJ
Tel: +44 1942 265 700
Fax: +44 1942 670 788
www.intertek.com/consumergoods

7

PRODUCTION

Productive phase

Once all the phases are finished, the product can be put into production to become: Made of COEX®.



FIREPROOF FABRICS SHOULD BE WASHED IN WATER THAT IS FREE OF SALTS

MAINTENANCE AND WASHING

Dry cleaning.
Professional dry cleaning, with all solvents.
Dry cleaning is recommended to remove stains.

Washing temperature up 90°C.
The washing temperature must respect the composition of the fabric.
Use a normal detergent.

Washing temperature 90°C.
Delicate professional washing with regular detergent. Hydrogen peroxide, ammonia and sodium hypochlorite are allowed.

Drying.
Dryer at low temperatures.

Ironing.
Medium temperature iron.

IMPORTANT: Always use a rinsing agent such as ammonium sulphate or UAO softener in the washing machine's additive dispense to have a garment perfectly cleansed of salt residues or detergents.

Made of COEX® fabrics may have different types of composition and finish, as well as different flameproof standards to be respected, it is therefore advisable to carefully follow the instructions on the specific label of the final product (labelling according to the international standard UNI EN ISO 3758: 2005).

The amount of ammonium sulphate or UAO softener to be used is specified on the reference fire certification.

RECOMMENDED METHODS FOR MAINTENANCE

Methods

Washing temperature from 40 to 90°C.

Washing with deionised water
Washing with deionised or distilled water and normal cleaning liquid. The use of hydrogen peroxide and ammonia or sodium hypochlorite is allowed. In any case, always refer to the indications on the label of the garment.

Washing with normal water
Washing with normal water is allowed, but it is necessary to add ammonium sulphate or UAO softener instead of normal softener. Ammonium sulphate or UAO softener in the last rinse helps to eliminate the mineral salts deposited on the fibres.

Professional dry cleaning
All types of solvents can be used.

Dryer at low temperatures
COEX® resists the highest temperatures but natural fabrics do not all have the same heat resistance so they can change their appearance. It is therefore recommended to follow the indications relating to the fabric, present on the garment.

Flat iron at medium temperatures
COEX® resists the highest temperatures but natural fabrics do not all have the same heat resistance so they can change their appearance. It is therefore recommended to follow the indications relating to the fabric, present on the garment.

If the maintenance instructions are correctly performed, all flameproofing tests are followed.

For more information, contact: sales@coex.pro


COEX®
NATURALLY FIREPROOF

INSTRUCTIONS FOR INDUSTRIAL LAUNDRY OR PROFESSIONAL WASHING

Using the "indicator maps" method, it is always possible to check whether maintenance has been properly carried out.

Request more information from the Research & Development service.

	NH_4 +	NH_4 -N
	400	310
	200	155
	100	78
	60	47
	30	23
	10	8
	0	0

UAO SOFTENER

Water and detergents contain mineral salts that form insoluble deposits on the fabric, which can act as a fuel if exposed to flames.

UAO is a fabric-based rinse agent with a pH 5.5 formulation that is perfect for contact with the skin. Thanks to its excellent cleaning capacity, UAO separates any inorganic trace and detergent from the fabric that can decrease its fire resistance. When UAO is used, no deposits are created on the fabric and inside the washing machine.

UAO must be dosed inside the washing machine in the special compartment dedicated to fabric softeners.
The amount of UAO softener to be used is specified on the fire certification of reference.

UAO

IT IS THEREFORE ADVISABLE TO USE UAO INSTEAD OF SOFTENER OR IN THE LAST RINSE TO REMOVE DEPOSITS OF MINERAL SALTS IN THE WATER.


THE FIRE RESISTANCE OF THE FABRIC IS GUARANTEED FOR ALL THE NORMAL LIFE CYCLE OF THE FABRIC
COEX®

FAQ

Furniture made with COEX® fabrics is flame resistant and made to meet the most stringent requirements of the main protection institutes.
COEX® fabrics are designed to be fireproof and reduce the severity of burns.

What happens if the fabric is stained or soiled?
If the COEX® fabric is stained or soiled, and the stains are not completely removed, it must be known that the residual substances could compromise the flameproofing properties of the fabric.

How can I regenerate the fabric or carry out proper maintenance?
For information on the regeneration and maintenance of fireproof fabrics, consult the UNI EN ISO 6330:2012 standard (maintenance for domestic washing), the BS 5651:1989 standard (maintenance for domestic washing), the UNI EN ISO 10528 standard (maintenance for industrial washing) and the UNI EN ISO 3175 standard (dry cleaning).

How long is the life cycle of a fireproof fabric?
If the fabric is washed following the recommended procedures, the fire resistance of the fabric is guaranteed throughout the normal life cycle of the fabric. The life span of the fabric varies according to the washing conditions.

What are the correct treatment/ cleaning processes for these fabrics?
COEX® fabrics can be washed at home - by carefully following the instructions. It is recommended to perform a special washing, separating it from other fabrics, to avoid contamination with non-fireproof fibres.

It is possible to use normal detergents, but you must be sure that they do NOT contain fabric softeners. The softeners can cover the fabric of a layer that inhibits its fireproof properties.

Softeners can also act as fuel in the event of a fire. Bleach and hydrogen peroxide are allowed instead. Always check the label of the garment first.

Washing with deionised water
It is recommended to use deionised water to wash fireproof fabrics. Tap water can leave residues on the fabrics, compromising their resistance to fire. To avoid this, you can use the UAO softener, instead of normal softener, to remove residual salts.

Ironing and dryer.
If necessary, iron or use the dryer at the temperature indicated on the maintenance label.

Stain removal
Dry cleaning is recommended to remove stains.

WITH COEX® NATURE PROTECTS YOU AND YOU PROTECT NATURE

info@coex.pro
www.coex.pro

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