Flax-Linen & Hemp fibre composites

Directory, Support & Tools



JEC WORLD Event - April 25-27, 2023 Hall 5 Booth C43 - Natural Fibres Village

Flax-Linen & Hemp solutions

Members of the Technical Section of Alliance for European Flax-Linen & Hemp

PRODUCERS OF FIBRES

Albert Brille -BE Decock Sa-FR Depestele -FR **H5-C39** La Linière -FR La Chanvrière -FR Lin 2000 -FR SA Jean Decock -FR Spillebeen -BE Teillage du plateau du Neubourg -FR Terre de Lin -FR **H5-C49** Van de Bilt -NL Van Robaeys Freres -FR Verhalle Vlasbedrijf NV-NL

YARNS & ROVING

Dehondt Composites - FR Depestele - FR **H5-C39** Linificio e Canapificio Nazionale Spa - IT Safilin - FR **H5-C45** Terre de Lin - FR **H5-C49**

NON WOVEN MAT

Ecotechnilin - FR **H5-B51** Flaxco / Flipts en Dobbels - FR **H5-B50**

MULTIAXIAL

BComp-CH **H5-A45** Ecotechnilin -FR **H5-B51**

WEAVE

BComp-CH **H5-A45** Dehondt Composites-FR Depestele-FR **H5-C39** Flaxco / Flipts en Dobbels-BE **H5-B50** Safilin -FR **H5-C45** Ecotechnilin -FR **H5-B51**

GRID BComp-CH ■H5-A45

KNITS Texinov Tech-FR H5-A55

UNIDIRECTIONNAL

BComp-CH **H5-A45** Ecotechnilin -FR **H5-B51** Safilin -FR **H5-C45**

PREPREG

BComp-CH **H5-A45** Culture In-FR **H5-A51** Dehondt Composites-FR Ecotechnilin -FR **H5-B51** Flaxco / Flipts en Dobbels-BE **H5-B50**

PANELS

Dehondt Composites - FR Ecotechnilin - FR **H5-B51** Flaxco / Flipts en Dobbels - BE

PROCESSORS

Demgy Group -FR H5-B46

ENGINEERING & INNOVATION OFFICE

Fibre Recherche Developpement | Frd - FR

MACHINERY

Dehondt Technologies-FR Depoortere NV-BE

RESEARCH CENTERS & CLUSTER

Arvalis-FR Bioeconomy for Change-FR Bureau Veritas-FR Centexbel-BF CETELOR-FR CITEVE-PT **CNRS Ensicaen** - FR Danmarks Tekniske Universitet (DTU) - DK ENSAIT - FR FEMTO-ST-FR Hochschule Bremen (HSB) - DE IFREMER Materials & Structure Grp - FR IFTH-FR INAGRO - BE INRA - Universite de Reims - FR Katholieke Universiteit Leuven-BE Technische Universität Clausthal-DE Université de Bretagne Sud (UBS)-FR Universteit Gent-BE Université de Lille-FR Université de Caen Normandie - FR

Alliance for European Flax-Linen & Hemp-FR **H5-C43**

JEC World 2023 - Natural Fibres Village

Flax-Linen & Hemp directory

Members of the Technical Section of Alliance for European Flax-Linen & Hemp

ALBERT BRILLE - BE

Christian BRILLE Moorselestraat 183 8560 Wevelgem - Belgium Tel: +32 56 43 20 30 brille@online.be www.albertbrille.be

Flax Fibre producers
Certification of the Flax fibre: EUROPEAN FLAXTM

BCOMP - CH

Christian FISCHER Passage du Cardinal 1 CH-1700 Fribourg - Switzerland Tel: +41 (0)26 558 84 02 christian@bcomp.ch www.bcomp.ch

- Flax reinforcement fabrics: AMPLITEX[™], POWERRIBS[™], BCORES[™]
- Dry / Thermoplastic / Thermoset
- Certifications: SOLAR IMPULSE EFFICIENT SOLUTION LABEL, ISO 9001, FAIR TRADE TOWN FRIBOURG

CULTURE IN - FR

David AMBS Espace Azur – Zone Espérance 85600 St Hilaire de Loulay - France Tel: +33 (0)6 84 97 43 20 david.ambs@culturein.eu www.varian.culturein.eu

Flax reinforcement fabrics: VARIAN[®]Thermoplastic

DECOCK SA - FR

Bertrand DECOCK Pont aux Cerfs - BP N°4 59122 Hondschoote - France Tel: +33 (0)3 28 68 33 61 decock.sa@wanadoo.fr www.decock-lin.com

 Flax Fibre producers
 Certification of the Flax fibre: EUROPEAN FLAX™

DEMGY GROUP - FR

Dr Ophélie WESTPHAL ZA Le Fief du Parc 44190, Getigne - France Tel: +33 (0)2 40 54 76 10 o.westphal@demgy.com www.demgy.com

- Composite part producer
- Biocomposite: FLAXCOMP®
- Certification: ISO 14001

DEHONDT COMPOSITES / TECHNOLOGIES - FR

21 rue Denis Papin 76330 Notre Dame de Gravenchon - France Tel: +33 (0)2 35 38 68 38 commercial@dehondt-lin.com www.dehondt-lin.com

- Flax machinery
- Flax reinforcement rovings and fabrics: NATTEX[®]
- Dry / Thermoplastic
- Thermoplastic panels

DEPESTELE - FR

Valentin DEPESTELE 5 rue de l'Eglise 14540 Bourgébus - France Tel: 02 31 23 11 08 valentin@depestele.com www.groupedepestele.com

- Flax Fibre producers
- Cut fibres
- Flax reinforcement rovings and fabrics: LINCORE®
- Certification of the Flax fibre:
 EUROPEAN FLAX™
- Other certification: ISO 9001

DEPOORTERE NV - BE

Claude LESAGE Kortrijkseweg 99 8791 Beveren-Leie - Belgium Tel: +32 56 73 51 30 management@depoortere.be www.depoortere.be

• Flax machinery

Flax-Linen & Hemp directory

Members of the Technical Section of Alliance for European Flax-Linen & Hemp

ECOTECHNILIN - FR

François BARBIER BP 244 76197 Yvetot Cedex - France Tel: +33 (0)2 32 70 42 20 francois@eco-technilin.com www.eco-technilin.com

- Flax reinforcement non woven and weave: FIBRIMAT, FLAXDRY, FLAXTAPE, FLAXPREG, FIBRIPLAST, FIBRILIGHT
- \cdot Dry / Thermoplastic / Thermoset

FLAXCO / FLIPTS EN DOBBELS - BE

Caroline FLIPTS Groenestraat 220 8800 Roeselare - Belgium Tel: +32 51 26 28 70 caroline@flaxco.be www.flaxco.be

- Flax reinforcement fabrics
- Dry
- Thermoplastic panels
- Certification of the Flax fibre: EUROPEAN FLAXTM

FIBRE RECHERCHE DEVELOPPEMENT |

FRD - FR Pierre BONO Technopôle de l'Aube en Champagne Hôtel de bureaux 2 – BP 601 10901 Troyes Cedex 9 - France Tel: +33 (0)3 25 83 41 90 pierre.bono@f-r-d.fr www.f-r-d.fr

• Consulting and product characterization, processing, studies, R&D and eco design support

LA LINIÈRE - FR

Bertrand DELPORTE Route de Looberghe 59630 Boubourg - France Tel: +33 (0)3 28 27 91 11 b-delporte@wanadoo.fr

- Flax Fibre producers
- Certification of the Flax fibre: EUROPEAN FLAXTM

LA CHANVRIÈRE - FR Benoît SAVOURAT BP 602 – rue du Général de Gaulle

10200 Bar sur Aube – France Tel: +33 (0)3 25 92 31 92 b.savourat@wanadoo.fr www.lachanvriere.com

• Hemp fibre producers

LIN 2000 - FR Nicolas DEFRANSURE 20 avenue Saget 60210 Grandvilliers - France Tel: +33 (0)3 44 46 77 32 lin2000@orange.fr

- Flax Fibre producers
- Certification of the Flax fibre: EUROPEAN FLAXTM

LINIFICIO E CANAPIFICIO NAZIONALE SPA - IT

Pierluigi FUSCO GIRARD Via Madonna, 30 - Guanzate (CO) - Italy Tel: +39 346 733 60 20 pierluigi_fuscogirard@marzottogroup.it www.linificio.it

- Flax spinning
- Certification of the Flax fibre: EUROPEAN FLAXTM

SA JEAN DECOCK - FR

Jean-Luc DECOCK La Croix Rouge - 10 route du Looweg BP 11 59380 Quaedypre - France Tel: +33 (0)3 28 68 62 22 jean-luc@lelinfrancais-jeandecock.com

 Flax Fibre producers
 Certification of the Flax fibre: EUROPEAN FLAX[™]

Flax-Linen & Hemp directory

Members of the Technical Section of Alliance for European Flax-Linen & Hemp

SAFILIN - FR

Mehdi KHENNACHE 3155 rue de la Lys, B.P 18 62840 Sailly sur la Lys - France Tel: +33 +33 6 29 99 29 80 mkhennache@safilin.fr www.safilin.fr

- Flax spinning
- · Low twist yarns and roving reinforcements
- Flax reinforcement fabrics
- Drv
- Certification of the Flax fibre:
 EUROPEAN ELAX[™]
- Other certifications: OEKO TEX, REACH
 COMPLIANT

SPILLEBEEN - BE

Lieven SPILLEBEEN Abelestraat 10 8870 Izegem – Belgium Tel: +32 51 30 02 04 vlas.spillebeen@belgacom.net

Flax Fibre producers
Certification of the Flax fibre: EUROPEAN FLAXTM

TEILLAGE DU PLATEAU DU NEUBOURG - FR

Christophe BUREL 1 route de Coquerel 27110 Crosville la Vieille – France Tel : +33 (0)2 32 35 14 88 cburel@ctln.fr

- Flax Fibre producers
- Cut fibres
 Certification of the Flax fibre:
 EUROPEAN FLAX[™]

TERRE DE LIN - FR

Tristan MATHIEU 605 route de la Vallée 76740 Saint Pierre le Viger - France Tel: +33 (0)2 35 97 41 33 tristan.mathieu@terredelin.com www.terredelin.com

- Flax Fibre producers
- Cut fibres
- Flax reinforcement rovings
- Dry / Thermoplastic / Thermoset
- Certification of the Flax fibre: EUROPEAN FLAX $^{\rm TM}$

TEXINOV - FR

Gilles BOURNAS 56 route de Ferrossière 38110 Saint Didier de la Tour - France Tel: +33 (0)7 76 06 68 43 gbournas@texinov.fr

- Flax Reinforcement knitted fabrics
- For thermoplastic / Thermoset
- Certifications: ISO 9001

VAN DE BILT - NL

Bart DEPOURCQ Vlas Postbus 16 4540 AA Sluiskil - Netherlands Tel: +31 11 54 71 922 b.depourcq@vandebiltzadenvlas.com www.vandebiltzadenvlas.com

- $\cdot \,\, {\rm Flax}\, {\rm Fibre}\, {\rm producers}$
- Certification of the Flax fibre: EUROPEAN FLAXTM

VAN ROBAEYS FRERES - FR Pierre D'ARRAS

83 rue Saint Michel 59122 Killem - France Tel: +33 (0)3 28 68 30 88 pdarras@vanrobaeys.fr

- Flax Fibre producers
- Cut fibres
- Certification of the Flax fibre: EUROPEAN FLAXTM

VERHALLE VLASBEDRIJF - BE

Bert WOLFCARIUS Warandestraat 39 B 9870 Zulte - Belgium Tel: +32 93 88 91 10 bert@flaxbox.eu www.flaxbox.eu

- Flax Fibre producers
- Certification of the Flax fibre: EUROPEAN FLAX $^{\mbox{\scriptsize IM}}$

Research Centers & Clusters

ARVALIS INSTITUT DU VEGETAL - FR

Yann FLODROPS 29 route de Foreste 02590 Villers-Saint-Christophe Tel.: +33 (0)6 86 34 93 37 y.flodrops@arvalis.fr www.arvalis.fr

BIOECONOMY FOR CHANGE - FR

Jean BAUSSET 10 rue Pierre Gilles de Gennes 02000 Barenton-Bugny - France Tél: +33 (0)6 80 62 41 49 j.bausset@bioeconomyforchange.eu www.bioeconomyforchange.eu

BUREAU VERITAS - FR

Isabelle PAULY 60 avenue du Général de Gaulle 92046 Paris La Défense Cedex - France Tél. +33 (0)1 41 97 09 17 isabelle.pauly@bureauveritas.com www.bureauveritas.com

CENTEXBEL - BE

Luc RUYS Technologiepark 7 9052 Zwijnaarde (Gent) – Belgium Tel: +32 9 220 41 51 lr@centexbel.be www.centexbel.be

CETELOR - FR

César SEGOVIA 27 rue Philippe Seguin 88026 Epinal Cedex - France Tel: +33 (0)3 72 74 96 78 cesar.segovia@univ-lorraine.fr www.cetelor.univ-lorraine.fr

CITEVE - PT

Antónia ANDRADE LOPES Rua Fernando Mesquita, nº 2785 4760-034 Vila Nova De Famalicao - Portugal citeve@citeve.pt www.citeve.pt

CNRS ENSICAEN - FR •

Laboratoire CRISMAT UMR6508 CNRS ENSICAEN, 6 Boulevard Maréchal Juin 14050 Caen Cedex 4 - France Tel.: (+33) 231 451 311 www.crismat.cnrs.fr

DANMARKS TEKNISKE

UNIVERSITET (DTU) - DK • Hans LILHOLT Laboratory for Sustainable Energy - Anker Engelunds Vej 1 Bygning 101A 2800 Kgs. Lyngby - Denmark hans.lilholt@risoe.dk www.dtu.dk

ENSAIT - FR

Damien SOULAT 2 Allée Louise et Victor Champier BP 30329 59059 Roubaix Cedex 1 - France Tel: +33 (0)3 20 25 89 36 damien.soulat@ensait.fr www.ensait.fr

FEMTO-ST - FR

Vincent PLACET 15B avenue des Montboucons 25030 Besançon Cedex - France Tel: +33 (0)3 63 08 24 00 www.femto-st.fr

HOCHSCHULE BREMEN (HSB) - DE

Jörg MUSSIG Neustadtswall 30 D-28199 Bremen – Germany Tel: +49 421 59054163 jmuessig@bionik-hs-bremen.de www.hs-bremen.de

IFREMER MATERIALS

& STRUCTURE GRP - FR • Peter DAVIES IFREMER Centre de Brest, BP70 29280 Plouzane - France Tel: +33 (0)2 98 22 47 77 peter.davies@ifremer.fr www.ifremer.fr

IFTH - FR

Philippe MESNAGE 2 rue de la Recherche – BP 637 59656 Villeneuve d'Ascq Cedex - France Tel: +33 (0)3 20 19 74 15 pmesnage@ifth.org www.ifth.org

INAGRO - BE

Ieperseweg 87 8800 Rumbeke-Beitem - Belqium Tel: +32 (0)51 27 33 00 info@inagro.be www.inagro.be

INRA – UNIVERSITÉ DE REIMS - FR

Johnny BEAUGRAND 2 Esplanade Roland-Garros 51686 Reims – France Tel: +33 (0)3 26 91 38 22 johnny.beaugrand@reims.inra.fr www.inra.fr

KATHOLIEKE UNIVERSITEIT LEUVEN - BE ●

Jan IVENS Gilles KOOLEN Prof. Em. Ignaas VERPOEST Département MTM - Kasteelpark Arenberg 44 3001 Leuven - Belgium Tel: +32 16 32 13 06 jan.ivens@kuleuven.be gilles.koolen@kuleuven.be ignaas.verpoest@kuleuven.be www.kuleuven.be

TECHNISCHE UNIVERSITÄT

CLAUSTHAL - DE

Gerhard ZIEGMANN Adolph-Roemer-Straße 2A 38678 Clausthal-Zellerfeld - Germany Tel: +49 5323 72-0 ziegmann@puk.tu-clausthal.de www.tu-clausthal.de

UNIVERSITÉ DE

BRETAGNE SUD (UBS) - FR ● Christophe BALEY Laboratoire L2 PIC BP 92216 - 56321 Lorient Cedex - France Tel: +33 (0)2 97 87 45 53 christophe.baley@univ-ubs.fr www.univ-ubs.fr

UNIVERSTEIT GENT - BE •

Joris VAN ACKER Laboratoire de la technologie des bois Coupure Links 653 9000 Gent – Belgium Tel: +32 (0)9 264 61 20 joris.vanacker@ugent.be www.ugent.be

UNIVERSITÉ DE LILLE - FR

Simon HAWKINS N°1281 UFR de Biologie – Bât SN2 59655 Villeneuve d'Ascq Cedex - France Tel: +33 (0)3 20 43 40 30 simon.hawkins@univ-lille1.fr www.ustl1.univ-lille1.fr

UNIVERSITÉ DE CAEN

NORMANDIE - FR Joel BREARD Esplanade de la paix - CS 14032 14032 Caen Cedex 05 Tel: +33 (0)2 31 56 71 54 joel.breard@unicaen.fr www.unicaen.fr

CELC becomes Alliance for European Flax-Linen & Hemp

Today, the European Confederation for Flax and Hemp is unveiling its new visual identity and name: Alliance for European Flax-Linen & Hemp.

The European Flax-Linen and Hemp industries are organizing their development around a strengthened team with a clear mission: expanding the entire industry while making European Flax-Linen and Hemp the preferred sustainable premium fibres worlwilde.

The Alliance for European Flax-Linen & Hemp will launch its new identity in the first semester of 2023 for all target groups.

The new brand exemplifies confirmed values that reflect both the principles guiding our joint actions over the past few years and our strong future ambitions.

This new identity reflects the collective efforts begun one year ago that will help clearly position European Flax-Linen and Hemp on the international stage. Alliance for European Flax-Linen & Hemp is showing itself to be open to the world, and an innovative, creative, and sustainable industry, whose goal is to turn European Flax-Linen and Hemp into the preferred premium sustainable fibres worldwide.



Be United by drawing on the diversity of Alliance's members, sharing a common passion, sharing knowledge and supporting each link of the value chain in a cooperative spirit. Connect Tradition & Innovation

Remain proof-obsessed

scientifically proven evidence.

Connect tradition and innovation to place innovation at the heart of operations by transferring knowledge and expertise with the goal of improving them.

Remain proof-obsessed to continue to build on



Radiate respect while committing to respecting people and planet in all our actions.

The Alliance is focusing its path on 3 strategic pillars

The Alliance for European Flax-Linen & Hemp supports the development of two industries that are still marginal in terms of economic impact (Flax accounts for 0.5% of global textile fibres).

For the Flax-Linen industry, these past 15 years have been a time of change and of extraordinary growth. Flax-Linen was able to enhance its visibility and legitimacy thanks to the scientific validation of its intrinsic properties, the establishment of traceability certifications, and work on promotion, among other factors. At a time when behavior is guided by social and environmental concerns, European Flax is meeting market demand with its sustainable and lasting properties.

Within the Alliance, the Hemp industry, which until now had been mostly focused on non-textile applications, should soon follow the same path as Flax on textile issues, and not just within the high-performing technical uses sector. In the short term, European Hemp will benefit from the strength of the Alliance. Already, a European working group managed by the Alliance is being set up to expand the textile Hemp industry.

• Nurturing and growing a virtuous common ecosystem that caters to European Flax-Linen and Hemp. 2. Turning the Alliance for European Flax-Linen & Hemp into an innovative and sustainable international reference. 3. Guarantee quality and embody desirability

Europe is the top global producer of Flax-Linen fibres. In an international context of growth and reindustrialization, Flax, which accounts for just 0.5% of global textile fibres, is a globalized fibre with remarkable technical and environmental properties. At the same time, the European textile Hemp industry is organizing itself to boost growth. Today, the European Flax-Linen and Hemp ecosystem thus embodies an innovative and sustainable European textile dynamic that meets the needs of consumers and brands.

> **Bart Depourcq,** President, Alliance for European Flax-Linen & Hemp



To know more about Alliance for European Flax-Linen & Hemp

NEW TECHNICAL REPORT Key Facts: Vibration Damping in Flax & Hemp fibre composites

The Alliance for European Flax-Linen & Hemp is the leading industry authority for Flax and Hemp, working to help composites manufacturers integrate renewable fibres into their products by providing technical support and resources.

At JEC World 2023, The Alliance for European Flax-Linen & Hemp launches its latest technical report "Vibration Damping in Flax & Hemp fibre composites", detailing the highlight of Flax and Hemp fibres, written by the experts of the Enlarged European Scientific Council of the Alliance and is based on the literature review of Taiqu Liu, Pauline Butaud, Vincent Placet and Morvan Ouisse from FEMTO-ST Institute, University of Bourgogne Franche-Comté, France.

Flax and Hemp fibre composites are excellent choices for light-weight applications due to their excellent mechanical properties, low density, and low environmental footprint. Moreover, Flax and Hemp fibre composites have outstanding vibration and sound damping properties leading to a quiet surrounding, improved user comfort and improved safety in many applications.

The document contains highlights of scientific literature which allow the damping properties of Flax and Hemp fibre composites to be positioned alongside a broad range of materials. Furthermore, influential factors on the damping performance are discussed including the effect of the matrix, porosity content and moisture absorption.

Vibration damping key fact document is the second technical report after Moisture Sensitivity Guidelines published in 2022.

ILAX-UNEN & WE

How to cope in Flax & Hemp fibre composites JEW Vibration Damping in Flax & Hemp fibre composites Kev Facts

Why adopt European certifications of origin?

To respond to consumers and CSR demands:



MATERIAL ORIGIN AND TRACEABILITY

• European Flax[™] fibre is produced in Western Europe: France, Belgium, the Netherlands: 3/4 of world production.



RESPECT FOR THE ENVIRONNEMENT

- ZERO IRRIGATION* | ZERO GMO | ZERO WASTE
- Low-input rotational crop, natural retting, mechanical extraction
- LCA of European FlaxTM scutched Fibre PEF compliance



SOCIAL RESPONSIBILITY AND ETHICS

• Compliance with the rules of the International Labour Organization

WITH GUARANTEES

- Traceability audits by independent certification body, through confidential yearly audits
- A mark registered internationaly
- True composition, backed by testing within the Bast Fibre Authority, ISO STANDARD #20706-1, Dec. 2019.



FIBRE QUALITIES AND BENEFITS

- Environmental footprint: LCA datasets of the European Flax[™] Fibre PEF method.
- Proven performances of European Flax-Linen fibre: Comfort, Thermoregulation, Moisture Management.



AND MARKETING TOOLS

- Logos for labelling semi-products and finished products composed of 100% or minimum 50% of Flax-Linen.
- B2B and B2C sales support, images and videos bank, trainings...



The guarantee of traceability for premium Linen fibre grown in Western Europe. A vegetal and sustainable fibre, cultivated without irrigation* and GMO free.

PRINCIPLE

Each stage of processing and trading must be certified, until finished product.

REQUIREMENTS

A product is certified when:

- Produced/traded by a certified company;
- Made from Flax-Linen supplies 100% certified, with certification number ; on supplies invoices, and of final composition 100% or minimum 50% Flax-Linen.

CERTIFYING BODY

Bureau Veritas Certification BV, world leader in 140 countries.

CERTIFYING PROCESS

- Audit contract with BV,
- 3 years renewable;
- · Agreement with Alliance for European Flax-Linen & Hemp for trademark

COST, AUDIT ONLY, NO LICENCE FEES

BV yearly audit: average € 2,800 (+Alliance for European Flax-Linen & Hemp Membership for European companies, traders and processors)

FOR BRANDS/RETAILERS

Your manufacturers, if suppliers, shall become certified ; if commissionned, shall be part of brand's own certification.

Certified companies, information, downloads: allianceflaxlinenhemp.eu news.europeanflax.com/celc/entreprises-labelisees/

*Except in exceptional circumstances

Environmental footprint trajectory of European Flax-Linen Industry

2023-2024

LCA AND DATASET OF THE EUROPEAN FLAX™ SCUTCHED FIBRE, PEF COMPLIANT

2 ENGAGING THE WHOLE VALUE CHAIN

- To produce **collective data on EU level**, complying to PEF for each process for long and short fibres: Rescutched short fibre, Hackling, Carding/combing, Cottonising, Preparation + Spinning [dry/wet], ...
- To support members towards their individual data & trajectories

THE MECHANISM OF THE STUDY ·····

Scope of the LCA of European Flax[™] long scutched fibre



ENVIRONMENTAL FOOTPRINT: ISSUES AND GOALS ······

European Flax-Linen is becoming the first agro-industrial sector to measure its environmental impacts and compliance with PEF - THE method for calculating LCA established by the European Commission.

This fundamental work will allow all players using Western European Flax: industry, businesses, brands, institutions, learning centers, laboratories, and others to obtain reliable data for calculating the impact of products made of European Flax[™] fibre.

- This strategic information helps to:
- Meet consumer expectations
- Prepare for regulatory changes
- Enhance the added value of the European FlaxTM and Masters of LinenTM certifications
- Supply databases with reliable data on European Flax-Linen

THE PEF METHOD ·····

PEF: a more accurate and reliable LCA method for assessing products.



PEF - Product Environmental Footprint, is a method for measuring environmental performance of products throughout their life cycle that is recognized by the European Union and its member states. It is included in the European Commission's project which aims to harmonize the way environmental impact is calculated for consumer goods in order to facilitate the EU ecological transition.

A robust, reproducible, systematic and recognized framework for environmental assessments and product comparison.

LCA OF EUROPEAN FLAX[™] LONG SCUTCHED FIBRE ·······



EUROPEAN FLAX™: A NATURAL VEGETAL FIBRE

- A Western European fibre: FR BE NL = 3/4 of world production
- Strong CSR commitment, low-impact production methods

Responsible farming that relies on crop rotation, is GMO and defoliant-free and does not require irrigation (barring exceptional circumstances)

100% mechanical and zero-waste fibre extraction during the scutching process.

Its strengths

ROBUST Compliant with PEF + critical review

QUALITATIVE

Field data specific to production and processing of European $Flax^{\mbox{\scriptsize TM}}$

REPRESENTATIVE

The average technological itinerary for growing-scutching in 3 countries: FR BE NL

> *Source: Flax-Linen & Hemp Economic Observatory

PEF results for 1 kilo of European Flax[™] scutched fibre





Breakdown of 13 impacts in %

- 2% EF-Ionising radiation, human health

- \rightarrow 88% of the impacts are concentrated in 7 categories, including climate change. The other 6 impacts do not account for more than 12% combined and less than 5% individually.

EXCERPTS ·····

REMARKABLY LOW IMPACTS:

Water use 2%

Western European Flax does not require irrigation barring exceptional circumstances.

Eutrophication, freshwater 1%

Moderate use of fertilizer (phosphorus) in Flax growing.

WHY IS THE LAND USE IMPACT SO HIGH?

Land use 39% because of the agricultural and plant origin of Flax.

Flax accounts for very little of the UAA: 0.33% of the UAA (Utilised Agricultural Area) in France, Belgium, and the Netherlands.

Source: Flax-Linen & Hemp Economic Observatory and Eurostat data, 2014 - 2018

Assessment data quality: 1.6 very high quality

CONCLUSION ·····

This study identifies the contributing impacts of long scutched European Flax[™] fibre as well as the emissions and processes responsible for these impacts, and helps to put the growing and scutching processes of Western European Flax, which is particularly ecofriendly, into context.

These practices, as well as the high degree of social responsibility of farmers and scutchers, comprise some of the strengths of European Flax[™]. These advantages make Flax an ideal contributor to the ecologic transition underway in many industries, including in apparel and footwear.

DELIVERABLES AND ACCESS TO DATA ·····

EUROPEANFLAX.COM/LCA

- Summary of LCA study and its result. EF 2.0 compliant.
- · Detailed report and annexes: technical study and critical review: EF 2.0 compliant
- Pathway to access to dataset updated in EF v3.1 in collaboration with the European Commission on Commission's database nodes.

USE

The report and its results are aligned with European PEF methodology and are thus intended for use for LCAs of Flax products based on the PEF method, in order to ensure consistency of the data and methodology.

NEXT STEPS

The Alliance engages the whole value chain in a collaborative framework:

- To produce **collective data on EU level**, complying to PEF, for each process, both for long and short fibre: Rescutched short fibre, Hackling, Carding/combing, Cottonising, Preparation + Spinning (dry/wet), etc.
- To support its members to manage their **individual data and trajectories**, in order to enhance their responsible practices and to track improvement.

This ongoing program aims to release the data set for short fibres by 2nd semester 2023, then further downstream datasets in 2024.

EUROPEAN FLAX[™] FIBRE IN ECOINVENT DATABASE ·······

Alliance for European Flax-Linen & Hemp is working with the Ecoinvent Association to implement for the first time the European Flax[™] scutched fibre dataset in ecoinvent's Life Cycle Inventory (LCI) database. This dataset, expected 2nd semester 2023, will be fully representative of European FlaxTM fibre and will enable a reliable impact calculation for products made from certified fibre, for users of econvent data. Econvent is a not-for-profit association whose mission is to provide environmental data, especially within the ecoinvent database, which is available through the main LCA softwares and is a global leader.

Services

ALLIANCE FOR EUROPEAN FLAX-LINEN & HEMP aims to position European Flax & Hemp as the preferred sustainable and high-performance fibres worldwide.

WE INFORM

Members, industrials and customers

WE SUPPORT

The European ecosystem and know-how

WE PROMOTE European Flax-Linen & Hemp

OPEN EXPERTISES

- European Scientific Council:
- Harmonization
- Standardization
- Dissemination

OPEN PROMOTION

- Tradefairs
- Technical days
- Publications
- Professionnal & general public events

OPEN SERVICES

- Assistance in sourcing and innovation
- Technical support
- · Directory of members and solutions
- Marketing tools, trainings
- Traceability: European Flax[™] certification and ISO standard identification method
- Sustainability: Environmental footprint trajectory: LCA + datasets PEF compliance

About



The Alliance for European Flax-Linen & Hemp is the only European agro-industrial organization that serves as a global reference and brings together all players in the European Flax-Linen and Hemp value chain.

A platform for reflection, market analysis, dialogue, and strategic orientation, the Alliance for European Flax-Linen & Hemp presides over an industry of excellence in a globalized context. It encourages dialogue with national and European public authorities.

The Alliance for European Flax-Linen & Hemp creates an environment that fosters competitiveness of industrial businesses as part of its three-fold mission of informing members, brands, and consumers, supporting the European ecosystem and European expertise, and promoting European Flax-Linen and Hemp as the preferred sustainable premium fibres worlwide.

It connects 10,000 businesses in 16 European countries and bases its work on the values of solidarity, innovation, scientific validation, and respect for people and planet.

It promotes, initiates, and organizes strategic reflections and research on its fibres to be able to provide all of its interlocutors with evidence-based economic data, environmental information, and reliable scientific evidence.

The Alliance for European Flax-Linen & Hemp strives to increase the international visibility of its fibres, whose technical and environmental properties inspire global creation and open new opportunities for industrial innovation. It guarantees the traceability of Flax fibre thanks to the EUROPEAN FLAX[™] and MASTERS OF LINEN[™] certifications.

With its Technical Section, Alliance for European Flax-Linen & Hemp helps its members move towards the future to discover new opportunities such as high-performing composite products. This Section brings together fibre and semi-finished product suppliers, preparers and processors, serving as a bridge between the requirements of the multi-segment industry and the value chain's industrialization capacity for technical Flax and Hemp applications.

The Alliance for European Flax-Linen & Hemp is the new name of the CELC, an association founded in 1951. Western Europe is the number one Flax-producing region in the world (France, Belgium, and the Netherlands account for 80% of production).



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News and reference tools



FLAX & HEMP FIBRE COMPOSITE DIRECTORY Players & Solutions flaxandhempdirectory.com



PUBLICATIONS JEC Group + Alliance for European Flax-Linen & Hemp and its European



SUSTAINABILITY

Scientific Council

Environmental footprint and datasets of European Flax[™] scutched fibre PEF compliant



TECHNICAL REPORTS

- Vibration Damping
- Moisture Sensitivity



PRESS KIT ON JEC WORLD 2023



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