

SUSTAINABILITY REPORT

2020-2021

Zbigniew Prokopowicz
Chief Executive Officer



Stefan Zinn
Chief Commercial Officer



Dr. Nico Reiner
Chief Financial Officer



Dr. Frank Herrmann
Chief Operating Officer

Dear readers,


Sustainable thinking and management have been closely linked to the renewable material wood at Pfleiderer since the very beginning: In 1894, Gustav Adolf Pfleiderer founded a timber trading company and a rafting business in Heilbronn. In doing so, he laid the foundation of our present company, which is successful throughout Europe.


For thousands of years, wood has given people warmth and comfort. Wood connects us directly with nature. Wood is a valuable and reusable resource at the same time. Wood has always been the DNA of our company. And we have learned a lot from wood for our business philosophy: That one must cherish and care for one's resources in order to achieve a long-term high-quality yield. And that slow, healthy growth is better than striving for quick, short-term success.


Since its beginnings more than 125 years ago, Pfleiderer has attached great importance to sustainable corporate management and development – from ecological and economic as well as social points of view. We take our responsibility very seriously – towards all of our employees. Towards the society in which we operate. And towards the environment that forms the basis of our existence. Careful management, the thorough use of resources and the protection of the environment and climate determine our corporate strategies just as much as the continuous advancement of the employees and the partnership-based cooperation with our stakeholders.


We always act sustainably, performance-oriented, and transparent. Integrity, fairness and diversity are integral parts of our corporate culture. Sustainability has become a key success factor in the market today. At Pfleiderer, however, sustainable processes have always been anchored in all areas and locations. Nevertheless, we are aware that sustainable action requires continuous optimization. Take a look at the present Sustainability Report as a review of what we have already achieved. In the coming months and years, however, we will continue to strive to make our company even more sustainable – for our customers, our employees, our environment and, last but not least, for our entire community.

This Sustainability Report, which we hereby present to you, provides information on all the main aspects of the sustainability strategy of Pfleiderer Deutschland GmbH and its affiliates. The data and key figures presented cover our business activities in the period from January 1, 2018 to December 31, 2019. In deviating cases, the data periods are shown accordingly.


Zbigniew Prokopowicz
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Note on the language regime:

For Pfeleiderer, equal rights with regard to gender, parentage, religion, race, language, homeland and origin are a matter of course and are lived. To make this report easier and more readable, we used the masculine form – this explicitly includes the feminine and gender-neutral form.

125 YEARS PRACTISING SUSTAINABILITY

In 1894, company founder Gustav Adolf Pfeleiderer chose wood as a sustainable material. Since then sustainable thinking and acting forms Pfeleiderer's corporate culture.

1894
Founded
as a timber trade and
rafting company in
Heilbronn a. Neckar

1949
Start
of production of
plant 1 Gütersloh under
the name "Wirus"

1958
Start of HPL production
under the name
Duropal in Arnberg

1978
Market launch
LivingBoard

1983
Foundation of
Thermopal
Dekorplatten
GmbH & Co. KG

1986
Integration of
Duropal
to the Pfeleiderer Group

1999
Thermopal becomes
a 100 % subsidiary

2000
Certification as a
specialist
waste management
company

Initial operation of the
Gütersloh CHP plant

2006
Acquisition of Polish
glue manufacturer
Silekól

2007
Start of MDF
production
in Grajewo

Pfeleiderer achieves
FSC® and PEFC
certification
FSC® license code:
FSC-C011773
PEFC (PEFC/04-32-0828)

2013
New start
after insolvency:
Duropal, Wodego and
Thermopal are united
under the Pfeleiderer
umbrella brand

2017
Launch of the
"One Pfeleiderer"
collection

1919
Construction of an
impregnation plant
with sawmill in Neumarkt
for processing railway
sleepers and poles

1944
Relocation of the
company headquarters to
Neumarkt

1954
Start of concrete railway
sleepers production

1956
ZEFA is taken over
by KRAGES, initially
under the name ALOPAL,
later then as Thermopal

1962
Start of chipboard
production in Neumarkt

1974
Start of operation of
particleboard plant 2
in Neumarkt

1979
Expansion of the
product portfolio by
insulation and
polymer materials

1995
Construction of the
ContiRoll high-
performance press
Plant 2 Gütersloh

1997
Initial operation of the
Neumarkt CHP plant

2002
Initial operation of the
Baruth CHP plant

2005
Acquisition of the chipboard
and MDF board manufacturer
KUNZ

First time a product
has been awarded the
Blue Angel

2008
Pfeleiderer achieves
CARB certification

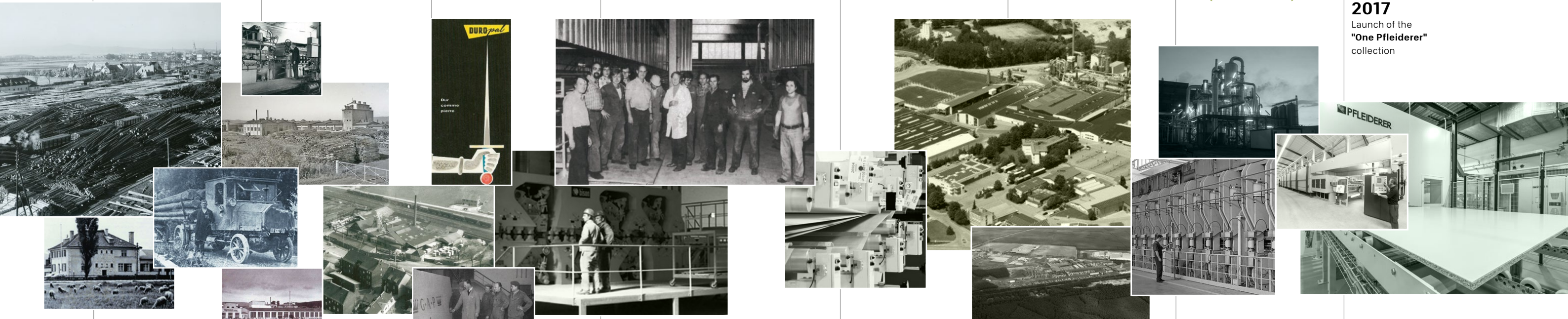
2009
Pfeleiderer achieves
F* certification**

2012
Market launch
BalanceBoard

2018
Lacquering plant
in Leutkirch, currently the
world's largest hot-coating
plant at 165 metres

2019
HPL and HPL elements
awarded the
Blue Angel

2020
Certification Cradle
to Cradle Certified™
Products Program
LivingBoard, DecoBoard and
PrimeBoard



03

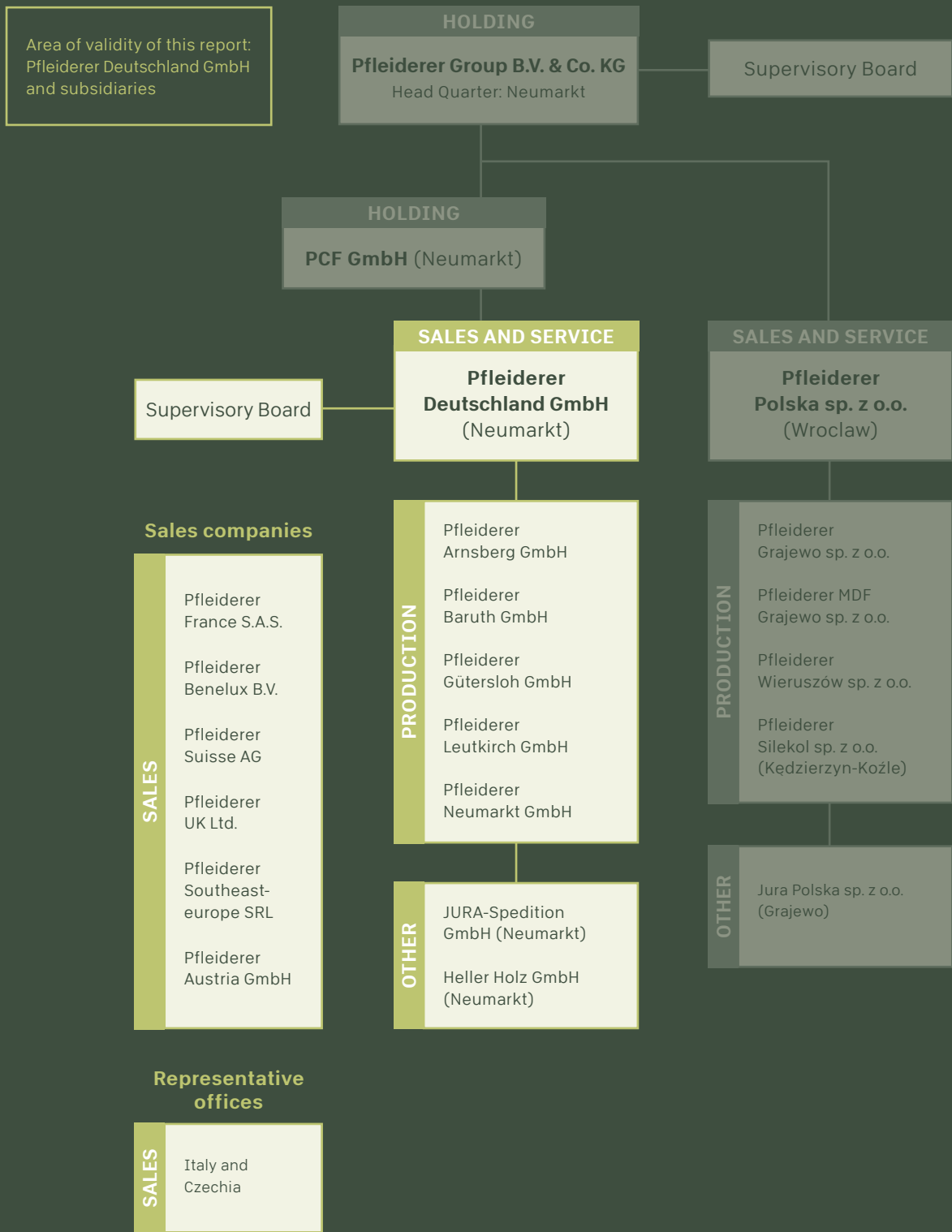


COMPANY PROFILE

„Pfleiderer has always lived sustainability at all locations and at all levels – not only in ecological terms, but also in social and economic terms.”

Zbigniew Prokopowicz, Chief Executive Officer, Pfleiderer Group

ORGANISATIONAL CHART: CORPORATE STRUCTURES



WOOD IS SUSTAINABLE – SO ARE WE

Pfleiderer Deutschland GmbH operates sites in Arnsberg, Baruth, Gütersloh, Leutkirch and Neumarkt, where it employs around 2,000 people. Under the umbrella brand Pfleiderer, the company combines the product ranges of Duropal and Thermopal. Sustainability determines not only our internal processes, but also our relationship with our customers and the society in which we live and operate.

Throughout Europe, Pfleiderer has been able to establish itself as a leading supplier for furniture and interior design, the specialist wood trade and for structural timber construction. We inspire our partners with tailor-made service offers, unique consulting competence and a maximum selection in the field of decorative surfaces. With raw chipboard and fibreboard, further improved decorative products, laminates, HPL elements and postforming elements such as worktops, we supply perfect materials for every project – fire protection, shipbuilding, timber construction, integrated hygiene protection or eco-certification included. At our locations we produce in a particularly resource-saving, low-emission and energy-efficient way.

COMMITMENT TO SUSTAINABILITY IS PART OF THE CORPORATE CULTURE

We are convinced that economic success can only be achieved with satisfied customers, healthy and motivated employees and the sustainable protection of our environment. This results in a far-reaching responsibility which we take very seriously – both towards our customers, suppliers and neighbours and especially towards the people who work for us.



COMMITMENT TO ENVIRONMENTAL PROTECTION AND LABOUR PROTECTION

We are committed to constantly improving the protection of the environment by making the best possible use of the raw materials and energy used and by complying with applicable regulations.

We also undertake to ensure a high standard of product and process quality at all times. We are also responsible for the safety of our plants. We achieve this by always keeping all components up to date with the latest technology and by using effective maintenance strategies. We take a wide range of measures for labour protection and implement safety at work regulations with the aim of preventing all accidents at work. Our employees receive regular, practice-oriented training on all aspects of labour protection.

COMPLIANCE AND ETHICAL PRINCIPLES

We always apply the highest ethical and legal standards in strategic considerations and in our daily business (compliance). Pfeiderer acts in accordance with the principle of legality in all areas: We strictly follow legal requirements

and government guidelines and instructions in everything we do. Our guidelines also oblige us to manage and cooperate according to ethical and socially responsible principles.

The public image of our company is shaped by the appearance, actions and behaviour of each and every one of us. Each of us is jointly responsible for ensuring that we as a company live up to our social responsibility worldwide. We also expect our suppliers, customers and business partners to adhere to conduct in line with compliance.

Management system creates transparency

Pfeiderer Deutschland GmbH has an integrated management system for quality, environment, energy and safety according to DIN EN ISO 9001:2015, DIN EN ISO 14001:2015, ISO 45001:2018, ISO 50001:2011 (ISO 50003) and FSC as well as PEFC. The accompanying management handbook contains all regulations concerning our corporate duty of care, the quality management of our products, the protection of our employees and the environment and the careful use of energy resources. The management manual also applies to the subsidiaries Heller Holz GmbH and JURA-Spedition GmbH in Neumarkt.

A key feature of our integrated management system is the continuous improvement process in the areas of quality, environment, energy and safety. This continuous development is based on the application of the PDCA cycle (Plan – Do – Check – Act).

Pfeiderer
Leutkirch



Pfeiderer Arnsberg



Pfeiderer Baruth



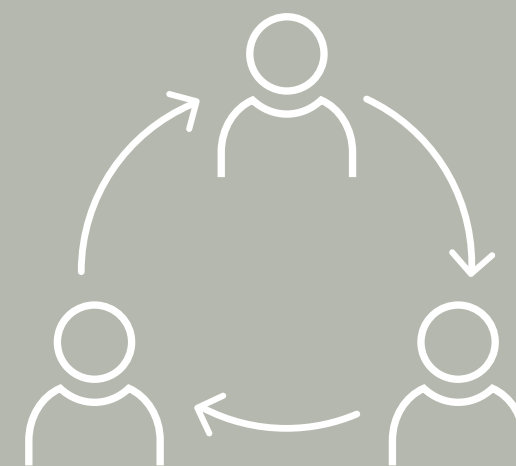
Pfeiderer Gütersloh,
Plant 3



Pfeiderer
Gütersloh,
Plant 2



Pfeiderer Neumarkt



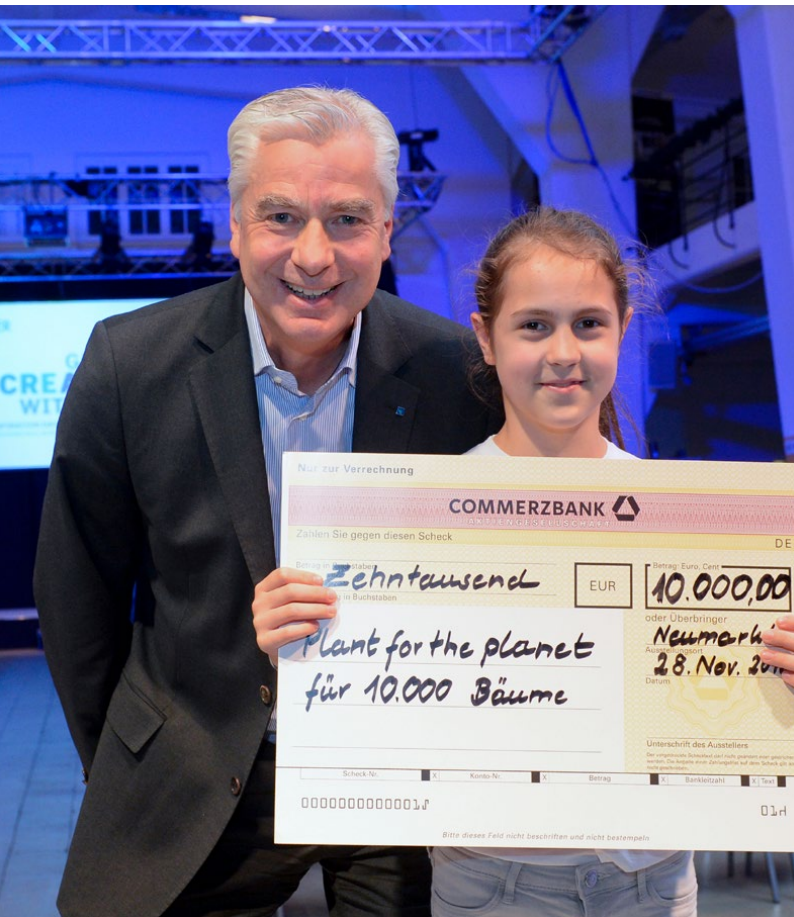
STAKEHOLDER INTERRELATIONS

"As a leading company in the engineered wood industry, Pfleiderer attaches great importance to sustainable relationships with all stakeholders. Here, too, it is important to act in a field of tension between economic, ecological and socio-political interests."

Dr. Nico Reiner, Chief Financial Officer, Pfleiderer Group

SUSTAINABILITY AS A TASK FOR ALL SOCIETY AS A WHOLE

Together with our stakeholders, we are constantly working to make not only our own and our partners' operational processes more sustainable, but also to engage in social and ecological projects.



With its headquarters and production in Neumarkt and its plants in Arnsberg, Baruth, Gütersloh and Leutkirch, Pfleiderer is firmly rooted in the regions where its sites are located. From here, we operate internationally in a sensitive, highly networked environment. Our production and products have an impact on the environment and affect the interests of our diverse stakeholders. At the same time, our stakeholders contribute signifi-

cantly to our corporate success through their perspectives, decisions and actions. Pfleiderer therefore maintains a continuous dialogue with all stakeholders in the relevant markets and at all its sites.

This close dialogue takes place throughout the year as part of a dense network of events and opportunities to meet:

- Trade fairs and exhibitions
- Customer events
- Participation in local events
- Meetings agreed at short notice, e.g. in the context of site investment
- Active cooperation with associations
- Personal exchange with political decision-makers at local, state and federal level

TRANSPARENCY, CREDIBILITY, TRUST: THE FOUNDATIONS OF OUR STAKEHOLDER APPROACH

We always maintain an open and transparent dialogue with our stakeholders. Because only those who act credibly will gain lasting trust. And trust determines not only the relationship with our employees and partners, but also our position as a company in society. By continuously establishing and maintaining sustainable stakeholder relationships, we aim to promote effective and constructive communication between all parties involved as a first step.

In exchange with our stakeholders we want to understand positions, identify trends and develop or deepen partnerships. In doing so, we consciously face up to critical issues and debates. This helps us to better analyse which next steps are necessary or expected from us in the individual fields of action. Conversely, in mutual exchange we can transparently present what scope for action we see in current challenges and what prerequisites and framework conditions are important for us. In principle, this applies to all our stakeholder dialogue formats: Feedback from our stakeholders significantly influences Pfleiderer's strategic considerations.

Good stakeholder relations are characterised by a continuous exchange in which everyone wins: Pfleiderer is involved through its high level of corporate ethics, respect for people and the environment, and through a variety of activities that also have an impact far beyond the company. We assume social responsibility and in return feel a steadily growing approval for our company and our commitment to sustainability.

WHO ARE OUR STAKEHOLDERS?

As a company, Pfleiderer sees itself as having a duty to society as a whole. That is why we attach great importance to a continuous exchange with the most diverse interest groups. These include the people in the communities at our sites as well as decision-makers from politics, authorities, professional, trade and industry associations or the wide range of different companies and suppliers from the wood, construction and furniture industries:

- Sustainable forestry companies
- Wood trade
- Woodworking companies
- Construction companies
- Architects
- Furniture industries
- Trade media

Furthermore, we regard our employees at all locations as internal stakeholders.

WHICH TOPICS ARE RELEVANT TO OUR STAKEHOLDERS?

A permanent exchange of ideas is crucial for the consistent quality of stakeholder relations – to identify the interests and issues that concern our stakeholders and to which we must find the right answers with our services. But also to draw up joint guidelines for action based on the principle of sustainability. The list of relevant topics is constantly being updated and regularly adapted to the stakeholders' needs.

The topics that have crystallised as particularly important in discussions with **external stakeholders** clearly show the great interest in sustainable solutions:

- Wood origin and sustainable forestry
- Cascade utilisation, closed loop recycling management and wood recycling
- Energy production and use
- Supply and production processes
- Panel gluing and emissions
- Standards and certificates
- Employee recruitment and development
- Corporate responsibility and compliance
- Social responsibility

STAKEHOLDERS' INTERESTS AT A GLANCE



Internal Stakeholders

- Job security
- Working climate
- Health
- Environmental compatibility

External Stakeholders

- Wood origin and sustainable forestry
- Cascade utilisation, closed loop recycling management and wood recycling
- Supply and production processes
- Panel gluing and emissions
- Energy production and use
- Standards and certificates
- Employee recruitment and development
- Corporate responsibility and compliance
- Social responsibility

- Sustainable management
- Customers and products
- Environment and energy
- Employees and society

Internal stakeholders, on the other hand, focus on issues related to the workplace:

- Job security
- Working climate
- Professional development opportunities
- Health
- Environmental compatibility

After identifying the most important topics, we assess their relevance together with the stakeholders and transfer them to a clear materiality matrix. This provides us with a clear overview of the stakeholders' requirements and can be adapted to changing conditions at any time.

STAKEHOLDERS WANT SUSTAINABILITY

The dialogue with internal and external stakeholders shows time and again that there is a great need to implement sustainable processes in companies and society alike.

Raw materials: Many partners ask about the origin of the processed wood and attach importance to the fact that it comes from sustainable forestry. Pfleiderer has been sourcing its raw materials exclusively from sustainable forestry for decades and has been certified according to FSC and PEFC since 2007.

Wood is **NOT** procured and processed ...

- from illegal harvesting
- from areas where traditional and fundamental civil rights are violated
- from forests whose special conservation values are threatened by forest management
- from the conversion of natural forests into plantations or non-forest uses
- from forests with genetically modified tree species
- from areas where the ILO fundamental principles as defined in the 1998 ILO Declaration on Fundamental Rights at Work are violated.

In general, Pfleiderer acts according to the principle of using wood as a material for as long as possible in order to reduce the burden on forestry operations and reduce the amount of land required for planting. Wood binds the CO₂ emissions caused by human activity to a large extent. This is why we actively support organisations such as "Plant for the Planet", which aims to counteract climate change through worldwide tree planting campaigns.

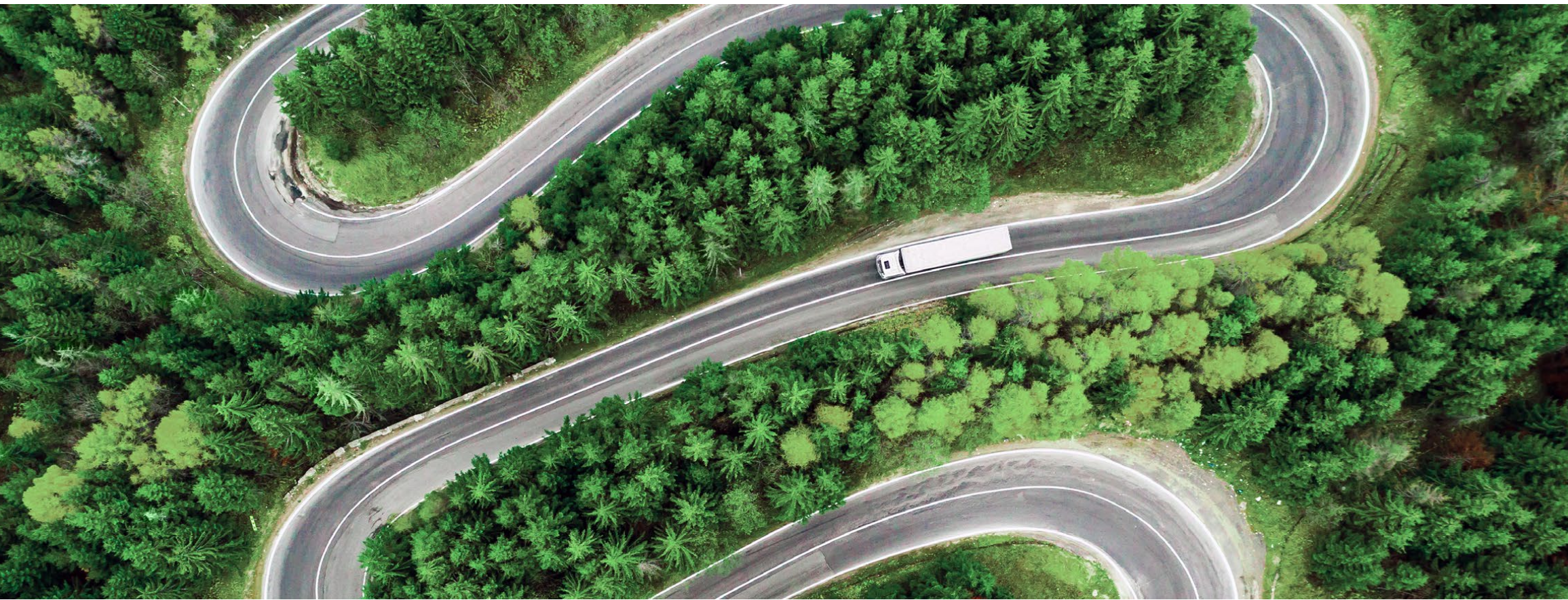
Closed-loop systems: Cascade use, closed-loop recycling management and wood recycling are further requirements that are increasingly in demand by partner companies. To date, Pfleiderer has already carried out pioneering work in this area at its sites and established corresponding processes. For example, "waste products" such as residual wood, wood chips and sawdust are processed into high-quality wood-based panels that meet even the highest quality standards. Pfleiderer sites such as Baruth in Brandenburg are already implementing a model of recycling management.

Our company **Heller Holz GmbH** in Neumarkt takes over the acquisition of recycled wood chips from waste wood for chipboard production as well as waste wood for thermal energy generation at all German locations.

Energy generation and use: We see it as our obligation to continuously improve the energy efficiency of all our processes, taking into account the energy input and energy consumption. Strictly sustainable energy management therefore characterises all our manufacturing processes. This is characterised, for example, by **environmentally friendly energy generation** in our own combined heat and power plants at the Neumarkt, Baruth and Gütersloh sites.

Supply and production processes: We not only manufacture our products with the greatest care, but also within the framework of a certified environmental management system – energy self-sufficient and without releasing additional CO₂. During production, we take into account the requirements of ecology throughout and have the effects on the environment regularly evaluated by an environmental officer in order to identify further potential for improvement.





employees and partners must commit themselves to comply with the Pfeleiderer Business Conduct Guidelines. We always act in accordance with the law and our internal ethical rules and principles. Our compliance system comprises clear guidelines, procedures and processes, which we communicate further in training courses and in our daily business. Continuous monitoring, compliance controls and a whistleblower system support us in ensuring company-wide compliance with our Business Conduct Principles.

SOCIAL IMPACT

Pfeleiderer fulfils its social responsibility above all with many selective activities around the company sites. These include measures to promote the local cultural and sports landscape as well as support for social and environmental campaigns or the local fire brigade.

We also endeavour to maintain our safety equipment and organisational measures at a high level at all times in order to prevent damage or limit its effects as far as possible.

All inbound and outbound transports are handled by our partner JURA-Spedition GmbH in Neumarkt. The entire JURA fleet meets the fuel-saving and low-emission Euro 6 standard. With well thought-out logistics management, we achieve a high level of delivery performance and at the same time reduce resource consumption, transport routes and emissions to a minimum. In this way, we also implement our high standards of environmental compatibility in the area of logistics.

Board gluing and emissions: When gluing panels, Pfeleiderer relies on formaldehyde-reduced and formaldehyde-free solutions, such as the LivingBoard, which has been a synonym for sustainable construction for over four decades. In the meantime, Pfeleiderer has converted its

entire wood-based materials production to emission class E 0.5 and has the Blue Angel certification for large parts of its range.

Recruitment and promotion of employees: At all Pfeleiderer sites, we maintain a culture of trust based on acting on one's own responsibility. Our employees are given extensive opportunities to develop their skills and talents and are encouraged to make suggestions for process improvements through a bonus system. In addition to training courses on their work and job security, we promote the environmental awareness of the people who work for us through training courses. Further training can be provided through internal or external seminars.

Working climate: From training to individual career planning and retirement: Pfeleiderer attaches great importance to a sustainable relationship with its employees and treats each individual

with appreciation and respect. Fair working conditions, which focus on aspects such as team spirit, health and satisfaction, ensure a high level of identification with Pfeleiderer, long-term loyalty to our company and low staff turnover.

Labour safety: Maximum labour safety is guaranteed by regular safety training courses such as our hands-on training courses and "5 Minutes for Safety" as well as our "One-Safety" programme: employees are encouraged to report weak points and sources of danger so that they can resolve them. All counter-measures taken are documented. The efficiency of our occupational safety measures is quantifiable: In 2019, the number of accidents and associated sick days was significantly reduced across all Pfeleiderer sites.

Corporate responsibility and compliance: Responsible action is the basis of our business. For this reason, all our

“ Success is achieved by pursuing a consistent goal that is the result of the overlap of stakeholder requirements. ”

Stefan Göldner,
Head of Communication

05



SUSTAINABILITY MANAGEMENT

"We live up to our responsibility for people, the environment and resources in many different ways. To this end, we continuously review and improve the efficiency, currency and implementation of our complex sustainability and environmental management."

Dr. Frank Herrmann, Chief Operating Officer, Pfeiderer Group

FUTURE NEEDS SUSTAINABILITY

Any company that wants to operate successfully in the market today in a future- and customer-oriented manner has no way around sustainability strategies – and that across the entire value chain.

CHANGED CONSUMER AWARENESS

In view of the increasing shortage of raw materials, the overexploitation of nature and the consequences of climate change, sustainable thinking is increasingly becoming a question of survival for our entire civilisation.

Current developments have also brought about a change in public thinking: Many people have become more sensitive to environmental issues and are striving to make their everyday lives more sustainable. This new social awareness

generates a growing demand for sustainably produced goods, which we as a company are happy to meet.

SUSTAINABILITY GUIDES ALL OUR ACTIONS

Since its beginnings, Pfleiderer has relied entirely on the renewable, natural and healthy material wood. Sustainable thinking has therefore always played a major role in Pfleiderer's corporate philosophy. Sustainability is part of our high quality standards and thus also firmly integrated into our continuous improvement process.

We want our customers to be able to rely on Pfleiderer's high-quality products and services with a clear conscience. That is why we set the bar very high for the common standards with our partners. From the origin of the raw material wood, through environmentally friendly processing, to transport and recycling, these principles are consistently reflected in all areas of the company.

RAW MATERIALS FROM SUSTAINABLE PRODUCTION

At Pfleiderer, sustainability and environmentally conscious action begins with the purchase of the valuable raw material wood. The strictest selection criteria apply here, and we use material from sustainable forestry without exception.

RECYCLING MANAGEMENT AS A SUSTAINABLE MODEL FOR THE FUTURE

With the growing environmental awareness, the demand for a holistically oriented circular economy is also becoming increasingly important. Here too, Pfleiderer is facing up to its corporate responsibility and has been working for many years to establish its production processes at all its sites as a regenerative system and to optimise them continuously. Our goals are in this process:

- Reduction of the use of resources and energy
- Avoidance of air, water and soil pollution
- Minimising emissions and waste production

In this way, we want to make material and energy cycles even more efficient in the medium term and ultimately close them.

RESEARCH & DEVELOPMENT IN THE SERVICE OF THE ENVIRONMENT

Our internal research and development activities also focus on sustainability. The goal is,

- to achieve an optimal balance between ecology and economy
- reduce wood consumption through intelligent recycling
- and at the same time to guarantee the highest, long-lasting product quality

"With the multi-award-winning Pfleiderer BalanceBoard, we have succeeded in achieving an outstanding symbiosis of economy, quality and ecology: thanks to the high proportion of particularly fast-growing raw materials, we have been able to significantly reduce wood consumption. Although the board is 30 % lighter than comparable solutions, it is extremely stable, but also easy to work and process", says Dr. Christian Bohn, project manager for BalanceBoard product development.

“ Effective recycling and reuse management thus provides Pfleiderer with additional sales arguments in a changing market. ”

Carsten Möser-Benz,
Head of Wood Purchasing



LONG-TERM PRODUCT LIFE CYCLE AND COMPREHENSIVE RECYCLING

With its durability and sensible recycling strategies, wood as a raw material offers the ideal conditions for establishing an effective recycling management system.

With innovative technologies and sophisticated recycling management, Pfleiderer, together with external partners, succeeds in creating new products from recycled wood that effortlessly meet the highest health and quality standards. To achieve this, it is at first necessary to separate foreign materials such as metals, non-metals, plastics, sand and stones from the wood. Through careful sorting and controls we ensure that only unpolluted waste wood is used for material recycling. In this way Pfleiderer guarantees environmentally friendly, healthy and high-quality engineered wood – first-class products even in the second life cycle of the green raw material.

SUSTAINABILITY IN PRODUCTION AND LOGISTICS

As a sustainably positioned company, Pfleiderer strives to use energy as efficiently as possible in its production processes. By-products such as grinding dust and materials that are unsuitable for material use are thermally reused in

“ Pfleiderer produces high-quality, individual wood-based materials almost energy self-sufficiently and without releasing additional CO₂ – for quality with a clear conscience! ”

Olaf Maasjost,
Manager of the CHP plants



our own combined heat and power plants in Neumarkt, Gütersloh and Baruth.

The energy plants used here work exclusively with wood that is no longer suitable for the material cycle – and with above-average efficiency, since we as a manufacturer of wood-based materials require energy and heat throughout the year and can use this for drying the chips and heating the presses.

In logistics, Pfleiderer's environmentally friendly fleet also focuses on the careful use of our resources. All the trucks in our JURA Spedition fleet comply with the clean and fuel-efficient Euro 6 emissions standard, and empty runs are avoided by means of well thought-out route planning.

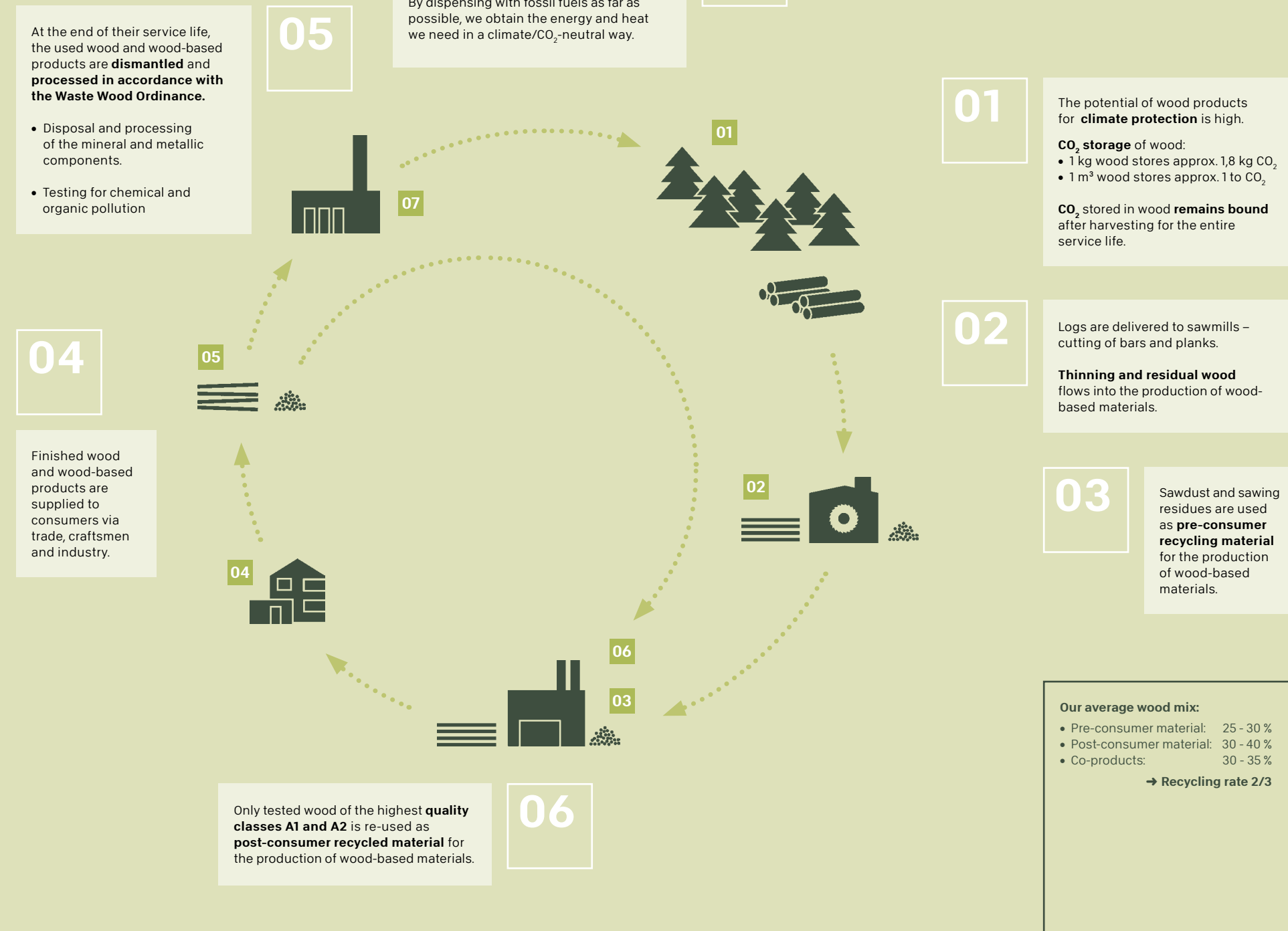
CERTIFICATIONS: SAFETY AND TRANSPARENCY FOR OUR CUSTOMERS

Pfleiderer underlines its commitment to sustainability and environmental protection by providing complete certification of all processes along the entire value chain. After all, we attach great importance to making our efforts in sustainability management as efficient as possible for customers and partners.

The environmental compatibility of our means of production, processes and processed materials is a matter of course for us. In the production of chipboard and fibreboard, we avoid the use of conservation agents, wood protection agents and organic solvents.

Our environmental management system is certified according to DIN EN ISO 14001 and ISO 50001. We are also member of the Quality Association for Wood-based Panels and are certified according to PEFC and FSC. An overview of all certifications and quality seals can be found on page 33.

SUSTAINABLE CASCADE USE



Wood is becoming increasingly attractive as a raw material – not only for timber construction, furniture and interior design. Sustainable forestry alone is therefore unlikely to be sufficient in the coming decades to meet the enormous demand that exists in a wide range of industries. One solution to this dilemma is cascade utilisation – i.e. the multiple use of wood as a resource over several stages from harvesting to recycling and energy recovery.

A study by the Chair of Wood Science at the Technical University of Munich has proven the high savings potential of cascade utilisation: One ton of waste wood was first processed into sawn timber and then twice into chipboard. The same products were also made from fresh wood for comparison. In the cascade use, the efficiency of the use of resources was significantly higher – among other things due to the reduced use of fresh wood and the smaller space requirement. Nevertheless, the potential for the material use of waste wood is mostly not yet fully exploited today – because this requires new processes to be set up along the entire value-added chain, from production and use to recycling and reuse.¹

¹ Michael Risse, Gabriele Weber-Blaschke and Klaus Richter: Resource efficiency of multifunctional wood cascade chains using LCA and exergy analysis, exemplified by a case study for Germany, Resources, Conservation & Recycling 126, 141-152, 2017. Download link: <http://dx.doi.org/10.1016/j.resconrec.2017.07.045>

Pfleiderer recognised years ago that cascade utilisation and recycling management are the only economic models that can guarantee sustainable production of high-quality wood products in the future. This is why we have already implemented intelligent wood cycles at our sites today. Sawing residues from the sawmill and recycled wood are therefore collected at our locations and prepared for further processing. In the production process, new wood-based panels of the highest

Quality products from "waste"

Right from the start and since 2000 as a certified waste management company, Pfleiderer has been committed to the sustainable recycling of wood waste. When trees are processed into bars in a sawmill, for example, wood chips and sawdust are produced in addition to thinning and residual wood. These are not burned or disposed of at Pfleiderer, but are used in the production of wood-based materials – for example in the manufacture of wood fibre boards. Compared to chipboard, wood fibreboard is characterised by its finer, more uniform structure, which makes it particularly stable and allows it to be processed with precision. In contrast to natural wood panels, it is possible to always achieve the same product properties with wood fibres.



quality are created by sorting, gluing, compacting and pressing. They are ideally suited for a wide range of applications in interior design and furniture production.

Integrated biomass power plants generate the electricity and heat required for drying and pressing the wood at our Baruth, Gütersloh and Neumarkt sites. The energy and heat generated there flows into our production processes. Surplus electricity is fed directly into the public electricity network.

The final step in the sustainable use of waste wood is its energetic recycling. At the Baruth site alone, Pfleiderer, as a certified waste management company, converts up to 250,000 tons of waste wood or plywood into thermal or electrical energy every year. For this purpose, we use combined heat and power plants and do almost completely without fossil fuels. In this way we produce heat and electricity in a climate-neutral way. In addition, the company operates its own wastewater treatment plant in Baruth, where the process water produced is purified.

ADVANTAGES OF CASCADE USE

The cascade use primarily helps to relieve the burden on sustainable forestry and save resources through the multiple processing of wood – the added value thus increases by a factor of 4 to 9. Since wood is also a very efficient CO₂ storage medium, about one tonne of CO₂ per cubic metre of wood remains bound over the extended service life of the valuable material.

But cascade use also opens up new perspectives from a business point of view: Cascade use not only secures jobs, but also inspires technological innovations and new developments in production processes.



To reliably meet the highest standards, foreign materials such as metals, non-metals, plastics, sand and stones are first separated from the wood. Through careful sorting and controls, we ensure that only uncontaminated waste wood is supplied for material recycling. In this way, Pfleiderer guarantees environmentally friendly, healthy and high-quality engineered wood – first-class products even in the second life cycle of the green raw material!

NO RESTRICTIONS ON PRODUCT QUALITY

In the past, there was often concern about whether products could actually meet the highest quality standards if the material was used several times. Today, Pfleiderer guarantees that only tested wood of grades A1 and A2 is reprocessed as post-consumer recycled material into wood-based materials. Our wood mix consists of 100 % recycled material. The average proportions are:

- 25 – 30 % pre-consumer material
- 30 – 40 % post-consumer material
- 30 – 35 % coupling products (thinning, industrial and waste wood)

Through cooperation with innovative partner companies such as HDF Recycling, with eight locations in the Netherlands and others in Germany, furniture manufacturers, DIY stores, recycling centres, joineries, manufacturers of made-to-measure parts and other users are actively integrated into the recycling cycle. In cooperation with Green Waste, a well-known provider of modern recycling management, HDF is responsible for taking back and processing old and waste wood for further processing in Pfleiderer's production plants.

In order to maintain the highest quality standards, Dutch HDF Recycling works in accordance with the German Waste Wood Ordinance and has all the relevant certifications.

Particular challenges arise here, for example, in the sorting and preparation of waste wood in accordance with the Waste Wood Ordinance for reuse. Here, mineral and metallic components must be removed and recycled. Chemical and organic impurities must also be excluded in order to achieve optimum and high-quality results in secondary recycling.

Thanks to innovative technologies and a sophisticated recycling management system, materials made from reused wood effortlessly guarantee the proven Pfleiderer standards in terms of quality and health.

Pfleiderer Arnsberg

...produces Duropal HPL, compact boards and HPL elements from core and decorative papers. The wood for the papers used comes from sustainable forestry.

- FSC licence code C011773
- PEFC (PEFC/04-32-0828)

Production is in accordance with ISO 9001, ISO 14001, ISO 50001 and ISO 45001. The Duropal product range is widely certified with the Blue Angel / UZ76.

Pfleiderer Baruth

...produces medium and high-density fibreboards. The wood used for production are mainly waste and by-products from the neighbouring sawmill. The integrated and highly efficient CHP plant provides energy and heat.

- FSC licence code C011773
- PEFC (PEFC/04-32-0828)

Production is in accordance with ISO 9001, ISO 14001, ISO 50001, EfbV and ISO 45001 and the fibre-board StyleBoard MDF plus has been awarded the Nordic Swan.

Pfleiderer Gütersloh

...produces chipboards which are finished into decorative panels directly on site. The wood used come from sustainable forestry as well as pre- and post-consumer recycling of grades A1 and A2. The integrated and highly efficient CHP plant provides energy and heat.

- FSC licence code C011773
- PEFC (PEFC/04-32-0828)

The production is carried out according to ISO 9001, ISO 14001, ISO 50001, EfbV and ISO 45001. The coated DecoBoard is certified with the Blue Angel / UZ76 and the C2C certificate.

Pfleiderer Leutkirch

...produces chipboards as well as Duropal HPL and compact boards. The raw boards are finished on site into decorative boards, elements or Prime-Board lacquer-finished boards. The wood used comes from sustainable forestry as well as pre- and post-consumer recycling of quality classes A1 and A2.

- FSC licence code C011773
- PEFC (PEFC/04-32-0828)

Production is in accordance with ISO 9001, ISO 14001, ISO 50001 and ISO 45001, and the coated DecoBoard and HPL products have been awarded the Blue Angel / UZ76. PrimeBoard and DecoBoard are awarded the C2C certificate.

Pfleiderer Neumarkt

...produces chipboards for on-site coating and for construction purposes. The wood used come from sustainable forestry and pre- and post-consumer recycling of grades A1 and A2. The integrated and highly efficient CHP plant provides energy and heat.

- FSC licence code C011773
- PEFC (PEFC/04-32-0828)

The production is carried out according to ISO 9001, ISO 14001, ISO 50001, EfbV and ISO 45001. The coated LivingBoard and the coated Deco-Board have been awarded the Blue Angel / UZ76 and the C2C certificate.



OUR CERTIFICATIONS

Defined processes ensure transparency and clarity. Only in this way can we work with the greatest possible care and responsibility. The certifications we have already achieved help us to improve continuously. Here you will find an overview of our current certificates:

	ISO 9001	ISO 14001	ISO 50001	FSC	PEFC	EfbV	ISO 45001
Arnsberg	■	■	■	■	■		■
Baruth	■	■	■	■	■	■	■
Gütersloh II	■	■	■	■	■	■	■
Gütersloh III	■	■	■	■	■		■
Leutkirch	■	■	■	■	■		■
Neumarkt II	■	■	■	■	■		■
Neumarkt III	■	■	■	■	■	■	■

06



SUSTAINABLE PRODUCT POLICY

"As one of the leading wood processing companies in Europe, Pfleiderer recognises its function as a role model not only for the industry but for society as a whole. The promotion of environmentally friendly production methods and the implementation of fair, healthy and safe working conditions are therefore integral parts of our sustainability policy."

Stefan Zinn, Chief Commercial Officer, Pfleiderer Group

OUR PRODUCT RESPONSIBILITY

We continuously monitor and evaluate our products and strive for continuous improvement of our manufacturing and distribution processes. With our high quality standards we want to achieve the greatest possible product benefit for our customers and reduce unavoidable environmental impacts.

The pursuit of sustainability is particularly tangible in Pfleiderer's high-quality and durable products. For customers who value products that are produced in an environmentally friendly way and are healthy to live in, the long-standing and consistent focus on ecology offers many advantages. More than 40 years ago, Pfleiderer introduced the formaldehyde-free glued board

LivingBoard, which is still one of the most successful "classics" in the field of sustainable construction today. Since the "initial spark" with LivingBoard, Pfleiderer has been continuously developing manufacturing processes and the product world with the aim of producing the highest quality with minimum impact on nature and the environment.



CUSTOMER-ORIENTED CATALYST FOR SUSTAINABILITY

For us, the starting point for all activities is always the most perfect possible fulfilment of all customer requirements – always linked to the question: "How can the desired product properties be realised with sustainable resources and processes?" Already during the development of new products and manufacturing processes with which we can meet customer requirements, we test how environmentally friendly they will be. We always look at the processes as a whole. But of course it is not enough for us to implement sustainable processes in-house. That is why we also oblige our suppliers and contractors to a sustainable and careful handling of the environment, energy and other resources.

Furthermore, as a company we do not only see our economic interests, but also understand the pursuit of sustainability as a social duty. With sustainable products we not only meet the growing demand for environmentally friendly solutions. With our commitment to climate and the environment, we also act as a catalyst for the sustainability idea in society – and inspire others to think about models of recycling management, cascade use, energy and resource efficiency or climate-neutral business practices. Together with our customers, we also often first create awareness of what can be achieved in the construction and furniture sector with sustainable means.

OPEN COMMUNICATION AS A DRIVER OF THE SUSTAINABILITY IDEA

We consider it to be part of our product responsibility to act with the greatest possible transparency towards all stakeholders and to disclose our sustainability strategies to the general public. We therefore maintain a continuous dialogue with customers, suppliers, employees, authorities and the public and are willing to provide information on the environmental impact of our manufactured products and the services we offer.

Our responsibility

We are continuously driving forward developments. Our motivation is to meet customer requirements with maximum sustainability. We achieve this goal with

- maximum customer orientation
- high quality products
- excellent services
- outstanding consulting competence
- employees and partners acting responsibly
- company-wide ecologically aligned processes
- renewable raw materials
- energy and resource efficiency
- closed-loop recycling models
- cascade usage models
- recycling
- resource and route-optimised logistics concepts

Our videos on this topic:
<https://www.youtube.com/user/PfleidererChanel>

SUSTAINABILITY BEGINS WITH RAW MATERIALS

Centuries of overexploitation of nature mean that important resources will soon no longer be available in sufficient quantities. Renewable raw materials such as wood often represent a sensible alternative, but are also not available in unlimited quantities. According to expert estimates, sustainable forestry will be able to satisfy the ever increasing demand for wood for about another ten years. New concepts are therefore needed in Germany and Europe in order to use the renewable, yet limited resource of wood in a more industrially responsible and efficient manner.

We are currently experiencing it in Brazil: there, deforestation of the Amazon rainforest is being ruthlessly pursued despite strong international protests – with disastrous consequences for climate change and global warming, but also for flora and fauna, whose habitat is being irretrievably destroyed by deforestation. Today, we know how important forests are for the ecological balance on our planet, among other things as a CO₂ reservoir. For Pfeleiderer as one of the leading wood processing companies in Europe, the use of renewable raw materials is therefore a special obligation to act responsibly.

WOOD FROM SUSTAINABLE FORESTRY

In total, Pfeleiderer processes around five million cubic metres of wood every year – a quantity that could fill 2,000 Olympic swimming pools with a depth of two metres. The wood for production is supplied from



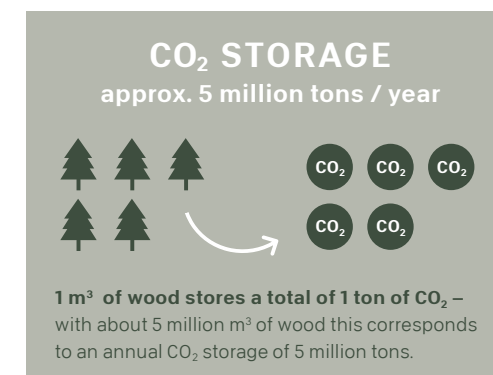
within a maximum radius of 200 km – in Gütersloh, for example, we process spruce and pine from the sustainably managed, FSC-certified Duisburg municipal forest. In general, our mix consists of approx. 95 % conifer wood and approx. 5 % deciduous woods. It is important to us that no old trees are felled specifically for Pfeleiderer boards. By using sawmill by-products, used wood as well as thinning and broken wood, we produce a 100 % sustainable product. We process wood waste from sawmills, forestry and after the product has been used, and turn it into new wood-based materials that go through another complete life cycle.

CASCADE USE PROTECTS CLIMATE AND FORESTS

Like other resources, wood is becoming increasingly rare, while at the same time the life cycles of furniture are becoming shorter and shorter. Just a few years ago, reservations about processing old wood and wood waste were very common. Now the realisation is gaining ground that high-quality products can be made again from recycled materials. For example, a disposed solid wood piece of furniture can be processed up to three times into quality chipboard before it is finally used in a combined heat and power plant to generate energy.

Together with our partners in wood processing, such as the Green Angels in Nuremberg, we ensure that the recycled used wood we process complies with the strict regulations of the German Waste Wood Ordinance. For the production of new boards, we only use wood qualities that are free of biological, chemical, organic, metallic and mineral pollutions. Our professionalism in this respect is documented by our certification as a specialist waste management company.

Through this cycle, wood-based materials in cascade use sustainably support climate protection. Each cubic metre of wood reduces CO₂ emissions in the atmosphere by an average of one tonne through photosynthesis. The weight per cubic metre varies depending on the type of tree. Light wood species reduce less CO₂ than heavier ones. The carbon (C) is stored in the wood in the form of sugar, which is the tree's basis of life. The oxygen (O₂) is returned to the atmosphere as the basis of life for humans.



CERTIFIED SUSTAINABLE FOREST SITES

The wood processed by Pfeleiderer comes from sustainably managed and largely certified forests. Anyone who wants to be certified by the non-profit organisation Forest Stewardship Council, founded in 1993, must meet the strictest guidelines: On the one hand, the forests must be accessible to people, but on the other hand they must also offer unmanaged areas

“ In former times, high-quality waste wood was simply disposed of, but today it can still be processed up to three times into new boards for long-lasting use in furniture and interior design. ”

Claus Seemann, Head of Product Management Raw Panels

where flora and fauna can develop undisturbed. Reforestation must be carried out biodiversely, if possible with tree species from the region. In order to obtain the FSC seal, Pfeleiderer must not only document all wood purchases and outgoing goods, but also submit to regular audits by auditors.

Even non-FSC-certified wood must come from sustainable production in order to meet Pfeleiderer's sustainability requirements. Thus, we also additionally use wood from PEFC-certified operations and, as a matter of principle, only wood that meets specified minimum requirements and may therefore be used to manufacture FSC-mix products. The customer can be sure that the product he has chosen is made of FSC-certified and other controlled materials.

Pfeleiderer also relies on sustainable raw materials and processes as far as possible in its further processing into particleboard. We also ensure that gluing and coating comply with the applicable standards. This is demonstrated by the certification of our products, e.g. with the Blue Angel or according to the Cradle to Cradle Certified™ Products Programme.



QUALITY PRODUCTS FROM SUSTAINABLE PRODUCTION

The striving to live sustainability in all areas of Pfleiderer Germany also permeates the production processes at our sites – and is also reflected in our product range.

All production at our sites is not only carried out to the highest quality standards, but also in accordance with an environmental management system certified to DIN EN ISO 14001 and ISO 50001. Each process is continuously optimised under the aspects of sustainability and environmental compatibility. In Neumarkt, Gütersloh and Baruth, Pfleiderer therefore uses its own combined heat and power plants for the production of high-quality engineered wood, which are approved and operated in accordance with the strictest limits in Germany (17th BImSchV). For the generation of electricity and heat, by-products from production that are no longer usable as materials, such as sanding dust, are thermally recycled. The combined heat and power plants work exclusively with wood, which is no longer suitable for further use in the material cycle. In this way, Pfleiderer succeeds in producing high-quality, individual wood-based materials largely energy self-sufficiently and without releasing additional CO₂ from fossil fuels.

Within the framework of cascade use, we process wood and derived timber products prepared in accordance with the Waste Wood Ordinance for our quality products – free of mineral and metallic components as well as chemical and organic impurities. Only tested wood of quality classes A1 and A2 is reused as post-consumer recycled material in the production of new wood-based panels. Together with production residues from the sawmill industry, pre-consumer

recycling and thinning wood from forestry, we thus achieve a recycling quota of 2/3. And make the felling of trees for our panels obsolete.

FROM GLUING TO IMPREGNATION – SUSTAINABLE PROCESSING GUARANTEED

Not only with wood, but also in all steps of further processing and refinement, we attach importance to the use of sustainable materials and production processes. The gluing of our raw chipboard and fibreboard is carried out in closed systems and we are continuously researching to improve glue formulas. We only use paper for decor coating. We process up to 9,000 tonnes of decor paper per year. For impregnation, we use melamine resin or a mixture of melamine resin and urea to impregnate the paper before it is applied to the chipboard on the laying belt under heat and pressure. We produce the resins for the melamine and phenol impregnation of our high-pressure laminate (HPL) boards ourselves to ensure the high durability and homogeneity of the HPL products.

Because theoretical safety is not safe enough at Pfleiderer, we operate a central analysis department at our Arnsberg site. There we test our boards for impurities, organohalogen compounds such as PCP and chlorine, and measure formaldehyde emissions in our own test chambers in order to guarantee the safety of our products.

ELEMENT PRODUCTION FOR SUSTAINABLE INTERIOR DESIGN

In our element production, we process our high-pressure laminates and raw boards into HPL elements – either into composite elements with open edges or into postforming elements that can be installed as kitchen worktops, for example. Raw chipboard or fibreboard can be used for this purpose – even those with special properties such as moisture resistance or fire protection. Many of our products are so environmentally friendly, sustainable

and healthy to live with that they have even been certified with the Blue Angel label, according to CARB / CARB II and/or according to the Japanese emissions standard JIS F**** as well as, most recently, according to the Cradle to Cradle Certified™ Products Programme. Most products are also available with PEFC or FSC certification.



OUR SUSTAINABLE PRODUCTS



CLASSICBOARD P2

- Urea resin-bonded particleboard, Type P2 to EN 312, suitable for non load-bearing purposes in dry areas.

Areas of application

- Furniture and interior fitting
- Timber construction

Product features

- Sanded
- Easy to use and machine
- Floor panel available

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



CLASSICBOARD P3

- Melamine resin bonded particleboard, Type P3 to EN 312, suitable for non load-bearing purposes in damp areas.

Areas of application

- Furniture and interior fitting
- Timber construction

Product features

- Sanded
- Low swelling / moisture resistant
- Easy to use and machine
- Floor panel available

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



CLASSICBOARD P2 CARB2

- Low emission particleboard core, Type P2 to EN 312, suitable for non load-bearing purposes in dry areas.

Areas of application

- Furniture and interior fitting

Product features

- Sanded
- Easy to use and machine
- Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	CARB TSCA

Environmental Product Declaration (EPD) available.



CLASSICBOARD P2 F****

- Low emission particleboard core, Type P2 to EN 312, suitable for non load-bearing purposes in dry areas.

Areas of application

- Furniture and interior fitting

Product features

- Sanded
- Easy to use and machine
- Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	20-30 %
• Post-consumer	55-65 %
• Thinning & residual wood	5-10 %
Gluing, emission class	Jis F**** CARB

Environmental Product Declaration (EPD) available.



PREMIUMBOARD PYROEX

- Flame resistant particleboard, suitable for non load-bearing purposes in dry areas, for interior fitting and for furniture subject to higher demands on fire protection.

Areas of application

- Furniture and interior fitting
- Fire protection

Product features

- Sanded
- Flame retardant
- Easy to use and machine
- Floor panel available



PREMIUMBOARD MFP P5

- Particleboard MFP, Type P5 to EN 312, suitable for load-bearing purposes in damp areas.

Areas of application

- Timber construction
- Packaging
- Concrete formwork

Product features

- Sanded
- Load-bearing
- Direction-free application
- Low swelling / moisture resistant
- Easy to use and machine
- Floor panel available

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05



STYLEBOARD MDF PLUS

- Medium-density fibreboard (MDF) in accordance with EN 622-1, with uniform structure.

Areas of application

- Furniture and interior fitting

Product features

- Sanded
- Deep router quality
- Easy to use and machine

Average raw density (+/- 10%)	710 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



STYLEBOARD MDF BLACK

- Decorative black colour through-pigmented medium-density fibreboard (MDF) to EN 622-1, with uniform structure.

Areas of application

- Furniture and interior fitting

Product features

- Sanded
- Deep router quality
- Easy to use and machine

Average raw density (+/- 10%)	770 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



STYLEBOARD MDF.MR

- Medium-density fibreboard (MDF) in accordance with EN 622-1, with uniform structure.

Areas of application

- Furniture and interior fitting

Product features

- Sanded
- Low swelling / moisture resistant
- Easy to use and machine

Average raw density (+/- 10%)	730 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



STYLEBOARD MDF.RWH

- The natural and open to diffusion fibre board to EN 622-5 for roof and wall.

- Areas of application**
- Timber construction

- Product features**
- Low swelling / moisture resistant
 - Easy to use and machine
 - Floor panel available
 - Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	F0

Environmental Product Declaration (EPD) available.



STYLEBOARD HDF COMPACT BLACK

- Highly compressed, swell-reduced and black dyed fibreboard with homogeneous structure and good stability.

- Areas of application**
- Furniture and interior fitting

- Product features**
- Sanded
 - Low swelling / moisture resistant
 - Easy to use and machine

Average raw density (+/- 10%)	930 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



STYLEBOARD THIN HDF

- High-density thin fibreboard to EN 622-1, with uniform structure and good durability.

- Areas of application**
- Furniture and interior fitting
 - Doors
 - Packaging

- Product features**
- Sanded
 - Easy to use and machine

Average raw density (+/- 10%)	930 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



STYLEBOARD HDF 106

- High-density, thin fibreboard in accordance with EN 622-1, with homogeneous structure and good stability.

- Areas of application**
- Furniture and interior fitting
 - Doors

- Product features**
- Sanded
 - Easy to use and machine

Average raw density (+/- 10%)	900 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



LIVINGBOARD FACE CONTIPROTECT P5

- High-strength, formaldehyde-free glued particleboard, Type P5 to DIN EN 312, suitable for load-bearing purposes in damp areas.

- Areas of application**
- Timber construction
 - Packaging
 - Concrete formwork

- Product features**
- Low swelling / moisture resistant
 - Easy to use and machine
 - Direction-free application

- Load-bearing
- Good sound insulation
- Floor panel available
- Particularly ecological
- Particularly low emission

Average raw density (+/- 10%)	660 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	F0

Environmental Product Declaration (EPD) available.



LIVINGBOARD FACE CONTIPROTECT P7

- High-strength, formaldehyde-free glued particle-board, Type P7 to DIN EN 312, suitable for load-bearing purposes in damp areas.

- Areas of application**
- Timber construction
 - Packaging
 - Concrete formwork

- Product features**
- Low swelling / moisture resistant
 - Load bearing – particularly high bending strength
 - Good sound insulation
 - Easy to use and machine
 - Direction-free application
 - Particularly ecological
 - Particularly low emission

Average raw density (+/- 10%)	690 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	F0

Environmental Product Declaration (EPD) available.



LIVINGBOARD P5

- Formaldehyde-free glued particleboard, Type P5 to DIN EN 312, suitable for load-bearing purposes in damp areas.

- Areas of application**
- Timber construction
 - Concrete formwork

- Product features**
- Sanded
 - Load-bearing
 - Easy to use and machine
 - Direction-free application
 - Floor panel available
 - Low swelling / moisture resistant
 - Good sound insulation
 - Particularly ecological
 - Particularly low emission

Average raw density (+/- 10%)	660 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	F0

Environmental Product Declaration (EPD) available.



DECOBOARD P2

- Urea resin bonded particleboard with decorative melamine facing on both faces, awarded with the Blue Angel for the thickness range 8-25 mm.

- Areas of application**
- Furniture and interior fitting

- Product features**
- Decorative variety
 - Antimicrobial
 - Food harmless
 - Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECOBOARD P2 CARB2

- Emission-reduced particleboard, with decorative melamine resin coating on both sides, awarded with the Blue Angel for the thickness range 8-25 mm.

- Areas of application**
- Furniture and interior fitting

- Product features**
- Decorative variety
 - Antimicrobial
 - Food harmless
 - Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	CARB

Environmental Product Declaration (EPD) available.



DECObOARD P2 F****

- Emission-reduced particleboard, with decorative melamine resin coating on both sides, awarded with the Blue Angel.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Food harmless
- Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 20-30 %• Post-consumer 55-65 %• Thinning & residual wood 5-10 %
Gluing, emission class	Jis F**** CARB TSCA

Environmental Product Declaration (EPD) available.



DECObOARD P2 ESA

- Electrostatically dissipative particleboard with decorative melamine resin facing on both faces.

Areas of application

- Furniture and interior fitting

Product features

- Electrostatically dissipative

Average raw density (+/- 10%)	620 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 30-40 %• Post-consumer 40-50 %• Thinning & residual wood 10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD PYROEX

- Flame-resistant particleboard with decorative melamine resin facing on both faces.

Areas of application

- Furniture and interior fitting
- Fire protection

Product features

- Decorative variety
- Antimicrobial
- Food harmless
- Flame retardant

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 30-40 %• Post-consumer 40-50 %• Thinning & residual wood 10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD REAL METAL P2

- Urea resin bonded particleboard with real aluminium foil on both faces in direct facing method.

Areas of application

- Furniture and interior fitting

Product features

- Real metal surface

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 30-40 %• Post-consumer 40-50 %• Thinning & residual wood 10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD P3

- Melamine resin bonded particleboard with melamine resin facing on both faces for damp areas.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Food harmless
- Low swelling / moisture resistant

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 30-40 %• Post-consumer 40-50 %• Thinning & residual wood 10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD MDF BASIC

- Medium-density fibreboard with homogeneous lay-up and decorative melamine resin facing on both faces.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Food harmless

Average raw density (+/- 10%)	690 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 40-60 %• Thinning & residual wood 40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



DECObOARD MDF PLUS

- Medium-density fibreboard with uniform layering and decorative melamine resin facing on both faces.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Food harmless
- Deep router quality
- Particularly low emission

Average raw density (+/- 10%)	710 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 40-60 %• Thinning & residual wood 40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD MDF BLACK

- Decorative, black through-dyed, medium-density fibreboard with uniform layering and decorative melamine resin facing on both faces.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Food harmless
- Deep router quality

Average raw density (+/- 10%)	770 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 40-60 %• Thinning & residual wood 40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



DECObOARD MDF PYROEX

- Flame-resistant, medium-density fibreboard with uniform layers and decorative melamine resin facing on both sides.

Areas of application

- Furniture and interior fitting
- Fire protection

Product features

- Antimicrobial
- Food harmless
- Flame retardant

Average raw density (+/- 10%)	780 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 40-60 %• Thinning & residual wood 40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Environmental Product Declaration (EPD) available.



DECObOARD MFP HYBRID

- Combination of particleboard (MFP) as middle layer and one high-density thin fibreboard (HDF) as top layer on each side with decorative melamine resin facing on both faces.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Food harmless
- Load bearing – particularly high bending strength

Average raw density (+/- 10%)	760 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	<ul style="list-style-type: none">• Pre-consumer 40-60 %• Thinning & residual wood 40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD HDF

- High-density thin fibreboard with uniform layering, good stability and decorative melamine facing on both faces.

Areas of application

- Furniture and interior fitting
- Doors

Product features

- Decorative variety
- Antimicrobial
- Food harmless

Average raw density (+/- 10%)	930 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD HDF LACQUERED

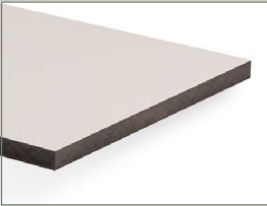
- High-density fibreboard with single-sided lacquered surface.

Areas of application

- Furniture and interior fitting
- Doors

Average raw density (+/- 10%)	930 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DECObOARD HDF COMPACT BLACK

- High-density, moisture-resistant and black-coloured fibreboard with uniform structure and decorative melamine lamination on both sides.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Food harmless
- Low swelling / moisture resistant
- Antimicrobial
- Load bearing – particularly high bending strength

Average raw density (+/- 10%)	930 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



PRIMEBOARD P2

- Melamine resin faced chipboard with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Decorative variety
- Anti-fingerprint
- Easy care
- Easy to use and machine

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05



PRIMEBOARD P2 CARB2

- Emission-reduced chipboard with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Decorative variety
- Anti-fingerprint
- Easy care
- Easy to use and machine
- Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	CARB TSCA



PRIMEBOARD P2 F****

- Emission-reduced chipboard with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Decorative variety
- Easy care
- Anti-fingerprint
- Easy to use and machine
- Particularly low emission

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	20-30 %
• Post-consumer	55-65 %
• Thinning & residual wood	5-10 %
Gluing, emission class	Jis F**** CARB TSCA



PRIMEBOARD P3

- Melamine resin faced chipboard for damp areas with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Decorative variety
- Easy care
- Anti-fingerprint
- Low swelling / moisture resistant
- Easy to use and machine

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05



PRIMEBOARD MDF PLUS

- Melamine resin faced medium-density fibreboard with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Decorative variety
- Easy care
- Anti-fingerprint
- Easy to use and machine
- Particularly low emission

Average raw density (+/- 10%)	700 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA



PRIMEBOARD MDF BLACK

- Decorative, black through-dyed, medium-density fibreboard with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Decorative variety
- Easy care
- Anti-fingerprint
- Easy to use and machine
- Particularly low emission

Average raw density (+/- 10%)	700 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05 CARB TSCA



PRIMEBOARD MDF BLACK NATURAL

- Natural, raw, black through-dyed, medium-density fibreboard with high-quality and innovative multi-layer coating made up of a permanently elastic functional layer and UV-curing acrylic coatings.

Areas of application

- Furniture and interior fitting

Product features

- High brilliance
- Easy to use and machine
- Particularly low emission
- Easy care
- Anti-fingerprint



DUROPAL HPL

- Decorative high pressure laminate in postforming quality according to EN 438-3:HGP/VGP, with robust melamine resin surface and sanded reverse.

Areas of application

- Furniture and interior fitting
- Doors

Product features

- Decorative variety
- Antimicrobial
- Easy care
- Food harmless



DUROPAL HPL METALLIC

- Decorative high pressure laminate in postforming quality based on EN 438-8:ATP, with special visual metallic effect thanks to mother-of-pearl pigments. The reverse side is sanded ready for gluing.

Areas of application

- Furniture and interior fitting

Product features

- Easy care
- Antimicrobial
- Food harmless



DUROPAL HPL PYROEX

- Decorative high pressure laminate in flame resistant quality according to EN 438-3:HGF/VGF with robust melamine resin surface and sanded reverse.

Areas of application

- Furniture and interior fitting
- Fire protection

Product features

- Decorative variety
- Antimicrobial
- Flame retardant
- Easy care
- Food harmless



DUROPAL HPL REAL METAL

- High pressure laminate with real metal surface in standard quality based on EN 438-8:MTS. The reverse is sanded ready for gluing.

Areas of application

- Furniture and interior fitting

Product features

- Real metal surface

Average raw density (+/- 10%)	770 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
<ul style="list-style-type: none">Pre-consumerThinning & residual wood	<ul style="list-style-type: none">40-60 %40-60 %
Gluing, emission class	E1 E05 CARB TSCA

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.



DUROPAL HPL ESA

- Electrostatically dissipative high pressure laminate in postforming quality based on EN 438-3:HGP/VGP, with robust melamine resin surface and sanded reverse.

Areas of application

- Furniture and interior fitting

Product features

- Easy care
- Electrostatically dissipative



DUROPAL HPL IMO

- Decorative high pressure laminate in postforming quality according to EN 438-3:HGP/VGP 'Low Flame-Spread Surface Material' with robust melamine resin surface and sanded reverse.

Areas of application

- Furniture and interior fitting
- Ship interior fitting

Product features

- Decorative variety
- Antimicrobial
- Easy care
- Food harmless



DUROPAL HPL MAGNET

- Magnetic, decorative high pressure laminate in standard quality based on EN 438-9:RTS. The reverse is sanded ready for gluing.

Areas of application

- Furniture and interior fitting

Product features

- Magnetic
- Antimicrobial
- Easy care
- Food harmless



DUROPAL XTREME

- Decorative high pressure laminate in postforming quality based on EN 438-3:HGP/VGP, with robust, electron beam cured surface and sanded reverse.

Areas of application

- Furniture and interior fitting
- Doors

Product features

- Decorative variety
- Anti-fingerprint
- Easy care
- Food harmless



DUROPAL XTREME PLUS

- Decorative high pressure laminate in standard quality based on EN 438-3:HGS/VGS, with robust, electron beam cured surface and sanded reverse.

Areas of application

- Furniture and interior fitting
- Doors

Product features

- Easy care
- Antimicrobial
- High scratch resistance
- Anti-fingerprint
- Food harmless

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

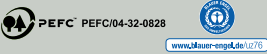
Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%)	1.350 kg/m³
Wood origin	FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.



DUROPAL HPL COMPACT

- Compact high pressure laminate in standard quality according to EN 438-9:BCS. With uniform white-coloured core and decorative melamine resin surface on both sides.

Areas of application

- Furniture and interior fitting

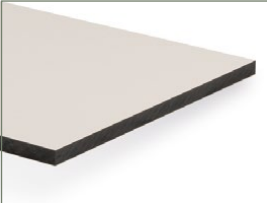
Product features

- Decorative variety
- Antimicrobial
- Low swelling / moisture resistant
- Easy care
- Food harmless
- High impact resistance

Average raw density (+/- 10%) 1.400 kg/m³

Wood origin PEFC certified on request.

Environmental Product Declaration (EPD) available.



DUROPAL HPL COMPACT PYROEX

- Compact high pressure laminate of flame retardant quality according to EN 438-4:CGF. With uniform black-coloured core and decorative melamine resin surface on both sides.

Areas of application

- Furniture and interior fitting
- Fire protection

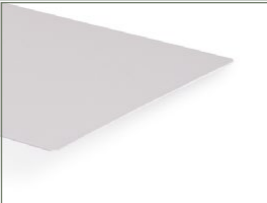
Product features

- Decorative variety
- Antimicrobial
- Low swelling / moisture resistant
- Easy care
- Food harmless
- Flame retardant
- High impact resistance

Average raw density (+/- 10%) 1.400 kg/m³

Wood origin FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.



DUROPAL HPL SOLIDCOLOR

- Decorative high pressure laminate in standard quality according to EN 438-9:BTS, with uniform colour-through core for the highest demands on aesthetics, functionality and durability. The reverse is sanded ready for gluing.

Areas of application

- Furniture and interior fitting
- Doors

Product features

- Easy care
- Food harmless
- Antimicrobial

Average raw density (+/- 10%) 1.400 kg/m³

Wood origin FSC or PEFC certified on request.

Environmental Product Declaration (EPD) available.



DUROPAL FLAMEPROTECT COMPACT

- Non-combustible fire protection panel of primarily mineral constituents with uniform white-coloured core and decorative melamine resin surface on both sides based on EN 438-4.

Areas of application

- Furniture and interior fitting
- Doors

Product features

- Decorative variety
- Food harmless
- High impact resistance
- Easy care
- Non-combustible

Average raw density (+/- 10%) 1.400 kg/m³

Environmental Product Declaration (EPD) available.



DUROPAL FLAMEPROTECT COMPACT IMO

- Fire protection panel with IMO classification 'Low Flame-Spread Surface Material' of primarily mineral constituents with uniform white-coloured core and decorative melamine resin surface on both sides.

Areas of application

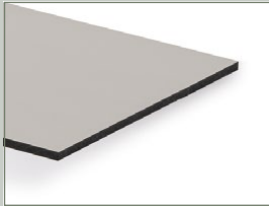
- Furniture and interior fitting
- Ship interior fitting

Product features

- Decorative variety
- Food harmless
- Easy care
- High impact resistance

Average raw density (+/- 10%) 1.400 kg/m³

Environmental Product Declaration (EPD) available.



DUROPAL XTERIOR COMPACT

- Compact high pressure laminate for outdoor use in standard quality according to EN 438-6:EDS / intensive decors according to EN 438-6:EGS. With uniform black-coloured core and single-sided decorative acrylic lacquer on the top side and decorative melamine resin surface on the reverse.

Areas of application

- Exterior use

Product features

- Decorative variety
- Anti-fingerprint
- UV-resistant
- Low swelling / moisture resistant
- Easy care
- Anti-graffiti
- Weatherproof
- High impact resistance



DUROPAL XTERIOR COMPACT F

- Compact high pressure laminate for outdoor use in flame-retardant quality according to EN 438-6:EDF / intensive decors according to EN 438-6:EGF. With uniform black-coloured core and single-sided decorative acrylic lacquer on the top side and decorative melamine resin surface on the reverse.

Areas of application

- Fire protection
- Exterior use

Product features

- Decorative variety
- Anti-fingerprint
- UV-resistant
- Low swelling / moisture resistant
- Easy care
- Anti-graffiti
- Weatherproof
- Flame retardant
- High impact resistance



DUROPAL ELEMENT P2

- Flat bonded element consisting of a particleboard construction, Type P2 to EN 312, surfaced on both sides with Duropal HPL or Duropal HPL Metallic.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Easy care
- Antimicrobial
- Food harmless

Average raw density (+/- 10%) 1.400 kg/m³

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%) 1.400 kg/m³

Environmental Product Declaration (EPD) available.

Average raw density (+/- 10%) 600 kg/m³

Wood origin FSC or PEFC certified on request.

Proportion of recycled wood

- Pre-consumer 30-40 %
- Post-consumer 40-50 %
- Thinning & residual wood 10-20 %

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT P2 F***

- Flat bonded element of a particleboard construction, Type P2 to EN 312, faced on both sides with Duropal HPL or Duropal HPL Metallic. With this board material, the limit values of the EPF and the CARB2 standard are easily satisfied thanks to the minimised formaldehyde content. Flat bonded element of a particleboard construction, Type P2 to EN 312, faced on both sides with Duropal HPL. With this board material, the limit values of the EPF and the CARB2 standard are easily satisfied thanks to the minimised formaldehyde content.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Particularly low emission
- Easy care
- Food harmless

Average raw density (+/- 10%) 600 kg/m³

Wood origin FSC or PEFC certified on request.

Proportion of recycled wood

- Pre-consumer 20-30 %
- Post-consumer 55-65 %
- Thinning & residual wood 5-10 %

Gluing, emission class Jis F***

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT REAL METAL P2

- Flat bonded element with real metal surface made from a particleboard core, Type P2 to EN 312, faced on both sides with Duropal HPL Real Metal.

Areas of application

- Furniture and interior fitting

Product features

- Real metal surface

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT PYROEX

- Flame resistant flat bonded element of particleboard core with improved flame resistance, faced on both sides with Duropal HPL Pyroex or Duropal HPL Metallic Pyroex. Flame resistant flat bonded element of particleboard core with improved flame resistance, faced on both sides with Duropal HPL Pyroex.

Areas of application

- Furniture and interior fitting
- Fire protection

Product features

- Decorative variety
- Antimicrobial
- Flame retardant
- Easy care
- Food harmless

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT BIRCH MULTIPLEX

- Birch veneer panel, glued moisture-resistant, faced on both sides with Duropal HPL or Duropal HPL Metallic. This flat bonded element guarantees the highest stability and material quality.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Load bearing – particularly high bending strength
- Easy care
- Food harmless

Average raw density (+/- 10%)	720 kg/m³
Wood origin	FSC certified on request.
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT P2 ESA

- Electrostatically dissipative flat bonded element of an ESA chipboard faced on both sides with durable Duropal HPL ESA.

Areas of application

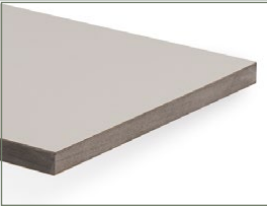
- Furniture and interior fitting

Product features

- Easy care
- Food harmless
- Electrostatically dissipative

Average raw density (+/- 10%)	620 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT HDF COMPACT BLACK

- Flat bonded element made of a high-density moisture-resistant fibreboard with uniform layering, both sides covered with Duropal HPL.

Areas of application

- Furniture and interior fitting

Product features

- Antimicrobial
- Food harmless
- Low swelling / moisture resistant

Average raw density (+/- 10%)	930 kg/m³
Wood origin	PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT MAGNET P2

- Decorative, magnetic high pressure laminate flat bonded particleboard, magnetic on both sides thanks to 1.2 mm Duropal HPL Magnet.

Areas of application

- Furniture and interior fitting

Product features

- Magnetic
- Antimicrobial
- Easy care
- Food harmless

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT P3

- Flat bonded element of a moisture-resistant particle-board construction, Type P3 to EN 312, faced on both sides with Duropal HPL or Duropal HPL Metallic.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Low swelling / moisture resistant
- Easy care
- Food harmless

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	30-40 %
• Post-consumer	40-50 %
• Thinning & residual wood	10-20 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT MDF PLUS

- Flat bonded element of a medium-density fibreboard (MDF) construction with uniform structure, faced on both sides with Duropal HPL or Duropal HPL Metallic.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Easy care
- Food harmless

Average raw density (+/- 10%)	710 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT MDF PYROEX

- Flame resistant flat bonded element of a medium-density fibreboard core (MDF) with uniform structure and flame retardant properties, faced on both sides with Duropal HPL Pyroex or Duropal HPL Metallic Pyroex.

Areas of application

- Furniture and interior fitting
- Fire protection

Product features

- Decorative variety
- Antimicrobial
- Flame retardant
- Easy care
- Food harmless

Average raw density (+/- 10%)	600 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUROPAL ELEMENT MDF BLACK

- Flat bonded element of a decorative black colour-through pigmented medium-density fibreboard with uniform structure (MDF). Faced on both sides with Duropal HPL or Duropal HPL Metallic.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Antimicrobial
- Easy care
- Food harmless

Average raw density (+/- 10%)	770 kg/m³
Wood origin	FSC or PEFC certified on request.
Proportion of recycled wood	
• Pre-consumer	40-60 %
• Thinning & residual wood	40-60 %
Gluing, emission class	E1 E05

Environmental Product Declaration (EPD) available.



DUOPAL ELEMENT MFP HYBRID

- Heavy-duty composite element with isotropic bending strength made of MFP hybrid, both sides faced with Duopal HPL or Duopal HPL Metallic. The innovative wood-based panel combination offers maximum stability with optimum uniformity of finish.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Easy care
- Antimicrobial
- Food harmless
- Load bearing – particularly high bending strength

Average raw density (+/- 10%) 760 kg/m³

Wood origin PEFC certified on request.

Proportion of recycled wood

- Pre-consumer 40-60 %
- Thinning & residual wood 40-60 %

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.



DUOPAL WORKTOP QUADRA HYDROFUGE MR

- Worktop with moisture-resistant particleboard core type P2 to EN 312, surface bonded with highly resistant Duopal HPL to EN 438, underside sealed with water-repellent backing. The postforming front edge of the Quadra worktop has a radius of 3 mm, the rear edge is sealed with a protective edging strip. As a variant it is also available with profiled edges on both sides.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Easy care
- Antimicrobial
- Food harmless
- Low swelling / moisture resistant

Average raw density (+/- 10%) 600 kg/m³

Wood origin FSC or PEFC certified on request.

Proportion of recycled wood

- Pre-consumer 30-40 %
- Post-consumer 40-50 %
- Thinning & residual wood 10-20 %

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.



DUOPAL ELEMENT POPLAR VENEER

- Poplar veneer panel, glued moisture-resistant, faced on both sides with Duopal HPL or Duopal HPL Metallic. For the highest demands on moisture resistance and stability with low weight.

Areas of application

- Furniture and interior fitting
- Lightweight construction

Product features

- Decorative variety
- Easy care
- Antimicrobial
- Food harmless

Average raw density (+/- 10%) n/a

Wood origin PEFC certified on request.

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.



DUOPAL COMPACT WORKTOP

- Compact high pressure laminate with single or double-sided machined longitudinal edge in standard quality according to EN 438-4:CGS for use as a worktop. With uniform black-coloured core, single-sided decorative melamine resin surface and decorative backing.

Areas of application

- Furniture and interior fitting

Product features

- Easy care
- Antimicrobial
- Food harmless
- High impact resistance
- Low swelling / moisture resistant

Average raw density (+/- 10%) 1.400 kg/m³

Wood origin PEFC certified on request.

Environmental Product Declaration (EPD) available.



DUOPAL ELEMENT SOLIDCOLOR P2

- Laminate of a particleboard core Type P2, faced on both sides with uniformed colour-through Duopal SolidColor. The durable surface and proven core material guarantee the highest quality and finish.

Areas of application

- Furniture and interior fitting

Product features

- Easy care
- Antimicrobial
- Food harmless

Average raw density (+/- 10%) n/a

Wood origin FSC or PEFC certified on request.

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.



DUOPAL WINDOWBOARD

- Windowboard with a moisture-resistant particleboard core to EN 312, faced with sturdy Duopal HPL to EN 438. The postforming longitudinal edge has a radius of 5 mm and has a folded edge. The 38 mm folded edge is a visual highlight. It allows recesses to be elegantly concealed or radiator covers to be connected.

Areas of application

- Furniture and interior fitting

Product features

- Easy care
- Antimicrobial
- Food harmless
- Low swelling / moisture resistant

Average raw density (+/- 10%) 600 kg/m³

Wood origin PEFC certified on request.

Proportion of recycled wood

- Pre-consumer 30-40 %
- Post-consumer 40-50 %
- Thinning & residual wood 10-20 %

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.



DUOPAL WORKTOP P2

- Worktop with particleboard core type P2 to EN 312, surface bonded with highly resistant Duopal HPL to EN 438, underside sealed with water-repellent backing. The postforming front edge of the Quadra worktop has a radius of 3 mm, the rear edge is sealed with a protective edging strip. As a variant it is also available with profiled edges on both sides.

Areas of application

- Furniture and interior fitting

Product features

- Decorative variety
- Easy care
- Antimicrobial
- Food harmless

Average raw density (+/- 10%) 600 kg/m³

Wood origin FSC or PEFC certified on request.

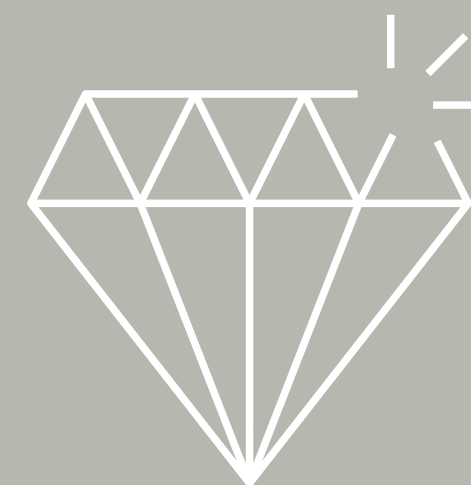
Proportion of recycled wood

- Pre-consumer 30-40 %
- Post-consumer 40-50 %
- Thinning & residual wood 10-20 %

Gluing, emission class E1 | E05

Environmental Product Declaration (EPD) available.

07



TESTIMONIALS SHOWCASE PROJECTS

"From the climate-neutral wooden architecture to the design-oriented interior, from functional to luxurious: Pfleiderer products are enormously versatile in their application – and unfold their lasting effect in numerous prestigious buildings. We are proud of this."

Zbigniew Prokopowicz, Chief Executive Officer, Pfleiderer Group



A HEALTH PARK FOR THE SENSES

The Leverkusen Hospital shows how a pleasant, natural atmosphere can support the recovery process of patients: There is no trace of sterile cold and sobriety in this "health park". Instead, the rooms organically pick up on the warm, natural colour worlds of meadows, beds and trees as well as the play of light from the surrounding park. The challenge was to create an aesthetic ambience which at the same time meets the strict hygiene requirements of a hospital. All elements of the interior design had to be easy to clean, wet washable and disinfectable. The interior designers of HDR GmbH worked closely with Pfleiderer in designing the interior: For example, the nurse counters were made

FACTS

Object: Clinic Leverkusen

Project year: 2017

Executing architectural office:
HDR TMK planning company mbH

Processed products:
U11026 Crystal White, U11027 Icy White,
U15133 Stone grey, VV Top Velvet,
Duropal HPL, Duropal HPL Pyroex,
Duropal HPL SolidColor

of Duropal HPL SolidColor Crystal White. The interior furniture of the cabinets in the patients' rooms and design elements of the corridors are also made of Pfleiderer products. The laminates from Pfleiderer proved to be particularly practical here because they are extremely scratch and impact resistant and also meet the B1 fire protection requirements. "As architects, we are very pleased that we are able to implement such unusual design concepts in the healthcare sector thanks to the numerous possibilities offered by laminates with their variety of decors and structures," says Dorothee Vorschütz, HDR GmbH.



WORMHOUSE SUSTAINABLE LIVING

Living space is becoming increasingly limited. The trend is therefore towards individual, well considered living solutions on just a few square metres. The Polish architect Piotr Kuczia was faced with the challenge of building a small house for a family of four on a very narrow and long parcel of land with a low budget. Due to its caterpillar-like shape, the building was given the name "Wormhouse". From the very beginning, Kuczia designed his "Wormhouse" as a sustainable, environmentally friendly project: the basic construction is made of moisture-resistant PremiumBoard MFP P5 chipboard. Maximum energy efficiency is ensured by the innovative insulation with a membrane façade, the ribs of which were realised with the light and resource-saving board LivingBoard from Pfleiderer. Even the board waste was further processed. Thus, the LivingBoard leftovers were used to create not only an adjustable bed construction, but also a sitting area made of foldable furniture. Kuczia chose LivingBoard because it is particularly easy to process and is also produced with a completely formaldehyde-



free binder. This means that the board's emission values even fall below the specifications of the "Blue Angel" environmental label. In 2018, the "Wormhouse" received the German Design Award in the category Excellent Communication Design.

FACTS

Object: Wormhouse, Zabłocie, Poland

Project year: 2017/18

Architect: Piotr Kuczia

Processed products:
PremiumBoard MFP P5, LivingBoard



HEALTHY AIR TO BREATHE

Ecological building with renewable raw materials is demonstrably good for health. In the case of wood-based materials, it is important to comply with the legally defined limit values for formaldehyde emissions. Pfleiderer products already meet the stricter guidelines that apply in the American and Japanese markets. LivingBoard even offers completely formaldehyde-free gluing. The board is made of low-resin spruce and a formaldehyde-free binder and convinces with top values in terms of bending strength, thickness swelling and mechanical strength. The VOC emissions (volatile organic compounds) are sufficiently low to meet the highest requirements for residential construction. When the city of Lübbecke insisted on the use of ecologically harmless woods when building a refugee home in 2017 and excluded the use of Styrofoam and mineral wool, the choice fell on LivingBoard from Pfleiderer. The building consists of two



blocks of flats which will provide a safe and healthy home for up to 35 refugees before the complex is integrated into the social housing system of the city of Lübbecke.

FACTS

Object: Refugee home

Project year: since 2017

Building owner: Stadt Lübbecke

Construction manager: Mario Drees,

Carpenter: Profibau GmbH

Processed products: LivingBoard



Cooking is done all over the world. In most regions today, the kitchen is a central place to meet with family and friends not only for a meal but also for a cheerful chat. But the climatic conditions differ considerably in different parts of the world – temperate Central European climate, tropical heat and humidity or arctic coldness sometimes place extreme demands on the kitchen corpus. And Pfleiderer supplies the materials that can easily withstand even 95 % humidity. The multinational kitchen manufacturer Störmer GmbH & Co. KG therefore relies entirely on the cooperation with Pfleiderer. One result of this cooperation is "DecoBoard V100ä F****": resistant to moisture, glued with reduced formaldehyde, certified by the Quality Association for Wood-Based Panels and awarded the "Blue Angel" seal of approval. This means that the premium manufacturer even

FACTS

Object:

International kitchen manufacturing

Project year: since 2016

Supplier: Störmer GmbH & Co. KG

Processed products:

DecoBoard V100ä F****

meets the standards and requirements in Japan, which currently has the strictest formaldehyde emission requirements for wood-based materials in the world. With DecoBoard V100ä F****, Pfleiderer provides a low-swelling and low-emission board that can be used to fulfil kitchen dreams all over the world.





SWIMMING LUXURY INTERIORS

Relax, dine and get to know the most beautiful corners of the world: luxury holidays on a cruise ship are still very popular. On a whole series of these ocean liners, maritime products from Pfleiderer demonstrate that sustainability can also be realised at sea. Thanks to certification by the International Maritime Organization, Pfleiderer laminates can be used almost everywhere on cruise liners for interior design. The cruise company Royal Caribbean, for example, uses

FACTS

Object: Seabourn Encore

Project year: 2017

Architect: Tihany Design, New York

Processed products:

Duropol HPL, DecoBoard,
R40003 Indian Apple red (exclusive),
R30026 Missouri Walnut



the advantages of Pfleiderer decors with their flame-retardant surface material on all its ships and in more than 30,000 cabins. But not only safety, but also weight plays a major role in the interior design of the ships. This is why weight-reduced panels are particularly popular in shipbuilding. The low weight reduces transport costs and CO₂ emissions. The timeless and robust Pfleiderer decors are also designed for long-term use, so that the ship's interior fittings do not have to be renewed after just a few years.

LOW EMISSION HYBRID SHIPS

For many years, Pfleiderer has been serving the special demand for materials and decors that meet the specific requirements of shipbuilding. In 2019, the MS Roald Amundsen was the first of two passenger ships in the Hurtigruten fleet to be launched, which are equipped with environmentally friendly and sustainable hybrid technology. With an innovative hull design and the efficient use of on-board power, hybrid technology enables fuel consumption and CO₂ emissions to be reduced by 20 percent. The energy efficiency of the two hybrid ships is also enhanced by the interior fittings using particularly light but robust materials from Pfleiderer. Low weight is one of the basic requirements for saving fuel and thus protecting the environment. The Pfleiderer materials used also meet the highest standards of moisture resistance and preventive fire protection in public areas such as corridors, staircases, bars and restaurants. They are certified by the International Maritime Organization.



FACTS

Object: MS Roald Amundsen

Project year: 2018

Client: Hurtigruten GmbH

Processed products:

Duropol HPL IMO, DecoBoard P2,
R20065 Mountain Oak dark, R42006
Cherry Havanna, R55001 Navarra Pine,
MO Navarra, RU Rustic Wood



08



CORPORATE SOCIAL RESPONSIBILITY

"Sustainable corporate success is always a matter of give and take. Not only between management, employees and suppliers, but also with the communities in which we operate. We are well aware of our social responsibility and are constantly committed to helping people and nature with a wide range of activities".

Dr. Frank Hermann, Chief Operating Officer Pfeleiderer Group

COMPLIANCE – PULLING TOGETHER

Acting responsibly in accordance with strict ethical and legal principles forms the basis of all our activities – not only in our own company, but also towards all other people and our environment.

Since our corporate image as a company in public is shaped by the appearance, actions and behaviour of each individual, all employees are committed to adhering to our Business Conduct Guidelines.

These are laid down there: We always act in accordance with the law (principle of legality) and with our internal rules and principles.



The Pfeiderer Compliance System is based on the three levels of **prevention**, **recognition** and **reaction**. It does not form a rigid framework, but is continuously adapted to the current conditions of the business world and legal requirements:

Prevention

- Tone from the top, exemplified corporate mission statement
- Compliance risk management
- Policies and procedures
- Training and communication
- Advice and support
- Integration into HR processes

Recognize

- Internal notification system
- Compliance control
- Monitoring
- Compliance audits
- Systematic investigation

Respond

- Implementation and follow-up
- Penalties for misconduct
- Case management

Our Business Conduct Guidelines help us to implement our values in our daily work, also with regard to sustainability. It is therefore essential that all employees of the Pfeiderer Group know and understand the Business Conduct Guidelines in order to be able to act accordingly.

IDENTIFYING AND ELIMINATING COMPLIANCE VIOLATIONS

It is important to us that at Pfeiderer everything is always above board. Because we feel jointly responsible for people and the environment. Because we want to avoid damage and protect the interests of our stakeholders. Because we value being a

fair partner. Nevertheless: irregularities and injustices are never absent anywhere. That is why we have set up a web-based, confidential whistleblower system to counter compliance violations as early and effectively as possible.

QUALITY MANAGEMENT THROUGH AUDITS

Pfeiderer Deutschland GmbH provides for regular internal site audits to ensure adherence to the compliance agreements. These also include special compliance audits and are carried out by the head of quality management on behalf of the respective site management. The basis for such compliance audits are notes and recommendations resulting from external and internal reviews. Within the framework of a compliance audit, a QM representative carries out site inspections.

“ We have committed ourselves to the principle of legality and act accordingly in our daily tasks! ”

Dr. Nico Reiner,
CFO and Chief Compliance Officer

EMPLOYEES – PATHS OF DEVELOPMENT

Pfleiderer's face is shaped by the diversity of personalities, cultural backgrounds, talents, competencies, and skills of our employees. Each path is distinctive and unique – and should be.

While some people in the Pfleiderer team aspire to a career as a manager and want to take over personnel responsibility, others feel comfortable dedicating themselves entirely to their special field and continuously expanding their expertise there. The majority of employees value Pfleiderer as a reliable employer that is aware of its responsibility, that promotes the compatibility of family and career, but also offers individuals very personal development opportunities.

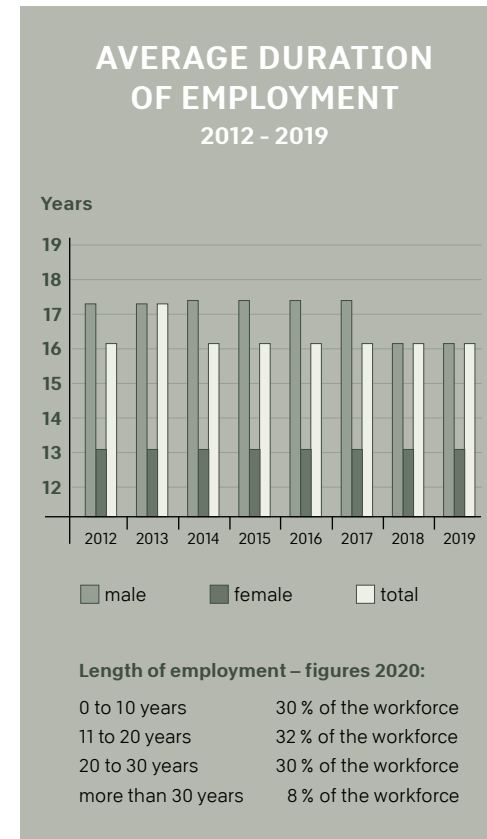
Because sustainability at Pfleiderer is also based on the philosophy of creating the necessary freedom for people to develop their personal strengths. Pfleiderer promotes employees with a wide range of perspectives – both for experienced specialists and managers as well as for the next generation of specialists from schools, colleges and universities: Thanks to a permeable career system, all employees are not only offered interesting and challenging entry opportunities, but also very individual options for shaping their professional career path.

“ For us, sustainability also means creating scope for long-term, individual professional development. The long years of employment of many of our employees is the best confirmation for us that we are right with this attitude.

Jochen Schapka,
Head of Personnel

GUIDELINES: SUSTAINABLE WORK ETHIC

Our "Guidelines for Leadership and Co-operation" are basic rules to which we orientate our daily work and our daily interaction. They determine our path into the future and help us to continuously check whether and how we will achieve our goal of being successful, profitable and sustainable. Our guidelines were developed jointly by managers, employees and works councils from all areas.



3. Promoting performance, entrepreneurial action and trust

We strengthen the performance of our employees by specifically promoting their skills and their development within the company. By setting goals and delegating responsibility, we encourage responsible corporate action. In a climate of performance, inner participation and trust, we ensure both solidarity and self-confidence.

4. Clear communication and reliability

We stand by our statements and promises and are measured by our actions. Through open, respectful communication we ensure predictability, security, and orientation both within the company and with customers and business partners.

5. Responsible company

We inspire our employees for the values sustainability, innovation, trust, performance, responsibility, and identification. In this way we support our economic success and at the same time act in the interests of the environment and society.

1. Future-oriented management culture

Managers and employees treat each other with respect and appreciation. They see themselves as partners who support and challenge each other.

2. Goal-oriented organisational structures

A clear allocation of tasks and clear responsibilities create transparency. Short decision-making processes accelerate our workflows. We increase our performance by reducing unnecessary complexity and optimising the efficiency of our processes through productive, constructive cooperation.



SOCIAL RESPONSIBILITY

At Pfleiderer we are convinced that the idea of sustainability can only be effective if it involves all areas of life – including the complex dynamics of social processes in which our company is involved.

Pfleiderer sees its commitment to sustainability as a holistic task. On the one hand, this includes responsibility for nature and the environment, which we want to fulfil by giving preference to natural, renewable raw materials and by using ecologically compatible production and recycling processes. On the other hand, our efforts are also directed towards the well-being of our employees and the people who live and work in the immediate area of our sites. We therefore invest specifically in health promotion and are involved in various social projects at our sites.

PERSONNEL DEVELOPMENT WITH A SURE INSTINCT

For Pfleiderer, sustainability in human resources is a dynamic process between management and employees. It also has a positive influence on aspects such as loyalty and identification with the company. However, performance and further development are values that do not only count in business. Every person must be allowed to pursue achievable goals in his or her life, celebrate successes and gain self-esteem and motivation to "move on". This is essential for physical and mental health.

An individually coordinated personnel development programme based on dialogue is therefore a crucial component of our human resources work and is firmly anchored in our corporate strategy. We promote and challenge the particular strengths of our employees. After all, they should be given the opportunity to develop their talents freely and effectively. For individual qualification and further development, we offer a wide range of training courses and workshops on a variety of topics – from the forklift driver's licence to office training and English courses. In addition, managers can also take advantage of tailor-made development programmes to help them shape their careers.



“ For us, sustainability arises from give and take: Pfleiderer employees have access to a wide range of training and development opportunities. Qualified, satisfied, and motivated employees in turn give Pfleiderer a sustainability advantage. This is how we secure valuable corporate know-how and professional competence. ”

Jörg Arends
Head of HR Excellence

- in a variety of tasks and projects
- dedicated teams and interesting junior research groups
- demand-oriented training and further education to become master craftsmen, technicians, or specialists.

JOINING PFLEIDERER

Employees should feel firmly integrated into the Pfleiderer company from the very first moment. After all, they are entitled to an employer who takes their needs seriously and does not leave them alone with their questions, concerns and needs. We therefore support "newcomers" at Pfleiderer in the initial phase with an individual, structured initial training plan.

PROMOTION OF THE NEXT GENERATION OF SKILLED WORKERS

If required, we set up a challenging **trainee programme** – this offers students and graduates interesting opportunities to gain **practical experience** in the professional world in addition to internships and **study projects**.

In addition, we support **individual qualification measures**, for example by accompanying students through their studies, training as a business administrator or other training.

We regularly offer **teambuilding measures**, such as the introductory weekend for our new trainees.

The principle of appreciation in our corporate guidelines implies that we promote and support employees according to their personal interests, strengths and skills. For this reason, we create the framework within which our employees can develop professionally at various levels. There is no prefabricated career plan at Pfleiderer. Individual progress is our priority. Whether professional or personal – we draw up completely individual development plans for employees and the needs of the company. In addition to the opportunity to bring special knowledge and expertise into the company, we offer options to expand these and pursue a professional career in our network – for example ...

MOTIVATION AS A MEDIUM OF SUSTAINABLE HR POLICY

Outstanding achievements and innovations are best created in highly qualified teams that are perfectly synchronised with each other. Not at least for this reason, Pfeiderer relies on a wide range of measures for sustainable human resources development.



At Pfeiderer, we are convinced that motivation and further development are important components of our success. Employees at all levels are therefore given a wide range of opportunities to try out new things according to their abilities, skills, and aptitudes and to individually shape their own career path.

Pfeiderer is also committed to its responsibility to society as a whole, which does not stop at national borders. Every year, we offer people with a refugee background the opportunity to gain a professional foothold in Germany in our company – either through a regular training contract or within the framework of project work.

PEOPLE NEED PROSPECTS

Motivation arises from the opportunity to sound out and constantly develop one's own abilities, to explore new terrain and to gradually broaden one's own horizon with small and large successes. Stand-still and lack of perspective, on the other hand, tend to lead to frustration and "inner resignation" in the long run. Many successful personnel development measures show that we offer an environment in which one can feel comfortable. This is how we succeed in not having to "throw teams together", but to let them "grow together" organically.

MANAGEMENT TRAINEES

The "**Meisterschmiede**" aims to identify and develop the personal strengths of managers in the technical field and to consolidate their management skills.

Employees are prepared in special **management training courses** ("From Employee to Manager") to take over personnel responsibility.

Needs-oriented development measures such as **coaching, training or structured feedback** support managers in tailor-made individual cases in pursuing their optimal personal career path within the Pfeiderer Group.

EXTRA-OCCUPATIONAL SUPPORT

- Employees have the opportunity to take part in **English language courses** online and in-house.
- If required, we conduct **individual coaching sessions** for employees on various topics.
- **Sales Excellence Training:** From October 2018 to October 2019 we held a sales training with 95 participants in ten groups in German, Polish, English, and French.

KNIFF

Employees actively participate in shaping Pfeiderer's corporate culture. They are invited to contribute their own suggestions for improving internal processes. The KNIFF programme set up for this purpose enables individuals or groups to submit ideas that bring cost savings, economic benefits, quality improvements, optimisation of work processes, occupational health and safety or environmental protection.

A jury evaluates the proposals received and awards prizes to the best entries. The total savings potential that Pfeiderer was able to realise through KNIFF contributions was around 280,000 Euros in 2019. However, models such as KNIFF are not only of direct economic significance for Pfeiderer. They also strengthen the employees' long-term identification with "their" company.

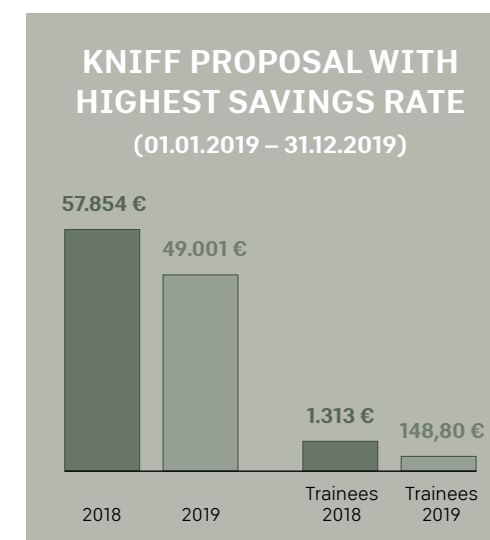


FIT BY PFLEIDERER

At the individual locations, employees can expect a comprehensive range of health and fitness offers – usually in cooperation with local facilities. The possibilities range from reduced rates in fitness studios and swimming pools to company fitness, running and massage at the workplace.

FAMILY-FRIENDLY COMPANY

Family and work must be compatible for a sustainable employment relationship. Pfeiderer therefore supports its employees to the best of its ability with childcare during working hours and during school holidays or on certain public holidays.

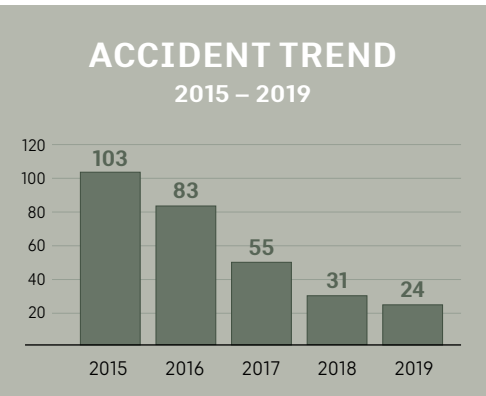


SAFETY AT WORK – ONE SAFETY

"Our people are our greatest asset." At Pfleiderer, this is not just an empty phrase, but also means: to protect our employees, we do all we can to reduce the number of industrial accidents in our company to zero. The core of these measures is our ONE Safety concept for safety at work.

Rules, monitoring, protective measures and measures "from above" alone cannot constitute a sustainable corporate strategy characterised by respect and appreciation for employees. At Pfleiderer, we therefore rely on a corporate culture that gives the individual a great deal of personal freedom and responsibility. This approach also characterises our ONE Safety concept for work safety.

Over the past ten years, the area of safety at work has developed well within the company. The number of accidents has fallen, many standards have been improved and risks minimised. Nevertheless, accidents still occur – something that Pfleiderer is not willing to accept. For this reason, managers at the various management levels receive psychological and pedagogical training in



workshops in order to firmly anchor the topic of safety at work in everyday corporate life and to raise employees' awareness of the importance of safety-oriented action. Starting from top management, the idea of safety is thus to be carried into all departments of the company.

CULTURE OF TRUST IS CULTURE OF SECURITY

In order to win over all employees to the topic of safety at work, communication takes place at eye level: "The whole concept only works within a culture of trust," explains Gradislav Gligorijevic. "It must not be about blame, and no one must be punished. Superiors must react gratefully to indications of potential sources of danger and then initiate preventive measures – this is where the tact and sensitivity learned from psychological and pedagogical training comes into play.

The Pfleiderer Safety Principles

- **WE** want **ZERO** accidents.
- **WE** are always a good example.
- **WE** take a close look at safety at work.
- **WE** always work safely.
- **WE** treat employees of external companies like our own staff.

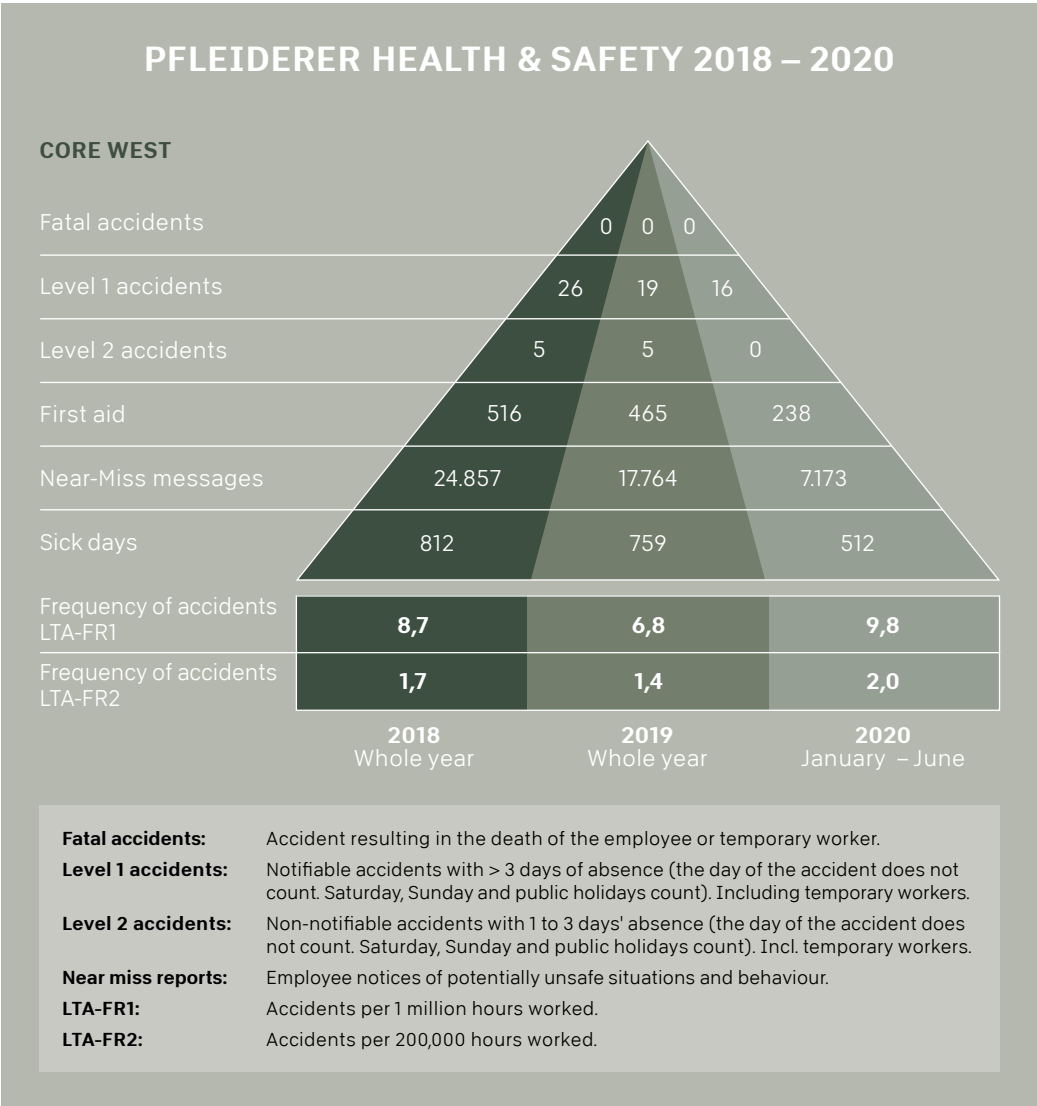
We expect our employees to act in accordance with these principles and demand that all colleagues comply with these principles.

“ We want to achieve a change in the safety culture at all Pfleiderer sites. In doing so, we are completely turning the way of thinking and dealing with the topic of safety at work upside down, moving away from a reactive approach to an active approach to all aspects of safety at work. ”

Gradislav Gligorijevic, Head of Health & Safety

The "Five minutes for safety" were introduced at all sites and in all areas. During the daily meetings, superiors take five minutes each with their employees to talk about a current safety topic. This is

intended to ensure continuous communication and to sharpen awareness of safety at work – with the aim of making this topic second nature.



SOCIAL, CULTURAL AND SPORTING COMMITMENT

The days when companies and brands could shine by their economic success alone are long gone. Pfleiderer has always taken a different path: The name Pfleiderer stands not only for sustainable and high-quality wood processing, but also for social commitment with passion.



JOB OPPORTUNITIES FOR YOUNG PEOPLE

As an employer, we offer prospects for young professionals on site:

- **Career Checker:** The programme is aimed at pupils in the 8th and 9th grades. Over three days, the young people can get to know the training world of industrial mechanics, machine and plant operators and electronic technicians and gain their first practical experience.
- **Girls' Day:** Girls aged between 13 and 16 years are given the opportunity to get a taste of technical training occupations such as industrial mechanic or electronics technician for industrial engineering.

As a company, we would be unthinkable without the people at our sites. Together with them, we contribute to the economic performance of the regions. It is a fruitful interaction. But we always strive to have a positive impact at our locations far beyond the economic aspect.

APPRENTICES GO OUT

Pfleiderer trainees play an important role as company ambassadors in the region right from the start. Some selected examples of our activities:

- Supporting activities aimed at getting young people interested in mathematics, information technology, natural sciences, technology and crafts.

- In recent years, Pfleiderer trainees have regularly taken part in the regional competition of **Jugend forscht** in Neumarkt and have distinguished themselves through excellent performance.
- **Social Day:** Trainees visit nursing homes, day-care centres, schools, animal shelters and other social institutions in order to get to know and help with the daily work routine there
- Annual **organisation of activities** with our trainees to support life assistance projects.

“ Social commitment is a matter of course for us. We often help quietly where we are needed. Publicity is not what matters to us. What is more important to us is the solidarity with the people at our locations. ”

Sandra Modest,
Human Resources Manager Gütersloh

PFLEIDERER FOR THE REGION

Pfleiderer is committed to local social, sports and cultural projects in a targeted and selective manner as well as for regional sports clubs at the respective locations.

- Pfleiderer assumes **school sponsorships** in the region.
- Annual organisation of a **Christmas bazaar** for the benefit of local social institutions.



The apprentices and training staff at the Neumarkt joint training centre with the donation cheque to the association "Für Menschen in Not e. V." (For people in need)

PLANT AND COMPANY FIRE BRIGADE

At all locations, Pfleiderer maintains its own plant or company fire brigades or self-help groups to support local professional fire brigades in the event of fire or catastrophe on the plant premises.

The beginnings of the **Gütersloh** plant fire brigade date back to 1935: when a major fire broke out at the then main plant in Holzstraße in 1936, the "in-house fire brigade" WIRUS was mentioned for the first time in public documents. Following a major fire at the Gütersloh chipboard plant, the company began to set up its own fire brigade in 1994, which is now seeking official recognition as a company fire brigade.



Magirus-Deutz S3500 Sirius (built 1960), used by the WIRUS WERKE fire brigade until 1985

WIDE RANGE OF TASKS

The tasks of the plant and company fire brigades are as wide-ranging as the training opportunities. They include preventive and defensive fire protection, environmental protection and general assistance in the event of accidents and emergencies in the company. They also contribute to internal fire protection and first aid training. Together with the fire protection officers, they carry out fire prevention inspections and support other preventive fire protection measures.



Comradeship of the Pfleiderer Gütersloh company fire brigade in February 2020

UP TO DATE

Since 2019, the **Gütersloh** company fire brigade, in cooperation with the local professional fire brigade and with the support of the Gütersloh district fire brigade association, has been striving for official recognition under the BHKG NRW and has launched a comprehensive investment and training programme to this end. As part of this programme, the Gütersloh team invested in new personal protective equipment, digital radio alarm receivers and other fire-fighting aids.

The **Leutkirch** plant fire brigade, which consists of 33 firemen and one firewoman, has excellent technical equipment and particularly benefits from the fact that many of its members are also active in local volunteer fire brigades. With their special know-how, the comrades are able to conduct radiotelephony, respiratory protection and fall protection courses themselves.

The company fire brigade of Pfleiderer **Arnsberg** GmbH was officially recognised as a company fire brigade by a decision of the Arnsberg city council in May 2019. The approval as company fire brigade was preceded by an inspection of the company fire brigade with regard to equipment, vehicles and qualification of the personnel.

At the **Neumarkt** site, one woman and 38 men in the company fire brigade, which was founded in 1935, now take care of fire protection on the widely diversified and continuously growing company grounds in three fire-fighting and two breathing protection groups. At the Neumarkt site, one woman and 38 men in the company fire brigade, which was founded in 1935, now take care of fire protection on the widely diversified and continuously growing company grounds in three fire-fighting and two breathing protection groups.



Company fire brigade at the Arnsberg site

In addition to about 20 exercises per year, the firefighters also carry out training courses for the employees in the initial fire fighting of fires. The 18 part-time fire brigade members of the Gütersloh plant fire brigade and the Arnsberg plant fire brigade each have one emergency vehicle and extensive special equipment at their disposal to perform various tasks in the field of fire and environmental protection and to provide technical assistance.

“ In the event of damage, the public fire brigade benefits from the fact that the company's emergency services know the locations and processes in the plant and can thus provide helpful support. ”

Thomas Duhme,
head of the Arnsberg fire brigade

GLOSSARY

The following overview provides brief explanations of technical terms, norms, standards, certificates and acronyms mentioned in this Pfleiderer Sustainability Report 2020.

ALTHOLZVERORDNUNG (AltholzV)

The Ordinance on Requirements for the Recovery and Disposal of Waste Wood (AltholzV) regulates the recovery and disposal of waste wood in the Federal Republic of Germany. It defines waste wood as industrial waste wood and used wood if it is waste according to the definition of the Closed Substance Cycle Waste Management Act (KrWG). The Waste Wood Ordinance came into force on 1 March 2003 and was published in the Federal Law Gazette on 23 August 2002.

WASTE WOOD CATEGORIES

The Regulation divides waste wood into categories which particularly determine the type of recovery or disposal:

Category A1

Natural or mechanically processed waste wood, practically uncontaminated, e.g. solid wood furniture without glued panels.

→ Material recycling for the production of new chipboard.

Category A2

Glued, coated, varnished waste wood without halogen-organic compounds in the coating and without wood preservatives, e.g. glued wood panels, furniture without PVC content, interior doors, floorboards.

→ Material recycling for the production of new chipboard.

Category A3

Waste wood with halogen-organic compounds in the coating without wood preservatives, e.g. furniture with

PVC edges or PVC coatings.

→ Energy recovery only in plants approved for this purpose. Chipboard production only after cleaning.

Category A4

Waste wood and waste wood treated with wood preservatives that cannot be assigned to categories A I, A II or A III due to its pollutant load, e.g. railway sleepers, pylons, rafters, windows, external doors, fences, wooden garden furniture.

→ Energy recovery, production of synthesis gas and charcoal only in plants licensed for this purpose.

Waste PCB wood

Waste wood treated with agents containing polychlorinated biphenyls (PCBs).

→ Disposal of hazardous waste

B1

Building material class according to DIN 4102-1: B1 flame-retardant

B2

Building material class according to DIN 4102-1: B1 normal flammability

B3

Building material class according to DIN 4102-1: B1 highly flammable

BLUE ANGEL



www.blauer-engel.de/uz76

Environmental label for particularly environmentally friendly products and services, introduced in Germany in 1978. In the case of chipboard, formaldehyde emission is an important criterion for the award of the Blue Angel. For boards which, due to so-called formaldehyde scavengers, have an approx. 50 % lower emission than standard boards, the environmental label RAL UZ 76 - Blue Angel is awarded because they are low-emission. The panels are certified by the RAL Institute for the award of this eco-label.

COMBINED HEAT AND POWER UNIT

A combined heat and power unit (CHP) is a modular system for the generation of electrical energy and heat, which is preferably operated at the place of heat consumption. It uses the principle of combined heat and power generation (CHP).

BREEAM

BREEAM (Building Research Establishment Environmental Assessment Methodology) is an assessment system originally from Great Britain for ecological and socio-cultural aspects of the sustainability of buildings. It was first published by Building Research Establishment (BRE) in 1990. The system was developed by a British research institute. More than 250,000 buildings are certified by BREEAM and over 1 million are registered for certification, mostly in the UK and more than 50 other countries.

CHAIN OF CUSTODY

The product chain (Chain of Custody) documents the flow of materials and raw materials through several stations to the final product. It is important for the certification of raw materials and their traceability. To ensure that an end product actually meets the requirements of the standard, certification initiatives track the flow of materials throughout the product chain.

CARB II

The California Air Resources Board (CARB) is a governmental commission of the State of California of the United States. The advisory body, which has been in existence since 1967, is internationally renowned for its particularly stringent air pollution control legislation.

CARB II is part of the US standard "California's Composite Wood Products Regulation", in force since 2010, and sets the maximum permissible value for formaldehyde emissions from wood-based materials. The CARB II class stands for an evaporation value of less than 0.009 %. The formaldehyde content may not exceed 0.05 ppm (parts per million) in the test chamber.

CE



The CE label (CE for Community of Europe = French for European Community) is not a seal of quality. The manufacturer, marketer or an authorised representative of the EU merely declares in accordance with EU regulation 765/2008 that he is aware of the special requirements for the product he sells and that it complies with these requirements. If the conformity of the product has been assessed and confirmed by a notified body, the labelling contains the four-digit identification number of the

relevant body in addition to the CE label. It is obligatory to affix it to those construction products for which the manufacturer has drawn up a declaration of performance and accordingly stands for the conformity of the product with the declared performance.

CO₂

Carbon dioxide is a chemical compound of carbon and oxygen with the molecular formula CO₂, an incombustible, acidic and colourless gas; it dissolves well in water: here it is often called "sparkling acid" in common language, especially in connection with drinks containing carbon dioxide.

CO₂ is an important part of the global carbon cycle and, as a natural component of the air, is an important greenhouse gas in the earth's atmosphere: as a result of human activities, especially the burning of fossil fuels, its share in the earth's atmosphere rose from around 280 parts per million (ppm, parts per million) at the beginning of industrialisation to 407.8 ppm in 2018. In May 2019, a monthly average of around 415 ppm was measured at the Mauna Loa NOAA measuring station in Hawaii, and the trend is still rising. This increase causes the greenhouse effect to intensify, which in turn is the cause of the current global warming. Every day, about 100 million tonnes of carbon dioxide are released into the atmosphere by human activities (status 2020).

Plants and photosynthetic bacteria absorb carbon dioxide from the atmosphere and convert it into carbohydrates such as glucose (carbon sequestration) through photosynthesis under the influence of light and absorption of water, while a large proportion of the oxygen is returned to the atmosphere.

COMPLIANCE

The term compliance stands for the observance of legal provisions, regulatory standards and the fulfilment of further, essential ethical standards and requirements that are usually set by the company itself.

CRADLE TO CRADLE (C2C)



Cradle to Cradle (C2C) is an approach to a continuous and consistent recycling management. The principle, which can also be perceived as a philosophy or system, was designed by the German chemist Michael Braungart and the US-American architect William McDonough in the late 1990s. The C2C certification (Cradle to Cradle Certified Product Standard) for recycling management systems has been awarded by the non-profit organisation Cradle to Cradle Products Innovation Institute based in San Francisco since 2010. Products are evaluated in terms of material health, recyclability, use of renewable energies, responsible use of water and social justice.

DGNB

The German Sustainable Building Council (DGNB) is a non-profit and non-governmental organisation whose task is to develop and promote ways and solutions for sustainable planning, construction and use of buildings. Its work focuses on the establishment and expansion of a certification system for sustainable buildings and the award of a certificate in the gold, silver and bronze quality levels.

DIBt

The German Institute for Building Technology (DIBt) is a technical authority in the building sector. Its most important task is the approval of non-regulated construction products and types of construction. Our DIBt report confirms for LivingBoard "...the compliance with the requirements for structural installations with regard to health protection (ABG) according to MVV TB 2017/1, Annex 8...", or more simply stated: Wood and interior finishing with LivingBoard ensures a healthy building for living and meets the legal requirements.

DIN

DIN stands for Deutsches Institut für Normung e. V. and is the national standards organisation of the Federal Republic of Germany with its headquarters in Berlin. Standards serve the purpose of rationalisation, communication, usability, quality assurance, compatibility, interchangeability, health, safety and environmental protection.

DIN EN 14322

Construction standard of the Technical Committee CEN/TC 112 "Wood-based panels" for melamine-faced panels for interior use. The standard specifies the surface requirements and dimensional tolerances for such panels.

DIN EN 312

Construction standard of the committee NA 042-02.15 AA "Wood-based panels – Mirror committee to CEN/TC 112 and ISO/TC 89" for uncoated, resin-bonded chipboards. The standard distinguishes seven types of boards: P1 - P3 for general and non-load-bearing purposes and P4 - P7 for structural and stiffening purposes.

DIN EN 438

European standard that specifies the requirements for different types of panels of high-pressure decorative laminates (HPL).

DIN 4102-1

Developed by the Building Standards Committee (NABau) and the Working Committee "Fire behaviour of building materials and components – building materials". The classification of building materials according to their fire behaviour or flammability is carried out in Germany according to DIN 4102 part 1 in five building material classes (partly also called flammability classes or erroneously called fire classes).

THINNING WOOD

Thinning wood is the term used to describe wood residues from primary production, which arise during felling and maintenance in the forest – trees felled for forest maintenance, as well as branches, rinds and end pieces that are cut off after felling, and broken wood that must be processed quickly after storms or breakage due to snow load. This wood accumulates during work in the forest and is purchased by us for the production of wood-based materials instead of being burnt.

E1

The determination of formaldehyde emissions is divided into emission classes. Emission classes provide information on the level of formaldehyde emission. Class E1 stands for an evaporation value of less than 0.01 %. The formaldehyde content in the test chamber must not exceed 0.1 ppm (parts per million).

E05

The determination of formaldehyde emissions is divided into emission classes. Emission classes provide information on the level of formaldehyde outgassing. Class E05 is a new, strict standard for formaldehyde emissions from wood-based materials, which came into force exclusively in Germany on 1 January 2020. The formaldehyde content may not exceed 0.05 ppm (parts per million) in the test chamber.

EfbV

The Ordinance on Specialist Waste Management Companies (EfbV) sets out the requirements for organisations that collect, transport, store, treat, recycle, dispose of or trade in waste as specialist waste management companies. The requirements include the organisation and equipment of the company as well as the technical qualification of the management and personnel.

F 4 STAR

The strict Japanese standard F**** (F Four Star) places the highest demands on formaldehyde emissions from wood-based materials. Class F**** stands for an emission value of less than 0.002 %. The formaldehyde content may not exceed 0.03 ppm (parts per million) in the test chamber.

FSC

The Forest Stewardship Council® (FSC) is a global, non-profit organisation with the purpose of promoting responsible forest management worldwide. FSC defines standards for responsible forest

management according to established principles, which are developed and supported by stakeholders from the environmental, social and economic sectors. For more information, please visit www.fsc.org.

FORMALDEHYDE

Formaldehyde is a colourless gas which is noticeable by its acidic and sharp smell. The substance occurs in the environment in many different ways, for example it is produced in the human body and is contained as a natural substance in wood. Formaldehyde is one of the best-known indoor air pollutants. In the case of chip-board and other wood-based materials, the substance is usually formed by the reaction of adhesives or binders with water. However, since formaldehyde does not bond completely, a small part is released into the indoor air. Glued products in interior and furniture construction are among the most important sources of formaldehyde in the air. Under normal conditions, high-quality processed wood-based materials do not cause any health risks.

FORMALDEHYDE LIMITS

Irritations and health hazards due to emissions from formaldehyde-containing products such as wood-based materials led to the definition of guideline values and legal emission limits in the 70's and 80's. Currently we can offer carriers according to the following limits: E1/E05, CARB II/TSCA Title VI, F****, F0.

UREA RESIN

Urea resins are aminoplastics (plastics) which can be hardened chemically or thermally. We use urea resin as impregnating resins for our decorative coatings.

HIGH DENSITY FIBREBOARDS

High-density fibreboard (HDF) is a fibre-board that has been compressed to a particularly high density (density over 800 kg/m³). They are preferably used as a carrier material for high loads with low material thickness, for example for laminate flooring and vinyl flooring.

HIGH PRESSURE LAMINATE (HPL)

High Pressure Laminate – or HPL for short – is a decorative high-quality laminate. It consists of a melamine-treated decorative paper layer and several core paper layers impregnated with phenolic resin, which are pressed together under high pressure. The resulting material is very hard-wearing, impact-resistant, temperature-resistant, and easy to clean. This makes HPL an ideal surface material for areas of application in which high stress, durability and hygiene requirements go hand in hand with high design standards.

HOT COATING

Hot coating is a patent-protected process in which products such as furniture, interior design and façade panels are refined by means of melt coating. Hot coating is an emission and solvent-free product which, in contrast to conventional coating, gives the surfaces refined in this way a warm character and enables exceptional matt and gloss effects as well as smart product properties. Hot coating can even be used outdoors.

HPL COMPACT PANELS

HPL compact panels are decorative high-pressure laminates according to EN 438 in thicknesses of more than 2 mm. They consist of several core layers and decorative surface layers on both sides, which are impregnated with thermosetting

resins and joined together by a high-pressure process. The boards have a decorative, very resistant surface and homogeneous, closed cut edges. As a self-supporting material, HPL compact panels are used in interior design and furniture, especially in wet and humid areas, but also wherever a special robustness of the material is required. Outdoors, they are used, for example, as garden furniture, privacy screens, façades and balcony cladding.

ILO

The International Labour Organization (ILO) is a specialized agency of the United Nations and is charged with promoting social justice, human rights and labour rights. This includes the fight against human trade.

ISO

The "International Organization for Standardization" – ISO for short – is the international association of standardization organizations and develops international standards in all areas except electrical and electronic engineering.

ISO 9001:2015

Quality management standard that describes the requirements for an organisation's quality management system that must be met in order to provide products and services that meet customer expectations and regulatory requirements. At the same time, the management system should be subject to a continuous improvement process. The proof is provided in a certification process with audits by independent certification bodies. The subsequently issued certificate is issued for a limited period of time.

ISO 14001:2015

Environmental management standard that defines globally recognised requirements for an environmental management system. It focuses on the continuous improvement process as a tool for achieving the defined environmental performance objectives of an organisation according to the method "Plan, Execute, Control, Optimise".

ISO 38200

The new international standard ISO 38200 sets out requirements for a chain of custody for wood and wood products, cork and woody materials such as bamboo, and their products. This is not a private chain of custody standard, but an ISO standard that is valid and recognised worldwide. It is about ensuring the traceability of wood or wood-based products and proving their origin and legality.

ISO 45001:2018

Occupational health and safety management standard that defines the requirements for the occupational health and safety management system of an organisation. The main focus is on preventing accidents at work and work-related injuries and illnesses, and generally protecting the health of employees at work. ISO 45001 was published in March 2018 and replaces the Occupational Health and Safety Assessment Series (OHSAS 18001).

ISO 50001:2011 (ISO 50003)

Energy management standard that describes the requirements for the energy management system of an organisation. It focuses on the continuous improvement of energy-related performance, i.e. the optimisation of energy use and energy efficiency.

JIS F****

Emission class of the Japan Industrial Standard (the Japanese equivalent of the DIN standard), which sets even stricter requirements than the E1 emission class. Products certified according to JIS A 5905 F**** emit around two thirds less formaldehyde into the room air. Pfleiderer is the first European manufacturer of engineered wood to receive this certification for its raw particleboard and medium density fibreboard.

CASCADE USE

Cascade utilisation is the multiple use of a raw material over several stages. By means of multiple, serially connected material recycling with subsequent energy recovery, raw materials or products made from them are used as long as possible in the economic system. This leads to a significantly increased ecologically and economically sensible resource efficiency.

CARBON(BINDING)

Carbon is a chemical element. It occurs in nature both in pure form (diamond, graphite, chaoite) and chemically bound (e.g. in the form of carbides, carbonates, carbon dioxide, petroleum, natural gas and coal) and has the ability to form complex molecules.

Carbon occurs in the air as carbon dioxide. Carbon dioxide is produced during the combustion of carbon-containing compounds, during respiration and volcanic activity and is utilised by photosynthesis in plants (cf. CO₂).

CIRCULAR ECONOMY

The circular economy is a regenerative system in which resource use and waste production, emissions and energy waste are minimised by slowing, reducing and

closing energy and material cycles; this can be achieved through durable design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling.

CHP PLANT

Combined heat and power (CHP) is the simultaneous generation of mechanical energy and usable heat, which are produced in a common thermodynamic process. The mechanical energy is usually converted directly into electrical power. The heat is used for heating purposes or for production processes as process heat. Combined heat and power generation allows fuel savings of up to one third of the primary energy compared to the separate generation of electricity and heat. The advantage of cogeneration is the reduced fuel requirement for the simultaneous supply of electricity and heat, which greatly reduces pollutant emissions.

LEED

LEED (Leadership in Energy and Environmental Design) is the world's most widespread seal of approval for environmentally friendly buildings, said the US Green Building Council (USGBC), which awards LEED certification. The certification system is based on a catalogue of requirements in which points are to be achieved in various subject areas: Water efficiency, energy & atmosphere, materials & resources, indoor environmental quality and innovation & design process, four different LEED plaques can be achieved: Basic certification (Certified), Silver, Gold and Platinum.

LTA-FR

Lost time accident frequency rate refers to a rate of absence from work in relation to the hours worked. FR1 stands for the lost time rate at 1 million hours, FR2 for the rate at 200,000 working hours.

MELAMINE-FACED BOARD

In melamine resin direct coating, i.e. the production of melamine-faced wood-based panels, resin impregnated papers are applied under pressure and heat directly to a carrier board without the use of an additional adhesive. Embossed press plates provide the surfaces with a structure. Melamine-faced boards are preferably used in furniture, shop and interior design. They have a decorative surface that is durable, food safe and resistant to a variety of chemical substances. The European Standard EN 14322 defines the material, requirements and properties of melamine resin direct coated panels.

MELAMINE RESIN

Melamine resins (melamine-formaldehyde condensation resins, DIN abbreviation: MF) are synthetic resins based on the compounds melamine and formaldehyde and belong to the aminoplasts. After curing, the resins form duroplastic polymers. Besides the classical melamine-formaldehyde condensation resins, modified melamine resins are also produced, such as melamine-phenol-formaldehyde resins (DIN abbreviation: MPF) and melamine-urea-formaldehyde resins (DIN abbreviation: MUF).

MEDIUM DENSITY FIBREBOARD

Medium density fibreboards are panels of wood-based materials. They consist of finely defibrated wood, which is pressed with binders to form a wood-based material that is homogeneous in both longitudinal and transverse direction. With their good profiling properties, smooth density distribution and excellent surface smoothness, MDF boards are ideal for high-quality furniture and interior design.

SUSTAINABLE FORESTRY

Sustainability in forestry refers to a principle of action for the use of resources which focuses on preserving the essential characteristics, stability and natural regeneration capacity of the forest. This forestry principle of action was first formulated for forestry, which developed at the beginning of the 18th century as a result of excessive forest destruction, but was already practised regionally in the 15th century for the same reason.

NORDIC SWAN



The Nordic Ecolabel, also known as the Nordic Swan or in Scandinavia "The Swan" for short, is an eco-label awarded by the Nordic Council of Ministers. It was launched in 1989 and now covers 63 product groups. It is the official eco-label of the Nordic countries. The Nordic Swan is a Type I eco-label (ISO 14024), as a statement about the environmental performance of products compared to competing products is made by independent third parties. Every three to five years, the respective criteria are reviewed and revised if necessary.

P1 – P7

See DIN EN 312

PARTS PER MILLION (ppm)

The English expression parts per million (ppm) stands for the number 10⁻⁶ and is used in science for the millionth part, just as percent (%) stands for the number 10⁻² for the hundredth part. For wood-based materials, the term is related to formaldehyde measurement and the definition of emission classes. In Germany, only wood-based materials with at least emission class 0.5 (E05) may be produced and

sold. The formaldehyde content may not exceed 0.05 ppm in the test chamber.

PCDA CONTROL CIRCUIT

The PDCA cycle describes the four-stage control loop of the Continuous Improvement Process: Plan, Do, Check, Act. It is also called Deming Cycle, Deming Wheel or Shewhart Cycle.

PEFC



PEFC is the largest institution for ensuring sustainable forest management through an independent certification system. Wood and wood products with the PEFC label are proven to originate from ecologically, economically and socially sustainable forestry. PEFC is the most important forest certification system in Germany: With 7.7 million hectares of certified forest area, about two thirds of Germany's forests are already PEFC certified. PEFC is a transparent and independent system for ensuring sustainable forest management and thus a kind of global "forest inspection". The acronym PEFC stands for "Programme for the Endorsement of Forest Certification Schemes".

POST-CONSUMER RECYCLING

We receive post-consumer material after recycling by our partners or our own processing in the Neumarkt plant. These are processed residues from wood processing, furniture and interior design and construction applications (timber construction, packaging and formwork construction) as well as reused products according to their life cycle. The processing of all recycled wood is carried out in accordance with the Waste Wood Ordinance, and we only use material of the highest quality classes A1 and A2 (natural or mechanically processed waste wood that is practically uncontaminated) for production.

PHENOLIC RESINS

Phenolic resins (PF resins, phenol-formaldehyde resins) are the starting material for the production of phenoplastics (DIN abbreviation: PF), duroplastic polymers, which are obtained by curing and belong to the most important duroplastics due to their temperature resistance and surface hardness. We use them for the production of decorative coatings.

POLYURETHANE

Polyurethanes (abbreviation PUR; in linguistic usage also PU) are plastics or synthetic resins. The properties of PU can be varied within a wide range. Polyurethanes are therefore used, for example, as casting resins (isocyanate resins), as polyurethane coatings and as polyurethane adhesives.

PRE-CONSUMER RECYCLING

Pre-consumer material is the sawing waste from the production of bars and planks or panels in sawmills. Chips and sawdust accumulate as waste products in the local production process and are recycled by us.

QUALITÄTSGEMEINSCHAFT HOLZWERKSTOFFE e. V.



The Quality Association for Wood-based Materials (QG HWS) awards the "Wood-based Materials Quality Label" to products from manufacturers of chipboard and fibreboard, plywood and wood-polymer materials which meet the high standards of the Community. On behalf of a notified body accredited and notified according to the Building Products Ordinance (BauPVO), QG HWS carries out selected tests and

inspections in the field of building inspection according to the procedure defined for this purpose (QM system), in particular the monitoring of the factory production control according to the harmonised standard DIN EN 13986 in the currently valid version. The quality and testing regulations laid down by QG HWS are binding for its members. They are continuously controlled by the manufacturers and by external test centres. This ensures that the products monitored by QG HWS are of good quality, durable and safe and do not endanger the health of people and the environment.

RECYCLING

In recycling or waste recovery, waste products are reused or their source materials become secondary raw materials. "Recycling" is defined as "any recovery operation by which waste is transformed into products, materials or substances either for the original purpose or for other purposes". The law only refers to "recycling" if the raw material was previously classified as "waste", otherwise it is "re-use". The colloquial use of the term recycling often covers both meanings.

RESIDUE WOOD

Residual wood is defined as the wood residues from primary production, which arise from felling in the forest, the processing of wood in industry, construction and mining. They include forest residues (thinning wood) and industrial residues, untreated wood residues from construction sites, mines (scaffolding boards, support material, etc.). This can be further processed without any problems.

CHIPBOARD

Chipboards are panel shaped wood-based materials. They usually consist of wood shavings which are pressed into

panel-shaped materials with the aid of binding agents. High-quality chipboards usually have three to five layers of different chip composition from rough to fine. They are available raw or with different surface finishes (melamine, laminate, real wood veneers). Chipboard is very versatile; in furniture construction it is the most important carrier and construction material.

SQAS

The Safety and Quality Assessment System is a standard of the European Chemical Industry Council for assessing the quality, safety, and environmental compatibility of logistics service providers.

tone from the top

"Tone from the top" is a term originating in the accounting field and is used to describe the general ethical climate of an organisation as determined by its board, audit committee and management. Having a good tone from the top is seen by business ethics experts as a contribution to the prevention of fraud and other unethical practices.

TSCA VI

Regulations on formaldehyde emissions from wood-based materials in the USA, which complement the Toxic Substances Control Act enacted in 2016. TSCA VI sets limits for formaldehyde emissions from hardwood plywood (0.05 ppm), medium density fibreboard (0.11 ppm), thin MDF (0.13 ppm), particleboard (0.09 ppm) and all finished products made from these materials.

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

The Environmental Product Declaration (EPD) covers the product life cycle from

production to use and disposal of the product. An EPD thus provides quantified environmental information from the life cycle of a product in order to enable comparisons between products with the same function.

UV RADIATION

Ultraviolet radiation, or UV, UV radiation, UV light or black light, is electromagnetic radiation in the optical frequency range (light) with shorter wavelengths than the light visible to humans. "Ultraviolet" means "beyond violet"; violet is the colour stimulus of the shortest wavelength still visible. In black-light lamps, the accompanying proportion of visible radiation is largely suppressed by a filter so that essentially only fluorescent substances light up in a scene illuminated by it.

VOC

Volatile organic compounds (VOCs) is the collective term for organic, i.e. carbon-containing substances that change into the gas phase at room temperature or at higher temperatures through evaporation (colloquially "evaporation"), i.e. are volatile.

IMPRINT

Publisher

Pfleiderer Deutschland GmbH,
92318 Neumarkt

Responsible for the publisher

Stefan Göldner

Editorial office

Klare Texte, Herbert Aichinger,
Bei der Gerasmühle 14, 90453 Nürnberg

Design

KBW BRANDS UG, Bahnhofstraße 9,
86368 Gersthofen

Photos

Archive Pfleiderer Deutschland GmbH

Eric Laignel, Michel Verdure (S. 64)

Hurtigruten / www.hurtigruten.com (S. 65)

JOACHIM GROTHUS FOTOGRAFIE (S. 60)

modul A – Stefan Röhler (S. 62)

Peter Kuczia Alek Pluta (S. 61)

Störmer GmbH & Co. KG (S. 63)

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Further information on sustainability
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www.sustainability.pfleiderer.com

Note on the language regime:

For Pfleiderer, equal rights with regard to gender, parentage, religion, race, language, homeland and origin are a matter of course and are lived. To make this report easier and more readable, we used the masculine form – this explicitly includes the feminine and gender-neutral form.

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