







SUSTAIN- ABILITY REPORT

2021

 **armacell**[®]
MAKING A DIFFERENCE AROUND THE WORLD

→ This sustainability report outlines how environmental, social and governance goals are embedded in our business and everyday work.

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Our vision is to be the leader in providing innovative, technical insulation solutions to preserve resources and contribute to global energy efficiency, thus making a difference around the world.



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ABOUT US

Armacell is the inventor of flexible elastomeric foams for equipment insulation. At Armacell, we develop innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for our customers. Our product focus is on insulation materials that enhance the energy efficiency of technical equipment, high-performance foams for lightweight applications, products made from recycled PET and next-generation aerogel technology.

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TWO STRONG BUSINESS DIVISIONS

As a multi-material and multi-product company, we operate two main businesses: Advanced Insulation (AI) and Engineered Foams (EF).

// Our AI division delivers **flexible foam solutions** to insulate technical equipment used for transporting energy. The typical applications include **HVAC, heating and plumbing, refrigeration, acoustics and passive fire protection**. The sustainable value created by our AI division lies primarily in the co-design of energy-efficient technical installations.

// Our EF division develops and produces **custom-made high-performance and light-weight foams** used across a broad range of end markets, including **wind energy, transportation, infrastructure, industrial applications, and sports and leisure**. The main sustainable value created by our EF division is the customisation of the physical properties of semi-finished and finished components that are sold to converters and OEMs.

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2021 FINANCIAL RESULTS

€676.6m

TOTAL NET SALES

€116.8m

ADJUSTED EBITDA

17.3%

EBITDA MARGIN

For more information about the financial results, please see the 2021 Annual Report.

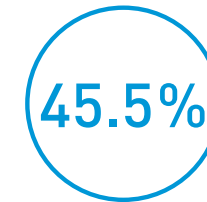
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APAC



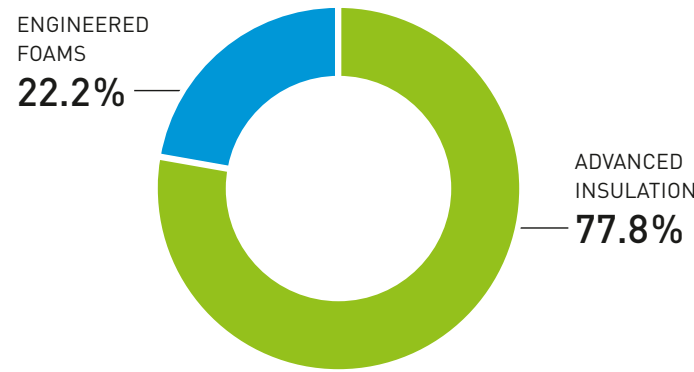
AMERICAS



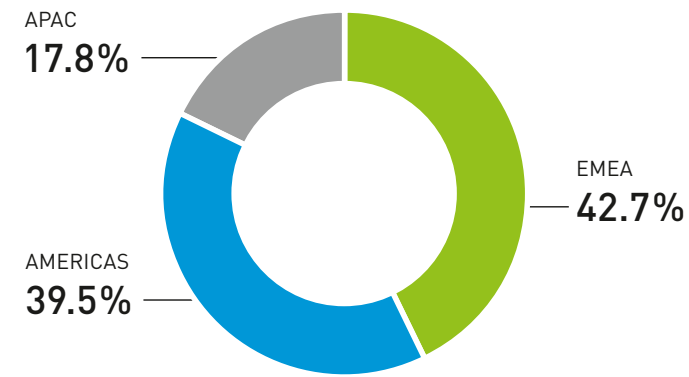
EMEA

EMPLOYEES WORLDWIDE

NET SALES BY BUSINESS DIVISION



NET SALES BY REGION



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2021 SUSTAINABILITY ACHIEVEMENTS

INVESTING IN OUR PEOPLE

70+
different nationalities

FURTHERING SUSTAINABLE GROWTH

30,000
quality tests performed

PROTECTING OUR PLANET

2+
billion PET bottles re-used

ENABLING GOVERNANCE

16
years of commitment and support to the UNGC

For information about our areas of commitment, please see page 16.

1
CORPORATE HEADQUARTERS

3
REGIONAL HEAD OFFICES

24
MANUFACTURING FACILITIES

100+
COUNTRIES WHERE CUSTOMERS ARE SERVED

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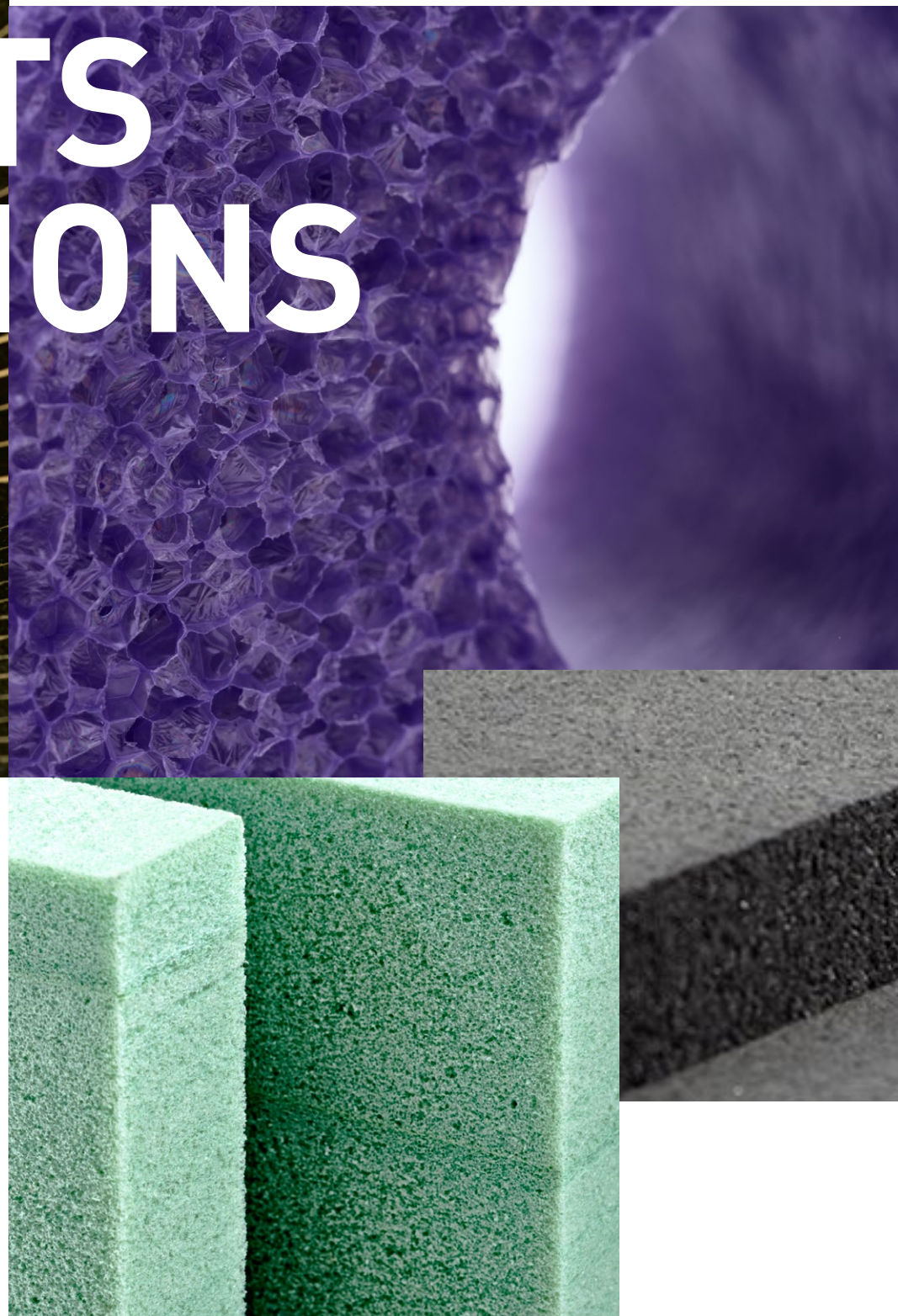
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PRODUCTS & SOLUTIONS

Armacell's innovative and safe thermal, acoustic and mechanical insulation solutions are key to a wide range of everyday applications that bring sustainable added value to people's lives. Our products and solutions help to improve the quality of life for people everywhere – and make it more sustainable.



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PROJECTS & PROGRESS

Armacell is walking the talk in a variety of sustainability-related projects. In the critical field of energy conservation, ArmaFlex® is enabling energy losses to be minimised in buildings such as Sathorn Square in Bangkok, Thailand. In the most eco-friendly means of mass transport, railways, Armacell is helping to make trains more energy-efficient and cost-effective through lightweight, fire-safe ArmaFlex® Rail insulation and space-saving ArmaGet® Rail thermal and acoustic insulation. Our wide range of foam solutions helps provide safety and answers to the challenges of space travel. Utilising our products to insulate ice cold propellants, seal out air and dust, or dampen noise and vibrations is a novel idea.



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LETTER FROM THE CEO



DEAR READERS,

On our sustainability journey, we are determined to move ahead of the expanding reporting requirements and thus continue to make a difference around the world. Our vision is to be the leader in providing innovative, technical insulation solutions to preserve resources and contribute to global energy efficiency. This is our contribution to the much-needed transition to a low-carbon economy. We are proactively supporting the 1.5°C climate target agreed at COP26 and contributing to the EU's objective to reach climate neutrality by 2050 under the European Green Deal.

As a global leader in high-performance insulation materials, we have longstanding partnerships with suppliers, customers, distributors, contractors, installers, communities, policy makers and government bodies. We recognise that every stakeholder involved in the way we do business plays an active role in our sustainability efforts and thus contributes to our ambitions for the future. Within our Armacell family, every single employee has a key role to play in ensuring safe and ethical business

practices to protect the welfare of those with whom we conduct business and of the local communities wherever we operate. That is why we are working to create ever more meaningful synergies and build stronger bridges across the value chain to make a truly positive impact across the globe.

→ Every stakeholder involved in the way we do business plays an active role in our sustainability efforts.

The significance of sustainability for our business is demonstrated by the fact that sustainable solutions that help protect the environment and mitigate climate change are at the heart of our business model. Through our products and solutions, we are addressing the global megatrends such as energy efficiency, urbanisation, lightweighting, and acoustic comfort and vibration control.

Our clear focus on sustainable operations is opening up new business opportunities. Our patented ArmaPrene™ technology offers the highest fire standard in flexible insulation and complies with international green building standards. Armacell's high-performance ArmaPET® foams made from recycled plastic bottles generate 37% fewer CO₂ emissions than foams made

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from virgin materials. They are helping to tackle the global problem of plastic waste, and are creating new insulation-focused business openings. ArmaPET® Eco50 is the first polymeric insulation material based on recycled PET to combine an outstanding environment profile with compliance with stringent building construction requirements. Moreover, our high-performance Component Foams products are supporting the automotive industry's lightweighting efforts to significantly lower its footprint and contribute to achieving net-zero global emissions by mid-century.

Armacell's sustainability efforts reflect our commitment to support ecological, human, and economic health and vitality without compromising the ability of future generations to meet their own needs. Our engagements are also a clear commitment to new legislative requirements, e.g. the European Green Deal, EU Taxonomy and CSRD, which demand that we define the business operations that are making a material contribution to protecting the climate, mitigating climate change or adapting to the impacts of climate change. In the development of innovative thermal, acoustic and mechanical solutions, we are particularly concentrating on aspects of relevance to our climate, energy consumption and carbon emissions.

Our sustainability strategy is built on four areas of commitment, which are all oriented to GRI Standards and indicators: Investing in our People [see page 18](#); Furthering Sustainable Growth [see page 27](#); Protecting our Planet [see page 38](#); and Enabling Governance [see page 46](#). These pillars support the implementation of our sustainability activities. In this context, we further focus on five of the United Nations' Sustainable Development Goals – SDG 8, 9, 12, 13 and 14 – that are intrinsically linked to our business [see page 57](#).

→ We are particularly concentrating on climate change, energy consumption and carbon emissions.

For 16 years, we have been supporting the United Nations Global Compact (UNGC) and aligning our strategies and operations to its Ten Principles. Our continuing support for the UNGC is expressed in our annual Communication on Progress Report and specific activities to comply with these Ten Principles. In

2021, we started to implement a systemic plan for achieving our longer-term sustainability goals. Our group-wide practices and procedures were further consolidated to respond to globally consistent reporting methods.

The progress we have made on our sustainability journey over the past 18 months was largely due to the efforts and commitment of the executive team and our colleagues around the world. I should like to express my sincere gratitude to all of them. Thanks to the support of our shareholders – PAI Partners and KIRKBI – we were also able to continue investing in Armacell's sustainable growth. We will pursue this journey with dedication and strong commitment.

Yours sincerely,



Patrick Mathieu
President and CEO
Armacell Group

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OUR APPROACH TO SUSTAINABILITY



Creating sustainable value for our customers is our overarching goal. Sustainability is at the heart of our business strategy and innovation efforts. Sustainability-related activities in core areas such as health & safety and environment management are deeply integrated into our day-to-day operations.

Enhanced policies and governance structure

Members of the Sustainability Steering Committee (SSC) meet frequently to discuss progress made on Armacell's goals, targets and the overall implementation of the sustainability strategy. Consisting of executive management and senior employees, the committee actively promotes a culture of sustainability throughout the Group, identifies specific areas of commitment, develops sustainability focus topics, reviews and improves ESG reporting standards, while maintaining best-in-class ESG communications and positively influencing stakeholder opinions. The SSC provides regular updates to both the Sustainability Committee of the Supervisory Board and to the Executive Team.

The Supervisory Board through its Sustainability Committee is primarily responsible for providing input on the strategic direction of the SSC. In addition, selected members of the Supervisory Board are also members of the Sustainability

Committee, the Audit Committee as well as the Remuneration and Nomination Committee (for further information [see also page 47](#)).

This enhanced governance structure ensures a constant and transparent flow of communication, provides strategic direction on sustainability metrics, and allows for effective management of impacts related to Armacell's sustainable development. It also fosters the exchange of ideas and opinions and enables access to expert knowledge and stakeholder consultation.

Our engagements on sustainability are aligned to new legislative requirements, e.g. the European Green Deal, EU Taxonomy and CSRD. We also support COP26 climate targets and the EU's climate strategies and objectives.

Armacell Group's sustainability strategy is built on four areas of commitment, which are all oriented to GRI Standards and indicators:

// Investing in our People

// Furthering Sustainable Growth

// Protecting our Planet

// Enabling Governance

These pillars support the implementation of our sustainability activities. In this context, we further focus on five of the United Nations' Sustainable Development Goals (SDG) – SDG 8, 9, 12, 13 and 14 – that are intrinsically linked to our business [see page 57](#).

In line with our strategic sustainability concept, we report each year on our environmental, social and governance performance in our Annual Report ([Annual Report 2021, pages 31 – 34](#)) and Sustainability Report.

// CODE OF CONDUCT

Our Code of Conduct governs the framework for our employees to establish a positive, customer-centric culture and expresses our compliance with the laws and regulations applicable in every country where we do business.

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SUSTAINABLE SOLUTIONS FOR GLOBAL MEGATRENDS



SUSTAINABILITY

Environmental protection and climate change mitigation are gaining ground in public awareness worldwide. That opens up opportunities for Armacell to increase its market shares in sustainability-oriented applications.



GLOBALISATION OF FOOD SUPPLY CHAIN

As the demand for fresh foods rises, the need for lightweight, cost-efficient, end-to-end insulation solutions is growing. Even during the Covid-19 pandemic, the global food supply chain has remained robust.



URBANISATION

The UN forecasts that 68% of the world's population will be urbanites by 2050. Every year, tens of millions move from rural to urbanised areas. The demand for housing is increasing energy distribution requirements and the need for high-performance insulation products.

// ARMACELL'S ENERGY-SAVING AND NOISE- AND VIBRATION-ATTENUATING SOLUTIONS ARE PRINCIPALLY ADDRESSING SEVEN GLOBAL MEGATRENDS.



ENERGY EFFICIENCY

Across the globe, ever-stricter legislative and regulatory requirements to enhance energy efficiency are driving the demand for Armacell's advanced insulation solutions. Technical equipment is the second-most important source of energy losses worldwide and effective insulation the #1 energy-saving opportunity to reduce greenhouse gas emissions.



LIGHTWEIGHTING

In many industries, lightweighting is a must to reduce CO₂ emissions and use resources more efficiently. Cars, for example, were 38% heavier in 2015 than in 1970. Reducing their weight to 1970 levels will save 1,219 megatons of CO₂ by 2050, lower fuel costs for consumers, and help achieve emission and environmental footprint targets.



ACOUSTIC COMFORT & VIBRATION CONTROL

The more urbanised societies become, the more people suffer from excessive noise and vibration. 20% of Europe's population is exposed to harmful noise levels. The megacities of Asia, Africa and the Americas are even louder. More and more noise pollution regulations require the kind of custom solutions Armacell can provide to enhance acoustic comfort and vibration control.



RENEWABLE ENERGIES

Renewable energies are instrumental in the global transition to a low-carbon economy and resource-efficient path. The green revolution, driven by the deployment of wind, solar and biomass, is accelerating at full speed and will account for almost 95% of the increase in global power capacity through 2026, with solar photovoltaic providing more than half.

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MATERIALITY ANALYSIS

Our sustainability focus

2021 was the year of implementation of the results and knowledge gained through the materiality analysis which we carried out in the second half of 2020. By evaluating scientific studies, expert opinions and other contributions that helped us to better understand the role we play in sustainable development, we gained valuable insight into how we wish to continue our journey and make real progress in our commitment to environmental, social and governance goals.

To this end, we have identified as priorities and concentrated our efforts on four main areas of commitment that are embedded in our business and everyday work [for detailed information on material topics and the relating goals and KPIs [see page 67](#)].

As a global leader in high-performance insulation materials, we develop innovative and safe thermal, acoustic and mechanical solutions for diverse industrial applications. Due to the nature of our business, our focus lies on sustainability topics relating to climate, energy and emissions. Improving data collection for our carbon footprint, including Scope 3 emissions in our reporting, as well as preparing GRI-compliant management approaches for the main topics involved, were among our key priorities as well as major achievements in 2021.

An important social topic is the increased safety awareness of our employees to ensure high health and safety standards and trouble-free operations in our 24 manufacturing plants around the world.

In more than 30 countries where we have a physical presence, our employees are working to improve the quality of life of local communities and provide them with practical support. Through their volunteering activities, which the company facilitates and encourages, our employees are mainly helping and caring for children and underserved communities or supporting cancer charities.

To realise our principles and policies, we set up a governance structure involving the highest levels of management and rolled it out to the entire Armacell Group. We further launched a whistleblower platform, operated by an external provider, which

enables stakeholders to seek advice and raise concerns about wrongdoing or breaches of law in the organisation's operations or business relationships.

Against the backdrop of global disruptions in raw materials supplies, in 2021 we reinforced our efforts to further develop these stakeholder relationships. In prioritising raw material suppliers in the first phase, we were able to evaluate our supply chain and include specific environmental, social and governance considerations and risk exposures. Our goal is to mitigate these risks, wherever possible, through proactive measures and consistent monitoring.

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INVESTING IN OUR PEOPLE



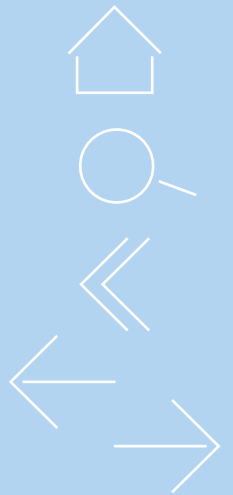
Armacell is committed to a culture where all employees are valued, and fair practices are embedded. We strive to promote inclusion and equity in order to attract and retain a diverse workforce. Besides the basic requirement of safe and healthy workplaces, employees now demand more from a company’s work culture, expect higher levels of interaction within the company, and prioritise the meaningfulness of their professional activities. As Armacell recognises its employees’ individual talents and needs, it works to cultivate and make good use of their skills. In this way, the company has strengthened its position on the labour market, enabled innovative successes through diverse teams, and became an attractive partner for its local communities.

➤ GRI 401-1, 403-1, 403-2, 403-5, 403-6, 403-7, 403-9, 404-2, 404-3, 405-1, 413-1

Workforce
3,269
 employees as of 31 December 2021

Gender diversity
23%
 of our global workforce are women

Training
18.2
 hours on average per employee



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OUR COMMITMENT TO OUR PEOPLE

// Providing a **safe place to work** and promoting **employee satisfaction** and people engagement

// Fostering **equal opportunities** to grow and succeed at all levels of the organisation and in our markets

// Supporting **local communities**



Making employee safety and well-being a priority

We understand safe and healthy working conditions as a legal and moral obligation, which at the same time contributes to our success as a business. High occupational safety and health (OSH) standards help to prevent accidents and have a positive impact on our employees' motivation and satisfaction, the quality of their work and our products, as well as on the company's reputation.

To provide a safe and healthy working environment for all our employees, we comply with the relevant national and international OSH systems. We see such legislation and mechanisms for ensuring compliance as an important component of our overall policy and management arrangements. In 2021, managers and employees were regularly trained in applying appropriate OSH management principles and methods to improve Armacell's health and safety performance. Moreover, our OSH system is being continuously improved through a training and information network that interlinks all managerial staff who are responsible for our manufacturing facilities.

Driving motivation and people development

We place a high priority on staffing management and employee positions locally. To grow our human capital, we support our employees' individual professional development, develop their skills and successfully promote young talent internally. When filling management positions, we are thus in a position to look first at internal promotions.

Regular performance and development reviews form the foundation of our reliable and resilient personnel and career development strategy. They enhance our company's performance and, at the same time, help to improve employee satisfaction.

Embedded in our culture of dialogue and engagement, global bi-annual employee surveys have been carried out at Armacell since 2012. These voluntary and anonymous surveys allow us to better understand employee experiences, improve our work environment and ensure we have a pleasant and motivating place to work for everyone. We have put great emphasis over the last years on training, collaboration and enhanced working conditions. This shows our commitment to go **Beyond Better** in fostering a culture of openness, one that recognises people and invests in their growth and satisfaction.

In 2022, we will launch a new survey to support the continuous improvement of our workplace and further promote employee engagement.

Donating time and energy around the world

An important element of our employee-centric human resources development is our support for local communities. The measures developed and implemented at site level contribute to our employees' identification with the company and their local communities.

In more than 30 countries where we have a physical presence, our employees are working to improve the quality of life of local communities and provide them with practical support. Through their volunteering activities, which the company facilitates and encourages, our employees are mainly helping and caring for children and underserved communities or supporting cancer charities.

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PROVIDING A SAFE PLACE TO WORK

GOAL: Aim for 'zero accidents'

KPI: Lost-time accidents frequency index

↗ GRI 403-1 ↗ GRI 403-9

Aiming for zero accidents every year

In striving to achieve the goal of zero accidents, in 2021, Armacell undertook a number of measures to identify potential hazards, perform specific risk assessments and increase its employees' awareness of potential risks. They included:

- // Establishing and maintaining high standards to ensure the safety of our employees, assets and people living close to our sites.
- // Identifying, analysing and managing health and safety hazards and risks in order to mitigate or, if possible, eradicate them.

- // Establishing processes and procedures to improve working conditions.
- // Educating and training employees, subcontractors and anyone entering our sites on the applicable health and safety standards.
- // Responding promptly to any employee concerns about health and safety matters.

While health and safety is a collective responsibility, at plant level, the highest occupational safety and health standards are upheld and systematically implemented by the plant manager or the local health and safety manager. In the event of an accident, they also monitor the evolution and report on the nature and incidence of such events.

The health and safety of our employees are paramount across Armacell. The generally positive trends in occupational safety statistics highlight this.

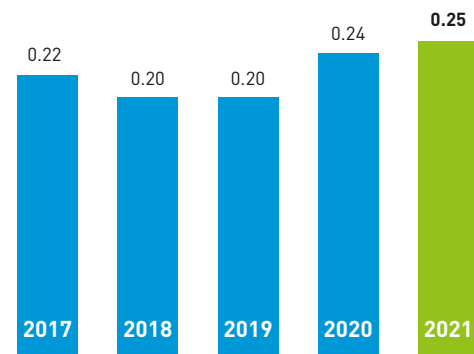
LTA Frequency Index: Between 2017 and 2021, we saw a rather stable frequency index of lost-time accidents (LTA) with an average of 0.22, which reflects a continued commitment to maintaining high standards and enforcing strict policies and regulations. In 2021, we reported an LTA frequency index of 0.25 and had no fatal incidents or irreversible injuries.

LTA Gravity Index: Over the past five years, the total number of lost workdays per 100,000 working hours has been decreasing steadily, reaching a level of 4.26 in 2021.

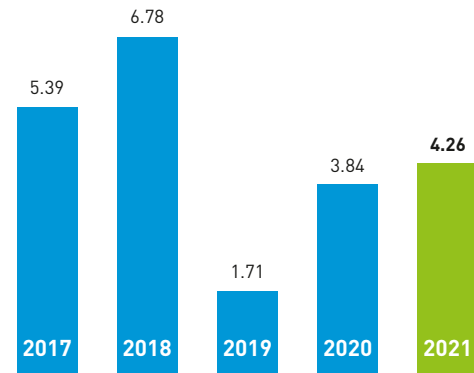
Medical Treatment Frequency Index: At 0.54, the number of accidents leading to an absence from work of ≤1 day per 100,000 working hours was equally stable in 2021.

In 2021, Armacell reported 20 fire near misses. The incidents remained within the site's boundaries and had no public impacts.

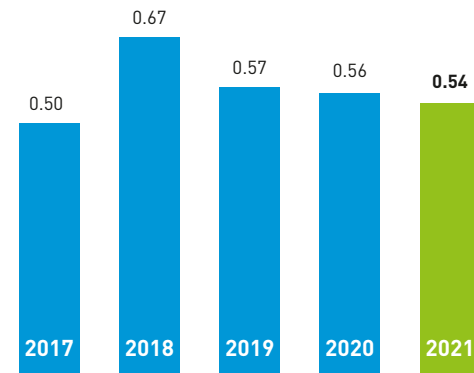
LTA FREQUENCY INDEX¹



LTA GRAVITY INDEX²



MEDICAL TREATMENT FREQUENCY INDEX³



¹ Lost-time accidents (>1 day).

² Number of lost workdays per 100,000 working hours.

³ Number of accidents with absence from work of ≤1 day per 100,000 working hours.

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PROVIDING A SAFE PLACE TO WORK

GOAL: Increase safety awareness

KPI: Training and information sessions

➤ GRI 403-5 ➤ GRI 403-1

Heightening of safety awareness

A key precondition for achieving the goal of zero accidents is a heightening of safety awareness, particularly amongst production personnel. All newcomers to the company are provided with specific safety information as part of their onboarding process. All employees working in production environments are provided with workplace-specific safety training. All external personnel are given the relevant safety information in advance, and Armacell’s regular contractors are supplied with specific safety guidelines. Of Armacell’s 3,269 employees, all but global

headquarters and regional office staff (white-collar employees) have been covered by the company’s safety training measures. In future, global white-collar employees will also be covered by the safety training programme.

“Safety First” is a practical statement that has a real echo in consolidating our strong safety and health culture. Constructive dialogue, mutual respect and complete transparency are key to creating a safe and healthy working environment, to which both our management staff and operators have contributed greatly.

Armacell Safety Day

To further increase employees’ safety awareness, Armacell has decided to stage twice-yearly a Global Safety Day from 2022 onwards. Every June and December, we intend to involve as many people as possible for several hours of training and practical onsite sessions. This way, we will have the chance to deep-dive into all the necessary topics, make the sessions interactive and ensure we emphasise practical rather than theoretical aspects. Concretely, participants will attend training on safety performance, carry out exercises on the shop floor and take part in evacuation tests. Our Polish plant in Środa Śląska was the first to host a Safety Day, allowing employees to share ideas and find concrete solutions to improve our safety protocols.



Środa Śląska, Poland: Training on safety awareness on our first Safety Day.

// HIGHLIGHTS

Five plants in the AMERICAS are certified for the Safety & Health Achievement Recognition Award Program (SHARP).

The occupational health and safety management systems of four plants (i. e. three in APAC and one in EMEA) are currently certified to ISO 45001 and the remaining ones follow the WAM Safety pillar, which is aligned to the international standards and requirements imposed by ISO.

The 2021 Platinum Safety Excellence award was offered to Armacell in the U.S. by the National Insulation Association (NIA).

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FACILITATING VACCINATION AT THE WORKPLACE

In the context of the global pandemic, Armacell placed the highest emphasis on safeguarding the health of its employees by applying strict hygiene and mask-wearing procedures at all its sites, encouraging its employees to get vaccinated, and conducting vaccination campaigns or organising self-testing facilities, e.g. vaccinations at the Pune plant in India, the Mebane plant in the U.S. and the Münster plant in Germany, and Covid self-testing at most European sites.

The Pune plant in India rolled out a two-phase vaccination drive in partnership with a leading hospital in the city. A task force of seven core members planned and obtained the necessary approvals from government authorities and sent out invitations to all eligible employees so that they could register for vaccination. The first phase of the drive was completed in June 2021, and the second phase in September 2021. A total of 250 employees and their family members were fully vaccinated. The task force also arranged for vaccination slots at a partner hospital for those who registered but were unable to attend on both dates.



FOSTERING EQUAL OPPORTUNITIES TO GROW AND SUCCEED AT ALL LEVELS

GOAL: Identify and develop future leaders

KPI: Internal promotions

➤ GRI 405-1

Developing skills

Further training and personal development measures are available to all Armacell employees around the world. The courses offered in 2021 covered topics as varied as manufacturing skills, strategic selling and shop floor safety. In addition, each Armacell facility focused on measures of particular relevance and suitability to the local employment conditions and requirements.

Through our people management system Workday, we monitor our talent management, compensation and recruitment, as well as the training and equal opportunities for development that are provided to each and every employee beyond gender or category.

Facilitating training

We are dedicated to developing the capabilities and competencies of our people through a wide variety of training programmes. In 2021, an average of 18.2 hours of training per employee was implemented, covering topics such as leadership, demand generation, technology, global internal processes and safety.

Over the past five years, we have carried out global training programmes such as Leadership@Armacell for more than 500 managers, Demand Generation for more than 300 employees and Global Process for over 100 employees. In 2021, we ran a

bi-annual IMPACT senior leader curriculum catering to a group of 10 executives who took part in a personal leadership development process to further enhance their skillset.

Depending on roles and responsibilities, employees take part in training linked to our company-specific World-Class Armacell Mindset (WAM) programme, which is of crucial importance to all business processes worldwide and has been deployed since 2013.

Valuing employees through succession planning

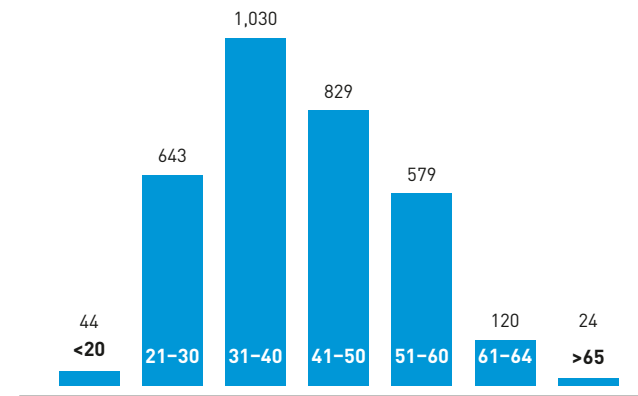
Armacell fully appreciates the advantages of a diverse workforce. They include a broader selection of qualified job applicants, a higher level of identification with the company, and differing perspectives towards customers and the markets we target. The degree of global diversity already practised is underlined by the fact that as of 31 December 2021, 3,269 employees representing 70+ nationalities were working for the Armacell Group in 42 countries across four continents. This includes regular, full-time contracts and apprentices. Since our employees are our most valuable resource, we strive to develop their talents and further their skills irrespective of gender, social or ethnic origin, sexual orientation, religion, ideology or age. Moreover, we do all we can to cultivate a work climate of mutual respect and trust to ensure diversity is lived out in practice.

At the end of 2021, 23% of our global workforce as well as 22% of our managers were women. At board level, 10% of the Armacell Management Board were female representatives. When it comes to age diversity, 44 employees (1.3%) were aged 20 and under, 643 employees (19.7%) were aged 21 to 30, 1,030 (31.5%) belonged to the age group 31-40, 829 employees (25.4%) were aged 41 to 50, 579 employees (17.7%) were aged 51-60 while 120 employees (3.7%) belonged to the age group 61-64 and 24 employees (0.7%) were part of the age group 65 and over.

Disabilities

Disability data are only partially available, and in most countries where Armacell operates, employees are not required to volunteer such information. In the countries where such information is required or can be requested, a total of 22 Armacell employees were reported as having some mental or physical disability.

AGE DIVERSITY



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FOSTERING EQUAL OPPORTUNITIES TO GROW AND SUCCEED AT ALL LEVELS

GOAL: Increase people engagement

KPI: Employee survey

➤ GRI 401-1

GOAL: Guarantee annual feedback

KPI: Employee performance reviews

➤ GRI 404-3

Continuing emphasis on local management and personnel

As a globally operating and locally oriented company, Armacell strives to hire local employees and management staff and, in this way, contribute to the local economy and social fabric. Moreover, by strengthening the company's presence in local markets and enabling a better understanding of local needs, this recruitment policy is also good for business.

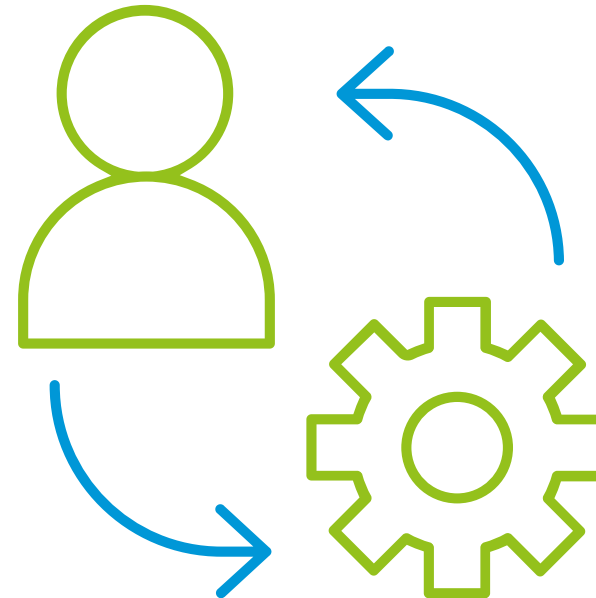
→ In 2021, Armacell reported a net job creation rate of 104, whereas the employee turnover rate stood at 19.8%.

Increasing people engagement

The ArmaWay award scheme was launched in 2013 to recognise and enhance our employees' engagement. The awards are presented to the winning teams in four categories: APPRECIATE our customers, RAISE our efficiency, MANAGE our cash, and ACT to empower our employees. In 2021, the ArmaWay Awards competition attracted a total of 183 applications. The winning teams from various sites were a true reflection of our company's global presence and proved an inspiration to many of their colleagues in promoting Armacell's achievement-oriented culture. Colleagues scoring first and second place from China, France, Germany, India, Spain, Türkiye and the USA were specifically rewarded for their efforts.

Guaranteeing annual feedback

An annual feedback process for office staff and production workers strengthens our employees' identification with and engagement for the company and is also evidence of good and effective management practice. In 2021, the completion rate was above 90%.



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IMPROVING THE QUALITY OF LIFE IN LOCAL COMMUNITIES

Supporting local communities through corporate volunteering projects

In the 30+ countries Armacell operates in, our employees are supporting local communities through a wide variety of volunteering activities. In 2021, specific corporate citizenship projects were carried out in connection with the Global Armacell Day. In pursuit of our commitment to protect the environment and tackle climate change, the 2021 event was dedicated to safety and the environment. Employees took part in activities ranging from tree planting and litter picking to raising awareness on breast cancer and supporting underserved communities like children and the elderly. While no formal assessment was carried out, to date, we have received very encouraging feedback from our employees and the local communities they have been supporting.

MAKING A DIFFERENCE AROUND THE WORLD



Participants of the Global Armacell Day 2021 at Suzhou Plant, China

IMPROVING THE QUALITY OF LIFE IN LOCAL COMMUNITIES

AMERICAS

In Chapel Hill (NC), USA, we organised a “Food Drive” to feed local families in need with fresh local products while supporting small farmers in the area. In Mebane (NC), USA, the Armacell team collected donations for Allied Churches, a local association that provides basic needs as well as resources and case management support to meet social, educational, health and other needs of the surrounding underserved community. In addition, individual donations were collected for the Breast Cancer Awareness society via the “Get Your Pink On” initiative. The team further organised giveaway cards to senior residents at Mebane Ridge Assisted Living facility.

APAC

In India, employees switched off all the lights at home for one hour and lit a Diya candle resulting in electricity savings. The goal was to create awareness of environmental concerns regarding carbon footprint.

In China, our colleagues in Yingde donated to the “Guangdong Poverty Relief Day”, which was organised by the local government and community to fight against poverty and help communities in need. The local plant has been very involved in community services since 2015. In Panyu, female colleagues organised a visit to the local nursing home to donate necessity products and Armacell backpacks to senior citizens.

In China, Armacell further supported the production of Covid-19 vaccines by donating 1,000 m³ of ArmaFlex® Class 1 insulation material to equip the chilled water pipes and air ducts of the HVAC systems used in the vaccine manufacturing process at the Lanzhou Institute of Biological Products and Chengdu Institute of Biological Products.

EMEA

In Germany, employees picked more than 500 kg of litter around the area where the Münster plant is located. A number of colleagues also took part in the Münster Marathon event, with the raised funds being donated to KiO (Kinderhilfe Organtransplantation), an organisation supporting children with various health issues that necessitate transplants.

At our Polish plant in Środa Śląska, colleagues organised a nature conservation drawing/painting contest for kindergarten children. They also collected animal food and accessories that were donated to a shelter, along with some kennels the team had built.

The Begur team planted 10 cork oak trees in the vicinity of our plant, creating a “green area” accessible to employees.

In the UK, our colleagues took part in a community litter pick around the local area, with over 20 bags of litter collected in a one-hour period. Some employees also participated in a Big Green Initiative competition, with entries open to all staff members to submit details of how they help to make our workplace more environmentally friendly. They also planted cherry trees in the plant’s garden.

➤ GRI 413-1



Chapel Hill, USA: Supporting local farmers and food sharing initiative.



Begur, Spain: Creating a “green area” for employees.

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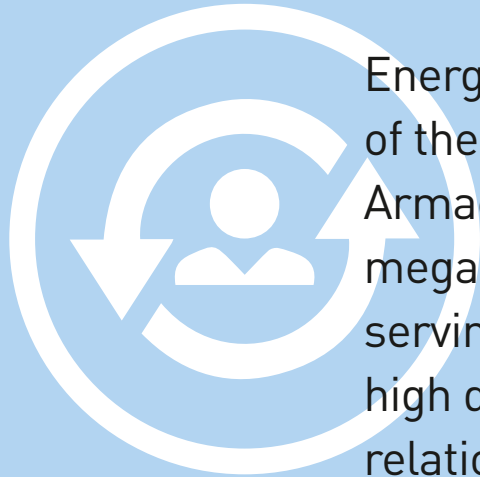
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FURTHERING SUSTAINABLE GROWTH



Energy efficiency, urbanisation, acoustic comfort and vibration control, globalisation of the food supply chain, lightweighting, renewable energies and sustainability: Armacell’s product portfolio is strategically oriented to respond to these global megatrends. We place the highest priority on high-quality, reliable, resource-conserving and compliant products at the core of our business model. The resulting high degree of customer satisfaction is the basis for lasting and stable business relationships and the key to Armacell’s sustainable growth.

➤ **GRI** 201-1, 201-2, 302-5, 416-1, 416-2

Higher performance

5x

superior thermal performance offered by ArmaGel® than competing insulation products

Eco-cycle

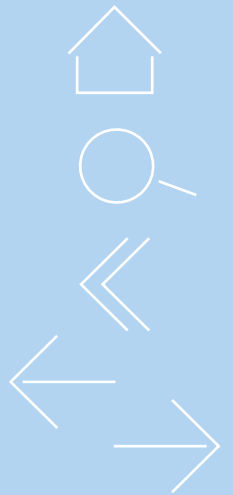
1st

manufacturer of elastomeric insulation materials to provide a return service for off-cuts

Circular manufacturing

2

billion PET bottles re-used to manufacture ArmaPET® products



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OUR COMMITMENT TO A SUSTAINABLE BUSINESS

// Investing in **low-impact** and durable performance products

// Maintaining the **highest product quality standards** and extending our portfolio of sustainable solutions

// Meeting **quality and regulatory requirements**

At Armacell, we focus on creating sustainable value and measure our success by the added value our innovative solutions deliver to a diverse range of industries – benefits of societal and ecological significance. Our vision is to be the global leader in providing innovative technical insulation solutions and components to save energy and make a difference around the world. We are constantly looking for ways to go Beyond Better in what we offer, either through the use of alternative materials, adoption of green solutions or proposal of bio-based products. In recent years, we have proactively developed and commercialised sustainable products and continued to support innovative research and development (R&D) through investments totalling around €40 million.

Our partnerships with research-driven organisations, such as Sweetwoods to create added value for lignocellulosic biomass and PlastiCircle to improve plastic packaging waste collection, transport, sorting and recycling rates, are a testimony to our commitment.

Wherever possible, we integrate elements of sustainability at every level of production. At our Środa Śląska plant in Poland, for example, 99.8% of the polyethylene process scrap is recycled and returned to the production process.

→ We are constantly looking for alternative materials, green solutions or bio-based products to serve our customers globally.

Armacell was the first manufacturer of flexible technical insulation materials to carry out comprehensive life cycle assessments (LCAs). Based on these, we publish environmental product declarations (EPDs) certified by Institut Bauen und Umwelt (IBU). Through this 'sustainability passport' for construction products, Armacell is supporting the green building trend and has committed itself to a level of product transparency that is unique in the industry.



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ARMACELL SUSTAINABILITY REPORT 2021

SUSTAINABLE INSULATION PRODUCTS

Armacell's trusted products and solutions meet the strict demands of healthcare facilities, provide the comfort sought by the hospitality sector and meet the latest safety requirements of the transport industry. ArmaPET® products help preserve the future and are used in the production of climate-friendly energy.

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INVESTING IN LOW-IMPACT AND DURABLE PERFORMANCE PRODUCTS

GOAL: Increase customer satisfaction

KPI: Interact with customers on ESG topics

[GRI 201-2](#)

At Armacell, we constantly innovate, improve and rethink what we are doing with a focus on sustainable, profitable growth through the development and manufacturing of products that create long-lasting value for our stakeholders (for more information [see page 29](#)). We offer high-quality products and system solutions and provide our customers with the know-how, assistance and support they need for their installation and application. The support and services we offer are making a real difference in applications around the world through time-saving help in obtaining green or wellness building certification, practical calculation tools, various training measures or a Building Information Modelling (BIM) plug-in, for example. In combination with low-impact and durable performance products that are eligible for international green building certifications, this portfolio of work-supporting services heightens customer satisfaction with Armacell products.

Throughout the world, construction is one of the most raw-material and energy-intensive industries. The building sector is the single largest consumer of raw materials worldwide and

the leading producer of greenhouse gas emissions. Some 50% of all raw materials are used to build and maintain buildings, while 35-40% of greenhouse gases result from the construction, use or disposal of buildings. In the industrialised nations, a huge amount of energy is consumed in transport and manufacturing industry, but the building sector accounts for around 40% of Europe's energy consumption. That is why providing the right tools for the selection of the ideal insulation material for durability and energy efficiency is at the heart of our products and value proposition.

Armacell products and solutions are fully integrated with the world's leading sustainability, green and well-being methods and standards for master planning projects, infrastructure and buildings. Through our compliance cards, we assist designers, architects, engineers, consultants and developers by providing clear information about which features of our ArmaFlex® insulation products are of relevance to each certification scheme's specific categories. The respective requirements are listed in detail along with how our product achieves compliance. This saves construction companies, building owners and operators and installation firms a great deal of hassle in applying for LEED®¹, BREEAM®² or WELL Building Standard³ certification.

Going Beyond Better

As a pioneering provider of industry-leading solutions in insulation technology, we continuously invest in the products and solutions that provide sustainable value for our highly

diversified global customer base. Our products and solutions are delivering the value-enhancing answers that markets are demanding. Answers that we develop in close collaboration with our customers. What they need is covered by our mix of fit-for-purpose products and made-to-measure solutions. Our strategic development further addresses seven global megatrends that are shaping the world. As societal needs evolve, we become more conscious about sustainability and the impact of our exponential population increase and demands. This motivates us to be more aware of areas where we can make a difference.

To further increase customer satisfaction, we always strive to go [Beyond Better](#) in providing an attractive offering – know-how, assistance and support – for users of our products and systems, as well as in responding to their needs and expectations. We recognise that our customers play an active role in our sustainability journey and strongly contribute to our ambitions for the future. That is why we are currently working to incorporate environmental, social and governance elements into our annual customer survey. In order to take sustainability aspects into account in all areas of the value chain, we interact with our customers to find out how they perceive future trends. In this way, we can match the global trends we observe with customer requirements. This enables us to verify the basis from which we continue to write the success story of our insulation products. Future reporting will provide insights into the attitudes, perceptions and expectations of our customers for the years to come.

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¹ LEED® stands for Leadership in Energy and Environmental Design™. LEED®, and its related logo, is a trademark owned by the U.S. Green Building Council®.

² BREEAM® stands for Building Research Establishment Environmental Assessment Method and is the world's leading science-based suite of validation and certification systems for a sustainable built environment. BREEAM is a registered trademark of BRE (the Building Research Establishment Ltd. Community Trade Mark E5778551).

³ The WELL Building Standard® is a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being. The WELL Building Standard, and its related logo, is a trademark of International WELL Building Institute pbc in the United States and other countries.

MAINTAINING THE HIGHEST PRODUCT QUALITY STANDARDS

GOAL: Enhance safety, quality and material efficiency in our solutions

KPI: Number of quality tests performed

↗ GRI 201-2, 416-1, 416-2

Armacell's market leadership in insulation materials and high-performance foams is a commitment to consistently high-quality standards, which also enhance the safety and sustainability of our products. Certified quality management systems ensure compliance with strict national and international requirements. Around 100 researchers and technicians at sites in Belgium, Canada, China, Germany, and the USA are driving innovation in quality-oriented production, product performance, new materials, and pioneering technologies.

To enhance safety, quality and material efficiency, we conduct around 30,000 mechanical, physical, chemical and fire-relevant tests every year at our main testing centre in Münster, Germany. Other Armacell facilities around the world also have state-of-the-art product testing centres. Building on the sound foundations of long-lasting quality, Armacell develops innovative products and processes that lead to a continuous expansion of our sustainable solutions' portfolio.

Forging research partnerships

Armacell has entered into multiple EU-wide and global partnerships to improve the sustainability of plastics. For example, we were a research partner in the EU-funded PlastiCircle project to improve plastic packaging waste collection, transport, sorting and recycling rates across Europe. We are also a partner in Operation Clean Sweep®, a global product stewardship programme aiming to drive best practices in plastic material loss

management. By signing up to this programme, we made a commitment to adhere to best practices and implement systems to prevent plastic pellet loss, thus protecting the aquatic environment. At our Thimister plant, we have optimised our housekeeping and pellet containment practices and have invested in new cleaning devices to prevent plastics from spilling into the environment.

Armacell works closely with universities and research institutes around the world:

- // EU-funded research project PlastiCircle (improving plastic packaging waste collection, transport, sorting and recycling)
- // EU-funded research project Sweetwoods (testing of lignin-based recipes)
- // Luxembourg Institute of Science and Technology (plasma deposition)
- // University of Aachen (foamability studies)
- // University of Bayreuth (steam chest moulding)
- // University of Sheffield (acoustic modelling research)
- // CellMat Technologies (foaming processes optimisation)

// CE MARKING

The first technical insulation materials with the CE (European Conformity) mark, e.g. Armacell's ArmaFlex® range, have been available since early 2012. Through CE marking, Armacell indicates that the construction product is in conformity with the applicable requirements set out in a harmonised European standard or European technical assessment. Armacell has made significant progress in the CE-making procedure for its elastomeric and polyethylene insulation products in all European plants.



We are members of various insulation, energy and environment associations, including Renovate Europe, an EU-wide campaign that focuses exclusively on ambitious renovation of the building stock, and the European Alliance of Companies for Energy Efficiency in Building (EuroACE). We are also founding members of CEFEP, the European FEF and PEF interest group, and of the EiiF, the European Industrial Insulation Foundation.

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TESTING FOR QUALITY

By building on the sound foundations of long-lasting quality and innovation, Armacell's growth strategy has proved to be both successful and sustainable. At Armacell facilities around the world, state-of-the-art product testing centres are deployed to ensure our high-quality standards are maintained and improved. Around 30,000 mechanical, chemical, physical and fire-relevant tests are conducted every year at our main testing centre in Münster, Germany. Different product properties are tested:

// **Mechanical:** Determining the haptic appearance and performance of materials to external mechanical influences during installation and subsequent operation.

// **Physical:** Defining physical properties, e.g. water vapour transmission, thermal conductivity, sound absorption and cell structure and density of the foam.

// **Chemical:** Measuring and calibrating the content and mix of chemical components and substances paramount to application performance, e.g. mitigation of corrosion under insulation.

// **Fire-relevant:** Calibrating the fire performance in accordance with multiple standards representing diverse fire events, e.g. room corner test, car interior and rail applications.

EXTENDING OUR PORTFOLIO OF SUSTAINABLE SOLUTIONS

GOAL: Extend sustainable product portfolio

KPI: New products with clear sustainable advantage

↑ GRI 201-2, 302-5

The most conclusive proof of our sustainable business model comes from the contribution our solutions make to mitigating climate change and conserving natural resources. They do this by effectively enhancing energy efficiency, as evidenced by the following product applications. ArmaFlex®, ArmaFix™ NH and ArmaLight™ Tubolit Split & DuoSplit meet all individual requirements for insulating refrigeration, air-conditioning systems and HVAC equipment. A typical HVAC system accounts for 40% of the total energy consumption in commercial buildings. That makes improving insulation one of the most energy-efficient ways of reducing CO₂ emissions. In fact, cost-effective remediation of insufficient, missing or damaged industrial insulation material could reduce energy use by the equivalent of 10 million households in the EU alone.

Our tailor-made deep-freeze solutions provide systems with dependable long-term protection from energy losses and condensation. These and other products provide a clear sustainability advantage.

Supporting green buildings

As the first manufacturer of flexible technical insulation materials to present Environmental Product Declarations (EPDs), Armacell has been setting high standards in the industry since 2015. EPDs, which are based on an independent life cycle assessment (LCA), demonstrate the environmental friendliness of products and give customers transparent insights into all stages of a product's life cycle. An EPD entails an analysis of

the raw materials used, the resources consumed, packaging, transportation, disposal and the waste data. Armacell's EPDs are crucial for green and sustainable buildings, as they help constructors, architects, designers, specifiers and property owners to meet the requirements of industry rating and certification schemes, such as LEED®, BREEAM®, DGNB (linked to the German Sustainable Building Council) and the Home Quality Mark (HQM).

Our compliance cards provide clear information about which features of our ArmaFlex® insulation products are of relevance to each certification scheme's specific categories. The respective requirements are listed in detail, along with how ArmaFlex® achieves compliance. This saves construction companies, building owners and operators and installation firms a great deal of hassle in applying for certification.

The ArmaFlex® EPDs have a binding, universally valid basis, were drawn up by experts in cooperation with Armacell and have been independently verified. This way, we provide our customers with reliable information for planning sustainable building projects. The benefits of EPDs for all those involved in the construction process are obvious:

// ARCHITECTS, SPECIFIERS AND THOSE INVITING TENDERS

use EPDs as the basis for calculating the eco-balance of a building, which is a prerequisite for its green certification. Alongside the technical performance, costs, acceptance and aesthetics, environmental aspects are the key criteria when selecting construction products. Ultimately, EPDs are part of invitations to tender and the method by which environment-related requirements for planning the building are managed.

// REAL-ESTATE DEVELOPERS AND BUILDER-OWNERS

give investments and property a higher evaluation when EPDs and green certification are presented. Thus, it is now easier to market property that is designed and certified as sustainable.

// WHOLESALERS, RETAILERS AND USERS

find verified environment-relevant product information in EPDs and benefit from the added value resulting from sustainability in the building sector.

In North America, we published two new Environmental Product Declarations for our AP/ArmaFlex pipe and sheet and roll insulation. These third-party documents are the first EPDs released by any elastomeric foam insulation manufacturer in the USA. ArmaFlex® insulation is dust- and fibre-free, free of chlorofluorocarbons (CFC) and free of hydrochlorofluorocarbons (HCFC), with zero ozone depletion potential (ODP).

// PROCESS OF EPD CREATION



Selection of specific Product Category Rule (PCR) for the studied product



Conducting a Life Cycle Assessment (LCA) study according to the PCR, ISO14025 and EN 15804



Creation of the EPD document



Verification by programme operator



Submission and publication of EPD

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Enhancing climate-protecting energy efficiency through our solutions

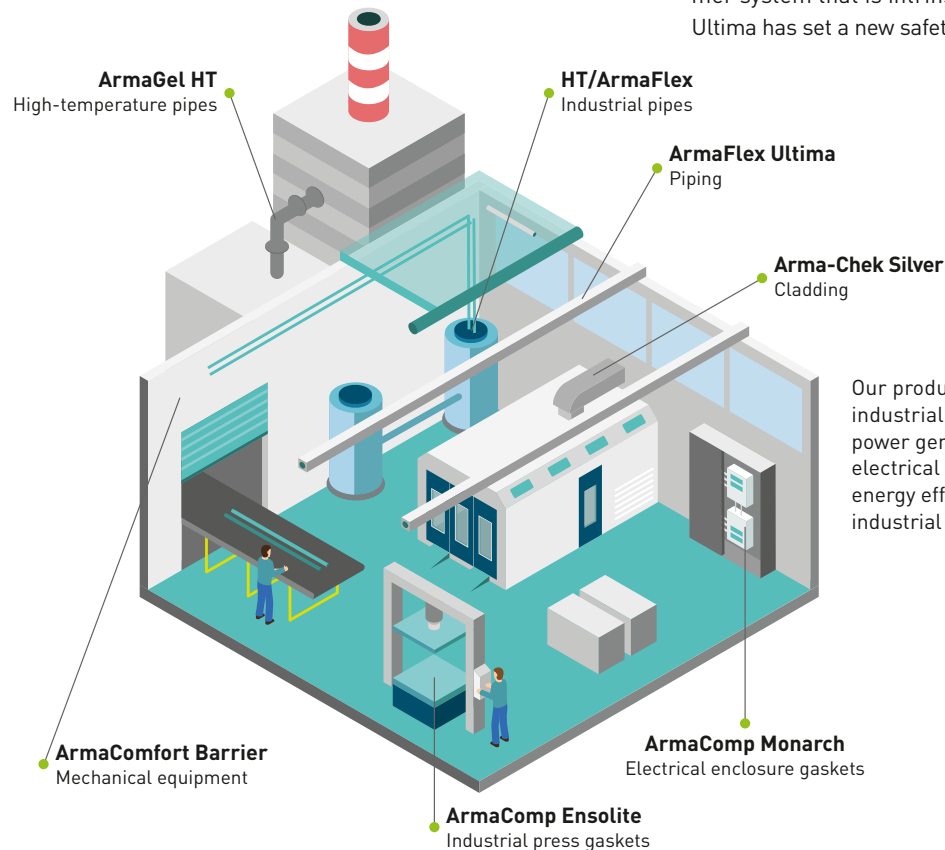
ArmaFlex® is the family-brand name of a wide range of insulation products that are enhancing the energy efficiency of commercial buildings around the world. HVAC ducts and systems, hot and cold water, heating, plumbing and refrigeration systems, acoustic and vibration control solutions: ArmaFlex® materials protect all kinds of technical equipment against energy losses.

140 times more energy is saved in an ArmaFlex® product life-time than required to manufacture it. Moreover, based on the comprehensive life cycle assessment, the energy input needed to manufacture ArmaFlex® has paid off after just 50 days.

ArmaFlex® Ultima

Our patented ArmaPrene™ technology offers the highest fire standard in flexible insulation, is PVC-, antimony- and bromine-free, and complies with international green building standards. By incorporating this technology, which is based on a polymer system that is intrinsically flame-retardant, ArmaFlex® Ultima has set a new safety standard in technical insulation. It is

the first flexible insulation material that fulfils the requirements of Euroclass B_L-s1,d0. By generating 10 times less smoke than standard products and thus reducing smoke density, ArmaFlex® Ultima gives building occupants an unsurpassed chance of safe evacuation in the event of a fire. Stricter regulations are increasingly addressing the “safety in fire” aspect of equipment insulation materials. Smoke development is the most critical safety factor as it poses the greatest threat to the health of building occupants and is responsible for at least 50% of fire damage to property. ArmaFlex® Ultima has a service life of more than 50 years, which showcases the capability of our products to create sustainable value through long-lasting solutions. The insulation performance of ArmaFlex® Ultima is almost entirely maintained over its long service life and can only be restricted, in practical terms, by the service life of the equipment or building where it is installed.



Our products are used in manufacturing industrial equipment, pharmaceuticals, power generation, packaging, logistics and electrical enclosure systems. They enhance energy efficiency and lower noise levels in industrial facilities.

Next-generation aerogel insulation technology

Armacell is utilising aerogel technology to produce its ArmaGel® blanket product range. ArmaGel® HT, our next-generation aerogel blanket technology, is flexible and bendable, ultra-thin and ultra-light, environmentally safe, delivers superior thermal performance, and is a reliable solution for high-temperature applications. Its hydrophobicity and breathability keep pipework and mechanical equipment drier for longer and enhance protection against corrosion under insulation. It is also compliant with ATM C1728, the standard specification for flexible aerogel insulation that indicates the mechanical, chemical and property requirements of the flexible aerogel insulation.

ArmaGel® HT is one of the best-performing insulation materials, up to 80% thinner than competing insulation products at the same thermal performance. This makes it simpler to install and contributes to reducing shipping volumes and plant footprint. ArmaGel® HT is environmentally safe and disposable in approved landfill areas.

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EXTENDING OUR PORTFOLIO OF SUSTAINABLE SOLUTIONS

ArmaPET®

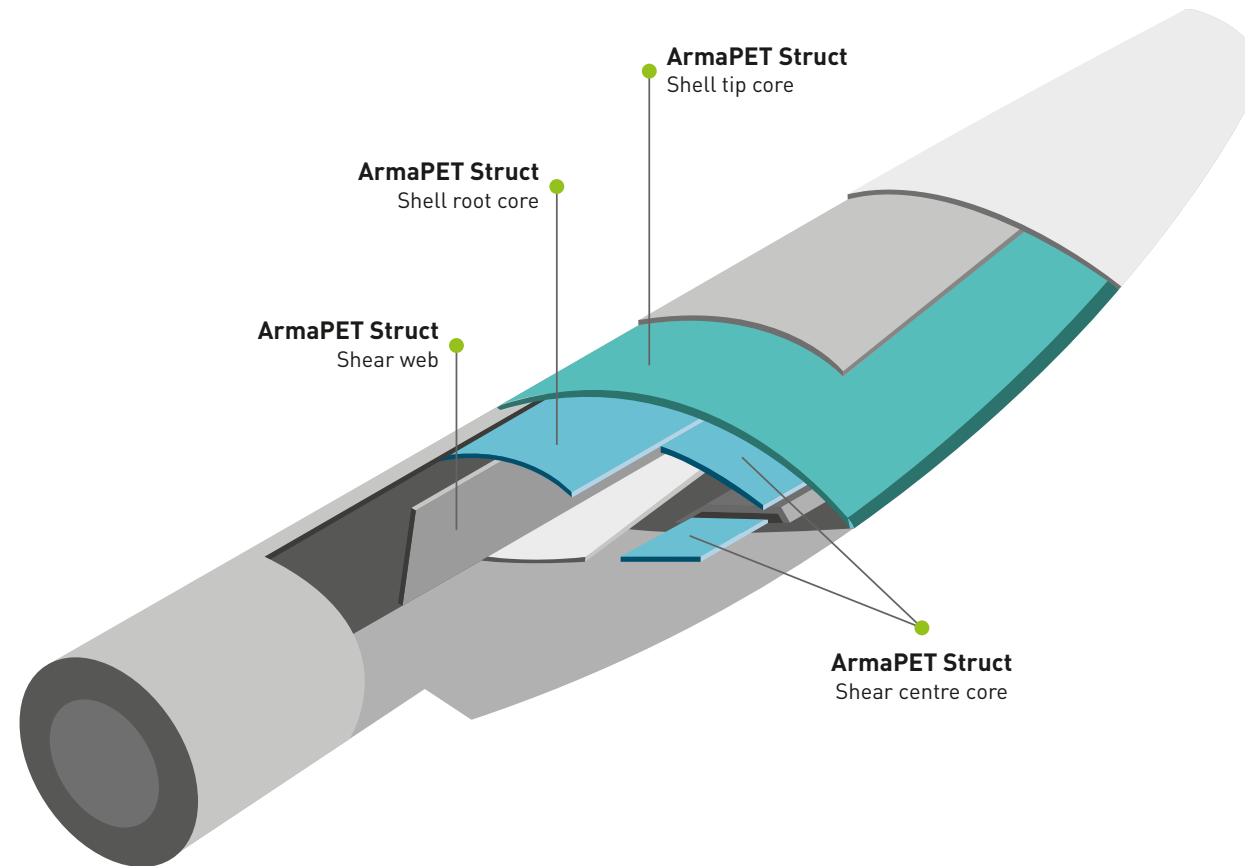
Renewable energy is critical to reducing climate-harming fossil fuel consumption. Armacell's ArmaPET® products are made from recycled PET bottles and used, for example, in the construction of the rotor blades, nacelles and spinners of wind turbines and the bullet trains (e.g. China's CRH3A) that are persuading passengers to switch from flying to more climate-friendly rail travel.

Armacell also plays its part in working towards a circular economy model by tackling single-use plastics waste. Our plants in Brampton, Canada; Suzhou, China; and Thimister-Clermont, Belgium all produce PET foam and utilise the plastics circular economy model, a closed system that promotes the re-use of plastic products, generates value from waste and avoids sending recoverable plastics to landfills.

After the plastic bottles have been collected, they are sorted and then crushed into flakes, which Armacell buys as a raw material. This is followed by an in-house granulation process and, finally, extrusion foaming. In this way, used plastic bottles are converted into long-lifetime, high-value foam core materials for composite sandwich structures. Our PET foams are made without ozone-depleting HFC or CFC blowing agents. Through the use of recycled raw materials and internal scrap re-use alike, our process reduces CO₂ emissions by up to 37% compared to a standard process using virgin resin.

→ ArmaPET® products are made from recycled PET bottles.

Our thermal and acoustic insulation solutions are used in manufacturing wind turbine blades, in diverse energy industry systems and in a variety of applications involving the production or transformation of energy.



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EXTENDING OUR PORTFOLIO OF SUSTAINABLE SOLUTIONS

First-ever EPD for PET-based insulating foam

ArmaPET® Eco50, the first polymeric insulation based on 100% recycled plastic bottles, combines an outstanding environmental profile with today's stringent building construction requirements. As part of the ArmaPET® Eco range, this low-density product solution is optimised for energy-efficient structural applications. With a density of just 50 kg/m³, ArmaPET® Eco50 achieves an outstanding insulating performance of 0.028 W/mK at 40°C. The material's excellent water resistance and closed-cell structure ensure stable thermal conductivity, even after many years of service. As these features also prevent moisture penetration, mildew and rot, they provide long-term corrosion protection while keeping maintenance to a minimum.

→ ArmaPET® Eco50 is used in building envelopes, roofs, floors and internal partitions, as well as in load-bearing applications.

Thanks to Armacell's patented rPET technology, ArmaPET® Eco50 is based on 100% recycled PET and fully recyclable at the end of its life cycle. The insulation solution thus contributes to a sensible use of plastic waste and helps to reduce energy consumption and CO₂ emissions during the production process.

In March 2022, Armacell presented an EPD for ArmaPET® Eco50. Certified by IBU, this EPD provides transparent, independent and reproducible analysis of the environmental impacts of ArmaPET® Eco50 and detailed information, including data and figures, as well as the extent to which the product contributes to the greenhouse effect, acidification, over-fertilisation, smog and depletion of the ozone layer. The information provided is based on the international ISO 14025 standard and the European EN 15804 standard for construction products. The declaration is a cradle-to-gate EPD and registered on the IBU database system. Following the publication of this assessment, ArmaPET® Eco50 can claim to be the first-ever EPD for PET-based insulating foam.

Ensuring beneficial acoustics

Noise has become one of the greatest environmental problems of our times. Acoustic insulation in buildings means ease and comfort, as well as privacy, intimacy and a sense of security. ArmaComfort® products are highly effective, easy-to-install noise control products, especially suitable for insulating rain-water and wastewater pipes. In comparison to traditional products, these multi-layer acoustic insulation materials achieve greater noise reduction with thinner wall thicknesses. They also display very good fire behaviour: ArmaComfort® AB Alu and ArmaComfort® AB Alu Plus achieve the best fire class rating

[B-s1,d0] for organic products in the European Single Burning Item (SBI) test. The ArmaComfort® AB range is lead-free and bitumen-free.

Delivering optimal performance at lower thicknesses than traditional materials, ArmaSound® RD is a uniquely advanced open-cell acoustic insulation material. Depending on the thickness chosen, ArmaSound® RD offers excellent sound absorption behaviour across the frequency range. With a density much greater than traditional acoustic absorption materials, ArmaSound® RD is also suitable for some applications that may call for an acoustic airborne noise barrier. ArmaSound® RD provides a dust- and fibre-free solution that is suitable for use in a range of industrial applications and demanding environments.



ArmaPET®



ArmaSound®



ArmaComfort®

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MEETING QUALITY AND REGULATORY REQUIREMENTS

The regulatory trends of relevance to Armacell are mainly those aimed at saving energy, reducing CO₂ emissions, mitigating noise pollution, and improving fire safety. Increasingly strict regulatory requirements have been laid down by international treaties, government and industry regulations, and third-party certifications. Possibly the most influential moves have come from the European Union, with its aim of cutting CO₂ emissions by at least 55% by 2030, and the 2021 UN Climate Change Conference (COP26), with its prime goal of securing global net zero by mid-century and keeping 1.5°C within reach. Mitigating climate change really matters for the future of our planet. Armacell's energy-saving solutions contribute to these sustainability goals and are themselves manufactured in an energy- and resource-efficient manner.

The ISO 9001 standard is based on a number of quality management principles, including a strong customer focus, the motivation and implication of top management, the process approach and continual improvement. Using ISO 9001 helps to ensure that customers get consistent, good-quality products and services. 20 of our plants have an ISO 9001 certification.

Most of Armacell's insulation products in the USA, e.g. ArmaFlex® or ArmaLight™ Tubolit, are GREENGUARD Gold Certified. This standard is designed to define low-emitting materials suitable for environments where people, and in particular children and sensitive adults, spend extended periods of time, e.g. in schools or healthcare facilities. GREENGUARD certified products are screened for more than 10,000 volatile organic compounds.

Sourcing of materials

As part of our global sourcing strategy, we have a strong preference for procuring materials locally or at a regional level. That is why, besides the reliability of a supplier and the quality,

availability and pricing of raw materials, short transportation distances play an equally important role in our procurement process. Where feasible, local suppliers are preferred in order to keep the environmental impact of transportation as low as possible.

For our fully recyclable thermoplastic products, up to 30% of materials from our own production are re-used in the manufacturing process. In addition, for our ArmaPET® foam product portfolio, which is based on recycled PET, we rely on our patented rPET technology to convert used plastic bottles into long-lifetime, high-value foam core materials for composite sandwich structures. Since production started in 2010, we have used more than two billion recycled PET bottles in ArmaPET® foam production. For our elastomeric acoustic insulation portfolio, we re-use production waste and convert it into sound insulation products, such as ArmaSound®, closing the loop and

remanufacturing the waste into a full-value solution. For our multilayers ArmaComfort® AB range, we produce our own acoustic barriers and pair them mainly with our elastomeric ArmaFlex® foam.

Our compliance cards for international green building certifications such as LEED®, BREEAM® or WELL® also confirm that materials used in our production were sourced responsibly and in accordance with ISO 14001 standards for an effective environmental management system.

When it comes to packaging, Armacell products belonging to the ArmaFlex® family brand, for example, are packaged in cardboard boxes and transported on reusable pallets. Over-sized rolls of sheet material are packaged in polyethylene foil. The cardboard boxes are generally recycled through our partner's Interzero's dual system.



// COMPLYING WITH EU'S REACH REGULATION

All our products are assessed for health, safety, environmental and social impact considerations. Where applicable, both the raw materials used and the products themselves are regularly analysed and evaluated to ensure that there are no declarable components above the respective threshold values. In addition, material safety data sheets are created for products that are available on the market. At Armacell, we exclusively use verifiably registered and approved substances and mixtures and fully comply with the European Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

As for the environmental or social impact of our products, Armacell products create added value by saving energy, and we regard them as making an intrinsically positive impact. Furthermore, presenting EPDs for our core products allows us to stand by our vision and mission and equally provides third-party verification, documenting the environmental characteristics of our products and making our production process more transparent.

Furthermore, along with environmental and social considerations, safety is one of our top priorities. In 2021, we did not record any incidents, fines, penalties or warnings of non-compliance with industry regulations, standards or applicable laws regarding the health and safety impacts of our products and solutions.

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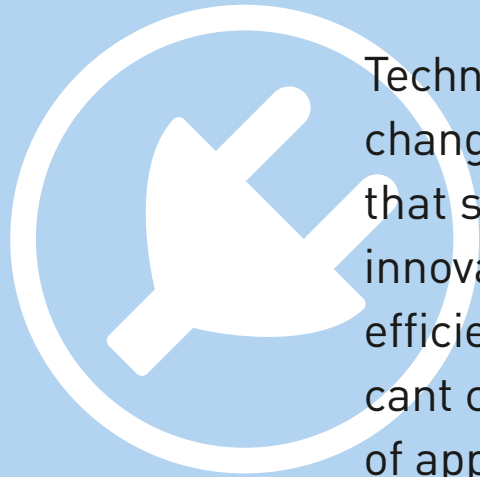
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PROTECTING OUR PLANET



Technical insulation is our contribution to mastering the challenge of global climate change. Our purpose is to make a difference in our industry by designing solutions that save energy, minimise noise and reduce vibrations. We strive to constantly innovate and work relentlessly to tackle megatrends such as urbanisation, energy efficiency and acoustic comfort. Armacell products and solutions make a significant contribution to reducing energy consumption and CO₂ emissions in a variety of applications. Many of these products help our customers to make a material contribution to climate protection through the products they manufacture. That is why our innovative thermal, acoustic and mechanical solutions are also our strongest ESG differentiator.

➤ GRI 301-2, 302-1, 302-4, 302-5, 303-5, 305-1 to 305-3, 305-5, 306-1 to 306-5

Climate-friendly

37%

fewer CO₂ emissions through manufacturing products using recycled PET flakes

Saving energy

140x

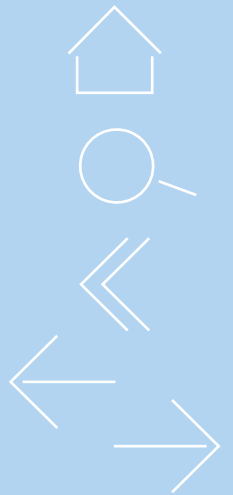
more energy saved in an ArmaFlex® product lifetime than required to manufacture it¹

Recycling waste

+53%

of production-related waste recycled over the past 5 years

¹ Assuming a service life of 20 years for cold applications and / or 30 years for hot applications, this ratio was calculated based on very conservative assumptions.



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OUR COMMITMENT TO THE ENVIRONMENT

// Contributing to the **transition to a low-carbon economy** and reducing CO₂ emissions

// Designing **solutions** that preserve natural resources

// Promoting **recycling** and accelerating our journey towards a **circular economy**

Going Beyond Better in reducing our footprint

Our transition to a low-carbon economy and efforts to reduce CO₂ emissions are implemented in line with the Environmental Pillar of our World-Class Armacell Mindset (WAM) programme, and we collect key performance indicators (KPIs) on energy use, CO₂ emissions, water consumption and waste management.

Climate change is one of the biggest challenges facing companies whose products and production processes have traditionally been based on the use of fossil resources. At Armacell, we calculate and disclose Scope 1 and Scope 2 CO₂ emissions. Since 2021, we have also been including Scope 3 emissions in our reporting and will further set and implement robust targets for our supply chain in 2022 and beyond.

Saving resources and enhancing energy efficiency are among the environmental objectives Armacell pursues in the evolution of its production sites and methods. Through products such as ArmaFlex® and ArmaPET®, we provide energy-saving solutions and offer reliable, certified performance and extended lifetime to customers worldwide.

We are committed to continuous improvement processes to reduce negative environmental impacts. At all our production sites, we are undertaking a number of measures to achieve our goals of reducing production-related water withdrawal and energy consumption and increasing the use of electricity generated from renewable sources. We intend to provide more details on our renewable energy purchasing and consumption in future reporting.

Preserving the natural environment

Our commitment to protect the environment and preserve planetary resources is also reflected in our internal environment, health and safety policy which includes major goals such as:

- // Minimising our consumption of natural resources.
- // Minimising the energy and water usage in our buildings, vehicles and processes.
- // Minimising waste and re-using or recycling as much of it as possible.
- // Verifying and evaluating the environmental impact of new products along with the efficiency of existing procedures and actions taken.

Armacell's environmental and energy management systems are regularly audited by external authorities. 14 of our plants have management systems certified to the international environmental management standard ISO 14001, and two – Münster and Friesenhofen – are additionally certified to the energy management standard ISO 50001.

Armacell mainly consumes electricity and natural gas in its production processes. In 2021, our electricity consumption was 779.9 KWh per tonne of finished goods, which was slightly lower than in 2020 [see graph on page 40](#). In terms of gas consumption, we recorded a total of 98.3 m³ per tonne of finished goods, which was slightly higher than the figure of 89.7 m³ reported in 2020 [see graph on page 40](#).

Our total electricity consumption in 2021 stood at 136,525 kWh, rising from 117,721 kWh in 2020. In addition, our gas consumption in 2021 stood at 17,205 m³, rising from 13,514 m³ in 2020 [see page 69](#).

Minimising waste

Armacell essentially has two levers that enable and support our path to a circular economy. On the one hand, we are increasing the recycling volume of our production-related waste and, at the same time, further expanding the use of recycled PET (rPET) for our new products. Through initiatives such as recovering wastewater or implementing a pallet return policy for customers, we avoid generating waste at our own production sites, reduce negative waste impacts, and support the circular economy in our upstream value chain. Another example comes from our plant in Panyu, China, where powder from the dust collectors is re-used as raw material. This saves 7.5 tonnes a year in waste and raw material terms.

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CONTRIBUTING TO A LOW-CARBON ECONOMY

GOAL: Reduce Scope 1 & 2 emissions

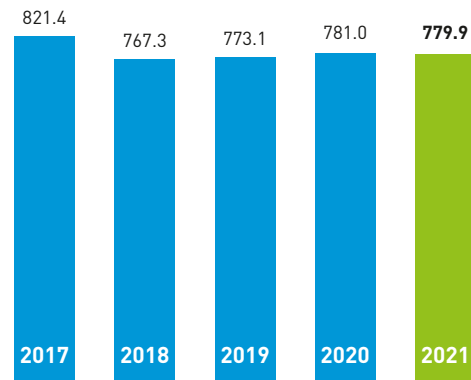
KPI: Tonnes of CO₂ emissions

↗ GRI 305-1 ↗ GRI 305-2

Thanks to our rPET-based solutions, which use recycled PET flakes, our manufacturing process generates 37% fewer CO₂ emissions, as compared to other materials.

In 2021, we also reported 5.6 kg of CO₂ emissions per tonne of finished goods, a slight increase from the 5.4 kg of CO₂ emissions recorded in 2020.¹

ELECTRICITY CONSUMPTION¹ in kWh per tonne of finished goods

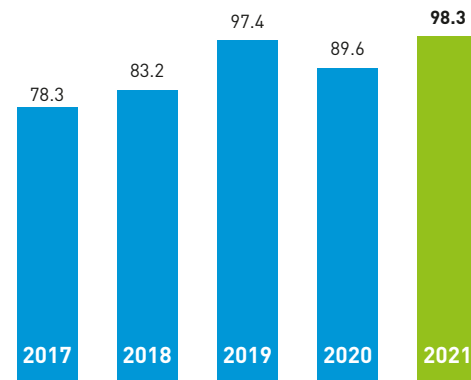


Reducing Scope 1 & 2 CO₂ emissions

We presently report on Scope 1 and Scope 2 CO₂ emissions. Scope 1 refers to the direct emissions from our own manufacturing operations. Scope 2 refers to indirect emissions from the generation of purchased energy. The applied fuel types are converted into CO₂ equivalents through the conversion factors for global warming potential (GWP) published by the Intergovernmental Panel on Climate Change (IPCC) in its Second Assessment Report (1996).

In 2021, our total CO₂ emissions included in Scope 1 stood at 31,470 tonnes of carbon dioxide equivalent (CO₂e) – a standard unit for measuring carbon footprints. Our CO₂ emissions included in Scope 2 stood at 55,155 tonnes of CO₂e. Our total CO₂ emissions for Scope 1 & 2 in 2021 stood at 86,625 (2020: 82,080) [see page 69](#).

GAS CONSUMPTION¹ in m³ per tonne of finished goods



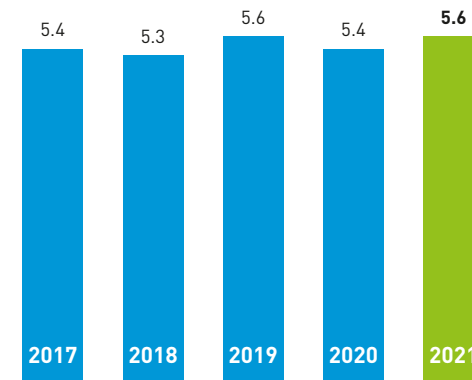
→ 37% fewer CO₂ emissions through manufacturing products using recycled PET flakes

Addressing Scope 3 CO₂ emissions

2021 marked the first time that we assessed Scope 3 emissions, referring to other indirect emissions, primarily those from our supply chain. In 2021, we reported a total of 82,491 tonnes for our main purchases, including emissions generated as part of our procurement of packaging, such as paper, cardboard, plastic and recovered plastic, as well as of selected raw materials such as aluminium hydroxide, rubber or blowing agents among others [see page 69](#).

The total amount of CO₂ emissions (Scope 1, 2 & 3) we recorded in 2021 was 169,116 tonnes of CO₂e [see page 69](#).

CO₂ EMISSIONS¹ in kg (Scope 1 & 2) per tonne of finished goods



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¹ The data on CO₂ emissions covers 19 of our 24 plants.

DESIGNING SOLUTIONS THAT PRESERVE NATURAL RESOURCES

GOAL: Reduce production-related water consumption

KPI: Litre per tonne of finished goods

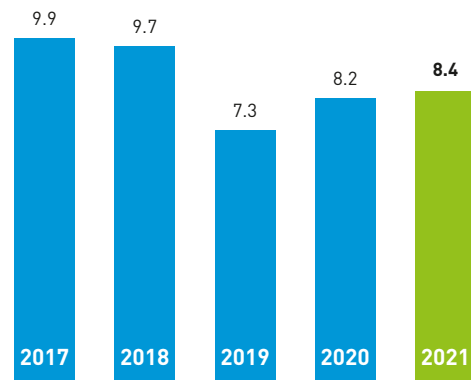
↗ GRI 303-5

Consuming water responsibly

Resource savings and energy efficiency are among the outstanding environmental objectives Armacell pursues in the evolution of its production sites and methods.

At Armacell, we define the water consumed as the amount of water removed for use and not returned to its source.

WATER CONSUMPTION¹ in L per tonne of finished goods



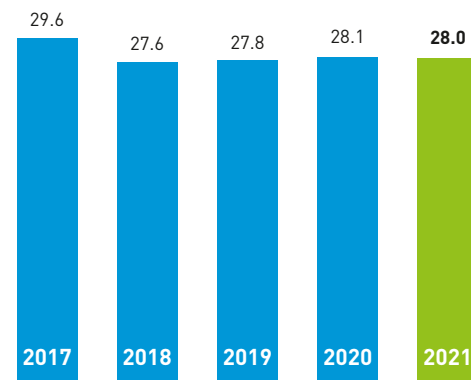
GOAL: Reduce production-related energy consumption

KPI: MJ per tonne of finished goods

↗ GRI 302-1 ↗ GRI 302-4

In the majority of our locations, we rely on third-party water systems for production purposes. In 2021, the total water consumption at 19 of our 24 plants was 147,295 m³, up from 124,016 m³ in 2020 [see page 69](#).

ENERGY CONSUMPTION¹ in MJ per tonne of finished goods



This increase on the previous year in our total annual water consumption was mainly caused by two events:

- // One big chiller was not working properly at our plant in Spencer (WV), USA. For this reason, two water-intensive tests were carried out in 2021.
- // One of the pipes at our Begur plant in Spain leaked water over the course of one week.

Despite a slight increase from 8.2 litres in 2020 to 8.4 litres in 2021, if we consider the five-year trend, we can report a decrease of 15% in our water consumption per tonne of finished goods.

Managing our energy consumption

In line with our WAM programme, we have implemented objectives and action plans to monitor and reduce consumption and improve primary energy efficiency (e.g. gas, coal, diesel, heating oil and electricity).

Over the past five years, we reduced our energy consumption per tonne of finished goods by 5%.

The total electricity consumption in 2021 was 136,526 MWh (2020: 117,721 MWh) [see page 69](#).

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¹ The data on CO₂ emissions covers 19 of our 24 plants.

INVESTING IN RENEWABLE ENERGY SOURCES

To counter sharply rising electricity costs, three more Armacell premises have been considered for the installation of photovoltaic (PV) units. In addition to cost savings, the installation of PV units will help reduce our carbon footprint and support our ESG efforts.

At the Thimister-Clermont plant in Belgium, for example, 2,800 solar panels covering approximately 10,000 m² of roof space already generate 749 MWh of electric power per year. In 2022, a feasibility study will be carried out to upgrade the current installation to produce an additional 500 MWh by 2024. In the context of the plant expansion, which brought a production hall extension and new warehouse in 2021, some 3,000 new panels will be installed on approximately 8,000 m² of roof space as early as 2023. This will generate an additional 900 MWh of electric power per year.

At the Pune plant in India, solar panels generate the energy required to provide the canteen and sanitary installations with hot water. In all, 65-70% of the plant's electricity is generated by wind power, with a related 30% reduction in CO₂ emissions.



ACCELERATING OUR JOURNEY TOWARDS A CIRCULAR ECONOMY

GOAL: Increase recycling of production-related waste

KPI: Percentage of waste recycled

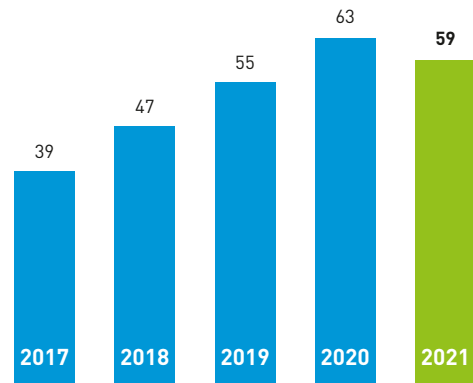
↑ GRI 306-2

Recycling waste

We significantly increased the recycling of our production-related waste by 53% over the past five years. In 2022, we intend to further accelerate the trend.

To reduce our waste, we introduced a pallet return policy by which pallets can be collected at Armacell collection points across the EMEA region. In return, customers get a payback for helping us reduce our environmental footprint.

RECYCLED WASTE in %



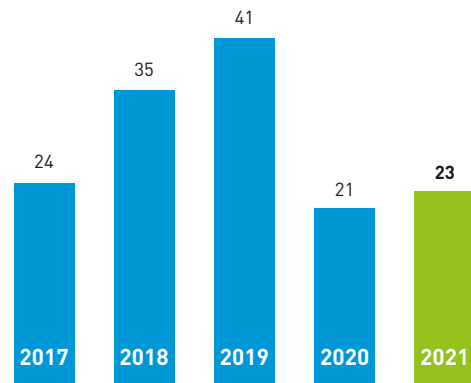
GOAL: Increase recycled PET consumption

KPI: Percentage of rPET in ArmaPET

↑ GRI 306-2

The progress we recorded in waste reduction was achieved by using the 5R approach: Refuse/Reject (not producing waste in the first place), Reduce (waste), Re-use (before waste is even produced), Recycle (waste) and Recover (energy). The 5R approach has brought significant advances at several plants. In 2021, the total waste produced by Armacell amounted to 18,725 tonnes. Moreover, the total amount of production scraps re-used in finished goods stood at 9,406 tonnes. It must be noted that

WASTE TO LANDFILL in %



76% of total waste was recovered in the production processes, while 59% of our waste was recycled. For example, in the elastomeric process, the expanded scraps were used to produce a secondary process. In the polyethylene (PE) and polyethylene terephthalate (PET) processes, the scraps were reground and then utilised in the production process. On top, we continue to expand the use of recycled PET (rPET) for our new products and use a minimum of 92% of rPET in our ArmaPET production.

→ +53% of production-related waste recycled over the past five years

We produced 17,352 tonnes of non-hazardous waste and 1,373 tonnes of hazardous waste. We further recovered 14,181 tonnes of non-hazardous waste, which is equal to 81.7%. It is important to note that the classification of hazardous versus non-hazardous varies according to local regulations. In 2020, our total amount of recovered waste stood at 15,366 tonnes, out of a total of 15,957 tonnes of waste generated.

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RE-USING RECYCLED PET BOTTLES

Armacell is a pioneer in the field of polyethylene terephthalate (PET) technology and initiated the breakthrough of PET-based foam cores in the composite industry in 2005. Ever since, Armacell has invested significantly in the research and development of this state-of-the-art technology and developed a process technology that enables the production of PET foam products using post-consumer PET beverage bottles. We aim to contribute to a zero-waste approach by re-using recycled PET bottles.

After collection, the PET bottles are sorted and then crushed into flakes. This is followed by an in-house granulation process and, finally, extrusion foaming. In this way, used plastic bottles are converted into long-lifetime, high-value foam core materials for composite sandwich structures.

ACCELERATING OUR JOURNEY TOWARDS A CIRCULAR ECONOMY

Recycled PET foam technology

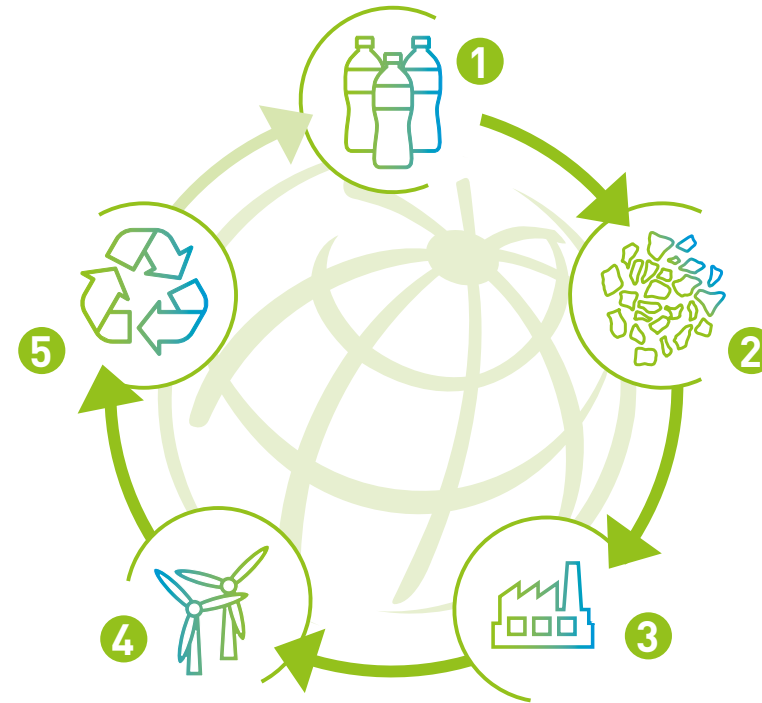
Waste plastic bottles are given a new life using Armacell's unique recycled PET (rPET) foam technology. From the start of rPET series production to the one billion recycled bottles' milestone, it took nine years; for the second billion, it only took two years. We celebrated this milestone in April 2022. Overall, Armacell's rPET facilities have re-used over two billion PET bottles and saved more than 90,432 tonnes of CO₂ emissions in the process.

Following a significant expansion of production capacity and warehouse space, two more production lines were commissioned at the Armacell PET headquarters in Thimister-Clermont, Belgium, in 2021. Using state-of-the-art technology, with ERP and Six Sigma process monitoring systems for full quality control, these two new production lines have an annual production capacity of 180,000 m³ of innovative, eco-friendly PET foams. One of the new production lines is dedicated to ArmaPET[®] Eco50, Armacell's latest solution that supports energy-efficient sustainable building through improved comfort and safety.

Our commitment to further invest in our rPET technology, has been steady in the last few years. For example, in 2020 we began operating our fourth industrial-scale foaming line worldwide and the first in China at our Suzhou facility near Shanghai. Two years later, in February 2022, the Brampton (Canada) team inaugurated a new slicing line, increasing the plant's capacity by an additional 46,000 m³ per year and generating a 50% increase in the overall production capacity. The new line has also reduced thickness scrap by more than 50%.

Our comprehensive offering of innovative eco-friendly PET foam product solutions includes structural and insulating foam cores, thin flexible sheets for thermoformable micro sandwich solutions and particle foams to produce 3D foam parts.

As another way of contributing to higher recycling rates beyond our own output, we are sharing our technology by granting licenses to other PET foam producers in the composite industry to drive and accelerate adoption rates through the deployment of Armacell's patented process technology in their manufacturing processes. Opening our unique technology to others ramps up Armacell's contribution to a greener tomorrow.



1. PET bottles 2. Raw material 3. Manufacturing
4. Use phase 5. Recyclable PET foams

// FOR A BETTER CARBON FOOTPRINT

We have re-used over two billion PET bottles and saved more than 90,432 tonnes of CO₂ emissions – the equivalent of...

Route 66 trip by motorbike: > 500 ccm, 1 passenger, Chicago to Santa Monica (approx. 3,945 km)

173,908 motorbike trips



Brussels – New York: One way, Economy, approx. 5,900 km, 1 traveller

94,693 flights



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ENABLING GOVERNANCE



Corporate governance at Armacell covers human rights, environmental aspects, consumer-related issues and working conditions and relations, engagement with local communities as well as environmental protection. The existing corporate governance principles stand for ethical behaviour, compliance with laws and human rights, accountability, and stakeholder engagement. Policies such as Armacell’s Code of Conduct and Environmental, Health and Safety Policy on the one hand, and memberships of relevant international associations and local partnerships on the other, are the foundations and starting point for implementing our corporate governance principles and bringing our values to life.

➤ **GRI** 2-9, 2-10, 2-12 to 2-16, 2-18 to 2-21, 2-23 to 2-27, 2-30, 205-2, 308-1, 308-2, 407-1, 408-1, 409-1, 414-1, 414-2, 418-1

Values and ethical standards

ZERO

-tolerance policy is applied to proactively prevent and manage undesirable behaviour

Supplier compliance

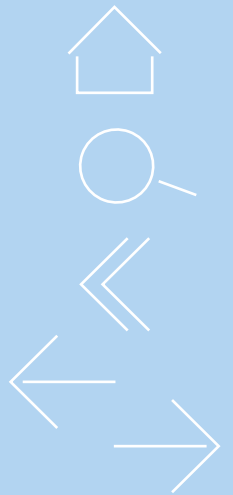
10%

of our raw material suppliers were assessed in 2021

Whistleblower portal

1

case relating to a breach of trust/fraud was received in 2021



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OUR COMMITMENT TO RESPONSIBLE BUSINESS

// **Driving compliance and fostering a culture of robust business ethics**

// **Protecting our business and reputation**

// **Complying with the laws and regulations applicable in every country where we do business**

Responsible and ethical conduct is fundamental to the way we do business. Our accountability and engagement for a better and cleaner future date back to 2006. Since then, Armacell has been committed to the United Nations Global Compact (UNGC) and embedded its Ten Principles relating to human rights, labour, environment and anti-corruption into its strategies and operations [see page 56](#). We report on our progress annually.

To realise our principles and policies, we set up a governance structure involving the highest levels of management and rolled it out to the entire Armacell Group in 2021. The Sustainability Steering Committee (SSC) has a key role to play in this structure. Its key tasks include driving compliance and promoting a culture of robust business ethics throughout the Group, identifying areas of commitment, developing sustainability focus topics, reviewing and improving ESG reporting standards, maintaining

best-in-class ESG communications and positively influencing stakeholder opinions. The Supervisory Board is primarily responsible for providing input on the strategic direction of the SSC, supporting major sustainability projects and the process of establishing sustainability metrics, and overseeing the management of impacts associated with Armacell's sustainable development.

We drive this culture of sustainability at the highest level of the organisation and ensure strategic alignment and coordination through the ESG governance structure illustrated on [the next page](#).

→ **Responsible and ethical conduct is fundamental to the way we do business.**

Sustainability is one of the responsibilities of the highest governance body at Armacell. Selected members of the Supervisory Board are also members of the Sustainability Committee, the Audit Committee as well as the Remuneration and Nomination Committee. This structure ensures a constant and transparent flow of communication, provides strategic direction on sustainability metrics, and allows for effective management of impacts related to Armacell's sustainable development.

For example, the Remuneration and Nomination Committee is responsible for overseeing the process of nomination and selection of key members of the Group. This committee is also dedicated to overseeing Armacell's remuneration policy and targets for performance-related pay.

As part of Armacell's anti-bribery policies, we record, prevent and mitigate any potential conflicts of interest when it comes to cross-board membership the existence of controlling shareholders and related parties.



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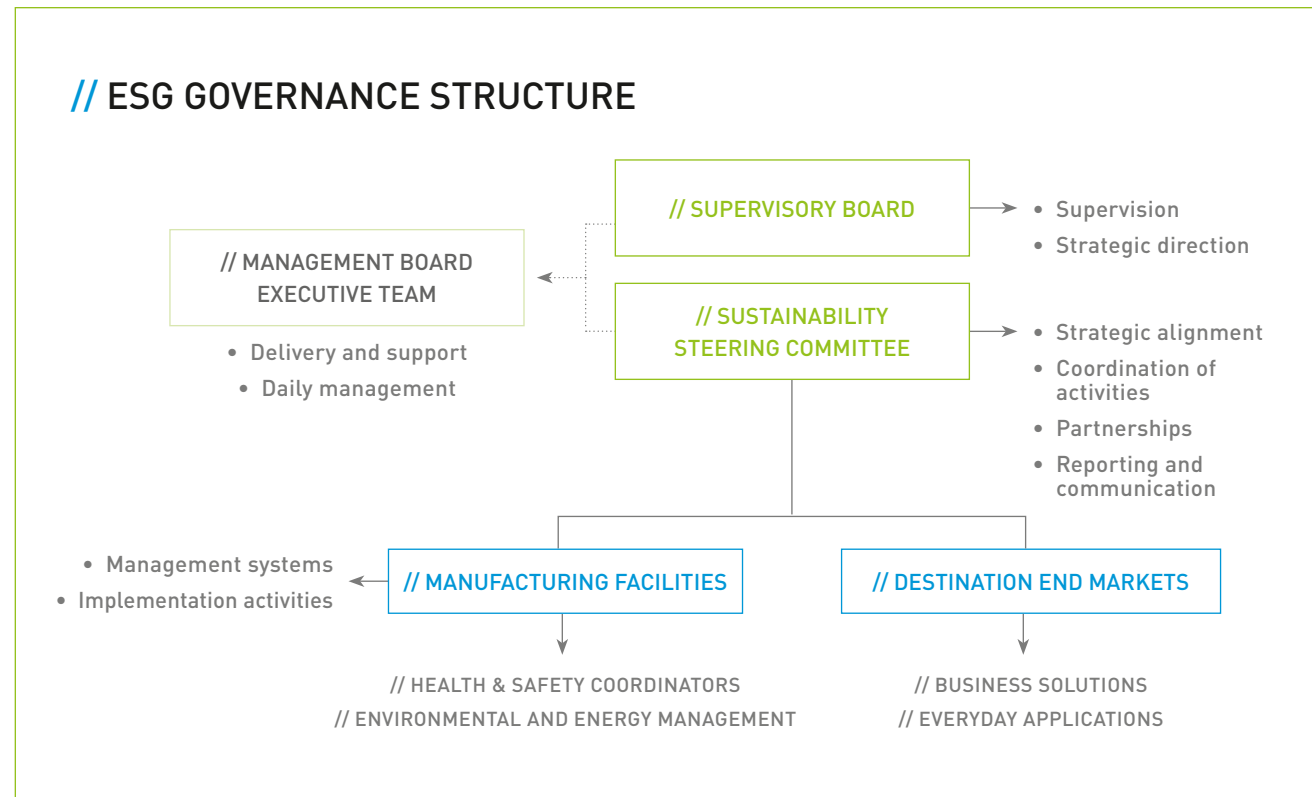
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OUR COMMITMENT TO RESPONSIBLE BUSINESS

At Armacell, we hire every employee with the long-term in mind. Even though our recruitment process is organised locally, working for Armacell means being committed to the future of the Group as a whole. Our recruitment process ensures that we have the talents to grow our future. Employees are compensated in ways that are performance-driven, market-competitive and equitable. Through base and variable pay (bonus incentives, profit sharing, operational performance bonuses), we seek to reward both individual and collective contributions to our business's success. Base salaries are determined by the following factors: job responsibility, benchmarking data on market competitiveness, individual competencies and job performance.

→ The Sustainability Steering Committee promotes a culture of sustainability throughout the Armacell Group.

On a global level, the ratio between the executive team and all other employees' base salary is 1:8 in 2021, consistent with previous years. The company does not disclose total compensation ratios due to the different nature of the variable incentives across its global footprint.



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DRIVING COMPLIANCE AND FOSTERING A CULTURE OF ROBUST BUSINESS ETHICS

GOAL: Foster a culture of robust business ethics

KPI: Employees trained on Code of Conduct

➤ GRI 205-2

Engaging stakeholders in our sustainability journey

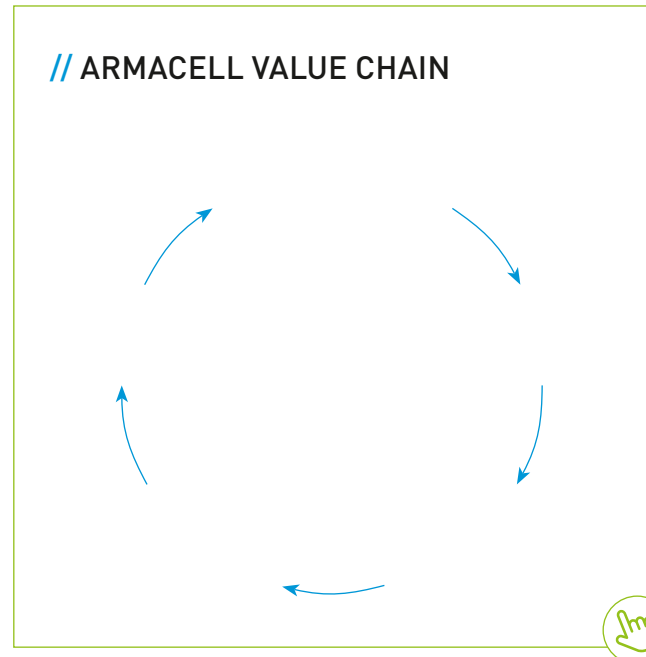
Armacell and its employees have a key role to play in ensuring safe and ethical business practices to protect the welfare of those with whom we conduct business, wherever we operate in the world.

As a global leader in high-performance insulation materials, we have longstanding commercial relationships along supply chains with suppliers, service providers, customers, distributors, contractors, installers and communities.

Built on four values – Customer Commitment, Empowerment, Integrity and Sustainability – the Armacell Code of Conduct defines the rules for our daily work both internally and externally and shows how they are implemented. At Armacell, we are accountable for our results and for the way in which the results are achieved.

- // We contribute to sustainable growth by innovating in thermal and acoustic efficiency with energy and resource-conscious product development. As an innovation-oriented company, we protect intellectual property and that of other people.
- // Our business activities worldwide comply with the applicable environmental laws and regulations, as well as with the requirements of our environmental permits. We expect each of us to take special care of the environment.
- // We are committed to developing and motivating our employees, nurturing their talents and developing new skills.

We further recognise our social responsibility in all our locations and aim to contribute to the quality of life of our employees, our business partners and the surrounding communities.



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DRIVING COMPLIANCE AND FOSTERING A CULTURE OF ROBUST BUSINESS ETHICS

Fostering a culture of robust business ethics

We build our relationships with customers, business partners and external stakeholders on the principles of trust and honesty and have taken all the necessary steps to uphold these principles. For example, the Armacell Code of Conduct addresses the responsibilities of all our employees to the company, to each other, and to all our stakeholders. This includes the principles, standards and moral and ethical expectations Armacell adheres to when doing business with others.

First and foremost, we comply with applicable laws and regulations in every country where we do business. In addition, our Code of Conduct – based on our corporate values of Customer, Commitment, Empowerment, Integrity and Sustainability – governs the framework by which our employees can establish a positive, customer-centric culture that is also compliant and respectful of the laws and regulations applicable in every country we operate in.

→ Armacell's Code of Conduct addresses the responsibilities of all our employees to the company, to each other, and to all our stakeholders.

We take our responsibility to comply with the applicable laws and regulations and operate a zero-tolerance policy. To this end, we devised and implemented several company policies, including our anti-corruption policy, anti-money laundering policy, sanctions policy and data protection policy.

Armacell's Code of Conduct

To ensure our employees have access to the latest information on these topics and act in accordance with our high standards and expectations, we continuously reinforce our culture of compliance and robust business ethics and implement this culture at all levels of the organisation. For example, we instruct new recruits in the Armacell Code of Conduct and our data protection rules. As part of the onboarding process, all employees are required to acknowledge the company policies on anti-bribery and anti-corruption, sanctions and anti-money laundering. We also carry out risk-based training sessions across the Armacell Group.

In 2021, there were no instances of non-compliance with laws and regulations and no fines or non-monetary sanctions.

Maintaining good industrial relations

Around the world, industrial relations are determined by country-specific regulations and traditions. In Germany, where employer-employee co-determination and works councils have a decade-long tradition, four collective agreements are in place, and employees can be affiliated with the chemical industry union. Collective agreements are also in place in Spain and France, while employees can be trade-union affiliated in the UK, Poland, Brazil and India.

// REPORTING WRONGDOING AND ILLEGAL PRACTICES

In October 2021, Armacell launched an [online whistleblowing portal](#) that is available to employees and third parties (via our internet pages) so they can report any violations of the law or the Code of Conduct as well as any illegal business practices. The whistleblowing system is operated by Business Keeper, an external provider based in Berlin, Germany.

Reports submitted through this secure communication platform are anonymous and handled exclusively and strictly confidentially by the Armacell Group's Integrity Committee. The overriding principle of the BKMS® Incident Reporting system we use is to protect the whistleblower. The system's anonymous privacy function is certified by an independent body. This whistleblower platform enables stakeholders to seek advice and raise concerns about wrongdoing or breaches of law in the organisation's operations or business relationships. In 2021, Armacell received the first case relating to a breach of trust/fraud. The reported case was investigated with the help of external consultants, and since it was substantiated, remedial action was taken within 14 days.

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PROTECTING OUR BUSINESS AND REPUTATION

GOAL: Mitigate IT risks

KPI: Reinforced security policies and mandatory trainings

➤ GRI 418-1

Ensuring cyber security

In 2021, Armacell put a completely revised Group Cyber Security Policy into practice to provide guidance to all employees and business partners on how to safeguard data, secure the IT infrastructure and mitigate security risks. The main purpose of this policy is to prevent cyber and malware attacks on the company, prevent data theft, and protect the ordering, production, delivery, and billing processes. Thorough protection of the entire IT infrastructure is important for Armacell and its customers. For us, mitigating IT security risks means preventing unauthorised data access and data breaches across our entire value chain, including our customers. In addition to heightening our employees' sensitivity to privacy and data security, mitigating IT security risks relies on the use of powerful software for threat detection and machine protection across all servers and devices. In 2021, there were no substantiated complaints concerning breaches of customer privacy, leaks, thefts or data losses.

Mitigating security risks

In line with its manufacturing peers, Armacell is exposed to risks arising from the digital disruption of its IT infrastructure. The security and continuity of Armacell's IT systems and data are safeguarded by a set of infrastructure and security measures

defined and carried out by a global governance body comprised of corporate and local IT teams and conducted in accordance with group policies and best-risk management practices. In response to a cyber attack in 2020, various new cyber security measures were implemented, and a Group Cyber Security Policy published with guidance for all Armacell employees on how to ensure data security, safeguard the IT infrastructure and mitigate security risks. An Information Security Officer was appointed, ad hoc security policies, features and mandatory training measures were implemented, and Armacell's security status and cyber defences are now continuously monitored and regularly reviewed. As part of our security management system, we also set up a process to identify, review and address external and internal threats and vulnerabilities in order to properly mitigate risks. This internal policy allows us to keep our organisation secure, while ensuring the continuity of operations.

Keeping corporate data safe

Security-conscious employees are key to safeguarding any organisation, particularly as keeping corporate data safe is more important than ever to protect a company and its customers. As part of our efforts to protect corporate data, our employees, for example, complete a number of compliance courses on how to detect phishing attempts, protect themselves from social

engineering attempts and manage information security inside and outside the office. They are taught how to recognise and correct inappropriate behaviour, identify suspicious situations, and to know what to do if something goes wrong. In addition, employees are required to read and sign policies relating to information security, internet access security and the use of mobile devices and personal devices for work purposes.



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COMPLYING WITH LAWS AND REGULATIONS

GOAL: Assess supplier level of compliance with ESG standards

KPI: Supplier assessments and audits

➤ **GRI 308-1, 308-2, 407-1, 408-1, 409-1, 414-1, 414-2**

Enforcing supplier standards

Armacell prohibits all unlawful payments and practices. We reject corruption in all our business transactions, and we are fully committed to complying with the applicable anti-corruption laws and regulations in the countries we operate in. Bribes, kickbacks and money laundering are strictly prohibited. We expect our suppliers to adhere to these same prohibitions when conducting business. Armacell's Code of Conduct was sent to all our suppliers, regardless of their services, to inform them of our company's standards and expectations.

Against the backdrop of global disruptions in raw material supplies in 2021, we reinforced our efforts to further develop these stakeholder relationships. In prioritising raw material suppliers in the first phase, we were able to evaluate our supply chain and include specific environmental, social and governance considerations and risk exposures. Our goal is to mitigate these risks, wherever possible, through proactive measures and consistent monitoring.

Based on our commitment to the United Nations Global Compact, the Armacell Supplier Code of Conduct defines the standards that all suppliers and sub-contractors must meet with respect to good environmental practices, human rights and

labour practices. This Code also includes the commitment that suppliers' operations comply with all applicable laws and regulations (e.g. prevention of corruption and bribery).

Selecting suppliers

We ask our raw material suppliers (using our new Supplier Self-Assessment) whether they have implemented policies that address, among other things, the issues of human trafficking, forced labour and child labour and ensure anti-discrimination. Moreover, suppliers must indicate the extent to which they have put in place an environmental and sustainability policy or programme. Furthermore, we have included a specific due diligence section focusing on the integrity of our suppliers. A satisfactory result on this assessment is a prerequisite to qualifying as a supplier for Armacell.

➔ **We intend to assess 15% of raw material suppliers in 2022 regarding their level of compliance and reach 80% by 2024.**

Our Supplier Code of Conduct was sent to more than 400 raw material suppliers. Nearly 60 confirmed compliance either by signing our Code or issuing a statement that was deemed to be equivalent to our standards and expectations. As part of our ongoing process to check our suppliers' level of compliance, around 10% of our raw material suppliers were assessed in 2021. We intend to assess 15% of raw material suppliers in 2022 and reach 80% by 2024.

// SUPPLIER ASSESSMENT PROCESS



We will carry out a series of raw material supplier audits in 2022 using our updated Audit Report. The selection criteria will be determined by the supplier's size and the volume and nature of the existing business relationship. Location and geographical distribution will be considered to an equal extent. These onsite audits will be implemented against a set of comprehensive criteria, including health, safety, environmental, social, diversity, quality management, company values and culture.

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ARMACELL SUPPLIER CODE OF CONDUCT

The Armacell Supplier Code of Conduct outlines our high standards and expectations:

- // Suppliers' plants shall operate in **full compliance with the laws** of their respective countries and with all other applicable laws, rules and regulations.
- // Suppliers shall only employ workers who meet the applicable minimum **legal age requirement** while also complying with all other applicable child labour laws.
- // Suppliers shall not use any indentured or **forced labour, slavery or servitude**.
- // Suppliers' plants shall set **working hours, wages and overtime pay** in compliance with all applicable laws. Workers shall be paid at least the minimum legal wage or a wage that meets local industry standards.
- // Suppliers shall employ workers **on the basis of their ability to do the job**, not on the basis of their personal characteristics or beliefs (including race, colour, gender, nationality, religion, age, maternity or marital status).
- // Suppliers shall follow a precautionary approach to environmental challenges, undertake initiatives to **promote greater environmental responsibility** and encourage the development and diffusion of environmentally friendly technologies.
- // Suppliers shall **respect privacy requirements and protect data** and intellectual property from misuse in compliance with all applicable local laws.
- // Suppliers shall provide evidence of a well-engineered **information security management system**.



COMPLYING WITH LAWS AND REGULATIONS

Supplier Code of Conduct

The requirements of our Supplier Code of Conduct and all future developments in how we manage and assess our supply chain, apply to existing and new suppliers and will be implemented throughout the entire supply and value chain in future.

Based on the information provided by the supplier and following onsite audit reports, Armacell has already outlined what major steps will be taken:

- // **Critical:** The supplier does not meet Armacell's requirements.
- // **Under development:** The supplier does not fulfil all of Armacell's requirements but shows both the potential and willingness to improve quality, costs and delivery performance within a year.
- // **Qualified:** If a supplier meets all Armacell's requirements and its internal processes are found to be satisfactory, Armacell will place a trial order. The supplier will be asked to implement continuous improvement plans regarding quality, costs and delivery.

Managing procurement risk

At Armacell, we are very strict about maintaining our high standards and will only select new supply chain partners that share our commitment to sustainability in all its forms. As

illustrated below, we understand that risk management in the procurement stage is a process that allows us to recognise any risk and minimise the probability of its occurrence and impact. Effective risk management recognises that for every risk there is an 'upside', referring to new opportunities, and a 'downside', including threats and vulnerabilities. Our risk management strategy aims to take advantage of the 'upside' spectrum, while mitigating the 'downside' characteristics.

Addressing supplier impacts

Although, to date, we have not recorded any negative impacts or supplier incidents, we are currently devising guidelines for responsible procurement that will equip our global sourcing team with the right tools and knowledge on what to do when such situations occur in future.

As part of our ongoing efforts to advance our sustainability journey and further develop our internal processes in line with industry standards, we have also identified a number of possible corrective actions that will be taken if any of our suppliers reports negative social impacts. To implement such actions, representatives of various internal departments and stakeholders will be involved and consulted. This process will involve the following major steps:



→ We select new supply chain partners that share our commitment to sustainability.

- // Devise a short-term action and containment plan.
- // Conduct a root cause analysis.
- // Based on the nature of the incident, identify and agree on long-term corrective actions.
- // Proceed with the implementation of long-term corrective actions.
- // Ensure final verification of the plan and receive a sign-off from the stakeholders.
- // Communicate the Armacell position to the supplier in question.

Building on our current efforts to gather explicit information from our suppliers on their business vision and mission, company culture, people management, safety, as well as social and human rights policies, we intend to further address all these topics in future reporting.

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UN GLOBAL COMPACT – COMMUNICATION ON PROGRESS REPORT 2021

Our commitment to and support for the United Nations Global Compact (UNGC) dates back to 2006, when we joined the initiative.

This report details how we are working to comply with and embed the Ten Principles of the UNGC into our strategies and operations. Our annual Communication on Progress Report is a visible expression of our commitment to sustainability and fulfils the requirements of the UNGC for participating companies. Where applicable, we have included cross-references to sources.

// HUMAN RIGHTS

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights;

The Armacell Code of Conduct, which applies throughout the Armacell Group, defines the rules for our everyday work and includes our support for the Universal Declaration of Human Rights (UDHR). Our Sanctions Policy safeguards fundamental values, including human rights.

Principle 2: and make sure they are not complicit in human rights abuses.

As in previous years, Armacell has not been subject to any investigations, legal cases or incidents involving human rights violations.

// LABOUR

Armacell supports the internationally recognised labour rights promoted by the International Labour Organization (ILO). As in previous years, Armacell has not been subject to any investigations, legal cases or incidents involving labour rights protection for any of the mentioned labour principles.

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour;

We uphold the above-mentioned principles in our operations. Armacell firmly disassociates itself from and will not do business with any organisation that uses forced labour or child labour. We have informed all our suppliers worldwide about our support for and compliance with the UNGC's Principles. Step-by-step, we are asking them to sign our Supplier Code of Conduct to confirm they comply with the Principles, especially in eliminating all forms of forced and compulsory labour and abolishing child labour. We are also planning supplier audits and will continuously monitor and review our suppliers' compliance.

Principle 6: and the elimination of discrimination in respect of employment and occupation.

Please see the 'Investing in our people' chapter and 'Enabling governance' chapter on [pages 46 – 54](#) for our undertakings and their outcomes.

// ENVIRONMENT

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility;

Principle 9: and encourage the development and diffusion of environmentally friendly technologies.

Please see the 'Protecting our planet' chapter on [pages 38 – 45](#) for our undertakings and their outcomes. In the 'Furthering sustainable growth' chapter on [pages 27 – 37](#) and in a more detailed fashion in our Annual Report 2021, we explain how our product portfolio and strategies are linked to these environmental principles.

// ANTI-CORRUPTION

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Across all our business activities, we are committed to acting responsibly. We enacted an Anti-Corruption Policy that reflects our commitment to integrity. A key priority in our compliance efforts is the prevention of bribery and corruption, where we operate a zero-tolerance policy.

At Armacell, we have a Global Anti-Money Laundering Policy to heighten staff awareness of the need to ascertain the identity of the businesspeople they are dealing with and to be on their guard for any potential money-laundering activity.

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SUSTAINABLE DEVELOPMENT GOALS

Five of the UN Sustainable Development Goals (SDG) are intrinsically linked to our business, and we focus on them because our activities can have the biggest impact here. How Armacell contributes to SDG 8, 9, 12, 13 and 14 is outlined below.

8
DECENT WORK AND
ECONOMIC GROWTH



DECENT WORK AND ECONOMIC GROWTH

Sustainable economic growth is key to tackling poverty and raising living standards. Decent work for all is a means to that end. Armacell supports labour rights and engages closely with suppliers on these topics to ensure decent working conditions. A decent job is a safe job. Armacell's Environment, Health and Safety Policy, launched in 2021, and its promotion of a zero-accident mindset help employees to go home from work safe and healthy. The downward trend in group-wide occupational safety statistics continued, with the frequency index of lost-time accidents (LTA), for instance, scoring an average of 0.22 between 2017 and 2021.


9
INDUSTRY, INNOVATION
AND INFRASTRUCTURE



INDUSTRY, INNOVATION AND INFRASTRUCTURE

Increasing resource and energy efficiency is an economic and environmental challenge. Innovation and technological progress are the prerequisites for developing sustainable solutions. Armacell has an outstanding record of innovation and investing in creating lasting value for its customers. Our innovation focus is geared to the goal of sustainable growth and developing solutions that benefit people and our planet. Under the brand name ArmaProtect™, Armacell offers a wide range of firestop systems which are key to avoiding the propagation of fire and smoke in buildings. Duly certified to international fire resistance tests and safety standards, they provide fire ratings up to 240 minutes.


12
RESPONSIBLE
CONSUMPTION
AND PRODUCTION



RESPONSIBLE CONSUMPTION AND PRODUCTION

Worldwide consumption and production rest on the use of the natural environment and resources in a way that continues to have destructive impacts on the planet. As a leading provider of technical insulation solutions that reduce resource consumption by enhancing energy efficiency, Armacell's commitment to quality enhances its products' sustainability and safety while its production, product performance, materials and technology innovations are driving responsible resource use. For example, assuming a service life of 20 years for cold applications and/or 30 years for hot applications, 140 times more energy is saved in an ArmaFlex® product lifetime than required to manufacture it.


13
CLIMATE
ACTION



CLIMATE ACTION

Armacell's insulation products are an effective means of supporting global efforts to address climate change, as they enhance the energy efficiency of technical equipment and reduce CO₂ emissions in many industries. ArmaFlex® materials protect all kinds of technical equipment against energy losses, e.g. HVAC ducts, hot and cold water pipes, plumbing and refrigeration systems. ArmaComp Ensolute® and ArmaComp Monarch® – just two of Armacell's high-performance, custom-engineered Component Foams products – are supporting the lightweighting revolution in the automotive industry, expected to end sales of combustion engine vehicles by 2035 and significantly advance on the road to climate neutrality.

14
LIFE
BELOW WATER



LIFE BELOW WATER

Plastic waste is seriously impacting the world's rivers, lakes, seas and oceans. Armacell's pioneering rPET technology is helping to reduce this plastic waste by re-using PET bottles and contributing to a circular economy in plastics. Our high-performance structural rPET foams manufactured from recycled plastic bottles are used as a core material in many composite sandwich structures. By re-using PET bottles rather than producing foam from virgin resources, we have already saved over 90,000 tonnes of CO₂ emissions. What's more, Armacell products use verifiably registered and approved substances and mixtures and fully comply with the EU's REACH regulation to protect human health and the environment.

The United Nations' 17 Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for everybody. They address global challenges and call on individuals, companies and organisations around the world to play their part in achieving these global goals by 2030. For more information on the SDGs, please visit: www.un.org

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// PARTNERSHIPS

We actively contribute to moving towards a sustainable society. To save resources and protect the planet, we firmly believe in collaboration and support valuable initiatives that help to create the society of tomorrow.

Operation Clean Sweep

A global product stewardship programme to drive best practices in plastic material loss management.

Universities and research institutes

- // EU-funded research project PlastiCircle (improving plastic packaging waste collection, transport, sorting and recycling)
- // EU-funded research project Sweetwoods (testing of lignin-based recipes)
- // Luxembourg Institute of Science and Technology (plasma deposition)
- // University of Aachen (foamability studies)
- // University of Bayreuth (steam chest moulding)
- // University of Sheffield (acoustic modelling research)
- // CellMat Technologies (foaming processes optimisation)

// PRINCIPLES & GUIDELINES

Following international standards and certifications.

ISO 9001

This standard is based on a number of quality management principles, including a strong customer focus, the motivation and implication of top management, the process approach and continual improvement. 20 of our plants have an ISO 9001 certification.

ISO 14001

This standard sets out the criteria for an environmental management system and can be certified to. It maps out a framework that a company or organisation can follow to set up an effective environmental management system.

14 of our plants have management systems certified to the international environmental management standard ISO 14001.

ISO 50001

This ISO standard provides a practical way to improve energy use through the development of an energy management system (EnMS).

Our German plants in Münster and Friesenhofen are certified to the energy management standard ISO 50001.

ISO 45001

This standard refers to requirements for an occupational health and safety (OH&S) management system and gives guidance for its use. It enables organisations to provide safe and healthy workplaces by preventing work-related injury and ill health, as well as by proactively improving their OH&S performance.

The occupational health and safety management systems of four plants (i. e. three in APAC and one in EMEA), are currently certified to ISO 45001, and the remaining plants follow the WAM Safety pillar, which is aligned to the international standards and requirements imposed by ISO.

ISO 15804 and ISO 14025

ArmaPET® Eco50 presented the first-ever EPD for PET-based insulating foam, compliant with ISO 15804 and ISO 14025.

World-class Armacell Mindset (WAM)

WAM is a principle-driven programme that integrates recognised international standards into Armacell's manufacturing, sales & marketing processes to eliminate non-value-added tasks and losses, and deliver an exceptional customer experience (for more information, [see page 59](#)).

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World-class Armacell Mindset (WAM)

Since its launch in 2013, Armacell's excellence programme has encouraged a global mindset of continuous improvement at all levels of the company. Based on world-class manufacturing, a collection of concepts that sets standards for manufacturing and operation, the World-class Armacell Mindset (WAM) aims to improve the daily performance through constant, structured and objective analysis.

In the two areas of WAM Manufacturing and WAM Sales & Marketing, this programme contributes to consistency in standards and sustains the implementation of improved processes.

// WAM Manufacturing is based on the systemic identification of losses and non-value-added tasks at Armacell's multi-technology sites.

// WAM Sales & Marketing focuses on the competencies, behaviour and expertise of Armacell's commercial teams and aims to create a world-class customer experience.

For WAM Manufacturing, in 2021, eight Armacell production facilities won Bronze (Conover, Friesenhofen, Mebane, Münster, Panyu, Spencer, Środa Śląska, Suzhou) and one Silver (Pune).

For WAM Sales and Marketing, in 2021, five commercial teams achieved or confirmed Silver (Iberia, Nordics, Germany, India and China), while seven commercial teams achieved or confirmed Bronze (Benelux, France, Global PET, UK/ROI, Advanced Insulation USA, Component Foams and Middle East).

All participants, without exception, progressed in improving their processes, marketing and sales skills, and execution. In all, 20 countries or sub-regions were audited in 2021, and six teams advanced to a new award level.

// WAM MANUFACTURING PRINCIPLES

01

Safety is a core value built into everything we do.

06

Use visualisation to spot any abnormality and share information.

02

No standard means no improvement.

07

Aim for development on the floor.

03

The voice of the customer is present everywhere in the business.

08

Best practices are shared and adopted across the business.

04

Our target is zero losses.

09

The involvement of people is essential for success.

05

A rigorous application of tools and methods.

10

Create a sense of urgency.

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// INITIATIVES

Armacell works through multiple initiatives and alliances to promote sustainability and a more efficient use of energy in buildings, which account for 35-40% of global CO₂ emissions.

// European Alliance for Companies for Energy Efficiency in Buildings (EuroACE): Working with European institutions to move Europe forward in energy efficiency.

// Renovate Europe Campaign (REC): A EuroACE initiative and the only EU-wide campaign focusing solely on the renovation of building stock in the EU.

// European FEF and PEF Interest Group (CEFEP): A syndicate for technical insulation providers and a mouthpiece for the industry in communicating the products' benefits.

// European Industrial Insulation Foundation (Eiif): A neutral non-profit that promotes insulation as a top-of-mind method to enhance sustainability and profitability.

// U.S. Green Building Council (USGBC): An initiative committed to transforming the way buildings are designed, constructed and operated through LEED. (Leadership in Energy and Environmental Design).

// SAFETY STANDARDS

Safety Standards

Supporting our mission to develop innovative and safe thermal, acoustic and mechanical solutions, as well as our zero-accident mindset, health and safety considerations are deeply integrated into our products and day-to-day operations.

SHARP (Safety & Health Achievement Recognition Award Program)

This certification from the Occupational Health and Safety Administration (OSHA) recognises employers who operate exemplary safety and health programmes. Five Armacell plants in North America are SHARP-certified.

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)

This is a regulation of the European Union (EU), adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals.

RoHS (Restriction of Hazardous Substances Directive)

The RoHS EU Directive aims to prevent the risks posed to human health and the environment related to the management of electronic and electrical waste by restricting the use of certain hazardous substances which can be substituted by safer alternatives.

CE marking

The Conformité Européenne (CE) Mark is defined as the EU's mandatory conformity marking for regulating the goods sold within the European Economic Area. It indicates compliance with European health, safety, and environmental protection standards. Armacell is the first manufacturer of technical insulation materials to provide CE-certified products and has had this conformity marking for ArmaFlex® products since 2012.

UL (Underwriters Laboratories) classified mark

ArmaFlex® Ultra with FlameDefense™ technology is the first flexible elastomeric foam insulation UL Classified as to UL 723.

ASTM certification

ASTM International, formerly known as the American Society for Testing and Materials, is an international standards organisation that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems and services.

2021 Platinum Level Safety Excellence

Armacell in the USA achieved the Platinum Level in the 2021 National Insulation Association (NIA) Safety Excellence Award in the associate (manufacturer) category. NIA's Safety Excellence Award is the only national award for outstanding safety performance in the U.S. mechanical insulation industry.

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// GREEN BUILDING INITIATIVES

As the construction industry and building occupants are becoming more and more environmentally conscious, our compliance cards for selected products and contributions to BREEAM and LEED categories, as well as the GREENGUARD GOLD certification mark for low-chemical emissions or the WELL Building Standard certification, help designers, architects, engineers and consultants and developers make the right choice.

GREENGUARD GOLD

This standard is designed to define low-emitting materials suitable for environments where people, particularly children and sensitive adults, spend extended periods of time in places like schools and healthcare facilities. GREENGUARD certified products are screened for more than 10,000 volatile organic compounds and face annual re-certification and regular monitoring to maintain credentials.

Most of Armacell's insulation products are certified under this programme and bear the GREENGUARD Gold Certification mark. These include:

- // AP ArmaFlex®
- // AP SpiralFlex™
- // UT SolaFlex
- // NH ArmaFlex®
- // Tubolit®
- // AP ArmaFlex® Insulation Tape

LEED®

Leadership in Energy and Environmental Design (LEED) is the most widely used green building rating system in the world. It provides a framework for healthy, highly efficient and cost-saving green buildings.

BREEAM®

Building Research Establishment Environmental Assessment Method (BREEAM®) is a leading science-based suite of validation and certification systems for a sustainable built environment.

LEED® and BREEAM® include:

- // AF/ArmaFlex
- // ArmaFlex® LS
- // ArmaFlex® SF990
- // ArmaFlex® Ultima SF990
- // HT/ArmaFlex
- // SH/ArmaFlex
- // ArmaFlex® ACE Plus
- // ArmaFlex® Protect
- // ArmaFlex® Ultima
- // ArmaFlex® XG
- // NH/ArmaFlex
- // Tubolit DG Plus

WELL Building Standard®

Taking a holistic approach, this is a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being.

- // AF/ArmaFlex
- // ArmaFlex® SF990

// SELF-COMMITMENTS

- // The Ten Principles of the United Nations Global Compact
- // The Armacell Code of Conduct
- // The Armacell Supplier Code of Conduct
- // The United Nations Sustainable Development Goals (SDGs)
- // The Global Reporting Initiative (GRI) Standards

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Armacell International S.A. (referred to as Armacell or Armacell Group) is the inventor of flexible elastomeric foams for equipment insulation.

The majority shareholders of Armacell are private equity funds managed by PAI Partners. The remaining shares are held by the holding and investment company KIRKBI and Armacell's senior management team.

Armacell has reported the information cited in this GRI content index for the period from 1 January 2021 to 31 December 2021 with reference to the GRI Standards. The GRI content index covers all the information provided in the report, even if the available information on the individual indicators does not fully meet the requirements in all respects. Armacell is working intensively on collecting data and facts more comprehensively and reporting in accordance with the GRI Standards in the near future.

This Sustainability Report is complemented by the content of our Annual Report 2021. The latter provides extensive insights into the development of the company, its strategic approach, and how business and sustainability are connected.

The annual report can be downloaded from our website:
<https://www.armacell.com/investors/annual-report-2021>

Further information on current sustainability projects can also be found on our website:
<https://www.armacell.com/sustainability>

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¹ Armacell made minor restatements during this reporting period: see in-depth information and data // protecting our planet, [see page 69](#)

² This report has not been subject to external assurance. Armacell will successively introduce such a process in preparation for the obligations of the Corporate Sustainability Reporting Directive (CSRD).

³ There are no employees who work for Armacell without having an employment relationship with our company.

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GRI 301: Materials [2016]				
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GRI 302: Energy [2016]				
3-3	Management of material topics	38f		
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3-3	Management of material topics	38f		
305-1	Direct (Scope 1) GHG emissions	40, 69	7, 8	12.4, 13.1, 14.3
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305-5	Reduction of GHG emissions	40	8, 9	13.1, 14.3

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GRI 308: Supplier Environmental Assessment [2016]				
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GRI 403: Occupational Health and Safety [2018]				
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403-2	Hazard identification, risk assessment, and incident investigation	20f		8.8
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403-9	Work-related injuries	20, 68		
GRI 404: Training and Education [2016]				
3-3	Management of material topics	23		
404-1	Average hours of training per year per employee	18, 23	6	8.2, 8.5
404-2	Programmes for upgrading employee skills and transition assistance programmes	23		8.2, 8.5
404-3	Percentage of employees receiving regular performance and career development reviews	24, 68		

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GRI 407: Freedom of Association and Collective Bargaining [2016]			
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GRI 413: Local Communities [2016]			
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413-1 Operations with local community engagement, impact assessments, and development programmes	25f		
GRI 414: Supplier Social Assessment [2016]			
3-3 Management of material topics	52		
414-1 New suppliers that were screened using social criteria	52 – 54	2	8.8
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GRI 416: Customer Health and Safety [2016]			
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// MATERIAL TOPICS

Areas of Commitment	Material Topics	Goals	KPIs
Investing in our people	Providing a safe place to work and promoting employee satisfaction and people engagement	Aim for zero accidents	Lost-time accidents frequency index
	Providing a safe place to work and promoting employee satisfaction and people engagement	Increase safety awareness	Training and information sessions
	Providing a safe place to work and promoting employee satisfaction and people engagement	Increase people engagement	Employee survey
	Providing a safe place to work and promoting employee satisfaction and people engagement	Guarantee annual feedback	Employee performance reviews
	Fostering equal opportunities to grow and succeed at all levels of the organisation and in our markets	Identify and develop future leaders	Internal promotions
	Supporting local communities	Improve the quality of life in local communities	Voluntary donations and activities
Furthering sustainable growth	Maintaining the highest product quality standards and extending our portfolio of sustainable solutions	Enhance product safety and energy efficiency	Number of quality tests performed
	Maintaining the highest product quality standards and extending our portfolio of sustainable solutions	Extend sustainable product portfolio	New products with clear sustainable advantage
	Investing in low-impact and durable performance products	Increase customer satisfaction	Interact with customers on ESG topics
Protecting our planet	Contributing to the transition to a low-carbon economy and reducing CO ₂ emissions	Reduce Scope 1 & 2 emissions	Tonnes of CO ₂ emissions
	Designing solutions that preserve natural resources	Reduce production-related water consumption	Litre per metric tonne of finished goods
	Designing solutions that preserve natural resources	Reduce production-related energy consumption	MJ per metric tonne of finished goods
	Promoting recycling and accelerating our journey towards a circular economy	Increase recycling of production-related waste	Percentage of waste recycled
	Promoting recycling and accelerating our journey towards a circular economy	Increase recycled PET consumption	Percentage of rPET in ArmaPET
Enabling governance	Driving compliance and fostering a culture of robust business ethics	Foster a culture of robust business ethics	Employees trained on Code of Conduct
	Protecting our business and reputation	Mitigate IT risks	Reinforced security policies and mandatory trainings
	Complying with the laws and regulations applicable in every country where we do business	Assess supplier level of compliance with ESG standards	Supplier assessments and audits

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// INVESTING IN OUR PEOPLE

	Reference/KPI	2017	2018	2019	2020	2021
LTA Gravity Index	total number of lost workdays per 100,000 working hours	5.39	6.78	1.71	3.84	4.26
LTA Frequency Index	total number of lost-time accidents > 1 day	0.22	0.20	0.20	0.24	0.25
Medical Treatment Frequency Index	number of accidents leading to an absence from work of ≤1 day per 100,000 working hours	0.50	0.67	0.57	0.56	0.54
Employees trained on safety measures ¹	total number	-	-	-	-	-
Employee feedback process	% of total employees	-	-	-	-	> 90
New employee hires	total number	-	-	-	453	692
Employee turnover	% of total employees	-	-	-	13.7	19.8

¹Detailed data on employee safety trainings will be available as of 2022.

Age groups	20 and under	21 – 30	31 – 40	41 – 50	51 – 60	61 – 64	65 and over	(Regular) Headcount
Total number of employees	44	643	1,030	829	579	120	24	3,269

// FURTHERING SUSTAINABLE GROWTH

	Reference/KPI	2017	2018	2019	2020	2021
Products non-compliant with regulations and/or voluntary codes	total number	0	0	0	0	0

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// PROTECTING OUR PLANET

	Reference/KPI	2017	2018	2019	2020	2021
Energy consumption ¹	in MJ total consumption	434,903,375	417,381,282	438,999,581	423,933,738	491,667,305
	in MJ per tonne of finished goods	2,958	2,763	2,784	2,812	2,809
Electricity consumption ¹	in kWh total consumption	120,775,861	115,903,903	121,901,162	117,721,397	136,525,904
	in kWh per tonne of finished goods	821.4	767.3	773.0	781.0	779.9
Renewable energy production ²	MWh	-	-	749	749	749
Gas consumption ¹	in m ³ total consumption	11,521,974	12,567,781	15,361,354	13,514,146	17,205,361
	in m ³ per tonne of finished goods	78.4	83.3	97.4	89.6	98.3
CO ₂ emissions	in kg total	79,958	79,922	87,973	82,080	169,116
	in kg per tonne of finished goods	5.4	5.3	5.6 ³	5.4	5.6
CO ₂ e Scope 1	in tonnes	-	-	-	-	31,470
CO ₂ e Scope 2	in tonnes	-	-	-	-	55,155
CO ₂ Scope 1 & 2	in tonnes	79,958	79,922	87,973	82,080	86,625
CO ₂ Scope 3	in tonnes	-	-	-	-	82,491
Water consumption ¹	in m ³ total consumption	145,995	146,469	115,607	124,016	147,295
	in litre per tonne of finished goods	9.9	9.7	7.3 ²	8.2	8.4
Waste	total in tonnes	15,923	16,347	16,800	15,957	18,725
	hazardous	in tonnes	-	-	-	-
non-hazardous	in tonnes	-	-	-	-	17,352
recovered	in tonnes	-	-	-	15,366	14,181
recycled	in tonnes	6,209	7,683	9,240	10,052	11,047
	%	39	47	55	63	59
to landfill	in tonnes	3,821	5,721	6,888	3,350	4,306
	%	24	35	41	21	23

¹ At 19 of 24 plants.² At our Thimister-Clermont plant in Belgium.³ 2019 number was restated.

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// ENABLING GOVERNANCE

	Reference/KPI	2017	2018	2019	2020	2021
Employees acknowledge code of conduct	total number	2,990	3,054	3,135	3,167	3,269
	%	100	100	100	100	100
Non-compliance with laws & regulations	total number	0	0	0	0	0
Fines or non-monetary sanctions	total number	0	0	0	0	0
Complaints concerning customer privacy	total number	0	0	0	0	0
Raw materials suppliers confirming code of conduct	total number	-	-	-	-	~ 400
	%	-	-	-	-	~ 10

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