

INVEST IN BETTER OFFSHORE PERFORMANCE

Offshore Solutions

In the demanding world of offshore energy, insulation systems must withstand extreme conditions while delivering consistent performance. Armacell provides advanced thermal and acoustic insulation solutions tailored for offshore platforms and FPSOs.

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 **armacell**[®]
DRIVING ENERGY EFFICIENCY

A large offshore oil processing platform is shown against a clear blue sky. The platform features two prominent, tall, lattice-structured towers with alternating red and white vertical sections. A central derrick is also visible. The base of the platform is a complex of white and grey modules. The entire structure is situated on a dark, flat surface, likely the ocean.

Processing Platform Module

Armacell designed and developed a complete ArmaSound Industrial insulation system for Clair Ridge. We provided Thermal and Acoustic (FEF) Insulation solutions for process piping within offshore environments; with a temperature range of ambient to +125°C and above.

ARMACELL IN OFFSHORE ENVIRONMENTS

INVEST IN BETTER PERFORMANCE OFFSHORE

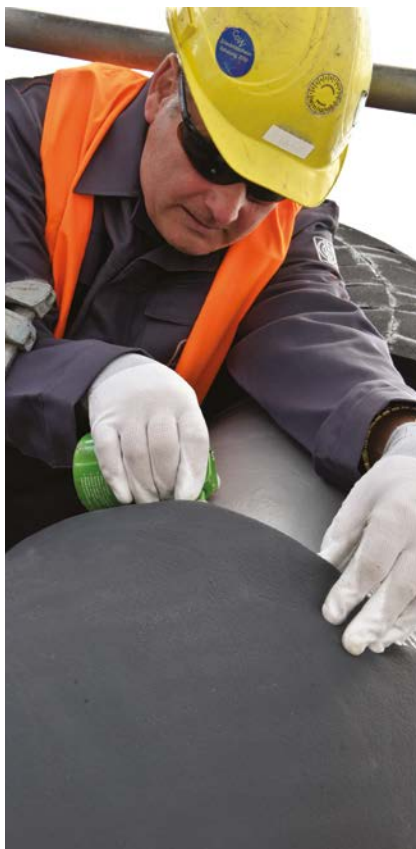
In the high-stakes world of offshore energy, reliability is everything. Armacell delivers advanced thermal and acoustic insulation systems engineered to perform in the most extreme marine environments. Whether on offshore platforms or FPSOs, our solutions are designed to ensure safety, efficiency, and long-term durability. Helping operators meet the toughest operational and environmental demands.

Our flagship products - **ArmaFlex®**, **ArmaGel®**, **ArmaSound®** and **ArmaClad™** **Arma-Chek R** - are engineered to meet the rigorous demands of offshore environments, offering:

- Superior thermal and acoustic performance
- Corrosion Under Insulation (CUI) mitigation
- Reduced weight and thickness
- Enhanced safety and asset integrity

With a global footprint and a dedicated energy division, Armacell supports operators, engineers, and contractors in designing and installing insulation systems that improve productivity, reduce lifecycle costs, and ensure long-term reliability.

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ENGINEERED FOR OFFSHORE EXCELLENCE

Together, ArmaFlex and ArmaGel offer a powerful combination of flexibility, durability, and performance - perfectly suited for offshore energy operations.

ARMAFLEX

FLEXIBLE, RESILIENT, RELIABLE

ArmaFlex is a closed-cell, flexible insulation material that resists water ingress and mechanical damage. Ideal for offshore applications, it offers:

- Integrated vapour barrier for moisture protection
- Resistance to vibration and mechanical abuse
- Superior fit around complex geometries, reducing heat loss and rework
- Reduced risk of CUI through closed-cell structure



ArmaSound RD240



ArmaFlex

ARMASOUND

ArmaSound Industrial Systems, built on ArmaGel and ArmaFlex technologies, deliver high-performance acoustic and thermal insulation tailored for the demanding conditions of offshore oil and gas operations. Key benefits include:

CUI mitigation: Hydrophobic materials and integrated vapour barriers reduce corrosion risk.

Durability: Resistant to vibration, mechanical damage, and harsh offshore conditions.

Fast installation: Flexible materials reduce labour time, rework, and maintenance.

Worker safety: Reduces noise exposure, enhancing health and environmental protection.

ARMAGEL

AEROGEL INNOVATION FOR EXTREME CONDITIONS

ArmaGel is a hydrophobic aerogel blanket that delivers high thermal performance at a fraction of the thickness of traditional materials. Offshore benefits include:

- Up to 80% thinner insulation for space-constrained environments
- Lightweight design reducing structural load
- Hydrophobic properties that prevent moisture ingress
- Proven CUI mitigation and enhanced safety



ArmaGel XGC

ArmaGel XGC
IMO 5 Super
Pass

ARMACLAD ARMA-CHEK R

Arma-Chek R is a flexible, non-metallic covering system engineered to protect insulation in demanding offshore and industrial environments. Designed to work in harmony with ArmaFlex, it provides an expansion allowance that supports system adaptability and longevity. Key benefits include:

Superior mechanical and weathering protection:

Offers robust shielding against physical damage and environmental wear.

UV, salt, and chemical resistance: Ideal for harsh marine conditions, ensuring durability and performance.

CUI mitigation: Features an integrated water vapour barrier ($\mu > 50,000$) to reduce corrosion risk.

System compatibility: Naturally integrates with ArmaFlex insulation for enhanced thermal efficiency and protection.

IMO Part 2 and Part 5 compliant: Meets stringent fire safety and smoke toxicity standards for marine applications, supporting regulatory compliance and crew safety.

OFFSHORE BENEFITS

PERFORMANCE, SAFETY, AND SAVINGS

These features help safeguard offshore infrastructure, extend asset life, and protect workers from hazardous conditions.

Project, Operations, and Energy Savings

- Up to 30% installed cost savings
- Faster installation with flexible, easy to-fit materials
- Reduced cladding and support requirements
- Lower heat loss—up to 20x reduction on high-temp applications
- Simplified inspection and maintenance



Arma-Chek R



ArmaGel XGH

Asset Integrity and Safety

- Noise reduction with ArmaSound systems
- CUI prevention through closed-cell and hydrophobic materials
- Moisture control via tortuous path design
- Elimination of galvanic corrosion with non-metallic jacketing

Replacing
mineral
wool with
customised
solution



Powering a sustainable future

To improve insulation performance and prevent corrosion under insulation. Upgrading its pioneering offshore converter platform in the German North Sea.

ENERGY PRODUCT SELECTOR - MATRIX

Application Areas	Thermal / Acoustic	Typical Insulation Class	ArmaFlex Industrial	Local Approved ArmaFlex Grades (i)	ArmaFlex Ultima (ii)	ArmaFix pipe Supports	ArmaGel XGH	ArmaGel XGC	ArmaSound RD240	ArmaSound Barriers	Arma-Chek R
Process Pipework / Equipment • Ship – Topside • Plant – Onshore / Offshore	Thermal	C, C1, CC, CR, AC, H, H1, HC, HT, PP, WI, WT, D/DS	Industrial grade FEF insulation	Flexible, closed-cell FEF insulation	Flexible insulation with BL-s1,d0	Pipe support solution for plumbing and heating	Aerogel based insulation for high-temperature applications	Cryogenic and dual-temperature aerogel based insulation	Elastomeric, foam based, sound absorption insulation	High performance noise barriers for ArmaSound Industrial Systems	Flexible non-metallic covering for energy applications
			-50°C to 125°C (-58°F to 257°F)	-50°C to 110°C (-58°F to 230°F)	-196°C to 110°C (-320°F to 230°F)	-50°C to 110°C (-58°F to 230°F)	< 650°C (< 1200°F)	-196 °C(iv) to 250°C (-320°F (iv) to 482°F)	-20 °C to 85°C (-4°F to 185°F)	-20 °C to 95°C (-4°F to 203°F)	-50 °C to 100°C (-58°F to 212°F)
	Acoustic	AA, AI, AT, CA, DA, AH	✓	✓	✓ (iii)		✓	✓	✓		✓
LNG / Cryogenic • Pipework • Vessels / Equipment	Thermal	C, C1, CC, CR, AC, PP, D/DS			✓ (iii)			✓			
	Acoustic	AA, AT, CA, DA	✓					✓	✓		✓ (v)
	Thermal	C, C1, AC, PP, WI, WT	✓	✓	✓	✓	✓	✓			✓
HVAC/Chilled Water/Waste water • Ship – Hull • Plant – Offshore / Onshore	Thermal	C, C1, CR, AC, HC, HT	✓	✓	✓	✓		✓			✓
	Acoustic	AA, AT, CA, DA, AH	✓					✓	✓		✓
	Thermal	C, C1, CC, PP	✓	✓	✓	✓		✓			✓
Refrigeration pipework	Thermal	H, H1, HC, PP				✓					
	Acoustic	AA, AI, AT, CA, DA, AH	✓					✓			
	Thermal	C, C1, CC, AC, H, H1, HC, HT, PP, WI, WT	✓	✓	✓ (iii)		✓	✓			✓
High temperature steam lines	Thermal	C, C1, CC, PP	✓	✓	✓	✓		✓			✓
	Acoustic	AA, AI, AT, CA, DA, AH	✓					✓			
	Thermal	C, C1, CC, AC, H, H1, HC, HT, PP, WI, WT	✓	✓	✓ (iii)		✓	✓			✓
Acoustics • Noisy machinery / Equipment • Gas compressor stations • Other	Thermal	C, C1, CC, PP	✓	✓	✓	✓		✓			✓
	Acoustic	AA, AI, AT, CA, DA, AH	✓					✓			
	Thermal	C, C1, CC, AC, H, H1, HC, HT, PP, WI, WT	✓	✓	✓ (iii)		✓	✓			✓
Transportation pipelines and storage • Pipelines • Storage tanks • Exterior ducts	Thermal	WI, WT	✓	✓	✓	✓		✓			✓
	Acoustic	AA, AI, AT, CA, DA, AH	✓					✓			
	Thermal	C, C1, CC, PP	✓	✓	✓	✓		✓			✓
Fire Mains	Thermal	C, C1, CC, AC, H, H1, HC, HT, PP, WI, WT	✓	✓	✓ (iii)		✓	✓			✓
	Acoustic	AA, AI, AT, CA, DA, AH	✓					✓			
	Thermal	C, C1, CC, PP	✓	✓	✓	✓		✓			✓

(i) - Please consult our local technical representatives for the appropriate product type suitable for the required application (ii) Or other approved ArmaFlex insulation of cryogenic grade. (iii) Limited to pipe sizes up to 3 inch (DN 80) diameter for temperatures below -50°C (-58°F). (iv) For operating temperatures below -180 °C, special attention must be given to the system design and craftsmanship during installation to ensure that the material does not come in contact with liquid oxygen. (v) Arma-Chek R is only recommended for cryogenic acoustic insulation systems when applied over the top of rigid thermal insulation materials (such as PIR or Cellular Glass). Please consult the technical services team when considering as a covering for general cryogenic insulation systems.

Key: C- Cold Service, C1- Cold Service/condensation control, CC- Cold conservation, CR- Dual/cyclic Hot & Cold condition (Regeneration), AC- Anti-condensation, H- Heat conservation & process control, H1- Process stability, HC (no trace heating)- Heat conservation, HT with trace cable- Heat conservation, PP- Personal Protection, WI- Winterization with trace cable, WT- Winterization without trace heat, D/DS- Dual insulation with acoustic insulation, AI- Acoustic insulation with trace cable, AT- Acoustic insulation without trace cable, CA- Cold acoustic, DA- Dual insulation with acoustic insulation, AH- Hot acoustic insulation

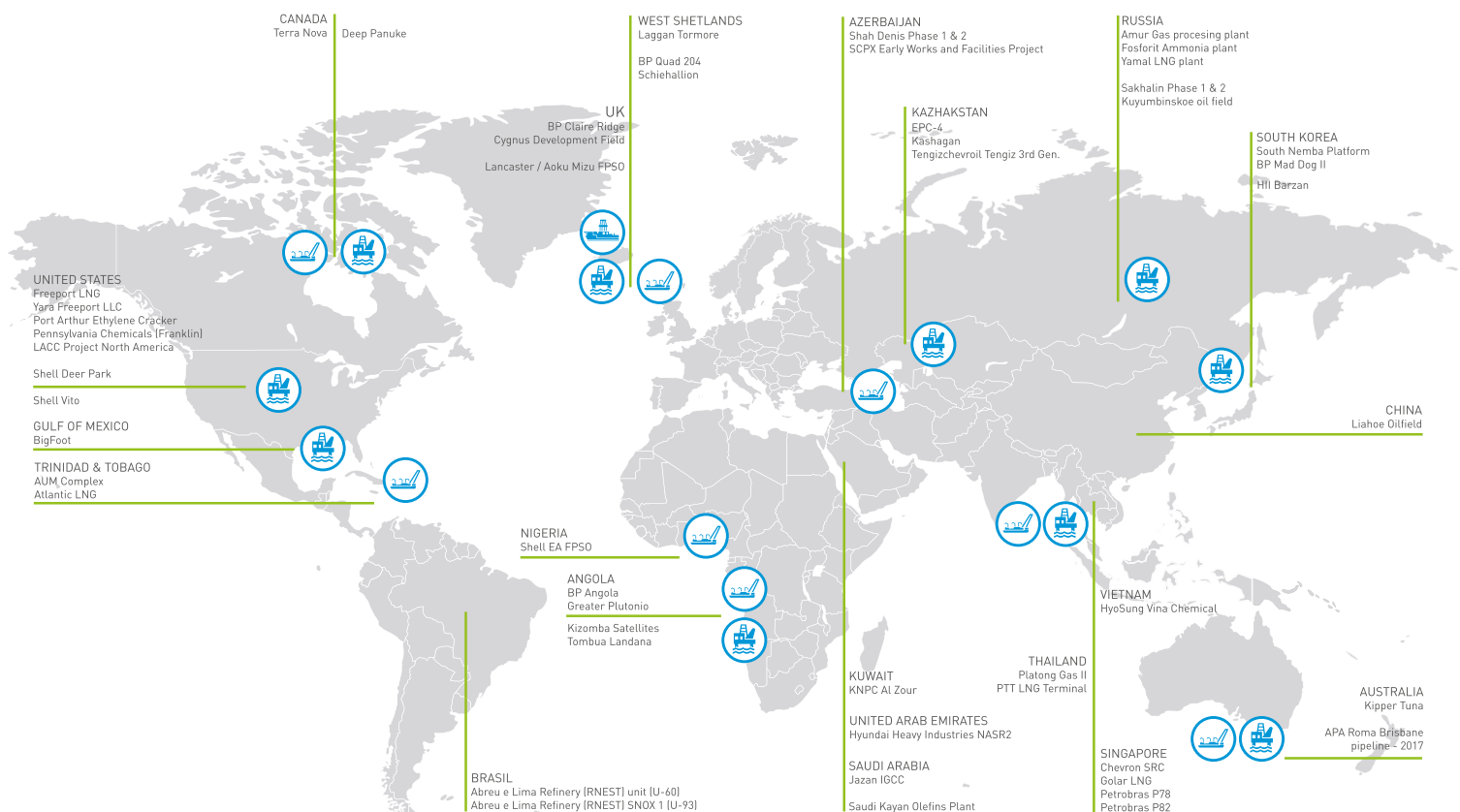
GLOBAL EXPERTISE, LOCAL SUPPORT INSULATING THE FUTURE OF OFFSHORE ENERGY

Armacell is proud to support iconic offshore energy projects around the world. With over 3,300 employees and 26 production plants in 20 countries, we bring global expertise and local support to every offshore installation.

Our technical experts work closely with clients to:

- Design optimal insulation systems
- Provide on-site training and support
- Ensure compliance with offshore standards
- Deliver sustainable value through innovation

Whether you're building new offshore assets or upgrading existing infrastructure, Armacell Energy is your partner in performance, safety, and efficiency.



Contact us today to learn how ArmaFlex and ArmaGel can transform your offshore operations.
www.armacell.com

All data and technical information are based on results achieved under the specific conditions defined according to the testing standards referenced. Despite taking every precaution to ensure that said data and technical information are up to date, Armacell does not make any representation or warranty, express or implied, as to the accuracy, content or completeness of said data and technical information. Armacell also does not assume any liability towards any person resulting from the use of said data or technical information. Armacell reserves the right to revoke, modify or amend this document at any moment. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. This document does not constitute nor is part of a legal offer to sell or to contract. At Armacell, your trust means everything to us, so we want to let you know your rights and make it easier for you to understand what information we collect and why we collect it. If you would like to find out about our processing of your data, please visit our Data Protection Policy.

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ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal and mechanical insulation solutions that create sustainable value for its customers. Armacell's products significantly contribute to driving energy efficiency worldwide. With more than 3,300 employees and 26 production plants in 20 countries, Armacell operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.

For more information, please visit:
www.armacell.com

