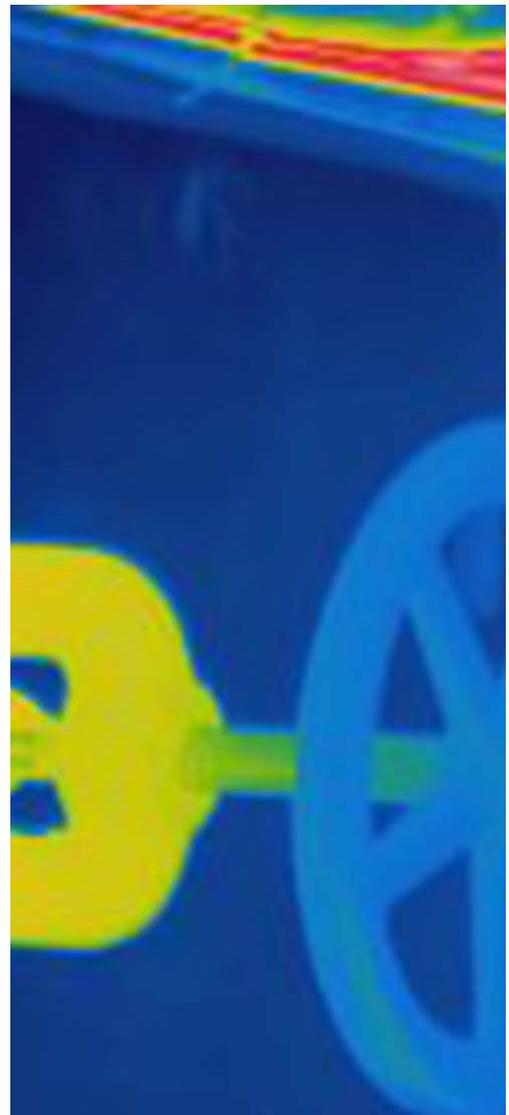
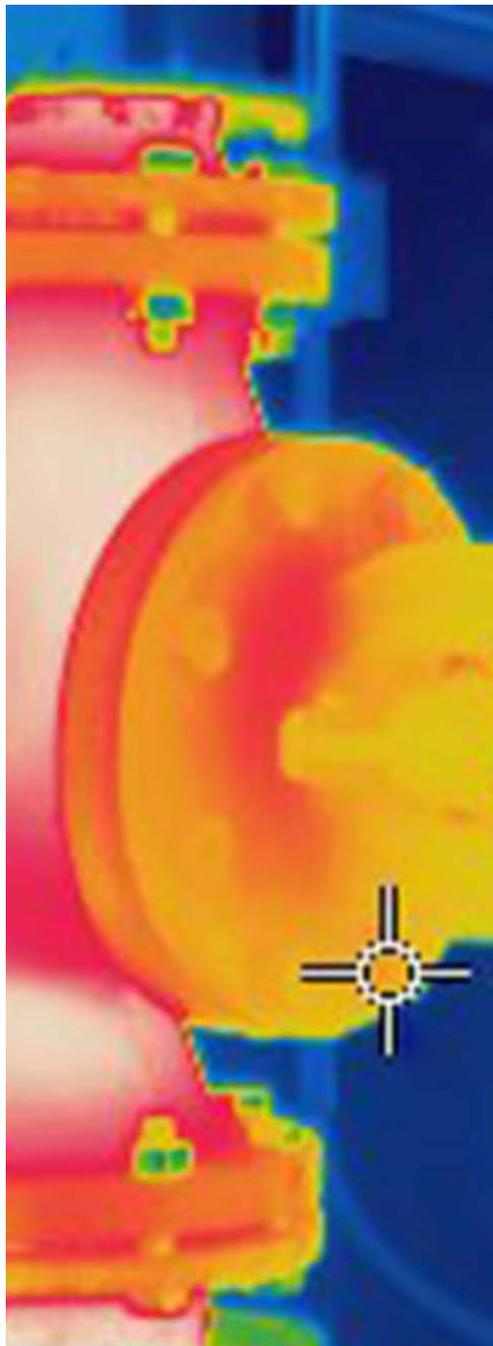


INCREASE PROFITABILITY BY SAVING ENERGY

Energy Assessment Services

Working with you to save energy, reduce CO₂ emissions and maximise your profitability on industrial piping.

www.armacell.com/energy



Struggling with increased energy costs and poor insulation?

A key factor in ensuring that plants and facilities operate efficiently is the long-term performance of the **insulation systems applied on pipework**. Energy losses through poorly insulated pipes and equipment can lead to costly CO₂ emissions and high energy consumption. **Energy Assessments** are an effective way to assess the energy losses across your facility and to determine the right course of action for remediation.

Up to 10% of industrial pipes are known to have poor or damaged insulation¹. Upgrading these insulation systems to a more energy efficient category would reduce energy losses at these locations by about 80%¹.

In addition to improved **energy efficiency**, further advantages of properly insulated industrial pipework include:

- improvement in the overall **productivity** (yield) of the facility or process,
- improvement in the **process stability**, i.e. avoiding unacceptable temperature changes during fluid flow.

¹Eiif Study 2021, The insulation contribution to decarbonise industry.

ENERGY ASSESSMENT SERVICES

Armacell's Energy team are available to perform onsite energy assessments of existing insulation systems installed on industrial pipework and equipment. Through detailed analysis of the plant/process energy cycle, the energy assessment is used to recommend solutions to address high fuel costs, energy losses and process instabilities, with an attractive return on investment (ROI).

BENEFITS

Fair and unbiased approach // Energy Assessments are conducted based on the standardised rules defined in e.g. TipCheck or EN 16247

Non-intrusive // Energy Assessments can be performed during normal operation of the plant and through online consultation

Immediate solution // Energy Assessments are highly effective at quickly identifying pipework with deficient insulation and in recommending solutions with short-term payback, typically within 3 years.

ENERGY ASSESSMENT METHODOLOGY



Initial assessment



Data acquisition



Measurement



Calculation & analysis



Reporting & conclusion



EXAMPLE PROJECT REFERENCE

// HIGH TEMPERATURE PIPEWORK

// **When:** 2021

// **Where:** Petrochemical plant in Eastern Europe.

// **Application:** Pipework: NPS 3 - 10 inch, operating temperatures 230°C and 440°C (steam). Total pipe length +1500 m.

// **Methodology:** Surface temperature, thickness, ambient condition etc. measured using specialist equipment. Recommendations for rectification given based upon further evaluation of the plant's operating parameters (e.g. heat generation efficiency, cost of fuel, annual operation period, expected service life and the cost of replacement).

// **Results:**

- More than 80% of the pipework had insulation systems in poor condition.
- Replacing the existing insulation with a more energy efficient system was identified to deliver payback within 3 years.
- This would yield financial savings of €170k annually. This equates to €133 annually for each linear meter of the pipe.

€170K
saving
annually

< 3 years
pay back



Eiif // DN 150 VALVE ENERGY SAVING STUDY



// **Application:** One uninsulated industrial valve

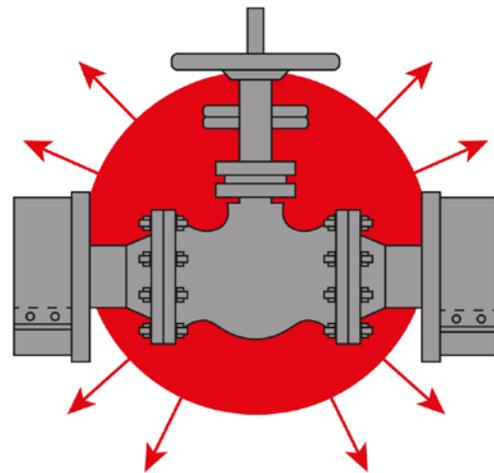
// **Size:** NPS 6 / DN 150

// **Temperature:** 150°C

// **Operational time:** All year (8,760 hrs)

// **Annual Energy Loss:** 10,600 kWh

// **Annual Energy Saving with insulation:** 10,000 kWh



10,000 kWh
saving per
valve
annually

Speak with our technical specialists or book your
Energy Assessment today: Technical.oilandgas@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.

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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With more than 3,200 employees and 27 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next-generation aerogel blanket technology.

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