

# INSULATION JUST GOT EVEN BETTER

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*Company Presentation*

*May 2024*





The background of the image shows an industrial setting. Several vertical metal rods or pipes are visible, some with blue caps or markings. A bright blue container is partially visible in the background. The overall scene is slightly blurred, emphasizing the text overlay.

# ABOUT

ARMACELL

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# // Leading in **high-tech** products & **complex systems**



**A global leader** in flexible foams for the equipment insulation market and a leading provider of engineered foams



**HQ in Luxembourg** with regional head offices around the globe



**1860:** Thomas M. **Armstrong** founds a workshop to produce bottle corks in Pittsburgh, USA

**1954:** Start as a **pioneer** in flexible insulation products

**2000:** Armacell starts as a **stand-alone** company, emerging from the successful insulation products division of Armstrong World Industries

**2020:** The **investment firms** PAI Partners and KIRKBI acquire Armacell



# // Recent developments

## 2016

- Acquisition of **PoliPex**, a leading **Brazilian** manufacturer of extruded PE insulation foams
- In South Korea, Armacell establishes **joint venture** with **JIOS Aerogel** for the development and manufacturing of silica aerogel blankets

## 2017

- Armacell acquires insulation business of **Nomaco**, a leading **U.S.** manufacturer of extruded PE insulation foams
- Acquisition of **Danmat Iso Systems**, a leading provider of technical insulation products in **Scandinavia**

## 2018

- Armacell and **Köpp** announce a 15-year **Partnership For Excellence**
- Armacell acquires **TB Concept Inc.** – the Canadian innovator of **Insuguard** pipe support solutions
- Armacell acquires **De Xu** – a **Chinese manufacturer** of elastomeric insulation foams
- Armacell acquires **Guarto** – an **Italian manufacturer** of acoustic insulation solutions

## 2019 / 2020

- Armacell opens new facility in **Bahrain**
- The investment firms **PAI Partners** and **KIRKBI** acquire Armacell
- Armacell opens new facility for elastomeric foams in **South Korea**

## 2022

- Armacell establishes a new customer experience centre with training facility and fabrication workshop in **Singapore**
- Acquisition of the engineering business of **SpiderPlus & Co** in Japan
- Acquisition of **IZOLIR**, a major **Serbian** manufacturer of pre-insulated pipes
- Acquisition of **Austroflex**, a leading **Austrian** manufacturer of pre-insulated pipe systems



# // Armacell at a glance

 3,372 employees worldwide	 25 production facilities in 19 countries on 4 continents	 € 30m invested in R&D over the past three years
 Regional head offices in Chapel Hill (AMERICAS), Singapore (APAC), Münster (EMEA)	 € 836m net sales € 155m EBITDA	 Enabling Energy Efficiency for Equipment

HVAC | HEATING & PLUMBING | REFRIGERATION | OIL & GAS | SOLAR | TRANSPORTATION  
WIND ENERGY | SPORTS & LEISURE | CONSTRUCTION | OTHER

# // Two business **divisions**



## **ADVANCED INSULATION**

Flexible foams for the insulation of technical equipment utilised for the transport of energy

- Heating, Ventilation & Air Conditioning (HVAC)
- Plumbing
- Refrigeration
- Oil & Gas
- Commercial & Residential Equipment



## **ENGINEERED FOAMS**

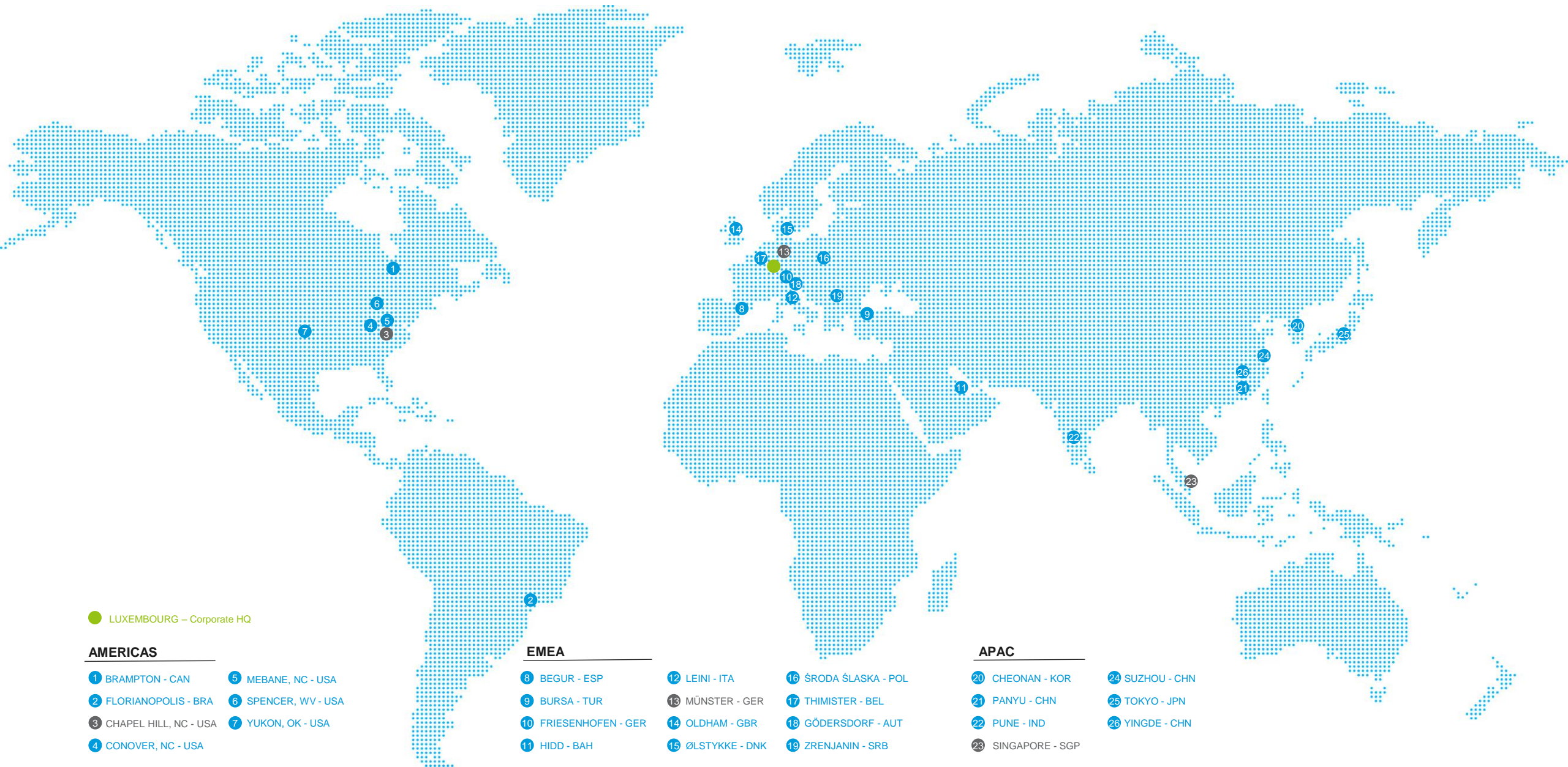
High-performance foams for the use in a broad range of end markets

- Wind Energy
- Automotive
- Transport
- Sports & Leisure





# // Global presence







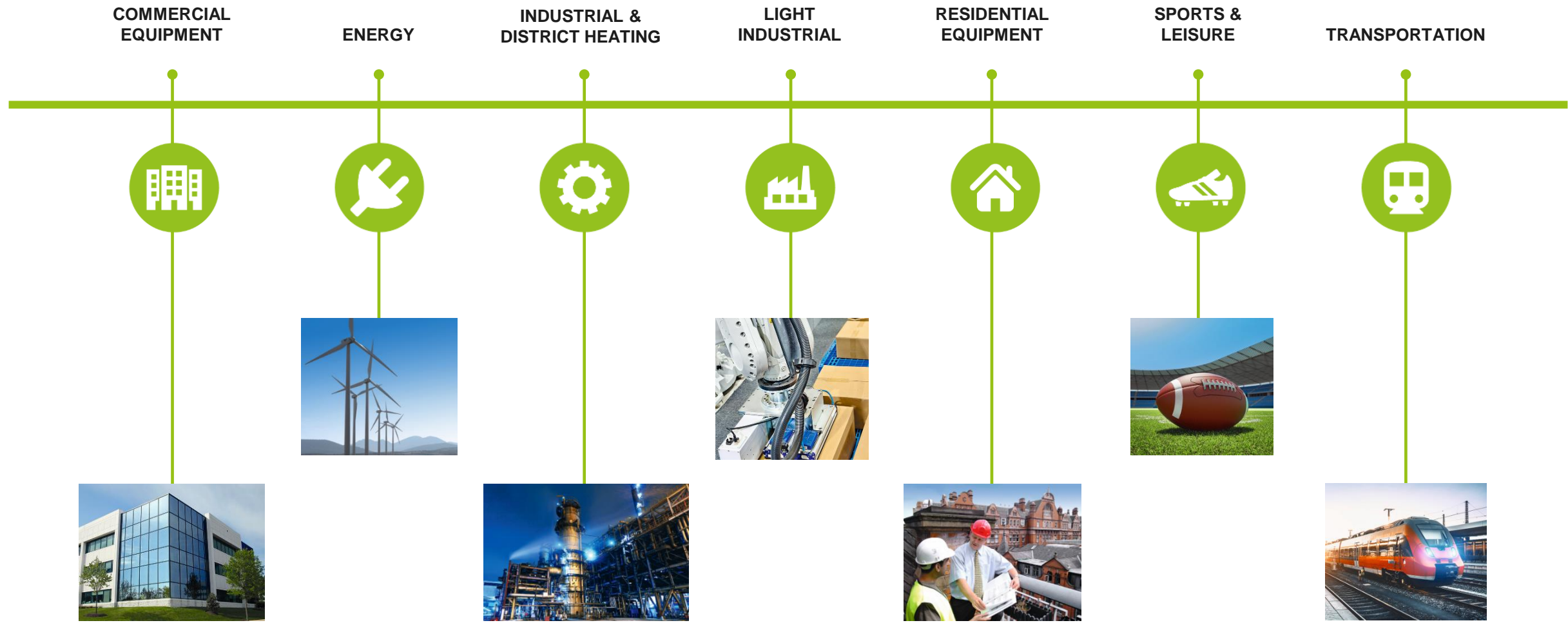
# WHERE

## TO FIND US

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# // End markets



# // Armacell is everywhere





A nighttime aerial photograph of a city square. In the background, a large, illuminated church tower with a dark spire stands out against a deep blue twilight sky. The square below is paved and lit with warm streetlights. A central fountain or monument is visible in the middle of the square. The overall scene is a vibrant urban night view.

# ARMACELL

## IN SERBIA

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# //ARMACELL RS (IZOLIR)

## General Information

- **Founded in 1984** and we had a **jubilee (40th anniversary)** last year
- **In July 2022** acquired by Armacell
- **Location: Serbia, province of Vojvodina, Banat region.**

**Two separate locations** with total business production area of 11.000 m<sup>2</sup> and a storage area of about 30.000 m<sup>2</sup> - **Zrenjanin and Alibunar**

- **Number of employees: 68**
- **Certificates:** ISO 9001, ISO 14001, ISO 45001.

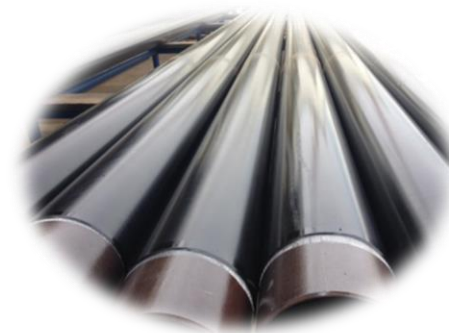




# //ARMACELL RS (IZOLIR)

## Products portfolio

- Pre-insulated steel pipes according to EN253
- Pre-insulated fittings according to EN448
- Pre-insulated valves according to EN488
- Heat shrinkable joints according to EN489
- PEHD casing pipes according to EN253
- PEHD pipes for water systems according to EN 12201
- PEHD pipes for gas distribution according to EN 1555
- Pre-insulated steel pipes for gas distribution according to DIN30670
- PEHD pipes for sewage systems



# //ARMACELL RS (IZOLIR)

## Cladding systems

Cladding systems protect the insulation against ...

- **mechanical damage** and prevent moisture, oil, chemicals and other substances from penetrating and impairing the material's functionality.
- **UV radiation**, the **weather** and the risk of corrosion under insulation (**CUI**).

Furthermore, cladding systems ...

- **facilitate cleaning**, which is particularly important in applications where hygiene is paramount.
- satisfy **aesthetic requirements** (e.g. for ducts and pipes running in open ceilings).
- can enhance the **fire performance** of the installation.



# //ARMACELL RS (IZOLIR)

## Mettal cladding

Complete jacketing range made of galvanised and stainless steel sheets, pure aluminium or aluminium alloys, which are resistant to seawater. Used in warm and cold applications on indoor and outdoor installations to achieve tailor-made constructions for industry, such as the chemical or food sector.

### Your benefits:

- Products fit precisely and can be assembled easily and quickly
- Long-life outdoor applications
- Customised production with different types of metal and thicknesses
- Quick delivery of standard and custom-made claddings

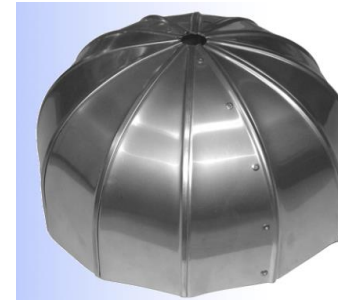
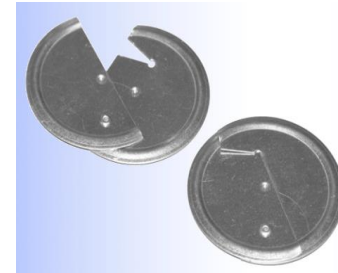


# //ARMACELL RS (IZOLIR)

## Mettal cladding

### Shapes

- Straight jackets
- Bends (normal and economy)
- End caps
- Hoppers
- Caps (flange, valve, trunk, fitting)
- Other tailor made shapes





# //ARMACELL RS (IZOLIR)

## References

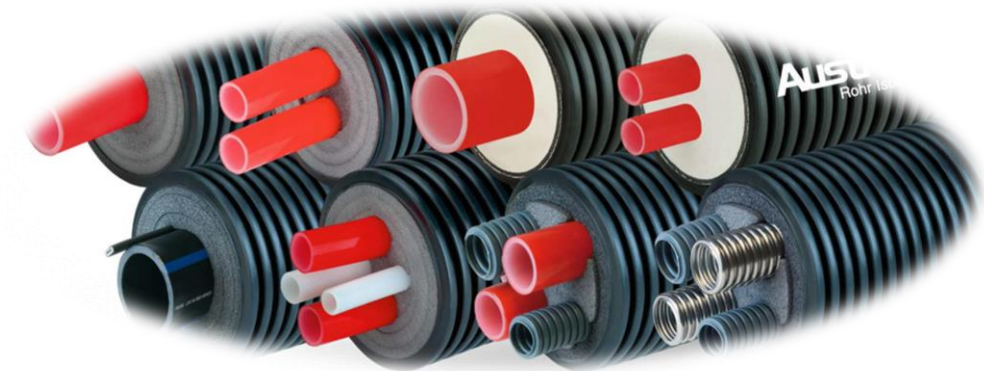
- KfW program phase III for rehabilitation of DH systems in Serbia
- More than 30 of DH companies in Serbia have used our pipes
- PEHD water pipelines in many district water companies
- PEHD gas pipelines in many local gas distribution areas
- Oil pipelines (Turija sever, Trešnjevac, Mokrin, Kikinda, Mihajlovo)
- Delivery of pre-insulated DH steel pipes to neighbouring countries (Bosnia & Herzegovina, Montenegro, Slovenia), so as EU countries (Italy, Germany & Austria)



# //ARMACELL RS (IZOLIR)

## Austroflex pre-insulated flexy pipes

- PE-Xa service pipe
- Double protective PE cover, PUR/PEX insulation
- Max flexibility, low heat losses
- Available size: d25 – d160
- Special program for solar DHW heating systems, for cooling systems as well as combined systems
- Complete program of fittings and auxilliary material





# //ARMACELL RS (IZOLIR)

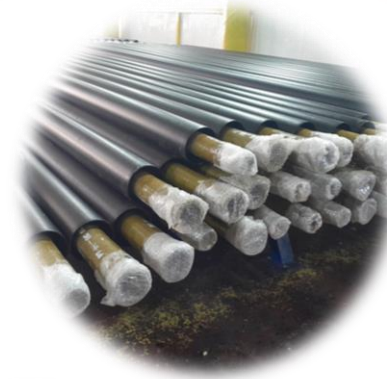
New products & services

## FURTHER DEVELOPMENT OF OUR SCOPE OF PRODUCTS & SERVICES



Preinsulation of:

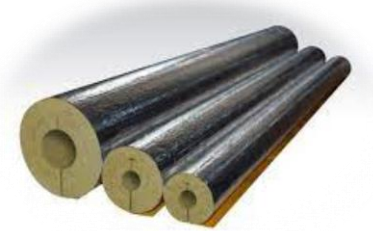
- PEHD pipes & fittings
- PEX pipes
- PPP pipes
- EPOXY pipes
- Steel pipes with auxiliary heating
- Other pipes



# //ARMACELL RS (IZOLIR)

## What makes us unique

- A production facility with the longest tradition on the local market
- Big production capacity
- Production of tailor made pre-insulated steel sections on demand
- Capacity to pre-insulate many other types of pipes, beside the steel pipes
- Production of other insulation related products – Okabell high quality metal cladding
- Ability to organize and execute installation works





# //ARMACELL RS (IZOLIR)

## Why others like doing business with us

- Always 100% focused on the quality of our end-products
- Respect for and paying attention to any client, the same for small and big orders
- Flexible operation - production and delivery time could be shortened in case of urgency for clients
- Sufficient production capacity, that could be easily increased in needed



# ABOUT

## ENERGY

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# Market Sectors

## Insulation Solutions for Oil & Gas and Marine + ENERGY Industries



### MARINE & OFFSHORE

- Floating Production Storage and Offloading Vessels
- Floating Production Unit
- Offshore Production Platforms
- Drill Ships and Drilling Rigs



### REFINING & PETROCHEMICALS

- Ethylene Plants
- Polyethylene Plants
- Ammonia Plants
- Methanol Plants
- Fertilizer Plants



### INDUSTRIAL GASES

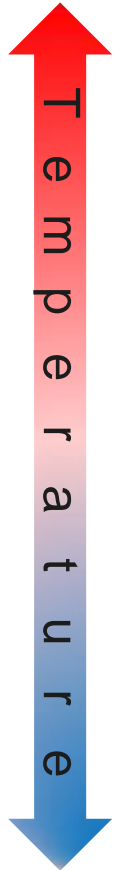
- LNG Import and Export Terminals
- LPG Processing Plants,
- Floating LNG Production and Storage Vessels



### POWER STATIONS

- Power Stations
- District heating Stations
- Combined Heat and Power

+650°C



-180°C

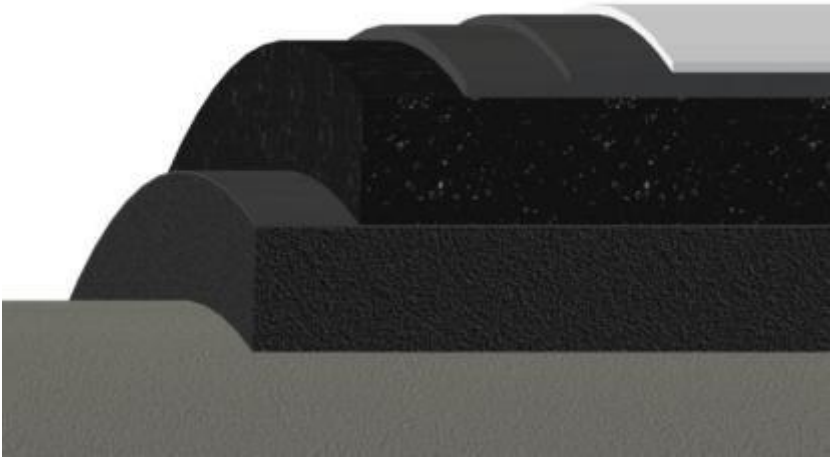
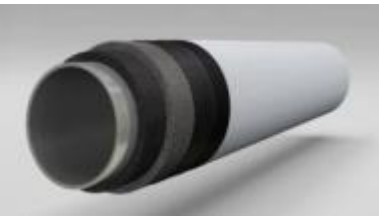
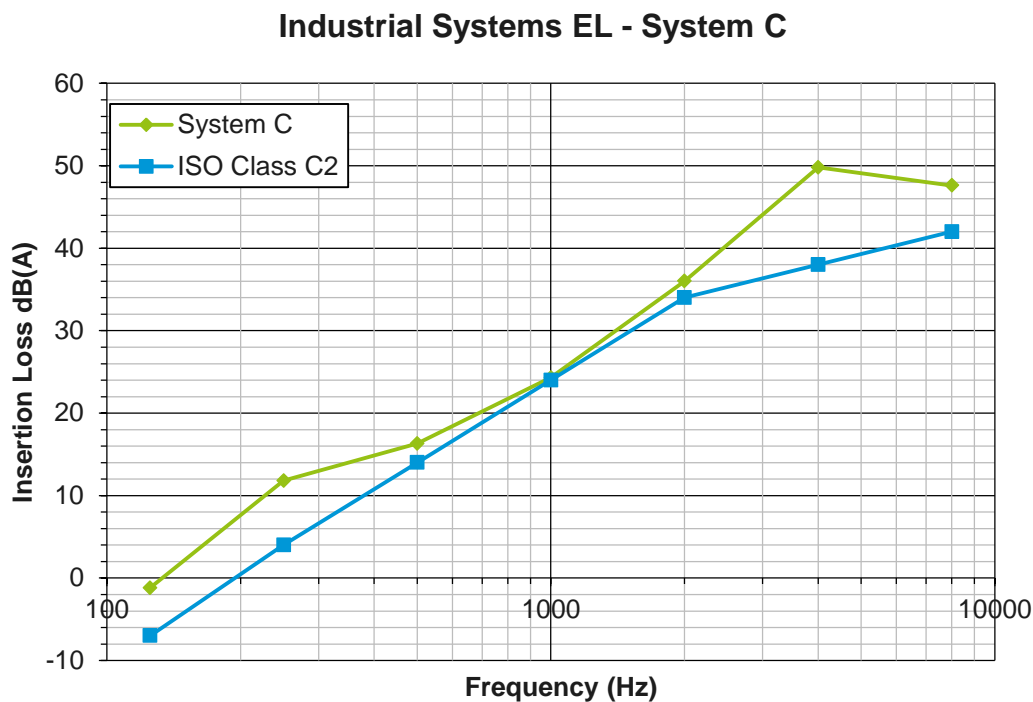


01

# ACOUSTIC ASSESSMENTS

# Armasound Insulation Systems

## System C (FEF)



	Octave band centre frequency, Hz						
	125	250	500	1000	2000	4000	8000
Insertion Loss, dB	-1.2	11.8	16.3	24.3	36.0	49.8	47.6
ISO 15665 Class C2	-7.0	4.0	14.0	24.0	34.0	38.0	42.0

Total Thickness (mm) = 57.0 \*

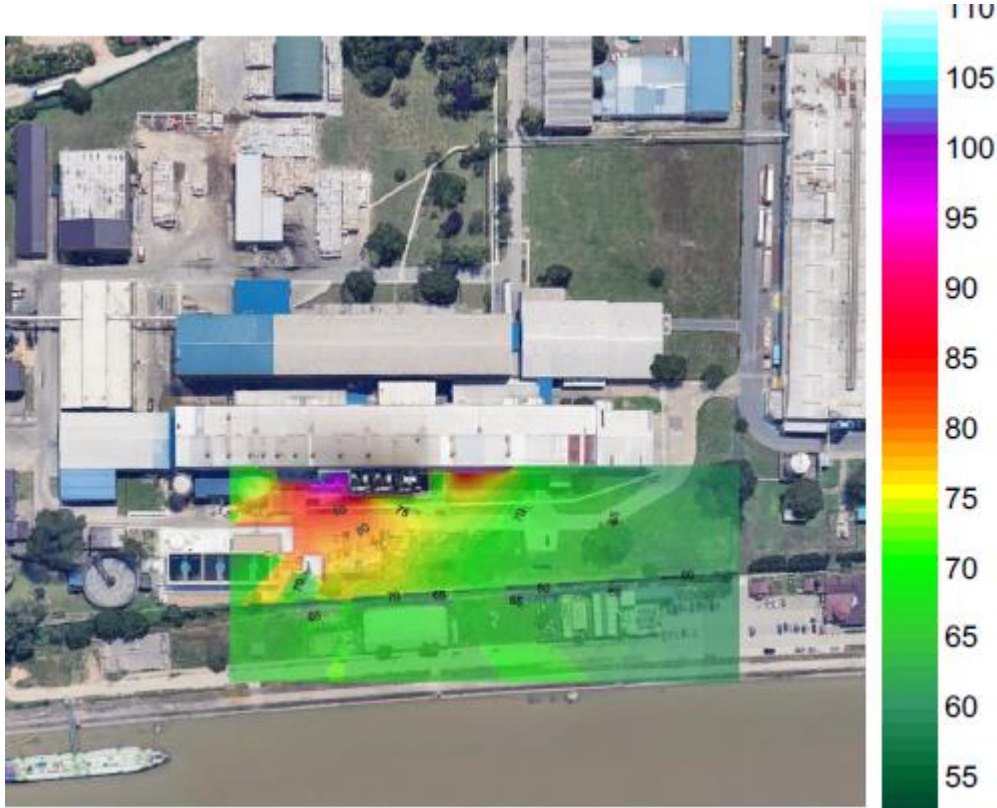
Total Weight, flat (kg) = 23.5

No.	Material	Thickness
5	Arma-Chek R	2mm
4	ArmaSound Barrier E	2mm
3	ArmaSound Barrier E	3mm
2	ArmaSound RD240	25mm
1	Armaflex	25mm

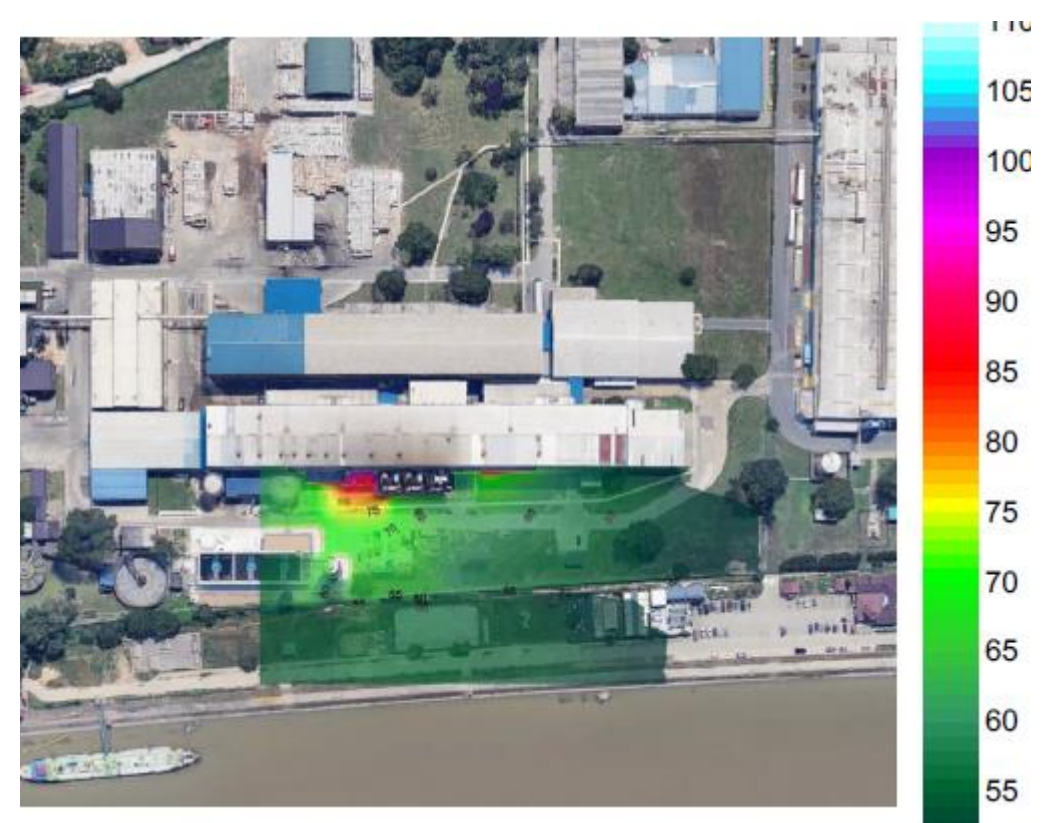


# Acoustic PROJECT METHODOLOGY

## 6. Mitigation impact



No Acoustic Insulation



With ArmaSound® Industrial Systems Class C EL  
Acoustic Insulation



A person wearing a blue long-sleeved uniform is holding a handheld thermal imager. The device's screen displays a color-coded thermal map of a blue industrial motor. The map shows a gradient from blue (cooler) to red (warmer), with a bright yellow/orange area indicating a hot spot. Numerical temperature readings are visible on the screen: 38.9 °C at the top left, 52.4 at the top right, and 28.9 at the bottom. The person's hand is positioned to capture a reading from the motor's surface. The background shows an industrial setting with various pipes and equipment.

# 02

## ENERGY SAVING ASSESSMENT

## // 2. Energy Assessments

Assessment of thermal insulation on industrial pipework and equipment

*“How much energy and cost can be saved in your plant by replacing degraded pipe insulation an the efficient one? Armacell offers Energy Saving Assessments with clearly documented evidence of degraded insulation and calculated energy, fuel and financial savings.”*



Our  
Services

- Up to 10% of industrial pipes are known to have poor or damaged insulation. Upgrading these insulation systems to a more energy efficient category would reduce energy losses at these locations by about 80%.
- Armacell's Energy team are available to perform onsite energy assessments of existing insulation systems installed on industrial pipework and equipment.





# WHAT

WE MAKE

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# Our insulation solutions

Thermal and Acoustic Insulation Systems for industrial pipelines



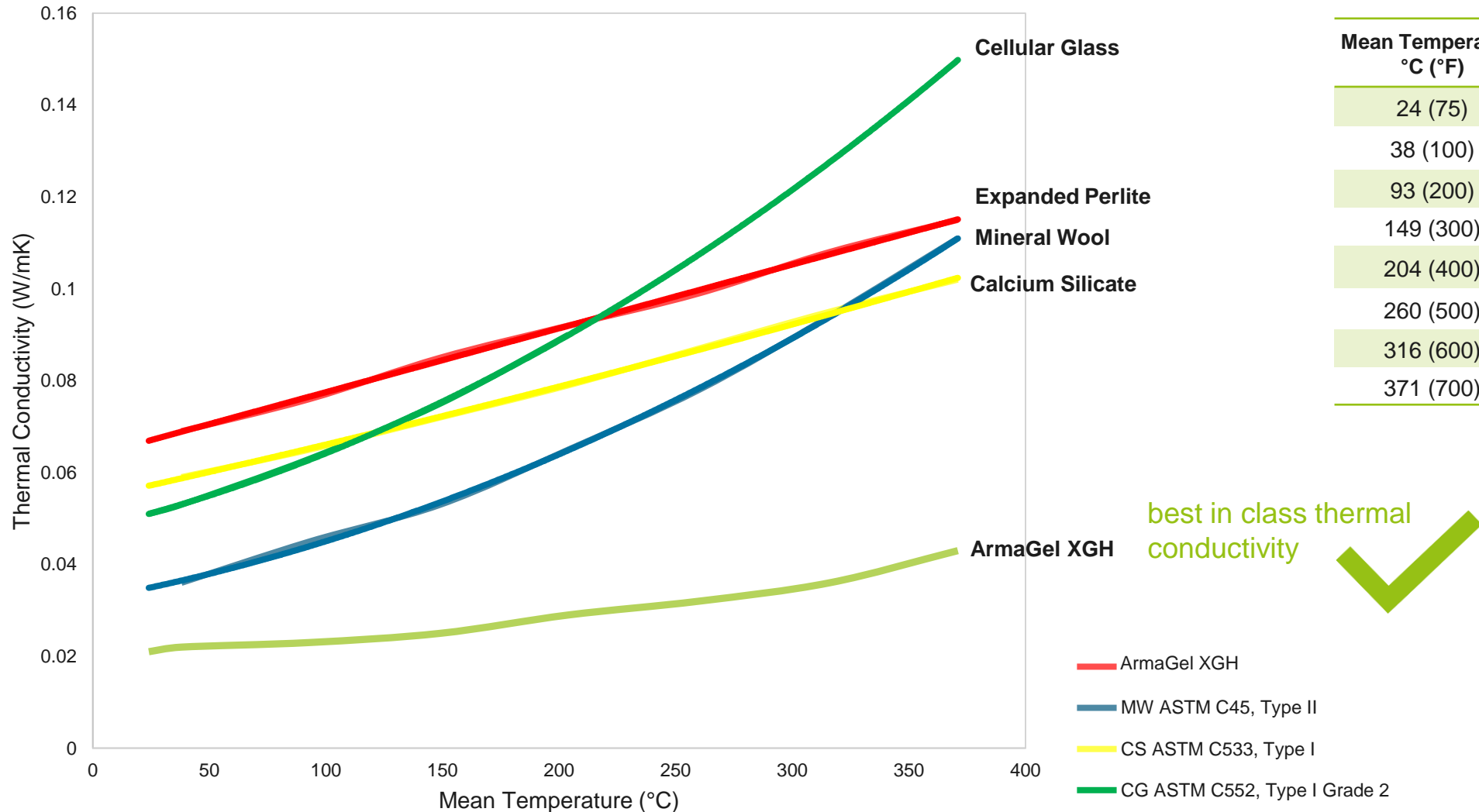
ArmaFlex®  
ArmaSound®  
Arma-Chek®



ArmaGel®

# // Thermal conductivity performance

Thermal conductivity better than conventional insulation materials



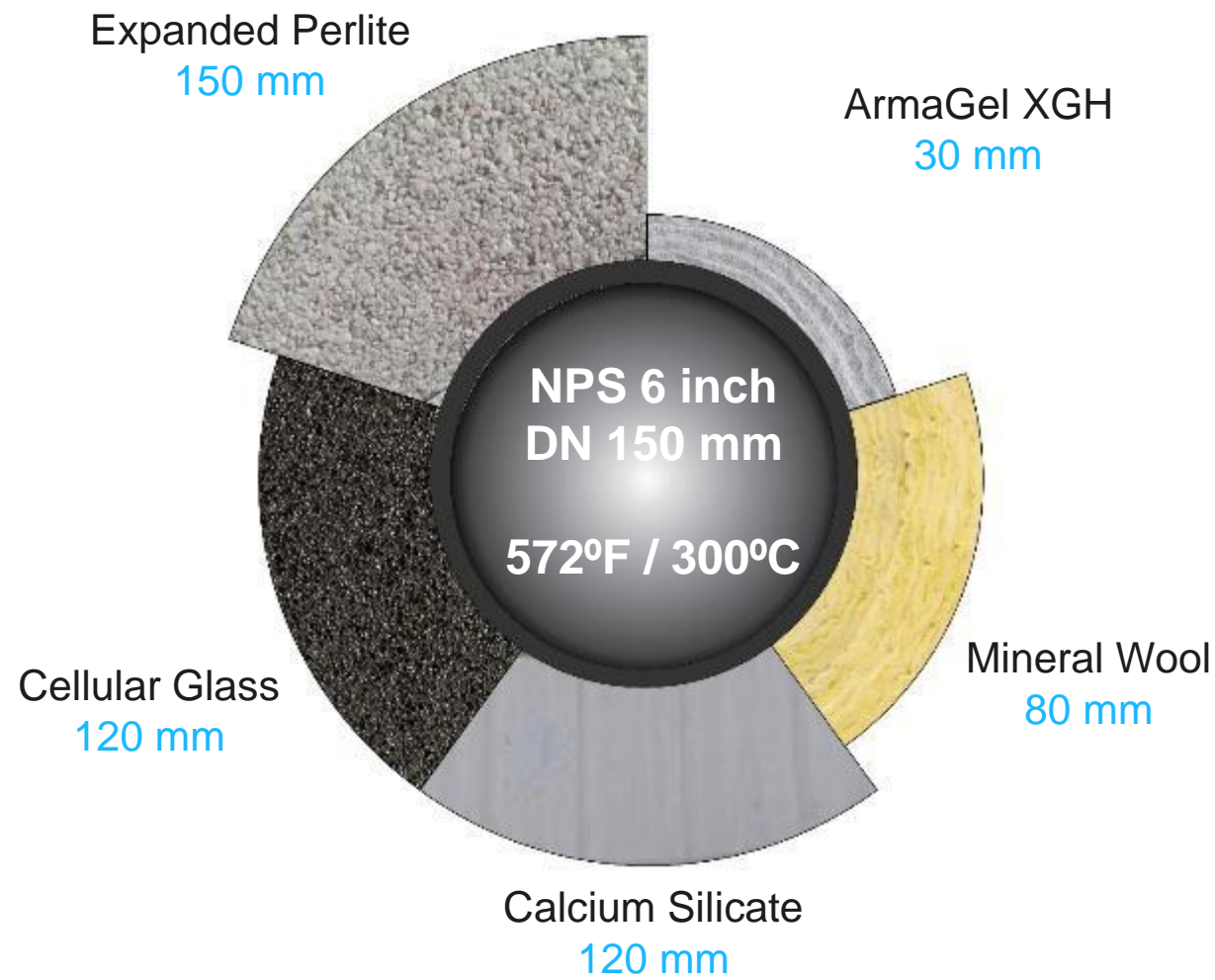


# // SPACE & WEIGHT BENEFITS

For a defined linear heat loss target **ArmaGel XGH** can provide:

- Up to **80%** saving on insulation thickness
- Up to **50%** savings on metal cladding.
- **Reduced** pipe spacing, allowing for a smaller plant footprint.
- **Reduced** system weight, leading to fewer pipe supports and metalwork.

Insulation thickness to satisfy heat loss target:  
**150 W/m**



# // Iconic projects

## ENGINEERED SYSTEMS

### NIS Refinery, Pancevo

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// Completed: October 2020

// Insulated with: ArmaGel HT, 3 x 15mm

// Operating temperature: 420°C steam line insulation

// Application: 1.5km hot steam line

// Project Location: Pancevo refinery, Serbia

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**NIS**  
**Pancevo**  
**Serbia**



Thank you for your attention !!!

- Q & A -



armacell®

MAKING A DIFFERENCE AROUND THE WORLD