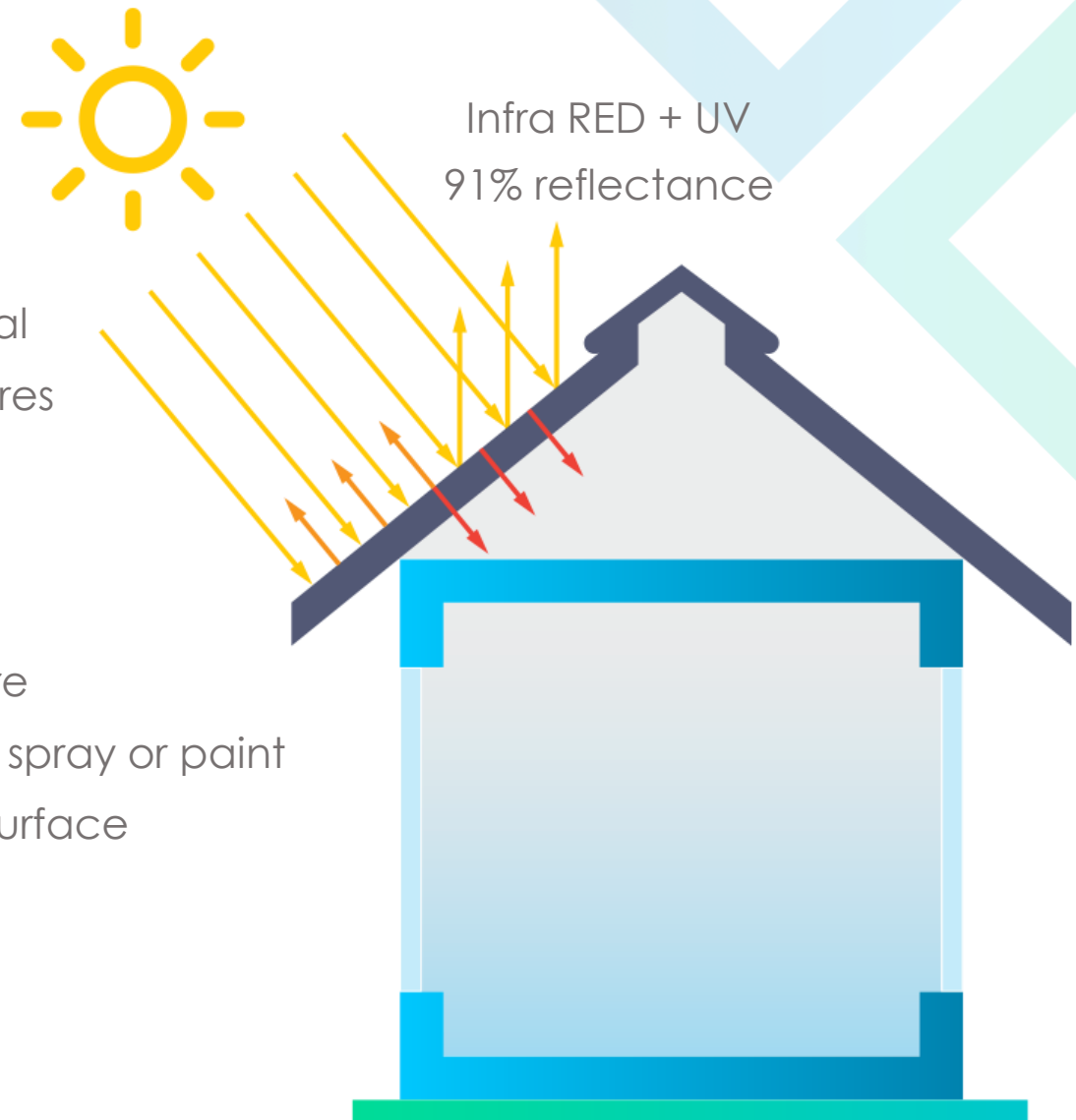




> What is PSC?

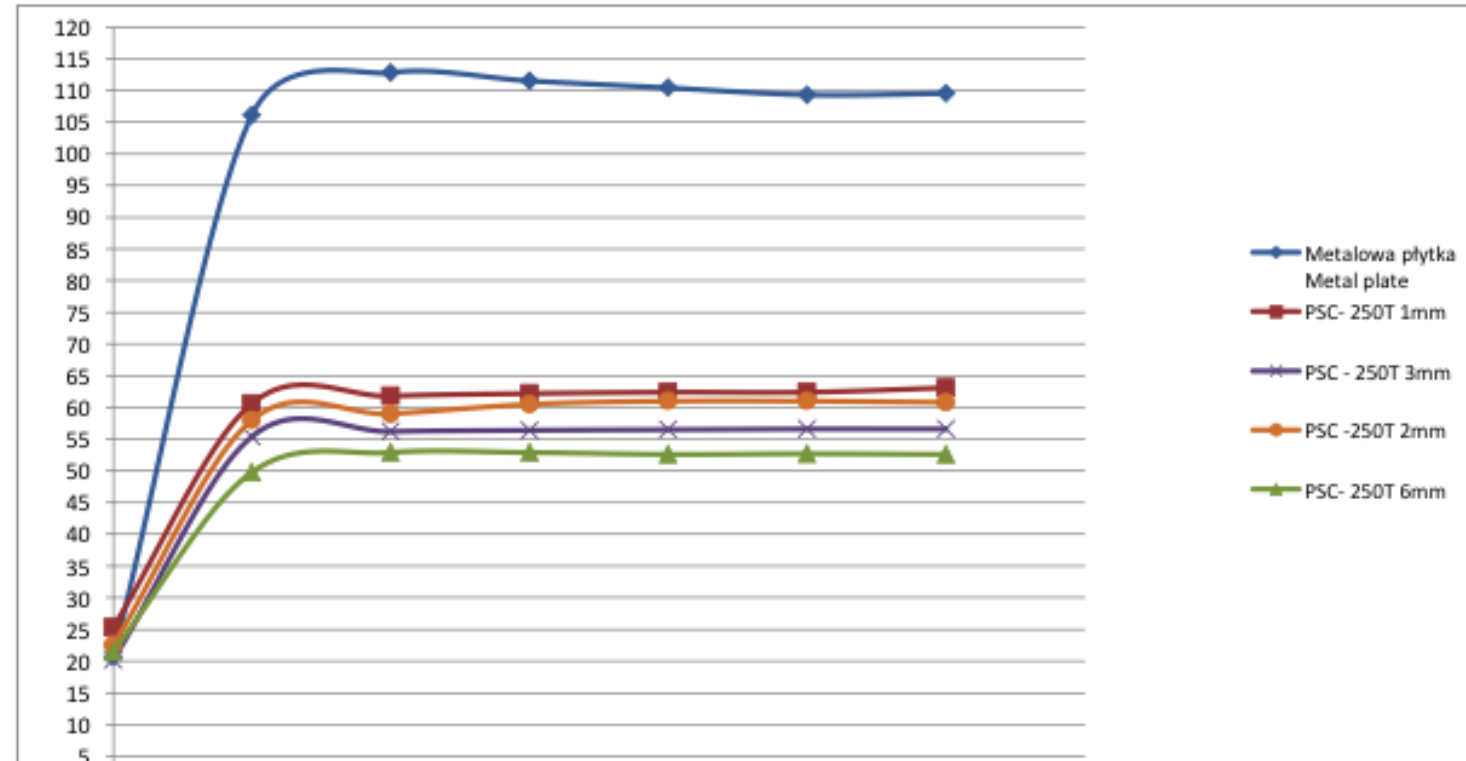
- unique modern nanotechnology insulation material
- based on closed porous spherical fillers Microspheres
- replacement of polystyrene and mineral wool
- minimise heat transfer between surfaces
- with thin layer of application 1-5 mm
- saves space and weight, easy to apply everywhere
- no special team needed for implementation – just spray or paint
- allows spot repair and permanent eye-control of surface



> Infra test

INFRA TEST w zależności od grubości powłoki POWER SMART COAT - PSC-250T
INFRA TEST depending on the thickness of the POWER SMART COAT- PSC-250T

	metalowa płytka metal plate	PSC-250T		PSC-250T		PSC-250T		PSC-250T			
		1mm		2mm		3mm		6mm			
0	20,7	25,3		22,5		20,2		21,5			
10	106,1	60,6		58		55,4		49,8			
20	112,8	61,8		59		56,2		52,9			
30	111,5	62,2		60,5		56,4		52,9			
40	110,4	62,4		61		56,5		52,6			
50	109,3	62,4		61		56,6		52,7			
60	109,5	63,1		60,8		56,6		52,6			



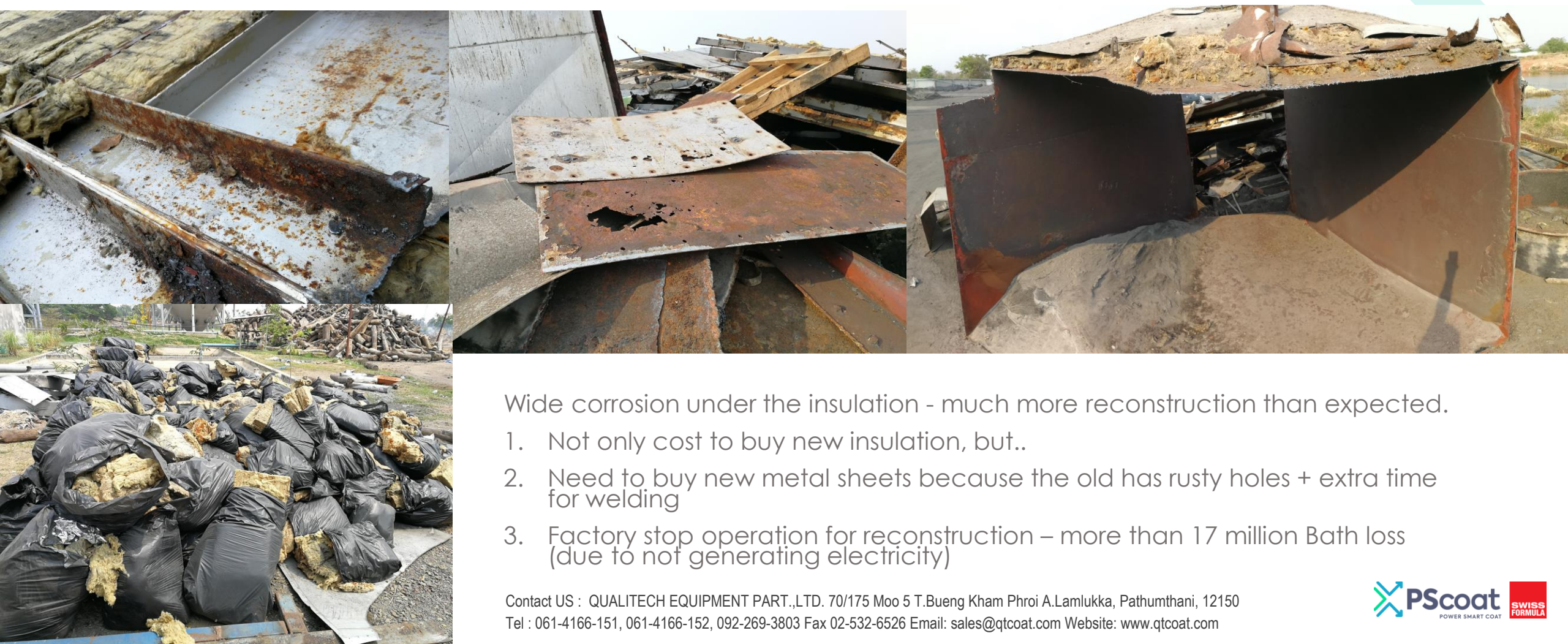


Why do we manufacture a new insulation nano-technology

If...

the Traditional mineral wool is cheap and good?

➤ Real case study from Thailand / Change traditional insulation at Biomass Energy company:



Wide corrosion under the insulation - much more reconstruction than expected.

1. Not only cost to buy new insulation, but..
2. Need to buy new metal sheets because the old has rusty holes + extra time for welding
3. Factory stop operation for reconstruction – more than 17 million Bath loss (due to not generating electricity)

> Real case study from Thailand / Change traditional insulation to PSC:



PSCoat can be applied directly onto the hot surface – without stop operation (till 150 C)

You will always have visual contact with the surface – easy spot repair...

Easy apply in curves, valves, difficult accessible places. Ecological friendly

> PScoat protects against:



Heat loss



Corrosion



Condensation



Mold



Fire

Thermal conductivity: 0,0324 W/mK (1,3 mm thickness)

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Confirmation

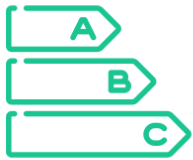
The average value of the thermal conductivity of the material indicated as

PSC-250T is 0.0324 W/m·K.

The measurements of the thermal conductivity for the samples of 1.3 mm thickness were carried out at an average temperature of 10 °C using the device Laser Comp Fox 200.

ZASTĘPCA KIEROWNIKA
Katedry Chemii i Technologii Polimerów
Politechniki Warszawskiej

> Other benefits:



Energy
savings



Easy
application



Asset
protection



Application
directly on hot
surfaces



UV
resistance

Can be applied without need to stop your operation > Up to 150 °C directly on the hot surface

According to the U.S. Department of Energy valve insulation tables, just 20 uninsulated 6" valves Running at 250 psig could be costing you 5.500 USD/year.

> Sustainable and eco-friendly



Reduced Carbon
Footprint



Ecological
product



Non-toxic

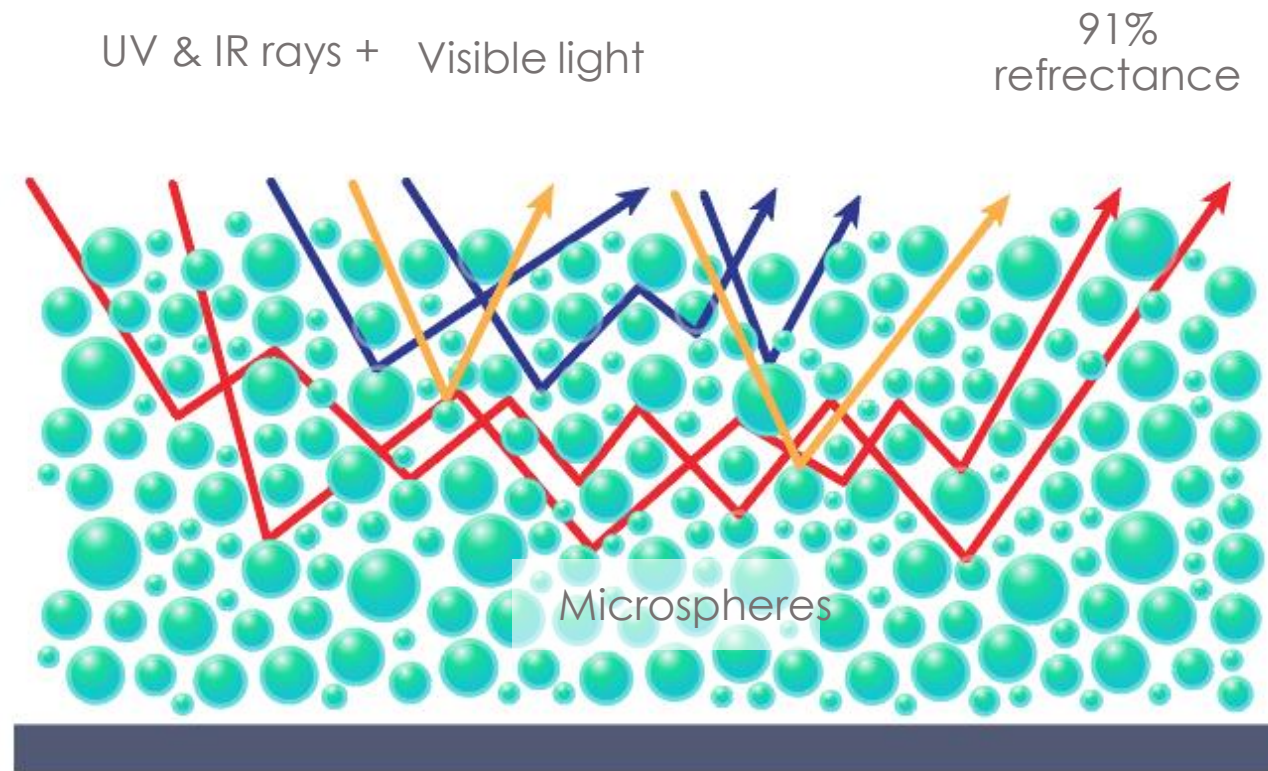


Chemical
Resistance



Asset
Longevity

> How does PSC work?



> Technical data:

- ability to withstand temperatures from -200 to +200 degrees Celsius
- can apply direct on hot surface until +150 degree Celsius
- for both indoor and outdoor surface applications
- non-abrasive
- very good adhesiveness
- Up to 91% InfraRed radiation reflectance
- replacement of polystyrene and mineral wool
- nanotechnology formula based on microspheres
- Variety of architectural colour options available.





Properties	POWE SMART COAT	Mineral wool
Thermal insulating properties	Stable throughout the temperature range and in time, do not depend on the humidity of the air.	The thermal insulation properties are temperature dependent, decrease with increasing humidity and completely disappear when wet without returning to the initial values, deteriorate over time.
Waterproofing properties	PSC 250T is a waterproofing material, Construction Technical Approval.	Mineral wool requires additional hydro and vapor barrier.
Anti-corrosion	PSC 250T has anti-corrosion properties, Construction Technical Approval.	CUI (corrosion under insulation) problem is common
Condensation	Prevents condensation	Condensation appears and is the reason of corrosion under insulation
UV stability	Does not require additional protection.	Additional protection is needed.
weight and size bearing	Insulation causes negligible weight and wind structural loads	Significantly increases the weight of the structure and area (causes wind loads). The possibility of destruction during heavy winds.
Technology of application	Quick spray application even over operating equipment, without stopping the operation	Stud welding, wool strengthening, using of additional materials: mesh, film, high-temperature glue, tin. The equipment must be stopped, let it cool down, and after isolation works it should be put on the process mode.
Reparability	Strip off and cover the damaged area with PSC 250T by brush.	Dismantling of the whole insulation, including expensive tin. Insulation process from the very beginning (excluded stud welding), all compounds new. Wool utilization cost needs to pay.
Life time	10 year warranty term, in practices – about 20 years	In practices -5-6 years at vibrating equipment.
Ecological stability (mice, insects, mold)	Prevents mold, no place for mice and insects	It is a place for mice and insects when it is not very hot
Ecological compatibility	Ecological load is not known	Environmentally hazardous. Wool is destroyed because of vibration and micro-glass crystals appear in the air, which easily fall into the lower parts of the lungs and are the strongest carcinogen. Risk of cancer diseases in personnel. Recycling costs (transport, workers, payment for recycling at the dump).

 Type of surface:



All type of surface except plastics.



Industrial applications:

Industry we serve:	Type of equipment	Benefits overview
Manufacturing Oil&Gas F&B Pharmaceuticals Chemical Energy Marine Garment	Steam Pipes Processing Tanks Hot Water Pipes Cold Water Pipes Cookers Boilers Ovens Storage Tanks Valves Heat Exchangers Bottle Washers And other	Reduced Energy Comsumption Corrosion Prevention Lower Carbon Emissions Moisture Resistance UV Resistance Non-Toxic Improved and lengthened Equipment lifespan Chemical Resistance



Building applications:

Area of coating

- Roof
- Ceilings
- Walls
- Basement levels
- Pipes
- Metal Structures
- Railings
- And others

Benefits overview

- Mold Prevention
- Corrosion Prevention
- UV Resistance
- Moisture Resistance
- Protection from Weather Exposure
- Energy Savings
 - less airconditioning during the Summer
 - less heating during the Winter

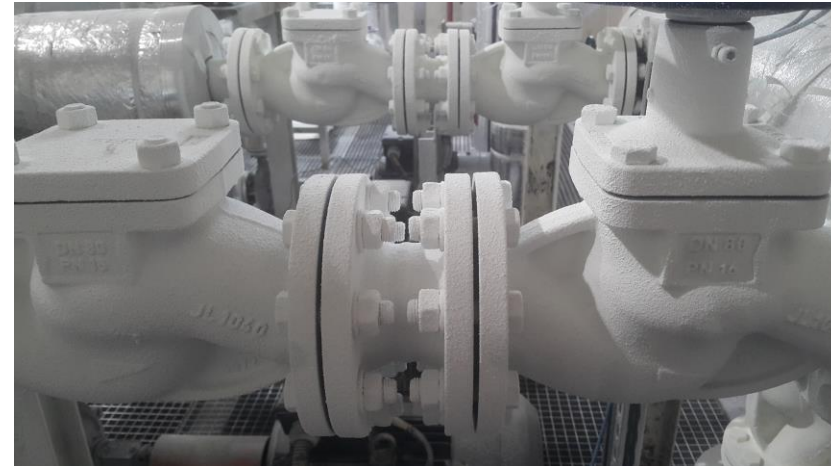


References:

Zarmen Group

13 companies, 690 employees

construction and assembly services, services related to maintenance services of industrial plants

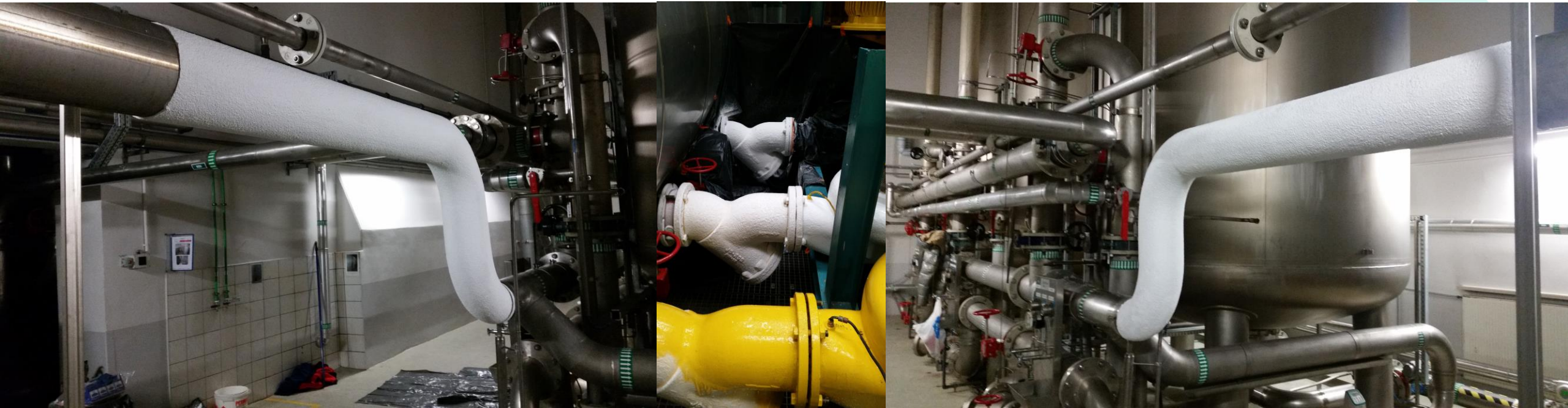




References:

Heineken

Project for condensation problems elimination



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References:

Synthos Poland

70 Years of tradition, 2985 employees

Largest expendable polystyrene produce in Europe.



For more references, please contact us

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References:

- VEOLIA (Dalkia), CZ – Condensate at pipeline of technical water
- AGROFERT, PL – steam valve 130°C
- WEGLOKOKS,
- GRUPA AZOTY, PL
- KGHM (polská měď), PL
- ZEM, PL - potrubí TUV
- GREEN GAS, CZ
- ZARMEN - KOSOWNIA CZENSTOCHOWA, PL
- MAVIR, Almásfüzitő, Hungary
- PLYNEX, Vae Controls, SK
- SYNTHOS, PL
- EC MIKOLAJ, PL - TUV
- STREBL ENERGY, Singapur
- TEMPEST HOLD, SK – industry, roofs, walls
- ROZVOJ MARTIN, SK – military containers



For more details, please contact us

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> Packages:



Option 1. Material supply only



Option 2: Trainee and mentoring: How to apply PSC



Option 3: Turn-key project: Material supply and application

- 18 liters of PSC in 1 bucket
- 1,2 liters for 1 mm thick layer per 1 m² (+10% for porous surface)
- PSC 250 T Build : for buildings, PSC 250 T HD for metal surface



> Certificates:



- Classification about reaction with fire : Institute of Ceramics and Building Materials, Krakow, PL – 2/2018
- Quality certification and technical sheet : KABETHERM, PL – 6/ 2016
- Anticorrosion test: KABETHERM, Lab Kabe Therm – Poland – 9/ 2016
- Hygiene certificate : National Institute of Hygiene, PL – 1/ 2017
- Safety Data sheet : Alfa Construction AG, Zug, CH – 11/ 2017
- Fire classification and Infrared test: KABETHERM, PL
- Drying time – depend on humidity : ALPHA Construction AG, Zug, CH : 2/2018

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