PScoat
POWER SMART COAT

POWER SMART COAT PSC 250-T

Modern thermal insulation PSC™

PRODUCT

PSC 250 T BUILD – Vapor Permeable

PSC 250 T HP – Air Infiltration Resistant

- **Unique insulation material**
- **Swiss formula using nano technology based on microspheres**
- **Reliable replacement of standard insulation materials / polystyrene, mineral wool /**
- **Application thickness only 1.5 - 3 mm**
- **Temperature resistant from -200° C to +200° C (up to +260° C)**

PROTECTION AGAINST

- **Heat loss**
- **Corrosion**
- **Surface condensation**
- **Burn**
- **Mold**

FACTS / BENEFITS

- The best Total Solar Reflectance on the market: PSC reflects 91% > of radiation
- Thermal insulation - The heat transfer coefficient λ of 0,032 W/mK
- UV resistance
- Mold resistance
- Corrosion prevention
- After application, the surface become waterproof
- Resistant to diluted acids and alkali (C4, C5)
- Sustainable and Eco friendly
- Non-Toxic, Low VOC
- Reduced carbon footprint
- Simple application in a very short time
- Point repairs, directly on damaged spot
- Proven Energy savings
- Asset longevity and protection
- Excellent adhesive and elastic properties of PSC guarantee the coating resistance against vibrations, mechanical impact and thermal expansion
- Only 1,5 – 3 mm applied
- Can withstand temperatures from -200˚C to +200˚C (up to +260˚C in peak)
- The product has all the necessary certifications for the extent of its use

Only 2,16 mm of PSC layer

Termperature measured on the uncoated part of the surface 110,2 ˚C

Temperature measured on the POWER SMART COAT layer 58,8 ˚C

PRACTICAL ADVANTAGES

- Can be applied during operation **directly on hot surfaces**, up to +150˚C (no need to stop operation for e.g. cool the boiler)
- Damaged parts of the coating can be reinforced during operation
- Constant visual control on sites
- **No water condensation** on the insulated surface
- Easy to apply **in spots which are hard to reach** using traditional materials
- Space and weight saving

Contact US : QUALITECH EQUIPMENT PART.,LTD. 70/175 Moo 5 T.Bueng Kham Phroi A.Lamlukka, Pathumthani, 12150 Tel : 061-4166-151, 061-4166-152, 092-269-3803 Fax 02-532-6526 Email: sales@qtcoat.com Website: www.qtcoat.com

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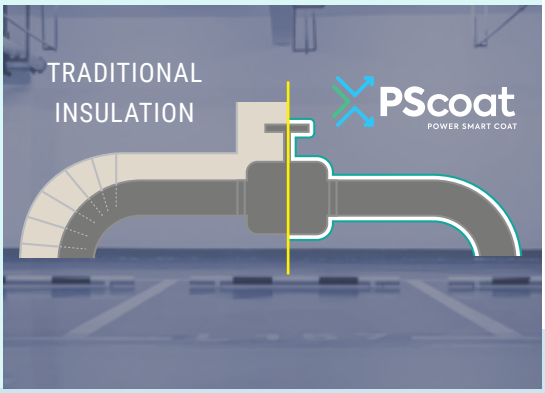
HOW DOES IT WORK?



The majority of solar radiation reaching insulated surface is reflected back, while the remaining part is absorbed and then removed by special components PSC. This process drastically reduces heat transfer through a coating PSC. Total Solar Reflectance : 91% >. This factor describes the ability of the coating to reflect solar radiation in complete spectrum (including invisible infrared radiation, mainly responsible for heating)

- » Advantage of perfect thermal insulating properties of vacuum
- » Creating high thermal resilience in the outher layer of polymer filler
- » Usage of mineral coating on both organic and non-organic carriers, characterized by low level of thermal conductivity
- » Each layer forms a vacuumized structure – a thin, solid, waterproof film

COMPARE TO TRADITIONAL MATERIALS

- » Atmosphere waterproofing of the surface concerned
- » Protection against even more aggessive external effects
- » Condensate prevention
- » Continuous visual inspection and diagnostics in plants with an increased risk of accident
- » Simple application for long distance and local utilities, gas pipelines, etc.
- » Posibility of point repairs without dismantling of the entire installation or replace large sections of thermal insulation structures

General Comparison

Power Smart Coat vs Common Conventional Insulation Methods

Description	POWER SMART COAT	MINERAL WOOL	FIBREGLASS	SPRAY FOAM (PU)	POLYSTYRENE (EPS)	CELLULOSE
Solar Reflectance (Infrared)	**91%**	✘	✘	✘	✘	✘
λ (Thermal Conductivity) - 3mm	**0,032**	0,24	0,26	0,125	0,18	0,26
Operating Temperature	**-200 to 200°C**	**230 to 1200°C**	-30 to 540°C	-210 to 120°C	-50 to 75°C	-55 to 120°C
Annual Energy Cost Savings	**20-50%**	25-35%	15-35%	up to 40%	up to 40%	20-50%
ECO-Friendly	✔	✔	✔	✔	✔	✔
Flammability	LOW	LOW	LOW	LOW	LOW	LOW
Water Resistance	✔	✔	✘	✔	✔	✘
Mold Resistance	✔	✔	✔	✔	✘	✘
Air Infiltration Resistance	✔	✔	✘	✔	✘	✘
Breathability	✔	-	-	-	-	-
Corrosion Resistance	✔	✔	✘	✘	✘	✘
Asset Protection	✔	✔	✘	✘	✘	✘
Ease of Application/Installation	✔	✔	✔	✔	✘	✘
Life Expectancy	**25 to 30 years**	up to 30 years	15 to 20 years	25 to 30 years	10 to 15 years	15 to 20 years
Maintenance	Minimal	required	required	required	required	required
Safe for Human Exposure	✔	✔	✔	✔	✔	✔
Overall Satissfaction	High	High	Moderate	Moderate	Moderate	Moderate

SWISS FORMULA

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WHERE TO USE

INDUSTRY

Manufacturing, Oil&Gas, F&B, Pharmaceuticals, Chemical, Energy, Marine, Garment, etc.

Type of equipment

Steam Pipes, Processing Tanks, Hot Water Pipes, Cold Water Pipes, Cookers, Boilers, Ovens, Storage Tanks, Valves, Heat Exchangers, Bottle Washers, etc..

WATER- AND STEAM PIPING SYSTEMS, EQUIPMENTS FOR HEATING WATER IN BOILER ROOMS AND SHUT-OFF FITTING

- » Heat loss reduction
- » Reducing the surface temperature to ensure work safety
- » Reducing the pipeline and support structure weight load
- » Aesthetic outer appearance
- » Possibility to insulate complex construction elements on pipelines, valves, balancing equipment, etc. Reducing cost of pipeline reparation in case of accident due to shortening the time needed to find the failure and the necessary dismantling of original insulation
- » Corrosion prevention o It does not arouse thieves´interest, increases its lifetime period in comparison to traditional insulation

OIL AND PIPELINES

- » Protection against the impact of direct sunlight, reducing the amount of energy penetrating in the pipeline
- » Condensate prevention o Long-time corrosion prevention

STORAGE TANKS FOR OIL PRODUCTS AND COMPRESSED GAS

- » Protection against the impact of direct sunlight, reducing the amount of energy penetrating in the storage tanks and proportionally also reducing the contents temperature and its evaporation
- » Condensate prevention o Ensuring the required thermal regime
- » Reducing the excretion of oil products into the atmosphere
- » Prevention of abrupt change in pressure

INDUSTRIAL FREEZING EQUIPMENT

- » Reducing the amount of heat gains transported inside the equipment
- » Condensate prevention, corrosion prevention

COOLING WATER PIPELINE (UP TO -20 °C)

- » Prevention of the pipeline contents heating and pipeline condensate o corrosion prevention

METAL STRUCTURES

- » Reducing the weight load o Corrosion prevention, thermal insulation and fire protection

VENTILATION AND AIR CONTIONING SYSTEMS

- » Effective solution to condensation problems
- » Simple insulation, reducing heat loss – gains of piping systems
- » Reducing noise of piping system walls
- » Possibility of insulating hard to reach places
- » Shortening the implementation time
- » Corrosion prevention
- » Aesthetic outer appearance

VARIOUS TYPE OF MATERIALS (STEEL, IRON, WOOD, BUILDING WALL...)

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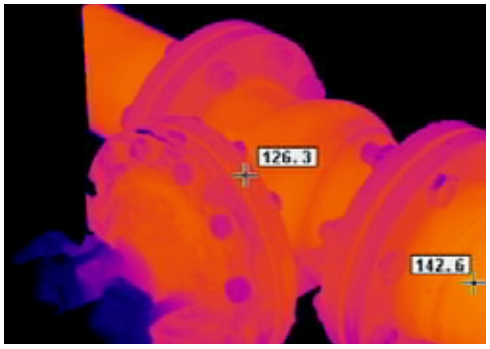
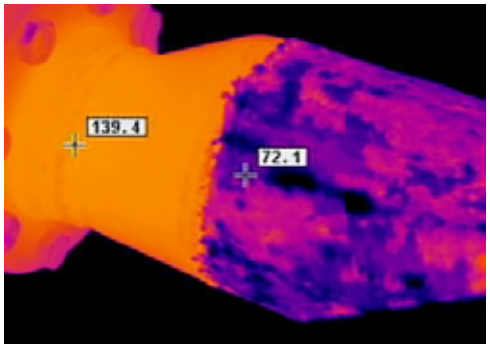
INDUSTRIAL APPLICATIONS

GRUPA AZOTY - Leader on the European fertilizer and chemical market
www.grupaazoty.com





VAE Controlls

Improving the production of the biogas plant especially during the winter months when the temperature in the fermenter decreases.

GRUPA ŻYWIEC
Brewery
www.grupazywiec.pl

Solving the problem of condensate on the pipeline and valves in the brewery.

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HOW TO APPLY?

- Surface preparation before application - cleansing and cleaning of dirt, water and rust
- Directly on the surface - even hot to + 150 ° C without interruption of operation
- Comfortable Handling and Mechanical Methods - Applying in the form of a nurse or costume
- Color or spray - simple training for application
- 1m^2 area = 1.2l PSC = 1mm thickness
- Universal use on various types of surfaces (steel, iron, wood, st ..)
- For piping about 10% of additional material
- For more than 10 to 20% of additional material
- Elastic material

CASE STUDY

BIOMASS STATION
SILO EXTERIOR COATING

Location: **Slovakia**
Investment: **20.000€**
Installed power of **1 MW**
Average annual production: **7500 MWh**
Increase in biomass yield for power generation
resulting in cost saving of 100€ / day
= an average increase in production of 3% per day
ROI: **6 months**

Savings Effects:

1. Greater gas flow rate required for cogeneration units designed to generate electricity
2. Less use of glycerin and thus savings in its purchase
3. Increase in production

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