



InsolGuardTM

Ceramic Microsphere Coating

Revolutionizing energy conservation
and safeguarding industrial assets

Ability to withstand
extreme heat up to 1800°C



IIT



BUREAU OF ENERGY EFFICIENCY
Government of India, Ministry of Power

BEE



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ARCI



ISO



Make in India

About Us

Primus Udyog Pvt Ltd is a well-led business with an experienced core team. We are on a mission to revolutionize the way commercial builders and manufacturing companies protect their assets and save on energy costs.

Primus Udyog, supported by our successful sister company Albion Insulation Services, offers tailored solutions that reduce costs and maintain aesthetics. We're committed to sustainability and excellence in every project.

We serve commercial and industrial clients, focusing on protecting valuable assets while minimizing environmental impact. With our range of products, you can be rest assured that your buildings are secure from fires and your energy expenses are minimized.



InsolGuard

A ceramic microsphere coating consists of extremely small particles that are hollow and contain a vacuum. This unique structure effectively minimizes heat transfer and serves as a barrier against radiational heat losses.



250°C

400°C

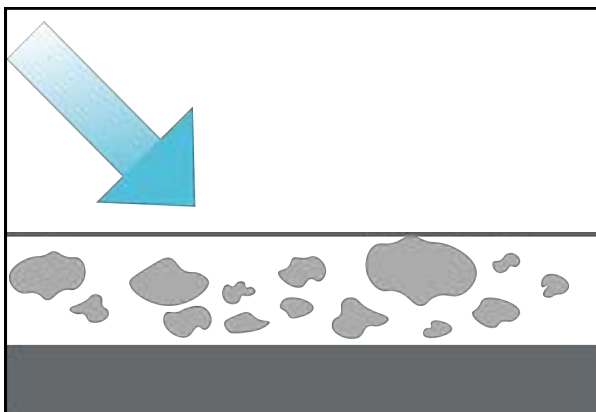
600°C

800°C

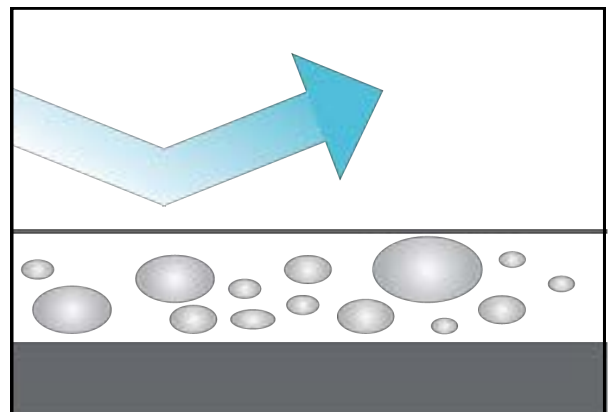
1000°C

1200°C

1800°C



Normal coatings have gaps & heat passes by



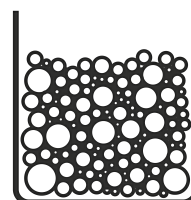
Ceramic microspheres form a tight film & reflect back the heat

InsolGuard

Working wonders!

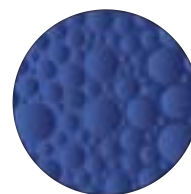
InsolGuard ceramic microsphere coating forms a densely packed, dried film over applied surfaces, creating an effective thermal barrier by minimizing heat transfer.

Densely packed dried film



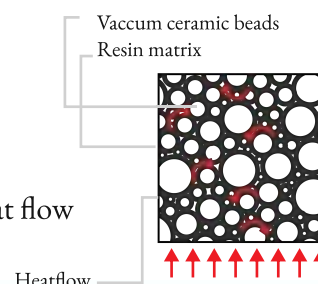
Microsphere Structure: The hollow microspheres, with a vacuum core, disrupt heat conduction and act as a thermal barrier, significantly reducing the transfer of thermal energy across surfaces.

Hollow structure

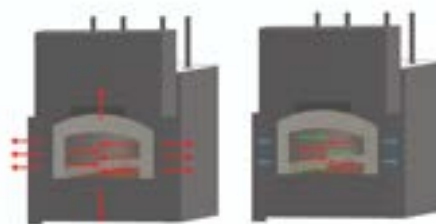
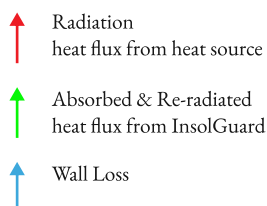


Reduction in Thermal Bridging: Upon application, the coating forms a compact film that limits heat flow, creating a more uniform thermal barrier and minimizing heat loss from the surface.

Compact film, limits heat flow



Reflective Properties: Ceramic coatings reflect radiant heat, a key factor in heat transfer, back into industrial processes. This reflection reduces heating time, conserves fuel energy, and lowers CO₂ emissions.



InsolGuard's reflective properties help reduce energy losses in high-temperature processes by reflecting radiant heat back into the system, offering an energy-efficient solution.

Benefits offered by InsolGuard



Thermal Insulation

Ceramic microspheres, with their hollow structure, effectively disrupt heat conduction and reduce thermal transfer, protecting metal components from excessive heat and extending the lifespan of machinery.



Energy Efficiency

By minimizing heat loss, ceramic microsphere coatings enhance energy efficiency. Their reflective properties reduce energy consumption and lower cooling and heating costs in industrial processes.



Increased Durability and Wear Resistance

These coatings improve durability by resisting wear, erosion, and corrosion, even under extreme conditions, which leads to reduced maintenance requirements and longer service life.



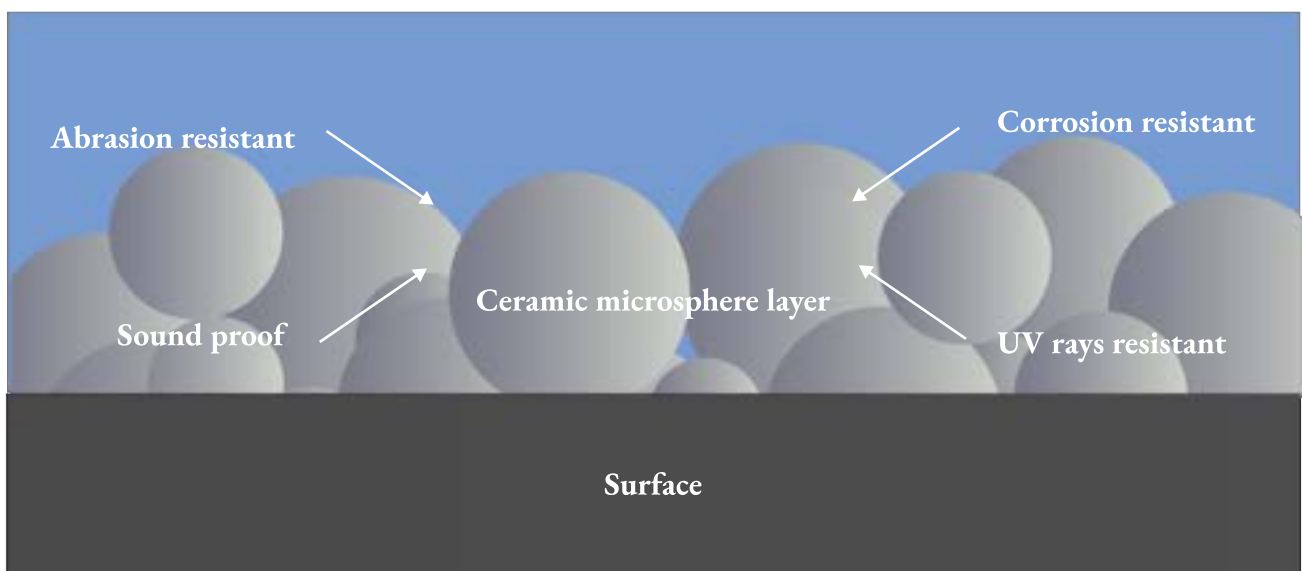
Protection Against Oxidation and Corrosion

Ceramic coatings provide a protective barrier that shields metal components from oxidation and corrosion in high-temperature environments, reducing downtime and extending the operational life of equipment.



Cost Savings

Although ceramic microsphere coatings may have higher initial costs, their ability to reduce wear, energy consumption, and maintenance results in significant long-term savings, improving overall productivity by minimizing shutdowns for repairs.



InsolGuard features

SAVES ENERGY



Upto
30%*
Reduction in
surface temperature

Upto
15%*
Reduction in **cycle time**
Reduction in **fuel consumption**
Reduction in **heat losses**
Reduction in **radiational losses**

SAVES ON

SAVES ON



MONEY



FUEL



ENERGY



TIME

InsolGuard features

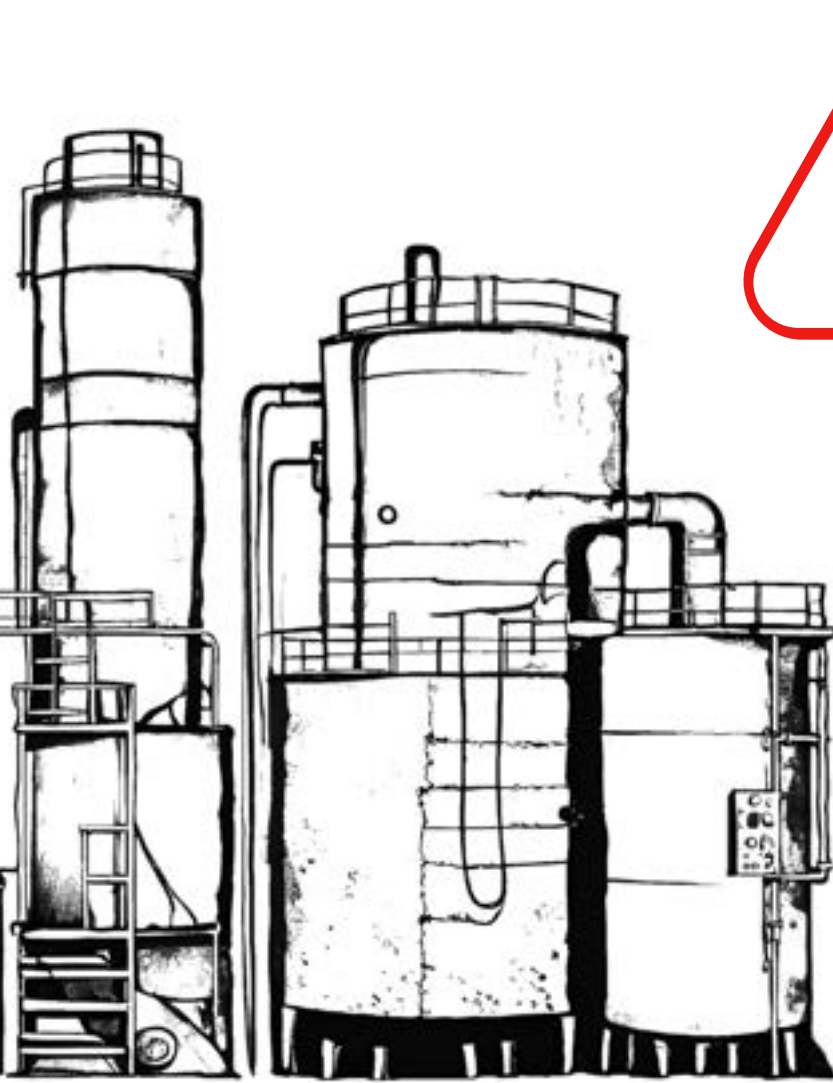
ENVIRONMENT BENEFITS



- ↓ External hot surface temperature
- ↑ Human comfort & productivity
- ↑ Worker's safety & touch safe
- ↓ CO2 emission

"Cooler Surfaces, Safer Workers, Greener Future."

RESISTANT TO



CORROSION



WEATHERING



ABRASIONS

ADDITIONAL BENEFITS



Long lasting &
durable



Quick & hassle-free
installation



Blocks 97% of
radiation



Excellent **return** on
investment



No CUI (corrosion
under insulation)



Extends the lifespan of
high-temp. machinery



Maintains
homogenous temp.



Reduces noise from
loud machinery



Supported by -



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Where it can be Used?



OVENS

- Powder coating ovens (conveyor / batch ovens)
- Water drying ovens
- Welding electrode baking ovens
- Aluminium aging ovens
- Baking ovens
- Liquid painting shops



FURNACES

- Carburizing furnaces
- Hearth boggie furnaces
- Refinery cracking furnaces
- Galvanizing furnaces
- Melting furnaces
- Forging furnaces
- Hardening furnaces
- Rolling mills & casting industries sealed quenching furnaces



NAKED VALVE & FLANGES

- Turbines
- Engines
- Heat exchangers
- Hot air ducts
- Steam pipes
- Automobile painting shops
- Refractories



KILNS

- Rotary kilns
- Ceramic tiles/ Vitrified tiles conveyor kilns

InsolGuard

Safe-Touch

InsolGuard Safe-Touch is engineered to retain internal heat on the surface, effectively minimizing heat transfer loss to the surrounding environment.

Features

-  Provides **energy savings**
-  Block **conductive, convective and radiational heat**
-  Immediately **reduces surface temperature & loss of heat**
-  **No corrosion** under insulation (CUI)
-  **No shutdown** is required for the application
-  **Direct to application** with textured spray
-  **Resistant to moisture, dirt, mold, abrasions**



Perfect for



Steam pipelines



Hot pipelines & valves



Dyeing Jets



Boilers



Clients

Success stories



Paint shop at Escorts Kubota, Faridabad was coated by InsolGuard. Provided successful results in reducing the process surface temperature & helped in energy savings.



Before coating



After coating

Reduction in
surface temperature by

17%*



Furnaces at Groz Tools, Gurugram was coated by InsolGuard. Provided successful results in reducing the process surface temperature & making surrounding environment comfortable for workmen.



Before coating



After coating

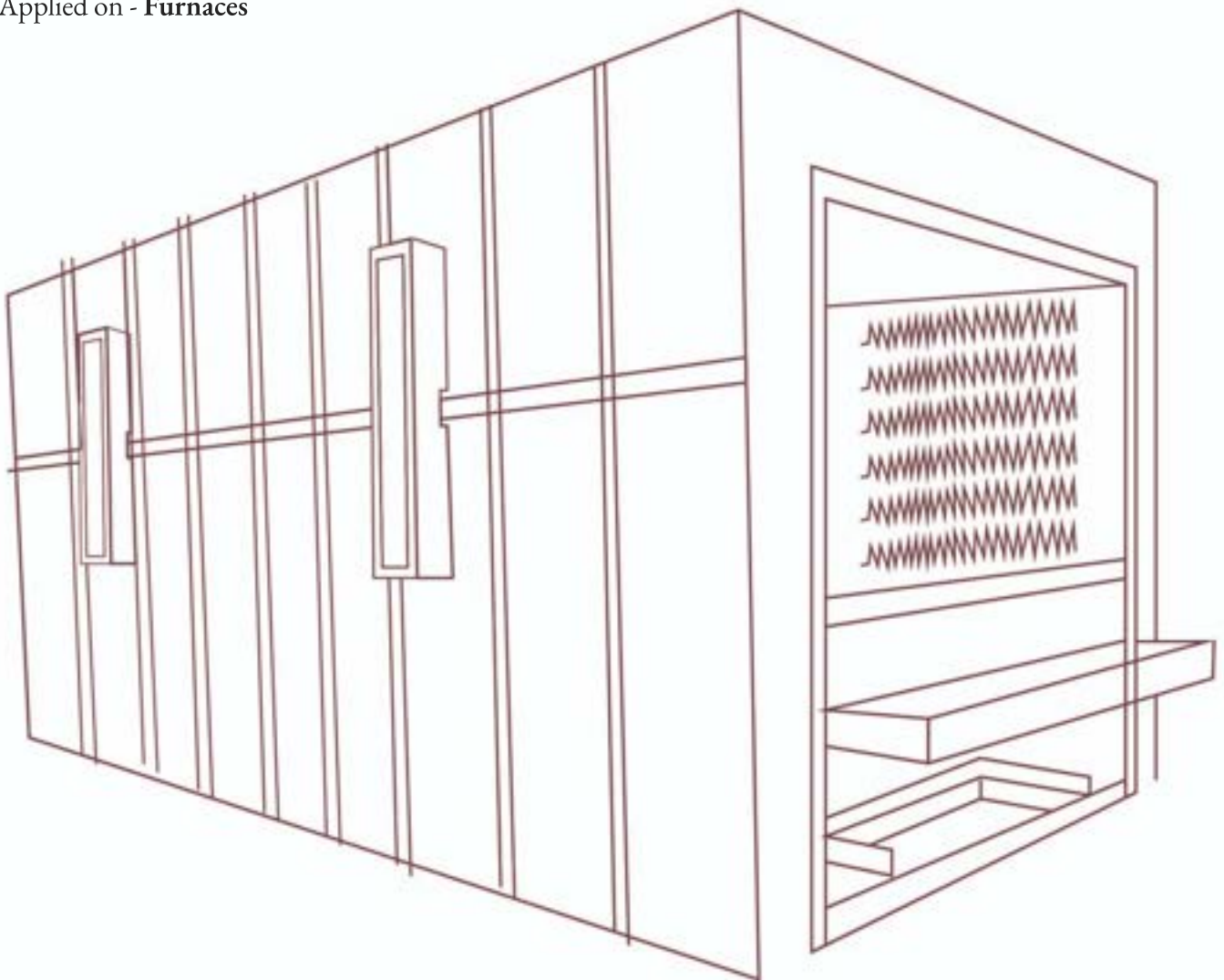
Reduction in
surface temperature by

22%*





Applied on - Furnaces





Applied on - Trolley

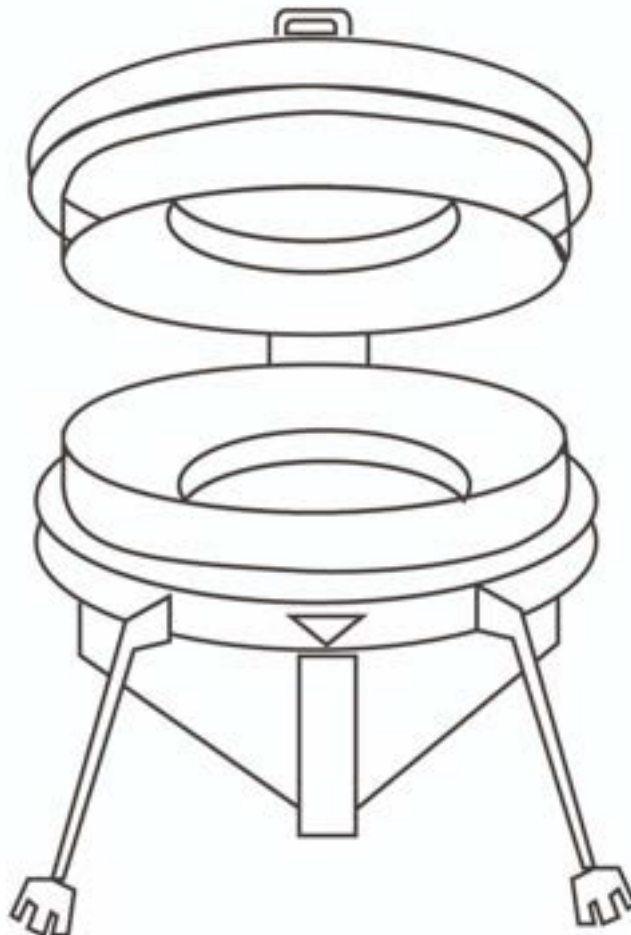
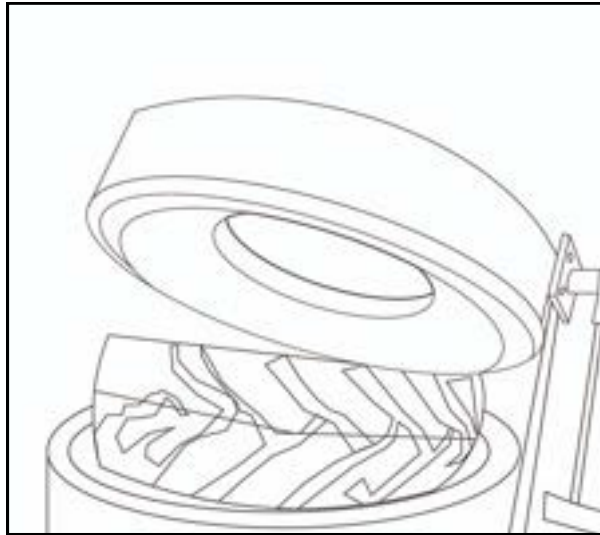


Asahi India Glass Ltd.



The tyre moulding machines were coated by InsolGuard so as to reduces radiations losses & provided energy savings.

Applied on - Tyre moulding machines



Applied on - Dryer can





Committed to quality, committed to you!



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IG-CAT/OCT/24

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