

TSM Ceramic – Innovative Thermal Insulation Solutions

Discover how TSM Ceramic is revolutionizing energy preservation through innovative thermal insulation in both modern and historical contexts.



TSM CERAMIC



T H E R M A L I N S U L A T I O N

TSM Ceramic – Revolutionizing Thermal Insulation

Discover innovative ceramic solutions designed for energy efficiency in both contemporary and historical structures. Embrace sustainability with TSM Ceramic.

TSM Ceramic: Advanced Thermal Insulation

Revolutionizing Thermal Protection in Various Industries

Energy Efficiency

TSM Ceramic significantly reduces heat loss and eliminates thermal bridges, contributing to energy savings of up to 40%. This leads to lower energy bills and a more environmentally friendly building.

#1

Long-lasting Performance

With a proven lifespan of up to 30 years, TSM Ceramic offers unmatched durability, ensuring that its thermal protection remains effective over time, thus reducing the need for frequent replacements.

#2

Effortless Application

The easy spray application of TSM Ceramic eliminates the need for scaffolding, resulting in a quicker and more efficient installation process, which can save time and labor costs.

#3



Wide Temperature Tolerance

Capable of withstanding extreme temperatures ranging from -60°C to +210°C, TSM Ceramic is suitable for diverse applications, from residential buildings to industrial machinery.

#4

Fire Safety Assurance

With a fireproof rating of A1, TSM Ceramic is classified as non-combustible, providing an added layer of safety for buildings and transport systems, ensuring compliance with stringent fire regulations.

#5

Versatile Applications

Explore the Diverse Applications



Residential Applications

Our solutions enhance energy efficiency in homes, providing comfortable living environments while reducing energy costs. This application is ideal for homeowners looking to improve their property's sustainability.



Industrial Applications

In industrial settings, our products offer thermal protection for machinery, ensuring optimal performance and longevity. This application is critical for industries that rely on heavy machinery and equipment.



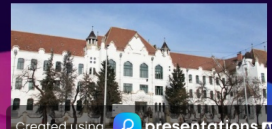
Railways Applications

Our solutions are designed to prevent condensation and reduce noise in trains. This application not only enhances passenger comfort but also improves the operational efficiency of railway systems.



Historical Restoration

We provide products that preserve historical structures without altering their appearance. This application is essential for maintaining cultural heritage while ensuring building safety and durability.



Product Line

Explore the Innovative Product Line for Enhanced Performance



TSM CERAMIC



TSM ThermoGUARD



TSM Primer



TSM SolarGUARD



**TSM
CondensareGUARD**



TSM HydroGUARD



TSM FireGUARD

Sustainability & Technical Excellence

Exploring the benefits and specifications of TSM Ceramic products



Longevity

TSM Ceramic products offer a tested lifespan of over 30 years, signifying their durability and reliability in long-term applications, reducing the need for frequent replacements.



Energy Savings

These innovative products can lead to energy savings of up to 40%, making them an economically viable choice for energy-conscious builders and homeowners.



CO₂ Reduction

Achieving direct CO₂ reduction at approximately 20 kg per 1 liter of TSM Ceramic used in construction annually, making this project both impactful and scalable in environmental terms.



Warranty Assurance

TSM Ceramic products come with a 15-year warranty, providing assurance of quality and performance, giving confidence to builders and consumers alike.



Sustainability & Technical Excellence

Exploring the benefits and specifications of TSM Ceramic products

Eco-Friendly Products

TSM Ceramic products are designed with sustainability in mind, promoting eco-friendly construction practices that reduce the overall environmental impact. Their use contributes significantly to a greener future, aligning with global sustainability goals.

#1

Thermal Conductivity

With a thermal conductivity of just 0.001 W/mK, TSM Ceramic products excel in insulation, enhancing energy efficiency and reducing heating and cooling costs in buildings.

#2



Density Range

The density of TSM Ceramic products ranges from 470 to 690 kg/m³, providing a lightweight yet durable solution for various construction needs while maintaining structural integrity.

#3

Fireproof Rating

Achieving a fireproof rating of A1, TSM Ceramic products ensure maximum safety in construction, making them ideal for environments where fire resistance is a priority.

#4



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C O N T A C T

Contact Us & Transform Your Insulation

For more details and technical support, reach out to us for innovative insulation solutions.

TSM Ceramic

INNOVATIVE
ENERGY-EFFICIENT MATERIAL



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Company History

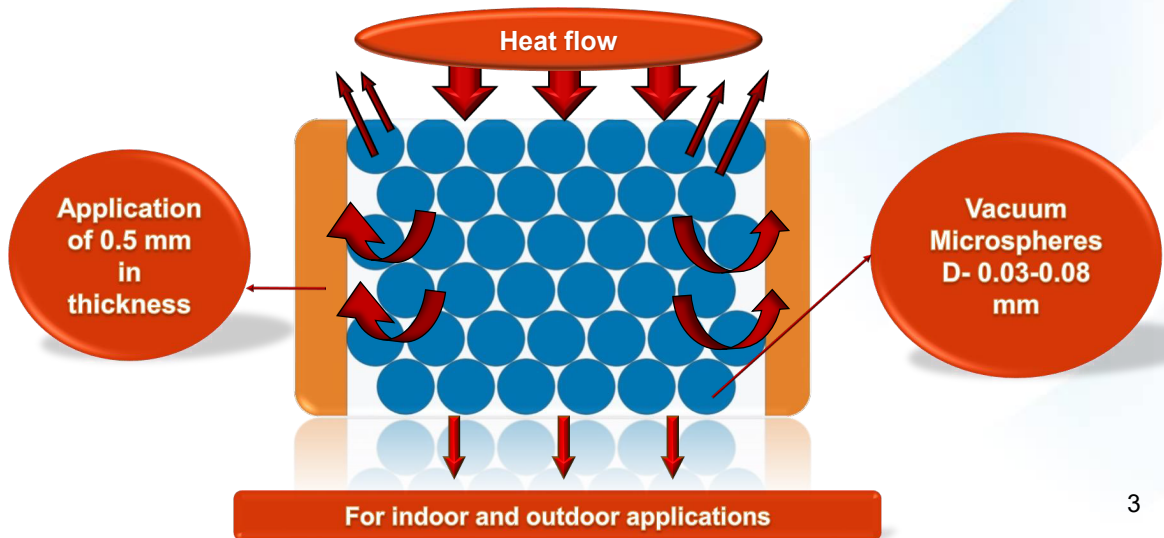
“RosIzoProm” Research and Production Complex was found on the initiative of “Public Enterprises Union” Russian industrial group, Moscow Confederation of Manufacturers and Businessmen, “Siberia Energy Saving Company” Scientific Centre and “INFO VIT” Ukrainian company.

“RosIzoProm” Research and Production Complex carries out promotion and implementation of recent modern developments and technologies in the field of building construction and municipal housing infrastructure.



Energy-efficient TSM Ceramic Material

TSM Ceramic represents liquid ultra-fine thermal insulation material. It consists of microscopic ceramic vacuum microspheres (0.03-0.08 mm in diameter), which are in a liquid composition, similar to the paint. Elastic coating is formed after drying. About 20 layers of vacuum microspheres are in the layer of 0.5 mm in thickness. They create thermal barrier and prevent transmission of heat flow.





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TSM Ceramic Material. It is efficient and comfortable

TSM Ceramic material is brushed or sprayed on surfaces of any shape: metal, concrete, brick, wooden, plastic, gypsum and other ones.



metal



gypsum



concrete



brick



wood



plastic



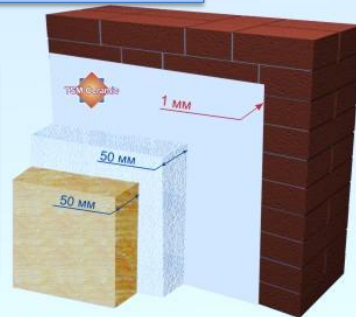
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Energy-efficient TSM Ceramic Material

Thermal insulating effect of **TSM Ceramic** material, applied in 1 mm layer, is similar to effect of 50 mm rock wool or 30 mm polyurethane foam.

Advantages of energy-efficient TSM Ceramic paint

1 mm – TSM Ceramic
50 mm - foam plastic
50 mm - rock wool





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Advantages of TSM Ceramic Material



HEAT SAVING

Heat flow reflection **60-70%**.
Cutting expenses on heat of a building by **30%**.



COLD PROTECTION

Material reduces penetration of cold air inside by up to **45%**.



NOISE INSULATION

Layer of 0.6 mm in thickness reduces noise level by 2 decibels.



WATERPROOFING

Latex in material provides it with low water permeability, less than 0.03 grams per cubic centimetres.



ECOLOGICAL SAFETY

TSM Ceramic is an ecologically pure material: it does not contain any poisonous or harmful substances.



FIRE SAFETY

TSM Ceramic is a fire resistant material, it enables slowing down the flame spread.



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Advantages of TSM Ceramic Material



ANTICORROSIVE MATERIAL

Insulating the covered surface from water and air, it eliminates external corrosion.



COLOUR MATCHING

It can be painted with any colour, for any interior.



APPLICATION ON HOT SURFACES

Material is used at the temperature from **+5 to +150 C°**.



EASE OF HANDLING

It is applied with a painting brush or an airless spray.



OPERATING LIFE

Warranty is 30 years. Service life is **over 30 years**.



COST EFFECTIVENESS

Reduction of working hours thanks to high speed and simplicity of material application. Reduction of repair expenses. Saving of thermal energy. Space saving.



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Application of **TSM Ceramic** in the field of building construction

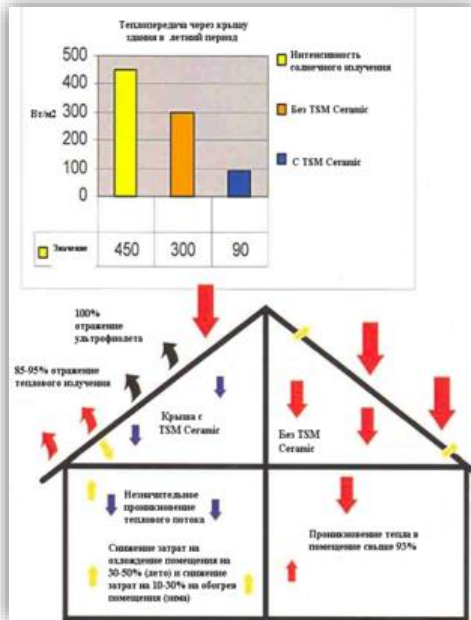
In autumn 2009 the facade was insulated with **TSM Ceramic** material of 1 mm coating thickness and the pipeline – of 0.5-2.5 mm coating thickness in Moscow child educational institution.



- After application of **TSM Ceramic material** the coolant flow was reduced by 55%
- Thermal resistance of the wall increased by 30.5 %



Cost saving in the field of building construction



- Operating costs reduction during the heating season by heat losses reducing.
- Operating costs reduction for inside air conditioning by insulation of the building roof and walls.
- Direct costs reduction during construction of buildings and facilities by reducing of walls thickness and basements dimensions.
- Possibility of replacement of bulky systems of heat insulation of facades, buildings and facilities walls with **TSM Ceramic** material.
- Long service life of the material (not less than 30 years).



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Application of **TSM Ceramic** in the field of building construction

Energy-efficient **TSM Ceramic** material is widely used in the field of construction for heat insulation of:

- Walls, floor, ceilings, roof covering of houses and industrial buildings, both indoor and outdoor
- Metal constructions
- Hangars and garages
- Balconies and loggias
- Summer houses, cottages, saunas
- Elimination of "cold bridges"



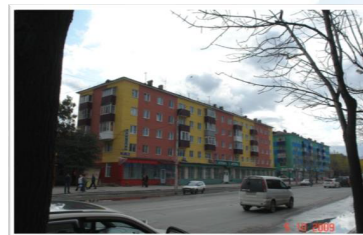


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Application of **TSM Ceramic** in the field of building construction

TSM Ceramic material proved its effectiveness not only in severe Siberian conditions, but also in many other regions of Russia. In 2009 **28** residential houses were completely insulated for **47** days in the city of Yuzhno-Sakhalinsk, Russia. The cost of heat insulation was **twice** less than the cost of suspended facades and it was made **7** times faster.



Yuzhno-Sakhalinsk – facades heat insulation,
painting with any colour



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Application of **TSM Ceramic** in the field of building construction

TSM Ceramic material, thanks to its structure, enables to isolate sophisticated cramped constructions, which cannot be isolated in ordinary ways.



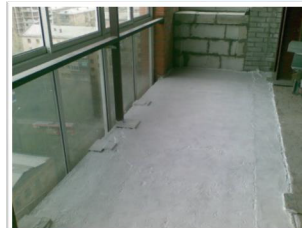
Krasnoyarsk – heat insulation of Great Concert Hall facade



Krasnoyarsk – heat insulation of base and ramp, elimination of cold bridges of “Gold” Business Centre



Krasnoyarsk, Sosny village – heat insulation of wooden walls



Krasnoyarsk , Svobodny ave. apartment – heat insulation of the floor



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Application of **TSM Ceramic** in the field of building construction



Krasnoyarsk, Gorny village – heat insulation of the cottage facade



Krasnoyarsk – heat insulation of the garage





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Application of TSM Ceramic in the field of heat power engineering

TSM Ceramic is widely used in the field of
heat power engineering

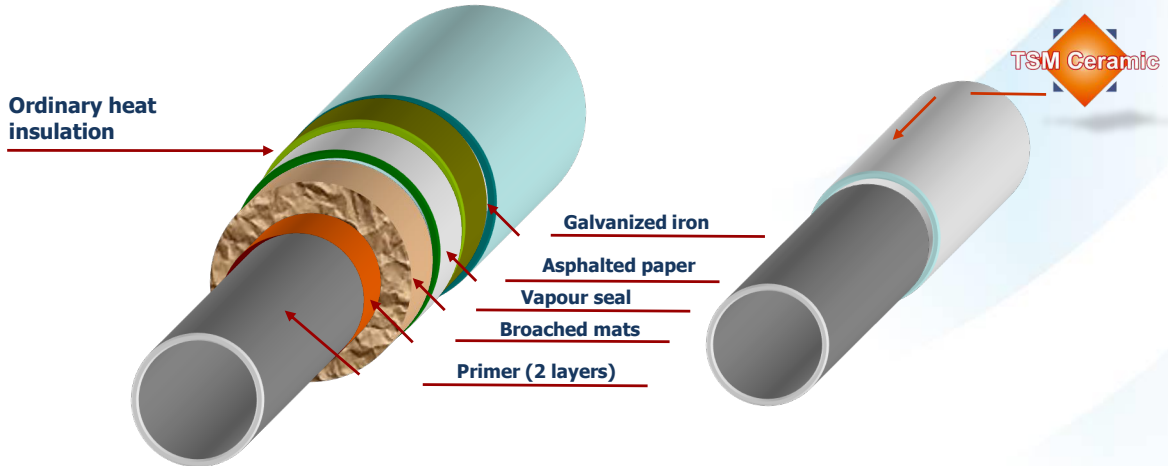
- Pipelines of thermal heating systems
- Steam pipes and gas pipes
- Systems of air conditioning
- Pipes with cold water (for prevention of condensation)
- Steam boilers
- Isolation valves
- Containers and tanks





Application of TSM Ceramic

- Material is used at temperatures **from -60°C to +260°C.**
- The temperature of surface of material application is **from +5°C to +150°C.**
- Covering is under **10-years** warranty and its operating life is over **30 years.**
- The cost of works with **TSM Ceramic** material is **less** than the cost of ordinary solutions





- The price of **TSM Ceramic** material is competitive in comparison with generally used insulation.
- Reduction of labour costs and time while using **TSM Ceramic** because of easy handling.
- Reduction of repair costs due to visibility of accidents and easy maintainability.
- Reduction of costs for heat energy saving in the pipes, steam boilers, etc. due to **TSM Ceramic** high thermal insulation characteristics and complete insulation of pipes, steam boilers, etc., even in the most hard-to-get-at places.
- Possibility of **TSM Ceramic** applying directly to the hot surface (up to 150°C) without interrupting the work of the heating system or the steam boiler.
- Reduction of the costs for heat repairs by increasing the warranty period in comparison with ordinary insulations.
- There are no costs for the insulation rebuilding due to impossibility of its secondary use (VANDAL RESISTANT).



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Objects where **TSM Ceramic** materials were applied



Krasnoyarsk, "Krasmath" - heat insulation of heat transport system



Krasnoyarsk, "Europe" Business Centre - heat insulation of pipelines



Krasnoyarsk Severnyy PNS - heat insulation of pipelines and equipment



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Application of TSM Ceramic in the field of heat power engineering



Krasnoyarsk, Airport - heat insulation of
pipelines and equipment

Krasnoyarsk, Electric Carriage Repair
Plant - heat insulation of pipelines and
equipment



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Objects of building construction with application of **TSM Ceramic** materials

TSM Ceramic is used successfully for heat insulation of cottages and sports structures.



Krasnoyarsk, indoor heat insulation of the rink



Krasnoyarsk, heat insulation of the cottage



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Objects of petroleum industry with application of **TSM Ceramic** materials

TSM Ceramic is used successfully for heat insulation of containers and gas receivers.



Achinsk, "ROSNEFT"
Heat insulation of petroleum storage containers



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Objects of petroleum industry with application of **TSM Ceramic** materials

TSM Ceramic is used for heat insulation of oil and gas pipes of above ground and subsurface lining.



Heat insulating of water and oil products containers



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Objects of machine industry
with application of **TSM Ceramic** materials

TSM Ceramic is widely used for heat insulation of carriages and locomotives



Heat insulation of carriages cabins



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Objects of vessel building with application of TSM Ceramic materials



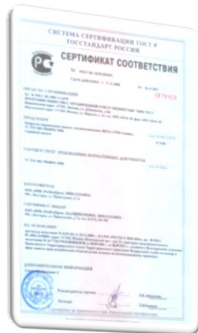
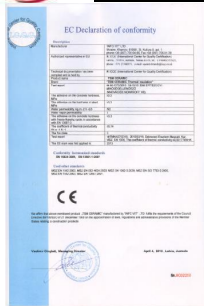
Krasnoyarsk, TH 654 tanker-
heat insulation of the hull



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Certificates



EC Declaration of Conformity No. JIC02250
Conformity Certificate No. POCC RU.AE95.H01852
Fire Certificate No. № C-RU.ПБ24.В.00354
Hygienic Certificate – No.77.01.03.570.П.0650800808
Hygienic Certificate No. 34.77.03.570.П.0038280906
Hygienic Certificate No. 77.ТУ.05.576.П.0001000907
Russian Technical Expertise Centre CTO-CA-03-002-2009
Russian Building Certification.
TO-H00025-07 Belorussian National Institute Of Intellectual
Property TC 05.0046.10

Experimental Centre "All-Union Scientific Research Institute of
Hydro mechanization of Sanitary-engineering and Special
Construction Works" No. 270-1-09
Russian Technical Supervision Service "Centre of Laboratory
Analysis and Technical Metrology" T3 2007
State Unitary Enterprise "Moscow Scientific Research and Project
Institute of Housing Services" T3 2009
Institute for Scientific Research of Building Constructions T3 2005



TSM Ceramic IS RECOMMENDED BY:

FUND OF HOUSING AND PUBLIC UTILITIES REFORMING, MINISTRY OF HOUSING AND PUBLIC UTILITIES OF MOSCOW REGION, RUSSIAN RAILWAYS, GAZPROM, ROSNEFT', RUSSIAN TECHNICAL SUPERVISION SERVICE , UNION OF ARCHITECTS OF RUSSIA, UNION OF PUBLIC ENTERPRISES OF RUSSIA , UNION OF BUILDERS.



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Energy-efficient Services

The necessity for the material use is caused by the entry into legal force of the Federal Law of the Russian Federation of the 23rd November 2009 No. 261- Φ3 "On energy saving and energy efficiency", as well as the adoption of additional measures of energy use efficiency improvement by the territorial and regional authorities. Under this law "**TSM Ceramic**" produces heat power survey and provides full range of professional services for works, connected with the use of "**TSM Ceramic**" energy-efficient insulation material by performance contracts.



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**WE WORK FOR YOUR
BENEFIT!**