



THERMOS LIQUID COATING

**ISOLLAT**

HEAT INSULATION OF ANY SURFACE

New Generation Liquid Heat Insulation  
and  
Fire Protection

# DISCOVER THE REASONS BEHIND CRAWLER'S CHOICE TO USE ISOLLAT

## 1 WHAT IS ISOLLAT?

ISOLLAT - is a new generation nano technology thermal insulation material with a general purpose, thixotropic structure consisting of microscopic expanded air filled full silicate microceramic spheres, polymer resins, stabilizers, pigments, modifiers and a binder liquid polymeric structure.

## 2 BEST PERFORMANCE EVER

Thanks to ISOLLAT's liquid structure, It is applied to every surface without any gaps. ISOLLAT reflects 90% of sunlight back. ISOLLAT is resistant to vibration and mechanical impacts. ISOLLAT has a long service life according to conventional solutions. When applied, it works at maximum efficiency with the same performance for a MINIMUM OF 20 YEARS!

## 3 WIDE TEMPERATURE RANGE: -60 TO +170 °C

ISOLLAT coating material, which is developed by a Russian Company. ISOLLAT ceramic beaded liquid thermal insulation material is the FIRST AND ONLY PRODUCT in its sector that has high thermal insulation and has a wide working band of -60 °C / + 170 °C.

## 4 KING OF INSULATION

With its superior THERMAL insulation value, ISOLLAT also provides;

- 7 dB SOUND insulation
- CORROSION insulation (as it prevents condensation)
- FIRE insulation as well.

## 5 NOT EASILY FLAMMABLE

It is a thermal insulation material having minimum thermal conductivity coefficient and wide temperature band. The operating temperature reaches + 150 °C (+170 °C in peak mode). It is used for coating and heat insulation of pipelines, industrial plants, boilers and storage equipment. Flammability Group - Class B1(Not easily flammable)

## 6 INNOVATION AWARDS

ISOLLAT achieved many competitions and organization awards in the field of international innovation product.

## 7 ULTRA THIN, ULTRA LIGHT

ISOLLAT insulation requires 20 times less volume and weight than the conventional solutions.

## 8 ENVIRONMENT AND HUMAN FRIENDLY

ISOLLAT does not include emissions hazardous to environment and human health.



# COMPARISON OF ISOLLAT LIQUID HEAT INSULATION COATING AND CLASSIC INSULATION MATERIALS

Compared to classic insulation materials used in industrial plants, residence and vehicle manufacturing sectors. ISOLLAT materials has been found to be different and more advantageous in terms of many feature. Insulation thermal conductivity value, application conditions, service life, material & labor cost, ecological conditions and other properties.



MATERIAL	ISOLLAT	ISOLLAT-EFFECTIVE	MINERAL WOOL	POLYURETHANE ISOLATION MATERIALS	POROUS RUBBER MATERIALS
Thermal Conductivity	0,002 to 0,007	0,027	0,05-0,07 (increases 2.8 times during its run time)	0,035 to 0,045	0,035 to 0,04
Density, kG / dm <sup>3</sup>	280	160-180	150-200	30-50	65-80
Vapor permeability mg / m <sup>2</sup> · h	0,012	0,012	0,03 to 0,03	0,4-0,2	0,0001
Water permeability, Gram / nr / 24 hours	Less than 30	Less than 30	1000-2000	100-300	Less than 30
Lifetime (years)	min 30 years at low temperatures, min 20 years at high temperatures	min 30 years at low temperatures, min 20 years at high temperatures	2-5 Years	2-5 Years	2-3 Years
Isolation Thickness (mm)	0,5 - 3 mm	10 - 40 mm	50 - 300 mm	40 - 60 mm	20 mm
Application disadvantages	Misapplication	Misapplication	Temperature and humidity neglect	Temperature abuse, UV ray effect	Temperature and humidity neglect (More than 105 °C)
Continuous Operating Temperature	t ≤ 170 °C	t ≤ 1200 °C	t ≤ 450 °C	t ≤ 130 °C	t ≤ 100 °C
Ecological compatibility	Not harmful to human health.	Not harmful to human health.	It produces 0.02 mg of formaldehyde and fiber powder per hour at 1 m <sup>2</sup> .	Up to 130 °C is not harmful to human health	Not harmful to human health.
Assembly complexity	low	middle	high	high	middle
Labor intensity, Labor time	2,62	2,33	9,66	7,06	6,02

(This comparison ISOLLAT, ISOLLAT-Effective material and classic insulation materials were tested at 95 °C in 1-meter metal pipe with 108 mm diameter)

## MATERIALS USED IN HEAT INSULATION ACCORDING TO FLUID TEMPERATURE IN INSTALLATIONS

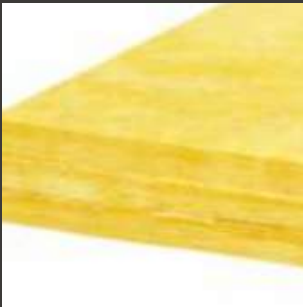
COLD LINES -60 - + 10 °C	WARM LINES 10 -100 °C	HOT LINES 100 - 1200 °C
Polythene	Polythene	Glass Wool
Rubber	Rubber	Rock Wool
	Fiberglass	Ceramic Wool
ISOLLAT - 60 °C / 700 °C (Peak 800 °C)	ISOLLAT - 60 °C / 700 °C (Peak 800 °C)	ISOLLAT - 60 °C / 700 °C (Peak 800 °C)



# DISADVANTAGES OF TRADITIONAL HEAT INSULATION MATERIALS

Common disadvantages of all the conventional insulation materials that are mentioned below in detail; complex structures in application, short service times and insufficiency in providing thermal insulation of surfaces.

## MINERAL WOOL



- it is almost impossible to follow the recommendations of all factories.
- Mineral wool loses approximately 40% of its properties at the end of the first year of thermal insulation application.
- The material becomes wrinkled and swells due to the effect of water, steam or humidity and then the problem called "cold bridge" occurs.
- Using mineral wool causes environmental damages. Formaldehyde and phenol in mineral wool are very dangerous for health.

## POLYURETHANE FOAM

- The most significant disadvantage of polyurethane insulation material is very sensitive to UV rays, which reduces the service life up to 2-3 years.
- For this material almost impossible to find a good UV protection.



## POROUS RUBBER MATERIAL



- Despite the ease of use of porous rubber, the service life of this material is extremely short.
- Continuous temperature changes cause the porous rubber material to expire as early as 2-3 years.

# APPLICATION AREAS

**ISOLLAT has a wide area of usage in the isolation industry.**

**Generalized as ;**

- For thermal insulation of hot water, steam boiler systems and pipes, valves and all other connection equipment;
- To minimize the operating costs that are caused by heat loss in industrial plants and buildings.
- In order to prevent cold and heat losses in indoor and outdoor surfaces,
- For heat, sound, corrosion and condensation protection of air, land and marine vehicles.
- To provide sound, corrosion and condensation isolation in buildings and industrial plants.

## APPLICATION METHODS

Brush, air gun, airless spray gun, roller

## ISOLATION APPLICATIONS

- Caravans
- Walls and ceilings of trailers
- Race cars fire safety walls
- Ceilings of the refrigerated vehicles
- Coach and vehicle isolation
- Tankers
- Mobile fuel tanks
- Military armored vehicles
- Automotive manufacturing sector

## APPLICATION VIDEOS

### What is Isollat?

<https://www.youtube.com/watch?v=rWH7srXHFrs>

### Caravan Isollat Application

[https://www.youtube.com/watch?v=D8\\_5qCyQztg](https://www.youtube.com/watch?v=D8_5qCyQztg)

### Thermal Insulation Video

<https://www.youtube.com/watch?v=XzTS0iaewus>



# CRAWLER CARAVAN LIQUID THERMAL INSULATION APPLICATIONS

**CABINET**



**STORAGE AREA**



**ROOF**



**BED AREA**





even more  
adventurous.

