



TERMION

**INNOVATIVE
COATINGS**
from the manufacturer



Company's activity



Paint-and-varnish materials plant **Limited Liability Company Scientific-Production Association "Altermo"** is a manufacturing company operating in the energy-efficient coatings market since the year of 2011.

Main specialization: development, production and implementation of the innovative energy-efficient, water- and fireproof materials under TERMION trademark.

Business features: our industrial facility constantly carries out laboratory researches, develop and produce innovative paint materials using advanced technologies and innovations in the chemical industry area.

- ✓ Manufacturing, wholesale and retail of liquid thermal insulation, energy-efficient filling paint, fire-retardant paint of TERMION series
- ✓ Implementation of the **nano**-technologies throughout Russia and abroad



2,000
clients



100 tons
per month

Geography



The Company carries out business throughout Russia, CIS countries and far abroad, and has all necessary certificates and material safety data sheets (MSDS).

Today TERMION is exported to Central Asia, Korea, China, Europe and other countries.



Benefits of cooperation with us



High-quality and effective solution for thermal insulation and fire protection of facilities



The cost of the thermal insulation material TERMION® is equal to that of the painting works



Optimization and money and labor saving as compared to the conventional thermal insulations (mineral wool, foam plastic)



Every production stage includes quality control, comparative measurements and analyses of the finished products

Repair and construction companies, production associations carrying out repairs on their own, and individual citizens are among the main consumers of TERMION® special coating



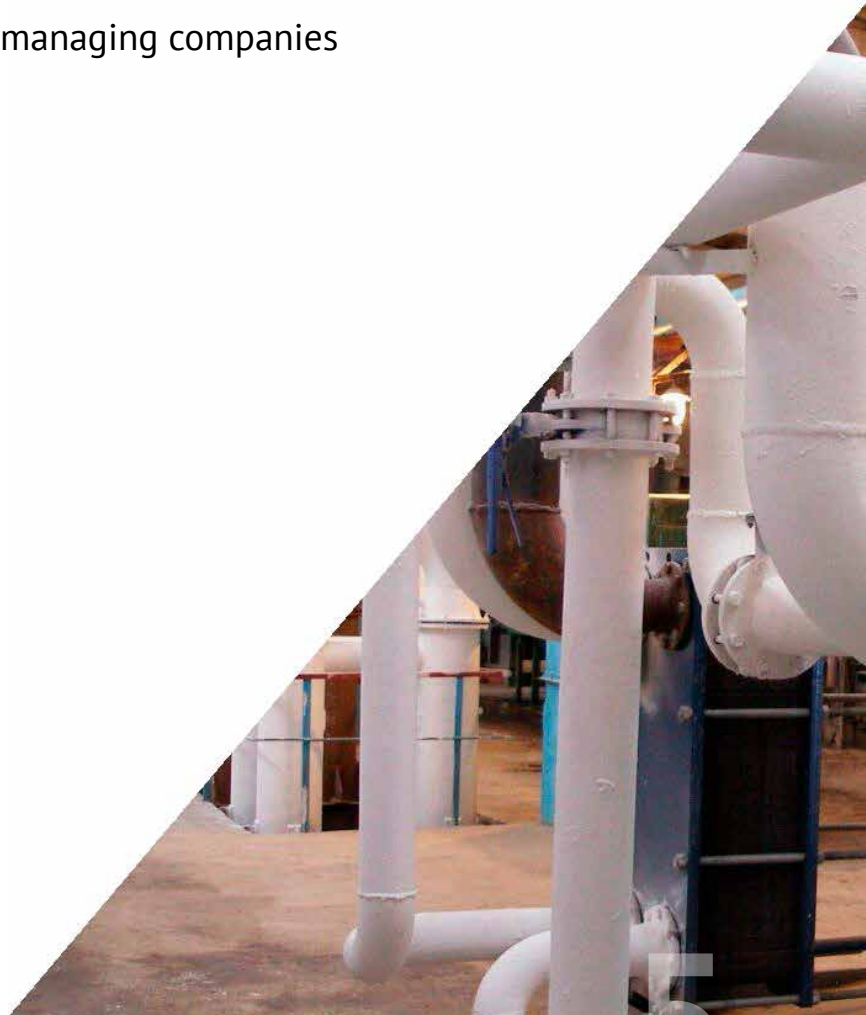
Who benefits from our products?



Today, the liquid thermal insulation and fire-retardant paint of TERMION® series are used at the facilities and enterprises in the various fields of activities:

- ✓ Production and installation of the ventilation equipment
- ✓ Production of the reservoirs and oil tanks
- ✓ Oil production and refining
- ✓ Ship-building and ship repair yards
- ✓ Housing and utility sector and managing companies
- ✓ Construction companies
- ✓ Retail construction stores
- ✓ Lift companies
- ✓ Tube rolls
- ✓ Boiler houses, etc.

With our products you can easily, quickly and economically solve the problems of thermal insulation, waterproofing and fire protection



What is liquid thermal insulation?

A liquid thermal insulation paint (thermal paint) is a new-generation coating produced at paint-and-varnish materials plant Limited Liability Company Scientific-Production Association "Altermo", allowing to solve with such problems as metal corrosion, freezing, fungi used almost in all industries.

It includes antifungal, anti-corrosion, heat-resistant additives*

It includes the vacuum microspheres with a low thermal conductivity coefficient



It includes a high-quality acrylic binder

It prevents mold and rust formation*

**The properties depends on the modification*

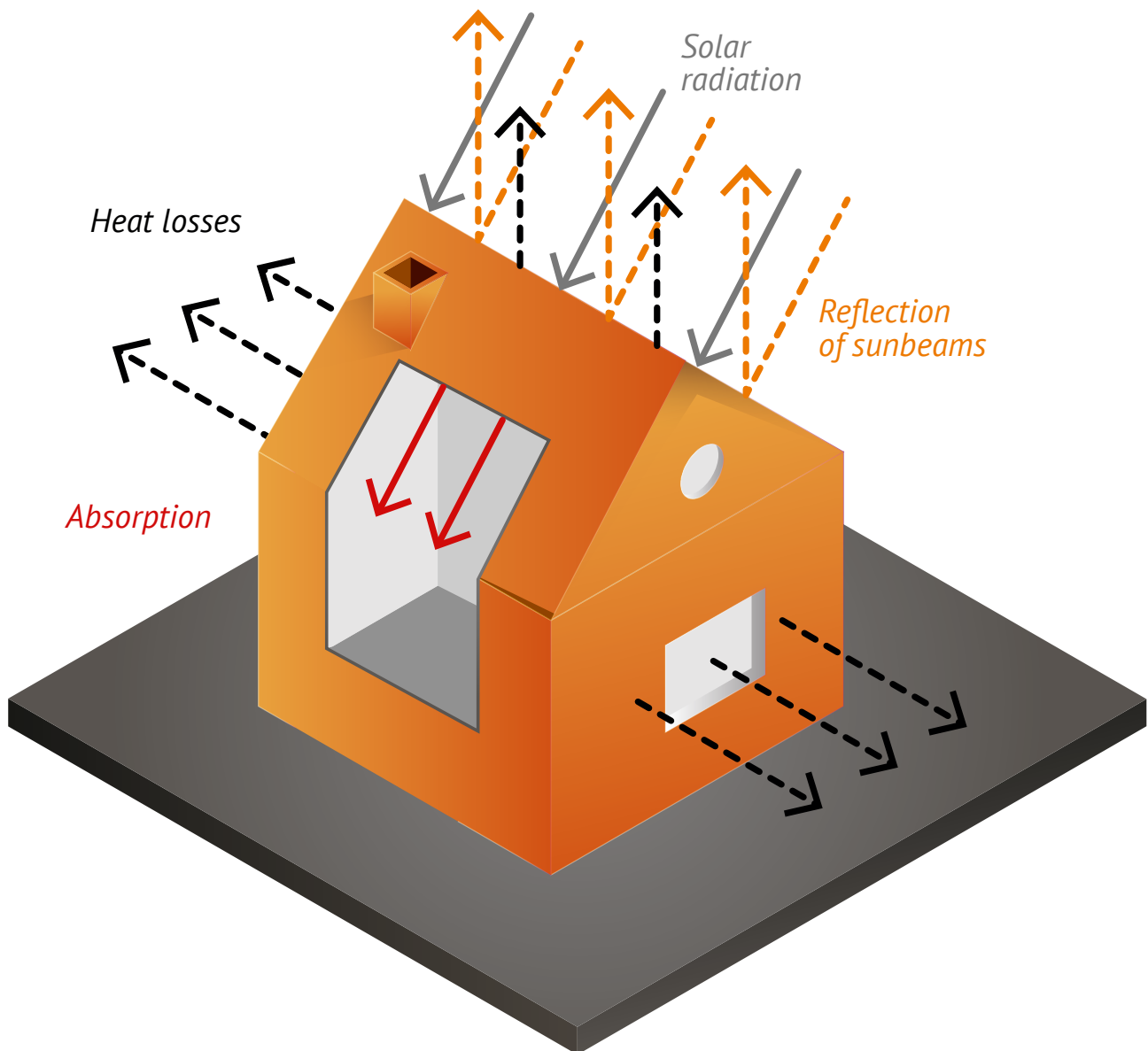


What is liquid thermal insulation?

- ✓ Liquid thermal insulation coating TERMION®, being a fireproof composition, is ideal for thermal insulation of the residential and industrial buildings.
- ✓ Applying TERMION® coating at the reconstructed facilities, you avoid creating any additional load on the foundation of the structure, and protect the structure itself not only from the temperature and humidity changes, but also from the ultraviolet radiation and other destructive effects.
- ✓ TERMION® coating has excellent vapor permeability, and, therefore, moisture is not accumulated in the wall structure insulated with TERMION® coating, and toxins come out perfectly of the premise.
- ✓ TERMION® is waterproof, and therefore, a structure coated with this material will not get wet from the precipitations.

Depending on the modification, the liquid thermal insulation can be applied on any surfaces with the operating temperature from -60°C to +600°C

Liquid thermal insulation properties



Excellent heat-reflecting characteristics, high vapor permeability and adhesion allow using our products in professional building thermal insulation

Liquid thermal insulation properties

- ✓ Liquid thermal insulation TERMION® resembles outwardly a common paint, which allows to apply it to the surface of any configuration.
- ✓ After drying, TERMION® forms an elastic polymer coating with the unique thermal insulation properties compared to the conventional insulants (1 mm of Altermo replaces 5-6 cm of the mineral wool).
- ✓ Liquid thermal insulation TERMION® is applied layer by layer using a brush, roller or sprayer (airless).
Thickness of one technological layer is **not more than 1mm!**

Methods of application



Advantages of the Liquid thermal insulation



Flexibility of use and saving during transportation



Produced of the import high-quality component



Ease of application, time and labor saving



Ecological compatibility, health and environment safety

Our products are used as a paint, but work as thermos, which determines its popularity!

The technical properties of the liquid thermal insulation are



0.0012

W/m °C

Thermal conductivity coefficient

0.013

mg/m h Pa

Vapor permeability coefficient (not less)

1.25

Actual consumption (with the thickness of 1 mm) l/m²

1 point

Coating adhesion (GOST 15140-78)

G1

Flammability class (except for the modification NG*)





NG - completely non-flammable modification (Used for thermal insulation of the civil and industrial construction facilities according to the Federal Law No. 123-FZ "Technical Regulations on the Fire Safety Requirements" dd. June 22, 2008)

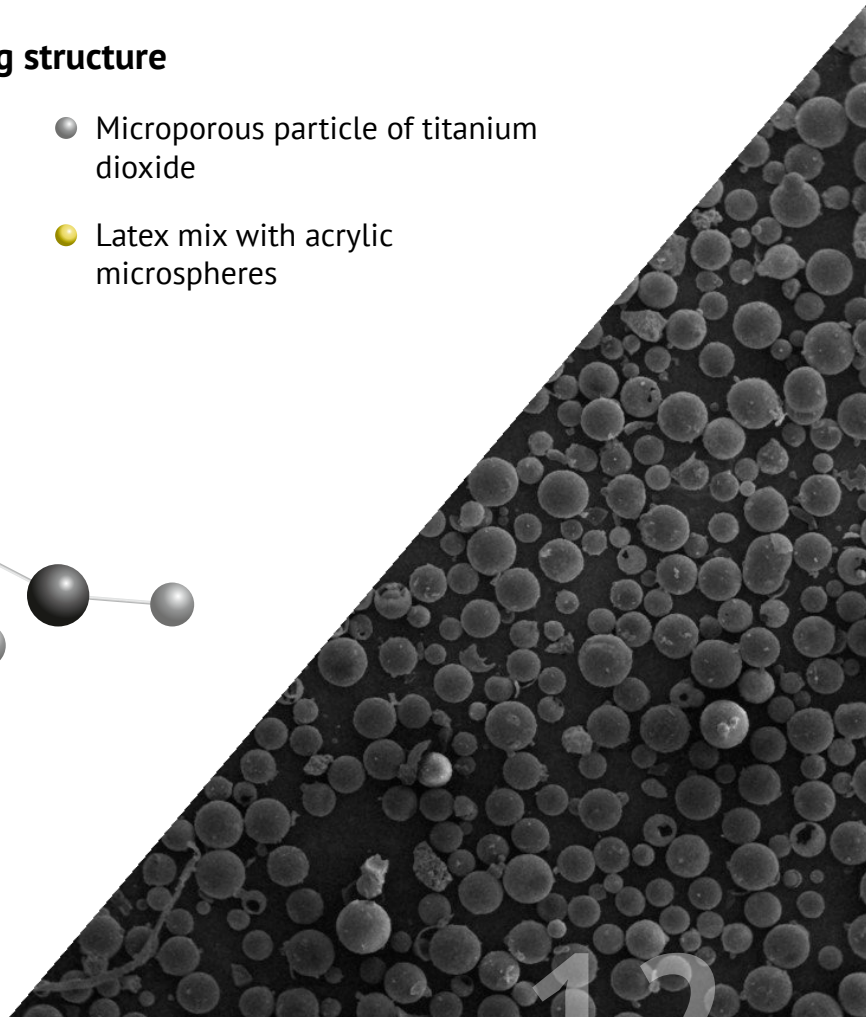
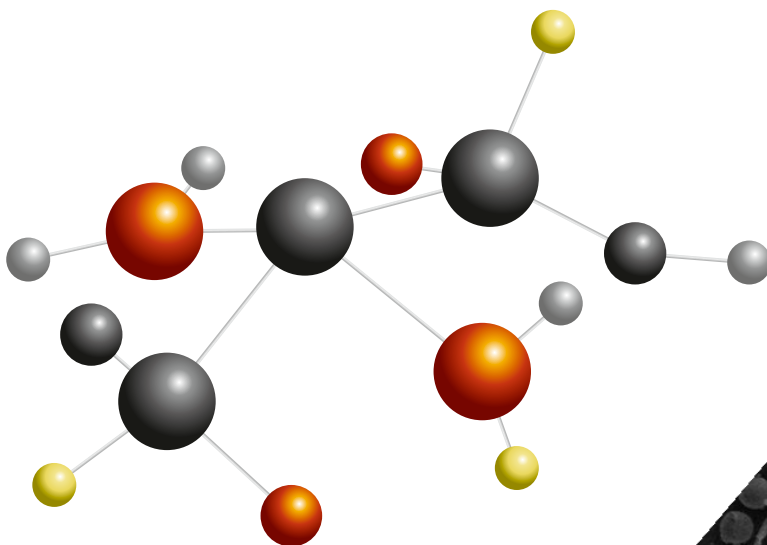


Operating principle

- ✓ The thermal conductivity coefficient of ALTERMO makes 0.0012 W/ms. ALTERMO consists of the sodium boron silicate (glass-ceramic) microspheres with the diameter of 10-30 microns for 80% and for 20% of the mixture of the silicone microspheres with the diameter of 50-80 microns, high-quality acrylic binder and various target additives.
- ✓ Being in the suspended state in the acrylic composition, the silicone hollow microspheres turn out to be “stuck” with the hollow sodium boron silicate microspheres with the discharged air inside (technical vacuum).

Termion® thermal insulation coating structure

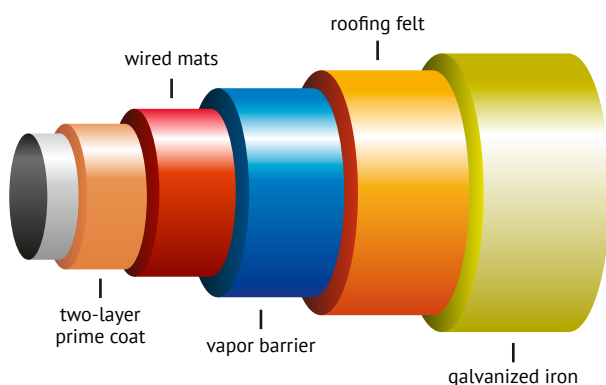
-  Silicone microsphere 50-80 μm in diameter
-  Microporous particle of titanium dioxide
-  Vacuum glass-ceramic microsphere 10-30 μm in diameter
-  Latex mix with acrylic microspheres



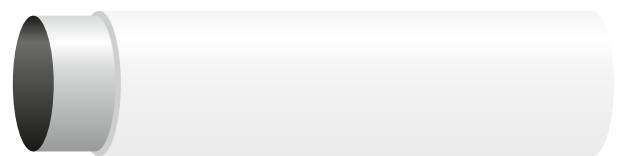
Operating principle

- ✓ As a result, a structure made of clusters (a cluster is a silicone microsphere stuck with several evacuated sodium boron silicate microspheres) is being formed.
- ✓ This combination makes liquid thermal insulation TERMION light, flexible, extensible, and having good adhesion to the coated surfaces.
- ✓ The TERMION coating layer with the thickness of 1 mm contains a large number of the microspheres. That's why, application of the thermal paint in several layers can provide reliably effective heat reflection and energy saving.

Traditional thermal insulation of a pipeline, highly demanding in labor and financial cost



Thermal insulation of a pipeline with the **TERMION®** coating



TERMION® is easily applied onto the surfaces of any shape, which is especially important when insulating the facilities with complicated design features, such as edges and bends, inaccessible for treatment with the conventional materials.

Liquid thermal insulation application areas



- ✓ Walls of the buildings, residential and non-residential premises (both outside and inside)
- ✓ Roofing (metal tiles, profiled sheeting, etc.)
- ✓ Mansard floor slabs
- ✓ Loggias and balconies
- ✓ Window jambs; Interpanel joints
- ✓ Underground premises; Basement
- ✓ Garages; Containers; Accommodation cabins
- ✓ Pipelines of cold and hot water supply and heating systems
- ✓ Steam pipes
- ✓ Air ducts
- ✓ Steam boilers and water heaters
- ✓ Oil pipeline of the underground and aboveground oil storage tanks
- ✓ Refrigerating chambers
- ✓ Reservoirs and tanks for storing water, food and oil products
- ✓ Hulls of ships, submarines, boats, yachts
- ✓ Truck and railway tanks for various liquids

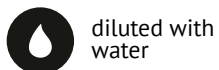
Модификации жидкой теплоизоляции



STANDARD

Является универсальным сверхтонким энергосберегающим покрытием в линейке сверхтонких теплоизоляционных материалов нашего производства, подходит для любых поверхностей с температурой эксплуатации от -60°C до +200°C (пиковая температура 250°C не более 2-3 мин). Жидкая теплоизоляция ТЕРМИОН® высоко эффективна в теплоизоляции трубопроводов горячего и холодного водоснабжения, паропроводов, воздуховодов для систем кондиционирования, систем охлаждения, различных емкостей, цистерн, рефрижераторов, трейлеров и других объектов.

Methods of application



diluted with water



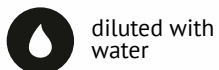
150-200 rpm



FACADE

Эта модификация разработана специально для бетонных и кирпичных поверхностей. Благодаря высоким теплоотражающим свойствам, станет идеальным решением в области строительной профессиональной теплоизоляции. Благодаря возможности колеровки теплоизолированные поверхности приобретут современный эстетический внешний вид. Жидкая теплоизоляция ТЕРМИОН® FACADE обладает всеми достоинствами высококачественной FACADEной краски. Легкость нанесения, быстрота выполнения работ по теплоизоляции, защита поверхности от атмосферных осадков и различного вида грибков и плесени, повышенная паропроницаемость – вот лишь некоторые преимущества применения нашей теплоизоляции.

Methods of application



diluted with water



150-200 rpm



Liquid thermal insulation modifications



BIOPROTECT

Уничтожает плесень и подавляет развитие грибковых образований на стенах жилых помещений. Устраняет конденсат и сырость. Благодаря добавлению в ТЕРМИОН® BIOPROTECT антигрибковых добавок, эта модификация превосходно помогает избавиться от грибковых образований и плесени на наносимой поверхности. Обладает повышенной паропроницаемостью. Экологически чистый продукт. Не оказывает влияния на организм человека.

Methods of application



diluted with water



150-200 rpm



WINTER

The latest development in the line of ultra-thin liquid ceramic thermal insulation materials. In contrast to all other ultra-thin thermal insulation compounds available on the Russian market, the TERMION® Winter can be applied at subzero temperatures down to -30°C , while the minimum application temperature of conventional liquid ceramic insulation materials can not be lower than $+5^{\circ}\text{C}$.

Ultra-thin thermal insulation TERMION® Winter has excellent adhesion to most substrates, is alkali-resistant, water-resistant and suitable for use on various bases.

Methods of application



diluted with orthoxylylene



150-200 rpm



Liquid thermal insulation modifications

ANTICOR

Liquid thermal insulation TERMION® Anticor with higher anti-corrosion properties is used on surfaces prone to corrosion as well as for the prime layer before applying other TERMION® series coatings onto rusty surfaces. It is highly adhesive.

Used for insulation and corrosion protection of utility pipelines and metal structures.

Methods of application



diluted with orthoxylene



150-200 rpm



VOLCANO

The best choice to insulate objects with operating surface temperature as high as +400°C and peak temperature up to +600°C. Shows anti-corrosion properties and excellent adhesion to surfaces of any kind. Is used at industrial facilities.

Allows safeguarding operators from occupational accidents (such as burns). This material can be used at positive as well as negative temperatures.

Methods of application



diluted with orthoxylene



150-200 rpm



Liquid thermal insulation modifications



FINISH

The energy-saving putty TERMION® Finish performs several functions at a time: levelling the surface, texturing, thermal insulation and soundproofing, also eliminating the fungi and condensate on the enclosures of buildings and structures. It has high thermal insulating properties, which exceed all standard kinds of heat-insulating materials.

The TERMION® Finish putty is easy to apply and has perfect adhesion to the surface.

The ready-to-use TERMION® Finish putty is easy to handle, with perfect resistance to cracking.

Ready paste-like, one-component, water-based finishing putty, has increased whiteness, adhesion and crack resistance. Ideal for leveling and texturing surfaces. Possessing high plasticity, it is easily leveled, perfectly fills all small irregularities and cracks, and allows the application of decorative elements. Thanks to the nano-particles that make up the material, it has an excellent heat-saving effect.

Methods of application



Liquid thermal insulation modifications



Completely non-flammable liquid thermal insulation modifications due to special fire retardants included into their structure. According to **GOST 30244-94**. Confirmed by fire safety certificate **НСОПБ.РУ.ЭО.ПР007.Н.00018**.

STANDARD NG



FACADE NG



BIOPROTECT NG



WINTER NG



ANTICOR NG



FINISH NG



NG - completely non-flammable modification (Used for thermal insulation of the civil and industrial construction facilities according to the Federal Law No. 123-FZ "Technical Regulations on the Fire Safety Requirements" dd. June 22, 2008)

Fire retardant paint



The water-based fire-retardant intumescent paint “TERMION Fire Protection” is specifically designed to raise the fire resistance barrier of metal structures and objects of civil and industrial use up to 120 minutes.

Used for painting the walls and ceilings in the evacuation routes and hall premises, according to the Federal Law No. 123-FZ “Technical Regulations on the Fire Safety Requirements” dd. June 22, 2008.

“TERMION Fire Protection” contains special fire-retarding additives and heat-resistant substances, as well as gas-forming agents and foamy layer stabilizers. With an increase of the temperature and exposure to the fire, the composition intumesces (cokes), releases inert gases and vapors, and a rigid foam with a low thermal conductivity is formed not supporting and slowing down combustion, i.e. oxygen is replaced by the inert gases. As a result, thermal convection disappears and the flame is suppressed.

Methods of application



 diluted with water



Waterproof paint



LIQUID ROOF

Innovative waterproof sealer paint TU 5775-010-04242160-2016

Intended use:

The single-component polymer paint Termion LIQUID ROOF is used for protection and decoration of new and old roofs as well as exterior and interior wooden, brick, concrete, plastered, metal and galvanized surfaces permanently exposed to water and ultraviolet.

The Termion LIQUID ROOF is highly elastic, fluid and adhesive, avoiding the need to dismantle the existing roofing material.

A synonym to the Termion LIQUID ROOF is waterproof sealant.

Despite its high waterproofing effect, the Termion LIQUID ROOF is permeable to vapor.

Methods of application: rubber spatula, brush, roll, airless sprayer.

Is widely used for the waterproofing of:

- › Roofs, facades, basements, and floors;
- › Sundecks, porches, and balconies;
- › Water pools, concrete reservoirs, garden paths, and aprons;
- › Boats, yachts, and other watercrafts;
- › Civil, industrial and agricultural buildings and structures;
- › Bridges and tunnels.

Methods of
application



diluted with
water

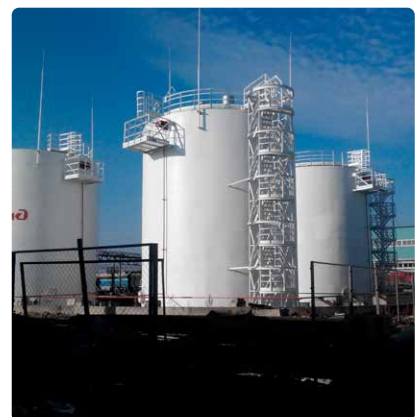


Clients who trust our technologies



More than 2000 customers trust our technology!

Photo reviews



Certificates



Using high quality imported raw materials, as well as unique developments of the innovation department and our own laboratory, our company has managed to achieve better performance, signifying high technical characteristics, properties and parameters of the products we make.

All products of Altermo LLC are validated by certificates of conformity to international standards, and high-tech production allows us to introduce new technologies and products.




Contacts




We will be happy to answer all your questions!

Ilya Grebennikov
Development Director (CBDO)

 +7 (929) 916-77-67

 +7 (499) 755-84-90

 8 (800) 222-03-56

 gin@pk-altermo.ru

 pk-altermo.ru

 termion.ru



Manufacturing company "Altermo"
SPA LLC. IT'S ALWAYS WARM WITH US!

Altermo LLC is operating all over Russia, in the CIS countries and overseas.

All necessary certificates and material safety data sheets (MSDS) are available.

Today TERMION® is exported to Central Asia, Korea, China, GCC countries, Europe and other countries.

 **WHOLESALE AND RETAIL**

 **FUNDS SAVING**

 **HIGH QUALITY**

 **BENEFICIAL COOPERATION**

 **INNOVATIVE TECHNOLOGIES**

