

#### The product is certified PZH

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#### **NEW WITHIN THE INSULATING MATERIALS**



AT TERMO is a new product on the insulation materials and protective coatings market and it brings totally a new approach to the insulation and protective coating works. The unique feature is that AT TERMO combines advantages of both types of the products and allows to create thermal insulation by simple and safe painting works.

Apart from the thermal insulating features, AT TERMO is also the excellent protective coating to the weather exposed surfaces and provides efficient anticorrosive protection.

Liquid consistence and high adhesion properties allow the application of AT TERMO to the variable shaped bases made of concrete, plasters, plasterboards, metal, wood and plastics excluding polyethylene. As soon as AT TERMO is dry it creates a uniform thin coating and provides insulation continuity, eliminates thermal bridges, reduces the heat losses and extends lifetime of the construction materials.

Using only the approved components from the renowned construction chemistry suppliers and controlling the production process at all stages we as the producer guarantee high quality of the final product.

Our company cooperates with the certified laboratories and institutions as well as with technical universities and research institutes. Cooperating with the above institutions we have performed many tests and studies resulting in certificates and experts' opinions which confirm high quality, durability and parameters of AT TERMO coating. Easy application, the price corresponding to the advantages, safety and environment protection are the features which make AT TERMO unique on the insulation market.

Depending on the parameters and application the following AT TERMO types are available: **BASIC** 

OPE





AT TERMO BASIC product for metal surfaces free of corrosion.



is very efficient for the insulation of steel structures components, hot and cold water pipelines as well as air conditioning systems. It is an efficient protection against frost and surface condensation of water vapour as well as against thermal bridges. An appropriate protection of the surface eliminates the mould and extends its durability.

AT TERMO BASIC is stable and provides high adherence to metals free from the surface corrosion as well as to construction materials. In variable weather conditions it is free of dusting and is non-toxic. It provides high adherence to all known materials. It is the environment friendly and health safe product, which allows its application during outdoor and indoor works.

AT TERMO BASIC deflects up to 90% of the infrared radiation from the Sun. It is possible to add any colour or to coat it with the water paint. Application of AT TERMO BASIC does not increase the load on the insulated structure and allows to keep its primary dimensions as well as reduces the time of work.

# BASIC

# OPEN

is designed especially for the construction industry. It is used for external and internal thermal insulation of the building surfaces made of plaster, concrete, bricks, wood and other materials. AT TERMO OPEN provides high adherence to practically all known construction materials. Low fluidity, thixotropy on any surface and high water vapour permeability are the features of AT TERMO OPEN.

AT TERMO OPEN is the environment friendly and health safe product, it allows not only outdoor but also indoor works while the basic labour safety rules are followed. AT TERMO OPEN is resistant to weather conditions and is intended for the thermal insulation of vertical surfaces. The coating provides a comfortable microclimate in the room. AT TERMO OPEN deflects up to 90% of the infrared radiation from the Sun. It is possible to add any colour or to coat it with the water paint.

Application of AT TERMO OPEN indoors and outdoors allows to keep the room dimensions and does not increase the load on the insulated structure as well as it allows to insulate facades with a complicated design, and historic buildings. It improves the thermal comfort in rooms and is time-efficient.





#### POSSIBILITY OF DYE COLORING.





### ACTION

AT TERMO efficiently limits the heat transfer via conduction and radiation.

 Conduction – AT TERMO is a composite material based on the acrylic resin reinforced with ceramic microspheres with nearly vacuum conditions inside the spheres. The vacuum inside the microspheres increases the heat resistance and addition of microspheres with various dimensions ensures better distribution in the coat layer. In the layer of 1 mm thickness the dozens of microspheres are present, which increases the heat resistance at the transition layer between one phase and another one.

A similar phenomenon is observed in the windows with complex glazing, where the three-chamber glazing is already in use. If we compare the heat transfer through a 5 cm thick pane of glass and 5 panes of glass 1 cm thick we can observe that much higher heat resistance and an evident thermal insulation effect is reached with the layered complex glazing.

Expanded polystyrene boards consisting from many expanded polystyrene granules that form the cellular structure show a similar structure and principle of insulation. In AT TERMO the polystyrene granules' function is taken by microspheres of the minuscule diameter. Thanks to the microspheres the insulation cross-section can be reduced from centimetres to millimetres and this opens new opportunities as regards insulation of old and new buildings and structures.

### ACTION



AT TERMO efficiently limits the heat transfer via conduction and radiation.

• **Radiation** - is deflected on the surface and inside the microspheres in AT TERMO. The coating reflectance is at the very high level and the total sun ray reflectance TSR factor reaches even 90%.

The "municipal heat islands" phenomenon which includes the overheated attics and the buildings heated up to very high temperatures is caused among others by the Sun radiation and this is a very important problem. The unfavourable effect can be reduced by application of AT TERMO which acts as a shield and thus deflects the radiation. In the countries with high average temperatures the roof coatings are commonly painted white. The white colour appears to reflect the sunrays better than any other colour. However, white is not always desirable on a facade or roof. AT TERMO standard colour is white but any other colour can be added to change it. It is vital to know that due to the innovative solutions the TSR factor is kept at a high level. We are not only interested in insulating outside surfaces.

Once popular a radiator reflector is a sheet applied to the wall behind a heating radiator. The intention is to reduce heat losses into the wall by reflecting radiant heat away from the wall.

This solution allowed to use the heat emission from radiators in the more efficient way. Application of AT TERMO ensures the same effect and what is more, it can be coloured to match the whole room colour design

Combination of the unique features allows to achieve the desired effect which is unattainable when applying other insulation materials commonly used nowadays.



# TAKE EVERY ABVANTAGE /



#### **ADVANTAGES**

The following features are characteristic for AT TERMO:



- innovative and efficient thermal insulation which can be applied in the construction, industry and transport,
- Anticorrosive properties. Easy application due to either manual or machine sprayed coatings, which allow to insulate complicated shape elements such as architectural details on facades, etc.,
- low labour cost in comparison to traditional insulation processes,
- low coating density does not impose an additional load on the insulated structures,
- uniform and continuous structure eliminates thermal bridges and provides the same insulation parameters in the whole surface area,
- fungicidal feature due to the aluminium oxide contents,
- water-dilutability, the coating is environment friendly and health safe,
- versatility allows to insulate surfaces such as metal, plastics, concrete, bricks, plaster boards, plasters and wood,
- no material ageing effect, which provides stable insulation parameters,
- quick and efficient repair possibility in case of small damages in the completed insulation,
- resistance to UV rays and weather conditions,
- Polish product manufactured in Poland.



# How to prepare the substrate





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# **BASE SURFACE PREPARATION**



Highly damaged surfaces shall be repaired before application of the coating to provide stable • base surface.

The surface before application of the coating shall be cleaned and all loose parts shall

be removed to provide maximum adherence of the coating to the base surface.

The coating must not be applied to wet or oil contaminated surfaces.

Absorbent substrates prior to application of the coating shall be primed.



- The coating is not designed to even the surface. If any surface roughness exists it should • be corrected prior to application of the coating.
- The temperature range of the substrate during application of the coating is from +7°C to +150°C.



# How to prepare a product



# **PRODUCT PREPARATION**

- ≤ 200 obr./min. >200 obr./min.
- Before application the product shall be carefully stirred. Stirring shall be performed with the use of low-revolution mixers with maximum speed of 200 revolutions per minute. Too intensive stirring can cause aeration of the coating and damage of the microspheres.



• When using the spraying unit and also when applying the coating in high temperatures it is recommended to dilute the coating with water at the ratio 3% - 5%. In case of manual painting the coating shall be diluted with up to 20% of water.



• The water shall be added in small quantities until the appropriate consistence is reached.

#### Attention!!!

Dilute only the amount of coating which will be used during the application.



How to use





# **APPLICATION METHOD**

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The coating can be applied manually with the paintbrush or by machine spraying. It is recommended to apply at least two layers of the coating with maintaining the drying time of the previous layer. One layer shall be maximum 0.5 mm thick.



One layer drying time is about 24 hours depending on the base surface and ambient temperatures.



Please consult the selection of the coating equipment with a Distributor. The high-performance and reliable products of Graco company are strongly recommended. See the recommended solutions:

- o Surfaces to 50m<sup>2</sup>
- o Surfaces bigger than 50m<sup>2</sup>

Graco HVLP TurboForce 9.5 with nozzles 4 or 5
Graco RTX 5500PX

During application of the coating with the spraying unit, the paint filter shall be removed to avoid damage or complete removal of the microspheres from the coating!!!



AT TERMO is the environment friendly and water-dilutable product which can be applied in closed rooms while the general labour safety rules shall be maintained. AT TERMO can be applied to the surfaces with temperature ranging from 7°C to +150°C.



Temperature resistance:

From -60°C to +180°C, a temporary temperature increase is allowed up to 240°C.



Consumption: 0,5 liter/1 sq m for the 0,5 mm thick layer.



The tools cleaning: The tools and the contaminated surfaces shall be cleaned with water.











The composite coating AT TERMO properties and technical parameters ensure reduction of the insulation volume whereas the [U] heat transfer factor of the insulated wall is maintained at the same level. It can be applied to uneven surfaces. These unique features allow to apply AT TERMO in areas such as heating, construction and industry. The insulation application is very similar to the usual painting and a few hours' training is sufficient to learn the proper coating application. It is of high importance as in this way we eliminate the risk of application errors which are common for the inappropriately trained workers who perform the insulation works with the foamed polystyrene or the rock wool. This is an easy way to reduce the heat loss and as a consequence, to save money. AT TERMO properties allow to apply insulation in places where it was not possible previously (i.e. historic buildings, complicated structure such as valves) and also where the investor decides to replace traditional materials with the innovative and efficient solution of AT TERMO coating.



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