

CERAMOR FAÇADE FAQ

IMPORTANT INFORMATION

MOST FREQUENTLY ASKED QUESTIONS
ABOUT CERAMOR FAÇADE



F.A.Q'S

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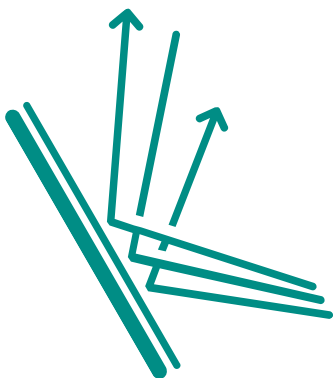
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▶ Above are the questions have been answered in this document.

▶ If you may have additional comments or questions, you can always contact us directly.



INTRODUCTION

When we mention Ceramor to anyone for the first time, the first thing they do is to compare it with the traditional materials, like Styrofoam, Rockwool etc.

Although both type of products serve a similar purpose, they should not be compared directly as direct competitors.

In this document, we explain the major differences between these two materials and answer some of the most commonly asked questions about Ceramor.

If you may have any additional questions about the information presented in this document, please don't hesitate to contact us at info@mirava.co

WHAT IS CERAMOR

Ceramor is “liquid thermal insulation product” that is designed to be both versatile and performant.

It offers users practical and effective way to insulate their buildings and save on energy costs.

Ceramor's main goal to provide an alternative way for thermal insulation projects where traditional materials either cannot be used or desired.

More details about the product comparison can be found below.



Ceramor offers practical yet effective thermal insulation for both interior and exterior applications.

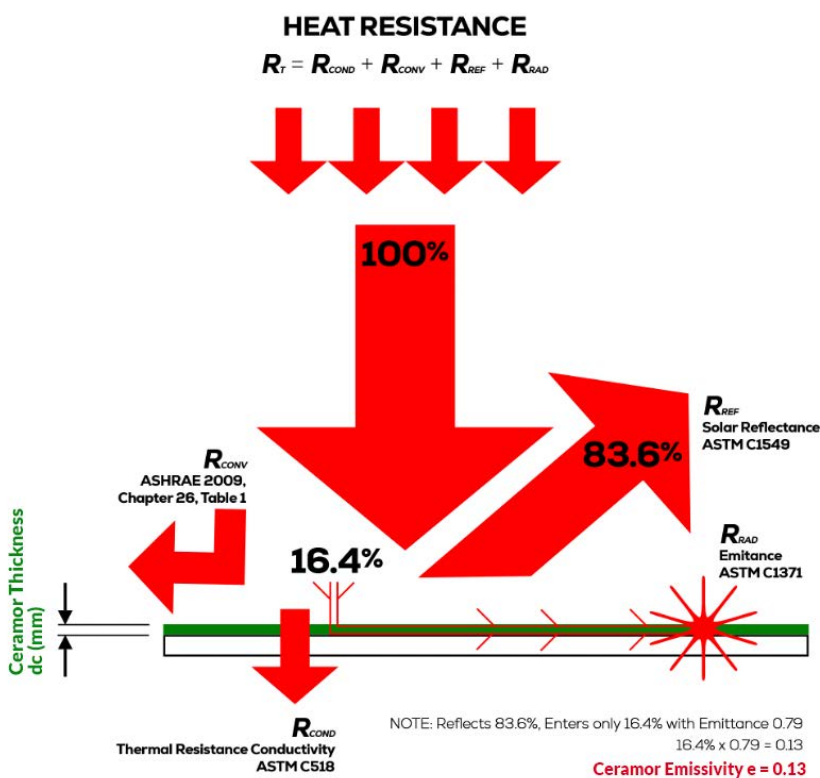
HOW CERAMOR WORKS

Ceramor slows down heat transfer through three different methods: Conduction, Convection and Reflection.

Due to its ingredients and proprietary formula, Ceramor has a capacity to hold and reflect heat very effectively.

It is a water-based coating that works as a heat barrier, which traps and slows down heat transfer on buildings.

Please note that how heat transfers in and out of buildings is totally different between summer and winter months. More information about this can be found below.



Ceramor has a unique ability to reflect and trap heat while slowing down its transfer.

Traditional materials (such as styrofoam) can only slow down heat transfer by conduction hence requires thickness to perform.

Ceramor on the other hand, works through conduction, convection and reflection, all at the same time.

More information can be found below.

IF CERAMOR IS SO THIN, HOW CAN IT BE SO EFFECTIVE?

Ceramor is applied 1 to 1,5 mm in thickness, although it may be considered thin versus traditional materials such as rockwool, it is 30 times thicker than the normal wall paints (Ceramor is categorized as a coating)

Ceramor is so effective because of its ingredients and how they work against heat. In thermal insulation, thickness of the material is only relevant if conduction is concerned. For reflection and convection methods, thickness is not relevant.

Ceramor is made of special ceramics and heat-resistant “non-toxic” resins that have a very high capacity to block (and reflect) heat. These raw materials can resist extreme temperatures (up to 600 C°) and therefore, unlike traditional materials, high thickness is not required.

While traditional products can only slow down heat transfer based on conduction, Ceramor provides two additional ways to do the same. These are convection and reflection.

Conduction: solid to solid transfer (thicker the material is better)

Convection: resisting heat transfer of hot fluids on the surface (like air or liquid)

Reflection: ability to reflect heat waves

	Conduction	Convection	Reflection
Traditional materials	✓	✗	✗
Ceramor Façade	✓	✓	✓

Important:

Please note that highest amount of temperature buildings is exposed to between 25°C to 50°C, depending on the location of the building. These temperatures are considered low when you look at the maximum temperatures Ceramor can handle.

Note:

Ceramor works whether it is applied inside or outside, however it performs best when material is exposed to heat directly, then it utilizes three different methods to slow down heat transfer.

Winter months: Interior applications would be more beneficial
(heat moves from inside to outside)

Summer months: Exterior applications would be more beneficial
(heat moves from outside to inside)

To have a year-long performance and minimize heat loading onto your building, we recommend applying Ceramor both inside and outside.

HOW IS IT DIFFERENT THAN TRADITIONAL MATERIALS

Ceramor must be considered as an alternative rather than a direct replacement to common materials. It is just another method to save energy in your buildings.

Both traditional products and Ceramor have similar purpose, to reduce the energy loss on buildings. However, there are some major differences:

Traditional Materials (Styrofoam-Rockwool etc.)	Ceramor Facade
Can be applied only outside	Can be applied inside or outside
Partial application not possible	Partial application possible
Can't be self-applied	Can be self-applied
Winter-time heat is lost to walls ¹	Heat loss is minimal in winter
Only works through conduction	Works through conduction, convection and reflection
Thickness is needed ²	Thickness is not needed
Styrofoam can possess a fire risk	No fire risk, Ceramor doesn't catch fire
Application takes longer	Takes minimal time
Water resistance: no	Repels water

1- As warm air tends to move towards the colder area, heat travels from inside to outside in winter months. With traditional products such as styropor, walls and ceilings first absorb lots of energy before block-based materials (exterior) provide some resistance. With Ceramor however, walls are prevented from absorbing large amount of energy in the first place (when applied inside). Making heating systems work less and save energy.

2- Traditional products take 5-15 cm of space on the exterior, requiring many adjustments on the building surface. Ceramor on the other hand, only required 1 to 1,5 mm in thickness, and creates no thermal bridges.

Reviewing the differences stated above, Ceramor offers an alternative, more flexible way to insulate your buildings, in a practical and effective way.

If you have additional questions or, require any further assistance, please don't hesitate to contact us at info@mirava.co

HAS CERAMOR BEEN TESTED?

Yes, Ceramor has been tested by ISO certified test laboratories, the technical departments of our industrial clients and also, by our own technical team.

Please note that Ceramor has 3 different test results, instead of one, like traditional materials. Common products like Styrofoam provide insulation through conductivity, hence they are only concerned about the lambda value.

Ceramor however, provide two other functions to slow down heat transfer (reflection and convection) and these functions require their own tests.

	Test Standart	Result
Conduction	ASTM C518-21	0.0355 W/mK
Convection	ISO 6946:2017	0.21 m ² K/W
Reflection	ASTM E 1980:11	1.053 m ² K/W

Because using single lambda value is common practice in the building industry, our technical team and esteemed professors combined the results of three official tests into one lambda value. In other words, we have converted Ceramor's convection and reflection values into a lambda value for the sake of simplicity.

Ceramor lambda value (tested): 0.0355 W/mK

Ceramor lambda (calculated – combined with convection and reflection values)

When used on one side of the surface: 0.0012 W/mK

When used on both sides of the surface: 0.00037 W/mK
(in direct contact with heat all the time)

If you have any technical questions that are not answered in our documentation, or would like to clarify additional points, please contact us at info@mirava.co

IS CERAMOR A REFLECTIVE PAINT?

The short answer is NO!

Ceramor is categorized as coating and about 30 times thicker than reflective paints.

Also, while reflective paints have the ability to only reflect heat, they have no conduction or convection capabilities.

	Conduction	Convection	Reflection
Reflective paints	✗	✗	✓
Ceramor	✓	✓	✓

In this way, Ceramor is a very unique that: it has a similar to or better thermal performance than thick, block-based materials while offering the practicality of liquids product.

Ceramor has been used for many residential and commercial projects all over the world.



IS CERAMOR RIGHT PRODUCT FOR ME?

Ceramor is great alternative for the most thermal insulation projects, however suitability will depend on the individual use case and requirements.

For example: if your project requires traditional materials to be used by law and they don't consider any other alternatives (example: some government projects can only follow pre-determined rules), Ceramor may not be right for you.

However, if you are the decision maker or your project is open for alternative products that provide the great return on your investment, then Ceramor is right for you.

CAN I APPLY CERAMOR MYSELF?

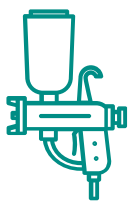
Short answer is YES. Ceramor can be applied by individuals if all steps followed carefully.

Please note that Ceramor is subject to basic quality application requirements like any other coating. Meaning surface preparation and getting the right thickness of the material is crucial for best performance.

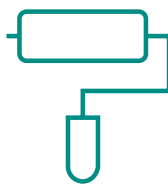
For this reason, we always recommend working with an experienced applicators (please refer to us if you need any assistance finding one)

However, anyone with some construction experience and little practice can apply Ceramor.

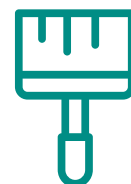
We also provide full application instructions and important points which must be followed.



SPRAY



ROLLER



BRUSH

WHAT IS THE BEST WAY TO APPLY IT?

Ceramor works as a heat barrier (trapper) and best way to apply it is to create an envelope on both interior and exterior. Therefore, heat escapes from your walls and ceilings will be minimized throughout the year.

However, unlike traditional materials, Ceramor can be applied in parts. For example, you can start with only one part of your home and progressively continue in upcoming months or years.

This is another great advantage of Ceramor because traditional materials must be applied at once for the entire home and only exterior application is possible.

CAN I TEST CERAMOR MYSELF?

Of course, in addition to our tests, if you wish to see how Ceramor works, you can definitely test it yourself. Please note that it is very important to use the right tools and methods to see Ceramor's performance.

Method 1 (manual): Easiest method is to test Ceramor is applying it on the surface in a small area and feel the "temperature difference" simply by touching. Human skin is extremely sensitive to heat, and you will feel the difference immediately.

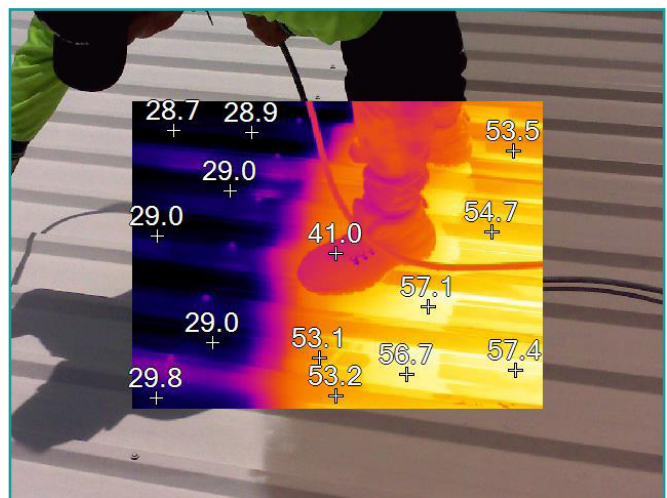
Typical test area for manual tests is basement walls, since most basements are cold, when you apply Ceramor on a part of your basement wall and let the product cure, that surface will be much warmer than the other areas. It is simply because Ceramor will be retaining the heat as much as possible vs the other side is just letting the heat pass through.



Although this is a very simple test, it showcases the heat stopping capability of Ceramor very well.

Material will create a significant temperature difference which can be felt even by simply touching it.

Method 2 (thermal camera): You can use any thermal camera and see the temperature difference clearly.



Performance of Ceramor can be clearly seen with a thermal camera:
Ceramor applied areas ~29°C vs non-application area ~ 55°C

Method 3 (heater): Since our ambient temperatures are so low, it may not be easy to understand the full potential of the material. To overcome this, one can heat up a mortar block from a Ceramor applied side and observe the results on the opposite side. Purpose of this test is to see the Ceramor's performance more clearly.

The area with Ceramor will be colder since product will prevent heat easily passing through.



Application on mortar block with only 1,5mm Ceramor Façade.

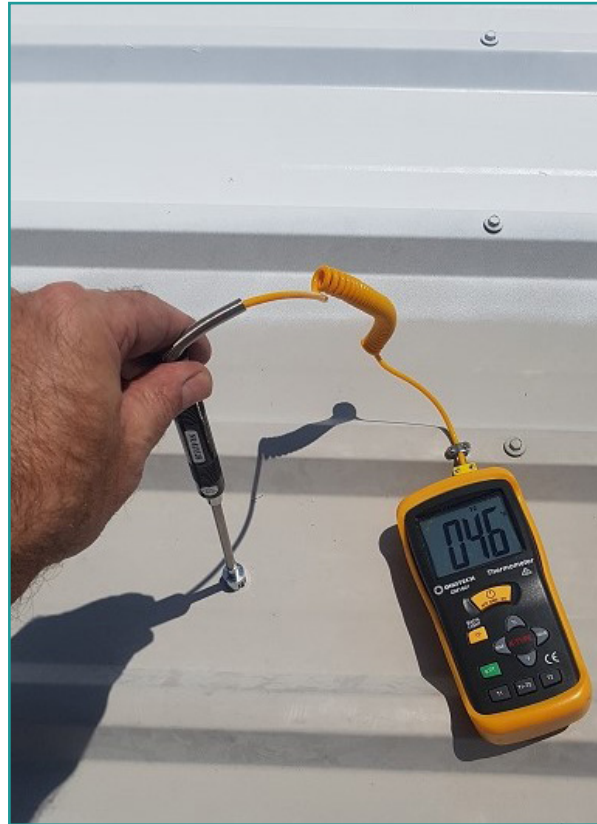
Temperature has dropped from 39.3°C to 21,7°C on the opposite side.

Method 4 (heat flux meter): If you want to measure how much heat passing through your wall, you need a heat flux meter. Equipment measures how much heat energy passing through a thick surface (like wall). This method is mostly used for calculation the U value of the walls and test must be conducted over 24-48 hours to calculate the average values (day and night).



Heatflux measurement through wall.

Method 5 (thermocouple thermometers): We advise to use thermocouple style thermometers to measure the surface temperature. Since Ceramor's surface is highly reflective, laser style thermometers may not give accurate results.



Ceramor has been successfully utilized in numerous projects worldwide, spanning both private and industrial applications. If you would like to explore examples of our work, we encourage you to reach out to us. We offer comprehensive documentation, references, and case studies to ensure our customers have access to all the information they need.

Designed to enhance energy efficiency in buildings, Ceramor is an innovative solution that combines practicality with effectiveness.

Our mission is to provide cutting-edge, technologically advanced products while contributing to a more sustainable and energy-efficient future.

Should you have any questions about Ceramor, please feel free to contact us. Our dedicated team is ready to assist and provide any additional information you require.

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