

# DecoRad<sup>®</sup>

General brochure



Sustainable job progress with DecoRad<sup>®</sup>



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Concept and design  
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# Accelerated drying and curing with DecoRad®

For many years now, DecoRad® Systems bv has been the leading specialist in the area of accelerated drying and curing of paints, coatings and repair compounds. Developed for and by professionals in the painting and floor branch. The DecoRad® concept makes it possible to quickly dry each physically drying water-based paint. Paint to which photoinitiators have been added, can be cured immediately. In addition, the DecoRad® concept makes it possible to fully cure coatings, repair compounds and floor coatings in mere seconds, completely free of VOCs (volatile organic compounds). DecoRad® offers many advantages in various areas. Applying DecoRad® can save costs, improves durability and let you work more efficiently.

## History

All technology used by DecoRad® Systems bv is the result of an industry innovation process which already started in the year 2002. Several leading organisations, including Stichting Houtresearch, DSM, AKZO Nobel, Philips and the Dutch Painter's Association (FOSAG), worked under the name DecoRad® for a solution to the newly announced regulations for the use of durable water-based paint. The solution was found in drying with infrared and curing with UV light, so as to achieve accelerated drying and curing.

The last few years we have worked hard on further developing the equipment. The production is now taken care of by NEDAP, and all equipment is provided with the latest innovations in the area of infrared and UV lights. Many pilot projects have more than demonstrated the efficiency of DecoRad® equipment.

DecoRad® Systems bv currently offers a series of products for professionals in the painting and flooring branch under the brand name DecoRad®. We spend the utmost care, time and attention to (further)

developing the current and new application possibilities. To achieve this, we work closely with suppliers of raw materials, paint manufacturers, wholesalers and machine builders. We always listen very carefully to the wishes and preferences of the end users during the development process.



## Users

DecoRad® equipment is supplied to professional users through wholesalers. Users vary from small painters to larger careening companies. Also regular building constructors see and use the advantages of accelerated drying and curing with DecoRad®



## Application

The paint or coating is applied to the surface with a roller or brush. The infrared drying (for water-based products) causes the water to evaporate, thus making the paint or coating layer dry to the touch. Now the curing can be started with the UV position. After this the compound has been fully cured and one can continue with the next object, or after sanded, a second layer can be applied.

Modified full solid products can only be cured with UV light.

## How it works

After applying the paint or coating, it can be dried with infrared light or cured with UV light.

1. Treating with infrared is necessary for water-based products and ensures the evaporation of the water.
2. Treating with UV light is the second step for modified water-based products and the only step for modified full solid products. UV light causes the curing process.

Suitable products for the DecoRad® equipment have been augmented with photo initiators which react to UV light. The photoinitiators react with the active groups in the binding agent, thus forming a connection between them.

Most paint and coating systems have two ways of drying: physical drying (solvents and evaporating water) and chemical drying (curing). For 99% of decorative paints, full curing can only be achieved after several days. At lower temperatures and/or a higher atmospheric humidity, the curing takes even longer. Only then the paint will have its final qualities (scratch-resistant, hard, chemical-resistant, etc).

After using the DecoRad® equipment, the surface is ready for use or can be instantly sanded to apply a second layer of paint or coating. The treated surface is instantly scratch and wear-resistant.

The DecoRad® concept allows for considerably shorter drying and curing times.



Cost savings

Increases your service level

Environment and durability

Health

## Using DecoRad® equipment has many advantages:

### Cost savings

**Increased efficiency:** multiple layers can be applied in succession, thus requiring less travel hours and miles. Ideal for repair work.

**Less failure costs:** after drying with the DecoRad® equipment, the surface is dry. Rain, dust and insects will no longer negatively influence the treated surface.

**Independent of weather:** it is possible to keep working even at 0° and above 85% humidity. You are therefore no longer dependent on warm and dry days; simply covering from rain is already sufficient to continue working, even on cold and wet days.

### Health

**The painter always works with the most environmentally-friendly products:** less exposure to solvents and a decreased risk of contracting Organic Psycho Syndrome (OPS).

### Environment and durability

**Less emission of harmful solvents:** DecoRad® equipment is only suitable for low solvent waterbased paints. However, it is also suitable for coatings, repair compounds and floor coatings and is entirely free of volatile organic compounds (VOCs).

**Less emission of CO2 caused by travel miles:** DecoRad® makes it possible to work more efficiently and work longer on one location.

**The durability of the work increases:** tests since 2002 have shown that controlled drying and curing increases the quality of the paintwork considerably due to the controlled drying process.

### Increases your service level

**Minimal inconvenience for users (such as residents):** doors and windows can be closed immediately, long drying times belongs to the past.



## Suitable Compounds DecoRad® Equipment

### Paints

Drying at the infrared position works for any type of physically drying water-based paint. The curing at the UV position only works for water-based paint with added photoinitiators. These photoinitiators react with the active groups in the binding agent, thus allowing them to form connections. The number of paint manufacturers now producing paint with added photo initiators (thus allowing accelerated curing) is rapidly increasing. Manufacturers Caparol and Drywood currently offer UV curing paint.

**Drywood** – Poseidon UV (1-potsysteem)

**Caparol** – Capacryl Aqua Decogloss / uniprimer



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### Repair Compound: U-fill & U-fix

The repair compound U-Fill is especially developed for the DecoRad® equipment. This 1-component product does not contain solvents and is a urethane acrylate. U-Fill does not have to be mixed and reacts to UV light. It is very mouldable and spreadable. U-Fill can be used in combination with the U-Fix primer, which is only required for bare wood. U-Fill and U-Fix are marketed by Köhler Woodcap.



# 1. DecoRad® Handmate

**The DecoRad® Handmate is a great tool for smaller work. Within few minutes, surfaces can be fully dried and cured. this is ideal for instantly drying and curing door steps, frames, steps, doors and much more. The DecoRad® Handmate is supplied to professional users through wholesalers.**

## How the Handmate works

After applying the paint or coating, it can be dried with infrared light and cured with UV light. Drying with infrared is necessary for water-based products and ensures the evaporation of the water. Curing with UV light is the second step for modified water-based products and the only step for modified full solid products. The UV light sets off the curing process.



After treatment with the DecoRad® Handmate, the surface is ready for use or can be sanded instantly so as to apply a second layer of paint or coating. The treated surface is instantly scratch and wear-resistant.

The DecoRad® Handmate comes with a handy dust and waterproof suitcase. The DecoRad® Handmate has 3 positions: infrared, infrared + UV and UV.

The DecoRad® equipment results in significantly shorter drying and curing times.



## Applications for the DecoRad® Handmate

The DecoRad® Handmate is a great tool for smaller work. It is ideal in use for objects where accelerated drying and curing is very convenient, such as doors, frames, doorsteps, stair heads and steps.

In addition to the above-mentioned activities, the DecoRad® Handmate is also ideal for activities such as: mutation work, receipt work, repair work and repairs to damage by burglary.

The DecoRad® Handmate is also very handy for maintenance projects to restaurants, hotels, banks, hospitals, schools, prisons and lifts. For all these projects, it is a waste of precious time when one has to wait for the paint, coating or repair compound to dry and cure.



## 2. DecoRad® Automate

**The DecoRad® Automate is the ultimate tool for repetitive work. A surface of 2m<sup>2</sup> (a door) can be entirely dried and cured in just 10 minutes. This is ideal for instant drying and curing of doors of apartments, for instance. The DecoRad® Automate is supplied to professional users through wholesalers.**

### How the DecoRad® Automate works

After applying the paint or coating, it can be dried with infrared and cured with UV light. Drying with infrared is necessary for water-based products and ensures the evaporation of the water. Treating with UV light is the second step for modified water-based products and the only step for modified full solid products. UV light causes the curing process.

After curing with the DecoRad® Automate, the surface is ready for use or can immediately be sanded to apply a second layer of paint or coating. The treated surface is instantly scratch and wear-resistant.

The DecoRad® Automate comes with a convenient trolley principle, which allows for easy transportation to the place of work. The hoods protect the lamps and can easily be taken off. The DecoRad® Automate has 3 automatic programmes for infrared, infrared + UV and UV. The combined programme first starts with infrared and then continues with UV.

The DecoRad® equipment results in significantly shorter drying and curing times.

### Applications for the DecoRad® Automate

The DecoRad® Automate is the ultimate tool for larger maintenance projects. It is ideal for accelerated drying of doors (>5 items). But it can also be used for other instances, both indoor and outdoor, such as for hotels, hospitals, prisons and schools.

With projects like these it is very inconvenient if one has to wait for the drying and curing. DecoRad® can thus offer additional service and makes it easier to plan with residents.

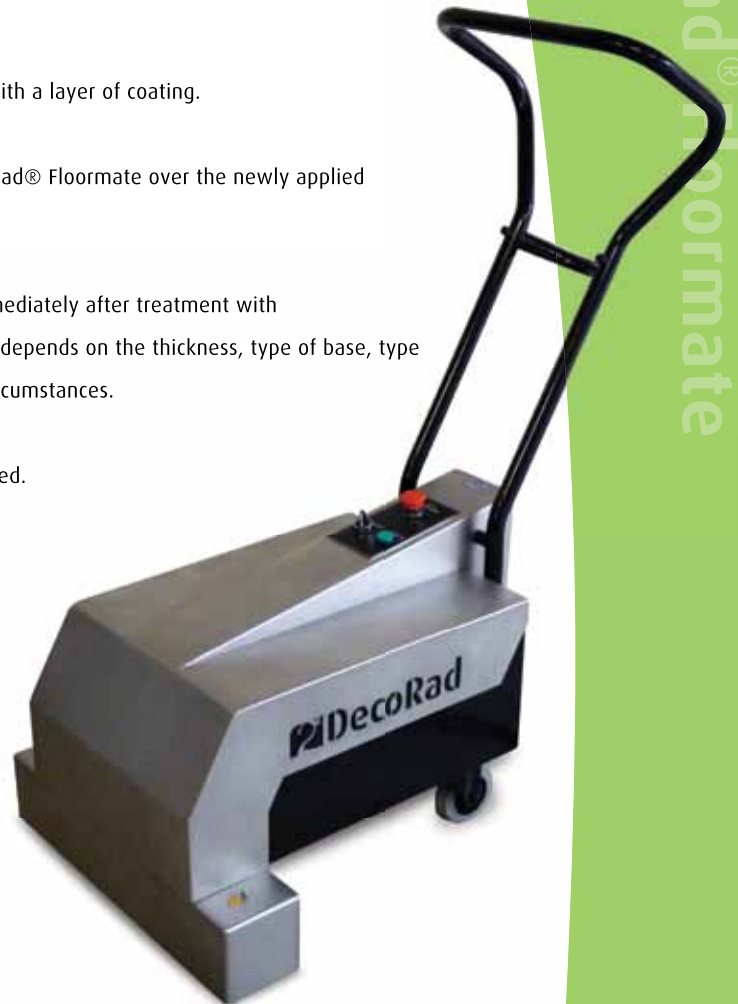
### 3. DecoRad® Floormate

**The DecoRad® Floormate is the ultimate tool for instantly curing floor coatings. The DecoRad® Floormate can instantly cure approximately 250 square meter per hour (depending on the type of base floor and product).**

#### How the DecoRad® Floormate works

1. A roller or brush provides the clean, pre-treated base floor with a layer of coating.
2. The coating is cured with UV light. The user pushes the DecoRad® Floormate over the newly applied coating. Because of the UV light, the coating instantly cures.
3. The direct curing makes it possible to use the floor again immediately after treatment with UV light. The speed with which a surface can be instantly cured depends on the thickness, type of base, type of coating, how many layers have been applied and weather circumstances.

With the DecoRad® Floormate you can directly use spaces treated.



#### Applications of the DecoRad® Floormate

The DecoRad® Floormate is suitable for the instant curing of horizontal protective layers such as floor coatings. It is ideal in use for both maintenance work and work on new buildings, in cases where accelerated curing is very convenient, such as walkways, parking garages, company halls, service station companies, hotels and pubs. With these kind of objects it can be particularly inconvenient to wait for coatings requiring time for curing.



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## Working Safely with DecoRad®



Working with the DecoRad® equipment is absolutely safe. Employers are obliged to offer better protection against artificial optical radiation such as UV and infrared radiation. In 2010, the council of ministers has agreed to adjust the Working Conditions Decree to the European legislation. These rules were enforced on April 27, 2010.

DecoRad® Systems bv already anticipated this change in 2006 by making its products meet the radiation standard of 2010. TNO tests have shown that DecoRad® equipment is entirely safe to work with and does not cause problems. Exposure to radiation from the equipment has no negative effect on the user's health. Of course the known precautions during use do apply, such as wearing gloves, long sleeves and the UV resistant glasses provided by DecoRad® Systems bv.



## DecoRad® and training

An important aspect about working with DecoRad® equipment is the transfer of knowledge. The technique of accelerated drying and curing has not gone by unnoticed at various training facilities in the Netherlands. Despite the fact that working with the DecoRad® equipment is not difficult, it does require a different approach. The goal of the training is to explain what happens with the paint when using DecoRad®, how DecoRad® can be applied and to have direct experience with accelerated drying and curing. The courses are provided by either DecoRad® Systems bv or by instructors of the training facility itself. Meanwhile the DecoRad® equipment is included in the training courses of industry organizations; Savantis & Schilder^sCOOL.



## DecoRad® Instruction and Demonstration

In order to work with the DecoRad® equipment as effectively and safely as possible, we spend a lot of time on giving demonstrations on locations and exhibitions. The feedback we get at these demonstrations are then used for our future product development. It allows us to keep the DecoRad® equipment as accessible as possible, while remaining the leading specialist in accelerated drying and curing.



## DecoRad® & the environment

The goal of DecoRad® Systems bv is to let products be dried and cured with as little solvents as possible. DecoRad® equipment only works with water-based paints/coatings, repair compounds and floor coatings that are entirely free from volatile organic compounds (VOCs). Combining DecoRad® equipment with these compounds result in a reduction in emission of solvents and therefore benefits the environment.

## Contact information

For more information about the availability, references and possibilities, please visit our website; [www.decorad.com](http://www.decorad.com). Or contact us by phone via the number below. We would be more than happy to answer any questions and provide advise on what DecoRad® could mean for you and your business.

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