
isaval
pinturas

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1.

REQUIREMENT:
Walk on firm ground.

It is essential to coat floors in order to improve their durability and preserve their properties.

The floor, in the field of construction, can be defined as a physical surface that is horizontal or inclined, consisting of different materials that provide the physical-chemical characteristics required to meet mechanical and compression resistance, making it suitable as a surface for people, animals, vehicles, furniture and other constructive elements. In order to maintain and preserve these properties, it must be coated.

Pinturas Isaval presents a wide range of products for treating floors that are designed to improve their performance, increase their physical and chemical resistance and provide a decorative finish and facilitate better hygiene conditions.Ideal for all types of industrial, domestic, sports, outdoor, etc. floors.

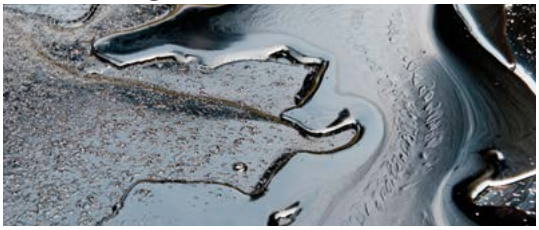
Depending on the desired finish and the surface to which the system is applied, Pinturas Isaval has developed a customised solution.

Why paint floors?

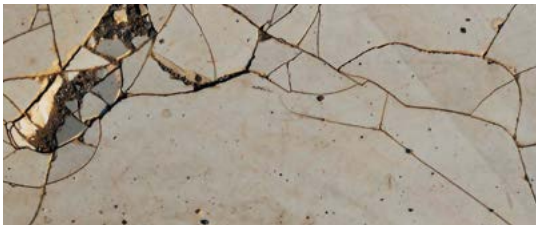
Floors are subject to continuous deterioration, which degrades their characteristics and diminishes their benefits. Floor coating systems can extend their properties based on the requirements of the location.

The main purpose of the floor surface coatings is to completely restore the surface in order to increase the service life of new and deteriorated floors. Protect them from water penetration and limit moisture entry, improve physical and chemical resistance, increase resistivity and provide other aesthetic, safety and hygiene characteristics.

1 Protecting the surface.



Aggressive chemical agent spills.

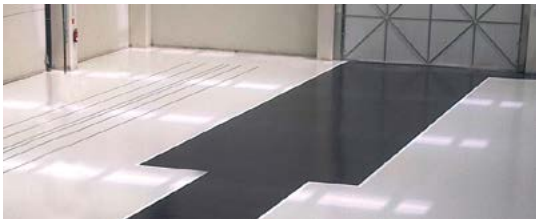


Impacts, abrasion, compression.

Microorganisms.

Dirt and moisture.

2 Decorative and aesthetic.



Colour, texture, appearance.

3 Functionality and improved safety.

Signage and marking areas.

4 Legal and certifications.

Hygiene use.

Non-slip capacity.

1. Technical Building Code.

Floors must meet a series of regulated specifications pursuant to standards.

The Construction Technical Code (CTE) is the regulatory framework that sets the basic quality requirements for buildings and their facilities. Through this regulation, certain basic building requirements related to the safety and well-being of people are met, which refer to structural safety and fire protection, as well as hygiene, protection against noise, energy savings and accessibility for people with reduced mobility.

The CTE establishes basic requirements for each of the basic requirements of "structural safety", "safety in case of fire", "safety of use and accessibility", "healthiness", "protection against noise" and "energy saving" and provides procedures that enable proof of compliance with sufficient technical guarantees.

- Fire safety.
- Safety against fall hazards.

CONSTRUCTION TECHNICAL CODE DOCUMENTS: ROYAL DECREE

SE Structural safety	**SI** Safety for fire	**SUA** Usage safety and accessibility
HE Energy saving	**HR** Noise protection	**HS** Health

1.1 DB SI
Safety in case of fire.

> **DB - SI C** Document with comments from the Ministry of Public Works (version 30 June 2017)

Fire resistance tests and classification must be carried out in accredited laboratories. The validity duration of this classification report is subject to current legislation at the time of issue.

The test method performed corresponds to that indicated in the following standards:

- Fire reaction tests for floor coatings. Part 1. Determining behaviour in the event of fire from a radiant heat source. S/N UNE EN ISO 9.239-1:2011.
- Construction products fire reaction test. Determining combustion heat S/N UNE EN ISO 1716:2011.

Classes of fire reaction behaviour for floor coating construction products pursuant to the UNE EN 13501-1:07+ a1:2010 standard.

CLASS	TESTING METHOD(S)	CLASSIFICATION CRITERIA	ADDITIONAL DECLARATION COMPULSORY
$A1_{FL}$	UNE-EN-ISO 1182:2011 (1); and	$\Delta T \leq 30°C$; and $\Delta m \leq 50\%$; and tf = 0 (i.e. without sustained flame)	-
	UNE-EN-ISO 1716:2011	PCS ≤ 2.0 $MJ.kg^{-1}$ (1); and PCS ≤ 2.0 $MJ.kg^{-1}$ (2); and PCS ≤ 1.4 $MJ.m^{-2}$ (3); and PCS ≤ 2.0 $MJ.kg^{-1}$	-
$A2_{FL}$	UNE-EN-ISO 1182:2011 (1); or	$\Delta T \leq 50°C$; and $\Delta m \leq 50\%$; and tf ≤ 20s	-
	UNE-EN-ISO 1716:2011; and	PCS ≤ 3.0 $MJ.kg^{-1}$ (1); and PCS ≤ 4.0 $MJ.m^{-2}$ (2); and PCS ≤ 4.0 $MJ.m^{-2}$ (3); and PCS ≤ 23.0 $MJ.kg^{-1}$ (4)	-
	UNE-EN-ISO 9239-1:2011 (5)	Critical flow (6) ≥ 8.0 $kW.m^{-2}$	Smoke production (7)
B_{FL}	UNE-EN-ISO 9239-1:2011 (5) and	Critical flow (6) ≥ 8.0 $kW.m^{-2}$	Smoke production (7)
	UNE-EN-ISO 11925-2:2011 (8) Exposure = 15 s.	Fs ≤ 150 mm in 20 s.	
C_{FL}	UNE-EN-ISO 9239-1:2011 (5) and	Critical flow (6) ≥ 4.5 $kW.m^{-2}$	Smoke production (7)
	UNE-EN-ISO 11925-2:2011 (8) Exposure = 15 s.	Fs ≤ 150 mm in 20 s.	
D_{FL}	UNE–EN-ISO 9239-1:2011 (5) and	Critical flow (6) ≥ 3.0 $kW.m^{-2}$	Smoke production (7)
	UNE-EN-ISO 11925-2:2011 (8) Exposure = 15 s.	Fs ≤ 150 mm in 20 s.	
E_{FL}	UNE-EN-ISO 11925-2:2011 (8) Exposure = 15 s.	Fs ≤ 150 mm in 20 s.	-
F_{FL}	Properties not determined.		

(1) For homogeneous products and substantial components of inhomogeneous products.
(2) For any non-substantial external component of inhomogeneous products.
(3) For any internal non-substantial component of inhomogeneous products.
(4) For the product as a whole.
(5) Test duration = 30 minutes.
(6) The critical flow is defined as the radiant flux that the flame extinction or the radiant flux determines after a 30-minute test period, depending on which of the two is lower (i.e., the flow corresponding to the maximum extension of the flame propagation).
(7) s1 = Smoke ≤ 750%.min; s2 = no s1.
(8) In superficial flame attack conditions and, if it is suitable for the product's applications in its final application, of lateral flame attack.

The floor covering must meet the requirements of the place, pursuant to the regulations.

▸ Classification of construction materials intended for floor covering (UNE-EN 13501-1):

A1: materials that cannot contribute in any phase of the fire, including a fully developed fire. It does not affect the complementary classification of smoke and falling drops.

A2: they must meet the same criteria as Class B. Furthermore, under fully developed fire conditions, these products must not significantly contribute to the fire load and fire growth. Complementary classification of smoke production and falling drops.

B: contribution to the fire very limited. Like class C but meeting stricter requirements. It is especially affected by the complementary classifications of smoke production and falling drops. In addition, under conditions of a fully developed fire, these products do not significantly increase the thermal load of the enclosure and the development of the fire.

C: contribution to limited fire. Like class D, but meeting stricter requirements. In addition, under the thermal attack by a single burning object they must have limited lateral propagation of the flame. It is especially affected by the complementary classifications of smoke production and falling drops.

D: contribution to fire acceptable. Products that meet the criteria corresponding to class E and that are capable of resisting, for a longer period of time, the attack of a small flame without substantial propagation of the flame. They must also be able to withstand thermal attack by a single burning object with sufficient delay and with limited heat release. It is especially affected by the complementary classifications of smoke production and falling drops.

E: products that can withstand, for a short period of time, the attack of a flame without substantial propagation of the flame. It affects only the complementary classification of falling drops.

F: no specific behaviour. Materials for which specifications of reaction to fire have not been determined or that cannot be classified in any of the other classes.

▸ Additional classification according to smoke production:

S1: low amount and speed of smoke emission.

S2: quantity and speed of average smoke emission.

S3: high amount and speed of smoke emission.

Classification required according to the floor situation	
SITUATION OF THE ELEMENT	SURFACE COATINGS OF FLOORS
Trafficable areas.	E_{FL}
Protected corridors and stairs.	C_{FL}-s1
Car parks and special risk sites.	B_{FL}-s1
Hidden spaces that are not watertight: ducts, false ceilings, raised floors etc.	B_{FL}-s2

1.2 DB SUA
Safety of use and accessibility.

> **DB - SUA C** Document with comments from the Ministry of Public Works (version 30 June 2017)

This document limits the hazard of users falling. To do this, the floors must be adequate to prevent people from slipping, tripping or making mobility difficult.

Class required for the floors depending on their location	
LOCATION AND CHARACTERISTICS OF THE FLOOR	CLASS
Dry interior areas	
Surfaces with a slope less than 6%.	1
Surfaces with slope equal to or greater than 6% and stairs.	2
Damp interior areas: entrances to buildings from the exterior space (1), covered terraces, changing rooms, bathrooms, toilets, kitchens, etc.	
Surfaces with a slope less than 6%.	2
Surfaces with slope equal to or greater than 6% and stairs.	3
Exterior areas	
Swimming pools (2) and showers.	3

▶ Scope of application.

This standard is applicable to floors in *Residential Public, Health, Teaching, Commercial, Administrative and Public Concurrence* **buildings and areas**, excluding the areas of zero occupation1 defined in the DB-SI.

▶ Floor classification.

The different types of floors are classified according to their resistance to **slipping value R_d**.[2] and, depending on their location, they must meet specific R_d requirements.It is mandatory that this R_d value is maintained throughout the useful life of the product.

Floor classification according to slipperiness	
RESISTANCE TO SLIPPING R_d	CLASS
$R_d \leq 15$	0
$15 < R_d \leq 35$	1
$35 < R_d \leq 45$	2
$R_d \geq 45$	3

(1) Except in the case of direct access to restricted-use areas.
(2) In areas intended for barefoot users and in the bottom of vessels, in areas where the depth does not exceed 1.5 m.

1. **Zero occupation areas**. Area in which the presence of people is occasional or for maintenance purposes, such as machine rooms and utility rooms, premises for cleaning material, certain stores and archives, storage rooms, etc.

2. **Determining resistance to slipping R_d**. It is determined by means of the pendulum test described in the supporting document DB-SUA/3 about floor slipperiness, where it is specified that the sample selected must be representative of the most unfavourable slipping conditions.

Slipping hazard.

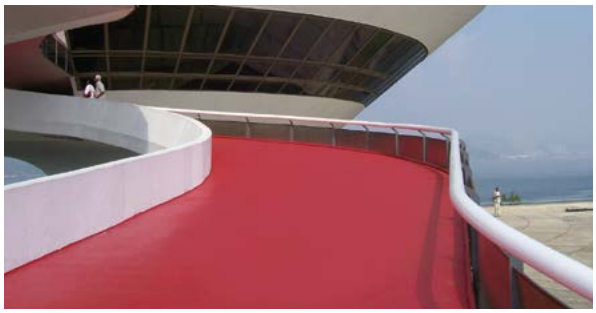
Slipping on dry surfaces.
On floors accessible by the public and located in a dry interior area, considering that it is adequately marked when it may be occasionally damp, such as when cleaning tasks are carried out.

Slipping due to water.
In interior and exterior wet areas. Taking into account the exclusion of hazards related to work activities, when other pollutants are used in an activity or their presence on the floor is expected while carrying out the activity, the specific conditions of the corresponding workplace safety must be taken into account.

Slipping of barefoot users.
In areas intended for barefoot users, such as showers, pools and bottoms of vessels in which the depth does not exceed 1.5 m, etc.

Hazard due to unevenness and irregularities.

1 Ramps.



Itineraries with a slope exceeding 4% are considered ramps, except those of restricted use and those of circulation of vehicles in car parks that are also planned for the circulation of people. They following must comply:

- Slopes:
  - Normal maximum slope: 12%
  - Vehicles and people (no accessible route): max. 16%
  - Accessible routes (wheelchair users):
    Length <3 m: max. 10%
    Length <6 m: max. 8%
    Other cases: max. 6%
- Sections:
  - Max. regular section length: 15m
  - Accessible routes*: max. 9 m
  - Width for general use (see table).

Ramps for general use. Minimum useful width of section depending on the use

USE OF THE BUILDING OR AREA	MINIMUM USEFUL WIDTH (m) ON STAIRS DESIGNED FOR A NUMBER OF PEOPLE:			
	≤ 25	≤ 50	≤ 100	>100
Residential housing, including communication staircase with parking.	1.00 (1)			
Teaching with children's schooling or primary school. Public and commercial use.	0.80 (2)	0.90 (2)	1.00	1.10
Health areas intended for internal or external patients with routes that require turns of 90º or greater.	1.40			
Other health areas.	1.20			
Other cases.	0.80 (2)	0.90 (2)	1.00	

(1) In existing buildings, when installing an elevator that enables accessibility conditions to be improved for people with disabilities, a smaller width may be admitted provided that the technical and economic non-viability of other alternatives that do not entail such reduction of width and the complementary improved safety measures that are considered necessary in each case are accredited.
(2) Except when the stairway communicates with an accessible area whose width is at least 1.00 m.

* **Accessible itineraries.** The purpose of an accessible route is to allow all people, whatever their disability, to access and use in a non-discriminatory, independent and secure way, all the spaces connected by it, outside as well as inside the building.

2 Tripping hazards.

Except in areas of restricted or exterior use and in order to limit falling hazards as a result of missteps or tripping, the floor must meet the following conditions:

- Imperfections or irregularities ⩽4 mm.
- Unevenness ⩽50 mm slope ⩽25%.
- In areas where people circulate: perforations or holes ⩽15 mm.
- Height of barriers for delimiting areas ⩾800 mm.

3 Isolated steps.

In traffic areas, there must be no single step or two consecutive steps, except in the following cases:

a) In restricted-use areas.

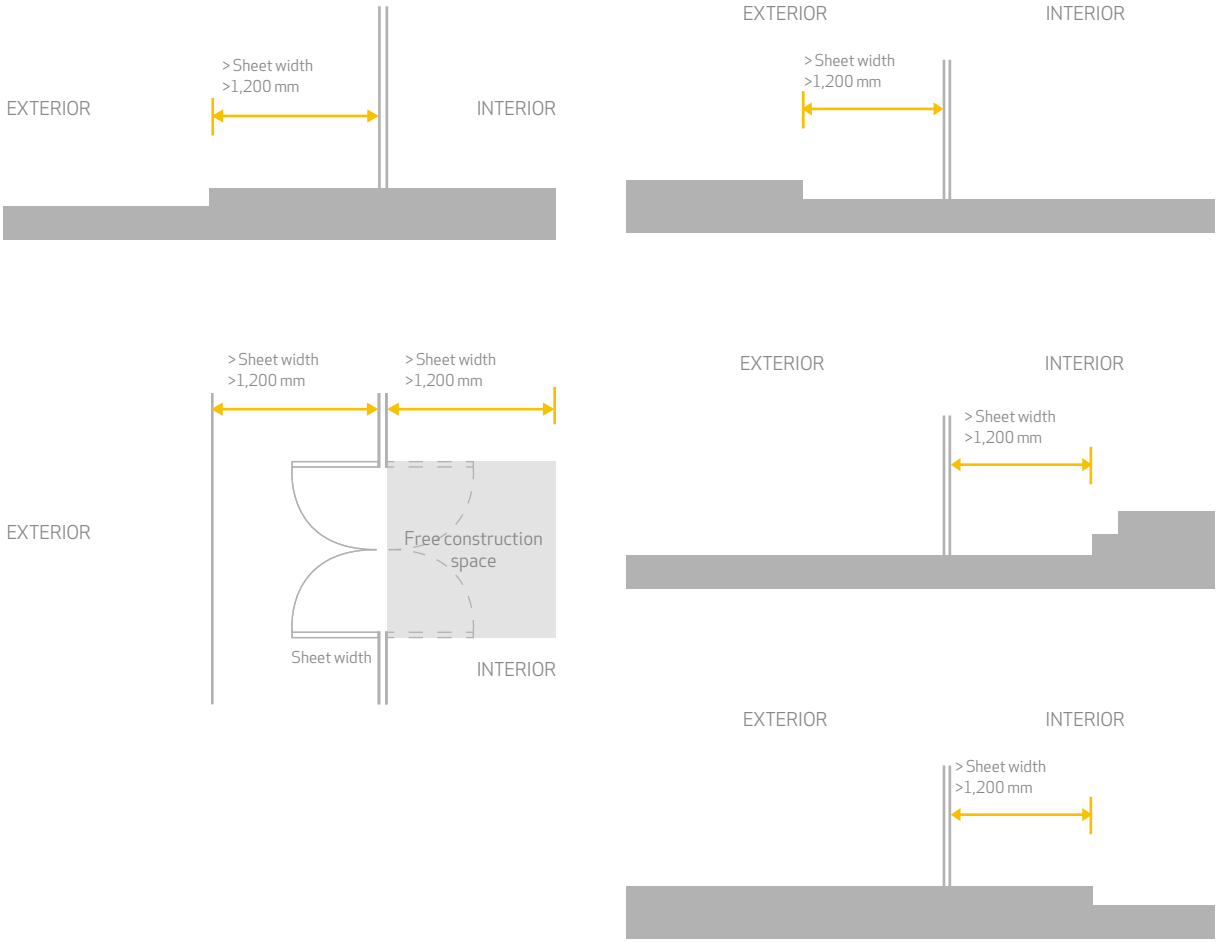
b) In housing building common areas.

c) At building entrances and exits.

d) Only on emergency exits.

e) On stages or in scenes.

ⓘ Possible arrangements of isolated steps permitted by the Construction Technical Code.



Floors prepared for hygiene uses and environments where a high degree of sanitation is required.

2. EU Construction Products Regulation No. 305/2011.

REGULATION (EU) No. 305/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, 9 March 2011, which establishes harmonised conditions for marketing construction products, establishes the procedure for CE Marking on construction products and the products that are affected. The CE Marking guarantees that the performance of the product is that which has been declared and that it has been defined by applying the correct European technical specification.

This regulation establishes that flooring products are affected when they are incorporated into buildings on a permanent basis. Depending on the type of product, the certification is made according to the harmonised standard that applies to it.

The CE Marking obliges the product to be certified through a system of evaluation and verification of its benefits, which implies a series of tests and factory production controls, in addition to adequate labelling of the product and the declaration of performance.

CE Marking.

The CE Marking is a declaration made that the product conforms to all European Community provisions and that the relevant conformity assessment procedures have been carried out.

3. Other regulations.

There are other legal requirements that must be met and taken into account "prior" to the floor treatment. Construction regulation is very extensive in Spain, since in addition to the regulations established at the national level, each Autonomous Community, Province and even City Council can establish requirements for construction products according to the projects. It must also be taken into consideration that there may be regulations on construction elements that do not mention paints and coatings, but that may indirectly affect them. It is the responsibility of the technical personnel carrying out the work or the project management for the work to have knowledge of and meet these requirements and to select the appropriate system.

4. Regulations about hygiene coatings.

"Health coatings" refers to the materials and articles in contact (direct or indirect) with food or water intended for human consumption and also to the products used in certain facilities where, due to the activity carried out in them, there is a possibility that the surfaces come into contact with food or with human beings (operating rooms, cold rooms, etc.)

Depending on the area to be covered, the applicable legislation must be consulted to determine the type of system that must be used in each case.

- Waterproof.
- Non-absorbent.
- Washable.
- Non-toxic.

2.
ISAVAL SOLUTIONS: Surface preparation

Previous treatments ensure a clean surface and a more effective end result.

When applying a flooring system, the consistency of the existing pavement must always be assessed and the surface must be cleaned under the appropriate conditions to ensure the system is correctly anchored:

- No moisture.
- Free from dirt (dust, grease, saltpetre, etc.).
- With good adhesion through porosity regulated by mechanical means (or chemical means, at least).
- No cracks or unevenness.
- On painted floors, compatible with the coating to be used (ensure its condition and adhesion).

In order to ensure that the surface is in optimal condition, prior treatment is essential, always taking into account that not all floor materials and locations present the same disadvantages, so the situation must be analysed in each case.

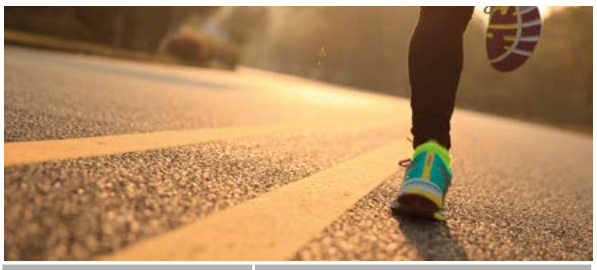
Problems on different surfaces.

The surface may be composed of different materials that can present different difficulties when treating them. There are situations that require additional treatments to achieve the solution.

1 Concrete.

PROBLEM	SOLUTION
Capillarity moisture detection	Inject reactive resins or reconstruct the waterproofing system from the base.
Presence of strange or unwanted agents	Remove them at the root (mechanical or chemical means) and apply adhesion promoters.
Decompacted floors	Remove the surface coat using mechanical methods.
Lack of impermeability	Apply products to waterproof the surface.
Lack of level difference to ensure drainage	Adjust the levelling with mortar.

2 Asphalt.



PROBLEM	SOLUTION
Possible bleeding	Apply a thin first coat, leave to dry for one week and, if it is not damaged, the surface will be ready for the second coat.
May deform with loads and temperature changes	Apply a flexible primer.

3 Painted surfaces.

PROBLEM	SOLUTION
Incompatibility with the paint to be applied	Check previously and choose the right product.
Poor condition or peeling surface	Remove any poorly adhered residues using chemical or mechanical stripping.

4 Cement flooring.

PROBLEM	SOLUTION
Very dense surface	Open pores to assist penetration of the primer.
Cracks	Apply fillers to eliminate irregularities.

Other common problems

- Different levels, chipped, old coatings > Ensure the surface is uniform and add self-levelling.
- Dirt (grease, fuel, etc.) > Remove with detergent and sepiolite.
- Loose or soft parts > Remove and clean.
- Low porosity* > Promote adhesion by milling.

* Problems according to porosity levels. High porosity: low surface resistance. Low porosity: low adhesion.

Preparing the surface.

The surface must be prepared by carrying out a series of actions. The procedure to be carried out will depend on the conditions of the surface and the material.

1. Cement or polymer surfaces.

▶ **Check surface and desirable conditions.**

Two methods for detection.

WITH WATER

Place a few drops of water on several areas of the floor.

If it is absorbed

There is no coating.

The surface can be prepared

If it is not absorbed

It forms drops as on a waxed surface. There may be coating.

Mechanical or chemical stirrer.

WITH HYDROCHLORIC ACID

Deposit a few drops of hydrochloric acid (concentrated HCl) on the floor.

If it boils

There is no curing or painting agent.

The surface can be prepared

If it does not boil

There may be coating.

Mechanical or chemical stirrer.

ⓘ If a lack of cohesion on the surface is detected, Isaval recommends measuring resistance to compression and traction:

COMPRESSION STRENGTH

1.7-2.8 N/mm²

Sclerometer

Non-destructive method

Compression press

Destructive method

TENSILE STRENGTH

> 1.5 N/mm²

Adhesion measurement

Destructive method

MOISTURE

< 4%

PE sheet method

Rubber Mat Test
(condensation)

Place a polyethylene film of approx. 1 or 2 m² sticking the entire perimeter to the floor with adhesive tape and leaving for a minimum of 16 hours (according to ASTM D-4263-83).

If drops appear, the coating should not be applied.

Moisture indicators

Concrete Moisture Encounter

Place in direct contact with the surface.

Protimeter Mini
(electrical resistivity)

Make two holes in the concrete (depth: 1-2 mm). Place the samples in the holes. Take the reading on different areas of the floor.

Calcium chloride test

Calcium chloride

Use a calcium chloride kit designed to measure floor moisture. The method consists of measuring the weight difference of calcium chloride after the absorption of moisture for a maximum of three days. Any kind of waste must be removed before proceeding with the test.

DEW POINT

Ambient$_T$: 10-30°C

r_h<80%

Surface$_T$> Dew point$_T$+ 3°C.

Dew point measurement

The dew point depends on the ambient temperature and relative humidity. The temperature of the surface must be at least 3°C higher than the dew point temperature to ensure that there is no undesired condensation.

▶ Removal of **defective or adhesion-reducing** surface material.

Shot blasting.

Cycle time	Short.
Cost	High.
Depth reached	2 mm per coat.
Surfaces	surfaces
Function	Abrasion of the floor. Aspirated dust generated.

Aggressive process with which about 2 mm of thickness is eliminated in each pass. This is the most effective solution when it comes to eliminating unwanted surface material. Requires subsequent self-levelling.

Milling.

Cycle time	Short.
Cost	Medium-high.
Depth reached	5-10 mm per coat.
Surfaces	Concrete, asphalt, metal and other types of floors.
Function	Levelling in depth. Adhesion improvement (rough finish).

This process is chosen when the irregularities are very large, since it is possible to reach 5-10 mm of depth in each pass. The resulting surface is very porous and powdery. It requires subsequent diamond abrasion and, depending on a series of conditions, application of self-levelling may be recommended, if the surface needs to be flattened.

▶ Repairing **defects.**

Damaged joints and cracks.

Application process:

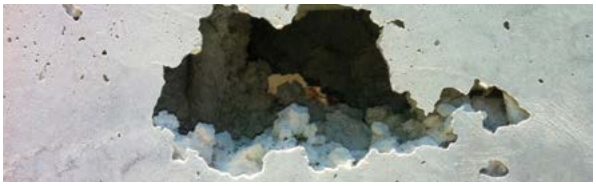
Step 1. Adjust and clean, opening the cavity in a "V" until the surface is consistent and then remove all loose concrete and mortar.

Step 2. Clean any loose dust and prime them with **Fixacril** or **Isacrylic** fixative in order to settle the dust and improve anchoring the mortar.

Step 3. Seal the opening with a trowel or spatula with one of these four products:

- **Rhonaplast exteriors XHA**.
- **Epoxy self-levelling 100% solids** with **saturation aggregates:** Mix in resin/arid ratio 1:2 or, to fill deep cracks, it can be 1:3 or 1:4.

Cavities.



Application process:

Step 1. Clean briskly with a wire brush.

Step 2. Remove all the dust created with a vacuum cleaner and prime the surface with the **Fixacril** or **Isacrylic** fixative in order to settle the powder and improve anchoring the mortar.

Step 3. Make sure the surface is uniform and ensure adhesion of the subsequent coating by applying any of these three products with a trowel or spatula:

- **Rhona M-311**.
- **Rhona M-322**.
- **Rhonaplast exteriors XHA**.

Rhona M-311
Structural repair mortar for repairing concrete.

Rhona M-322
Fast-setting structural repair mortar for cavities.

Rhonaplast XHA exteriors
High adhesion plaster for repairing all types of exterior surfaces.

Epoxy self-levelling 100% solids
Solvent-free, high performance epoxy resin.

Saturation aggregates
Aggregates for adding to self-levelling resins.

▶ **Textural definition of the surface**.

Sanding.

Cycle time	Slow.
Cost	Economic.
Depth reached	Very superficial.
Surfaces	Concrete and calcareous floors.
Function	Smoothing the surface. No possibility of continuous vacuuming.

Very superficial method. It is used in projects without urgent requirements or in small places.

Diamond.

Cycle time	Medium.
Cost	Economic.
Depth reached	2 mm per coat.
Surfaces	Concrete, asphalt and calcareous floors.
Function	Cement grout removal. Levelling small irregularities. Floor maintenance.

More powerful method than sanding. The yield depends on the hardness of the surface. They are removed up to about 2 mm thickness and it is especially recommended for painting directly.

2. Ceramic surfaces.

Ceramic surfaces have one main drawback: low adhesion. To assist anchoring, it is important to promote maximum adhesion by cleaning, opening the pores and using specific products for this type of surface.

Application process:

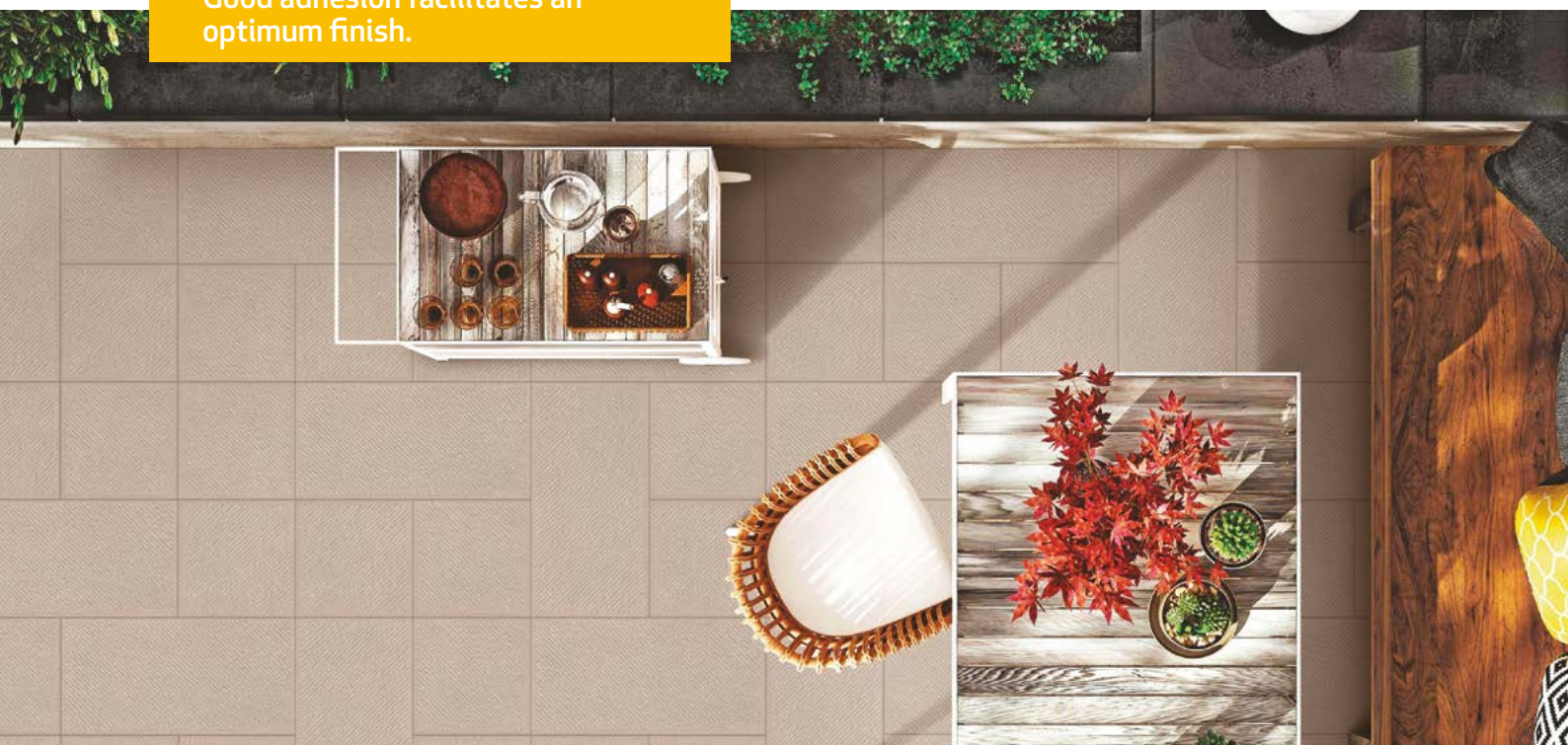
Step 1. Pre-clean the surface with detergent, ammonia or cleaning solvent.

Step 2. Rinse with water.

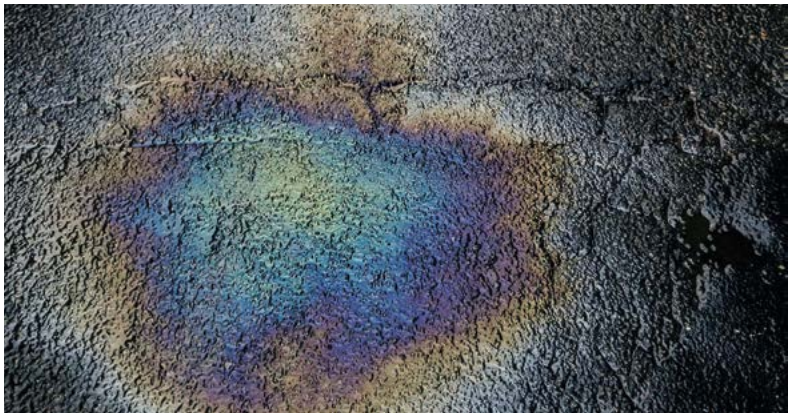
Step 3. Once dry, sand the surface to give it a matt finish.

Step 4. Coat the ceramic with **Rhonaplast XHA Exteriors** (fine mortar with high adhesion).

Good adhesion facilitates an optimum finish.



3. Asphalt surfaces.



If treating asphalt surfaces, it is essential to first remove grease, oil and other contaminants by cleaning with detergent and then sprinkling sepiolite over the area in order to absorb deeper oils. Next wash with pressurised water to eliminate all residues from the cleaning process.

Apply the product with a spray gun so as not to plug the floor drain and reduce unnecessary consumption.

A consolidated surface
Paint application on asphalt surfaces must be sprayed with a gun.

4. Painted surfaces.

If treating painted surfaces, check whether the condition is adequate for recoating.

Check the **paint's anchoring** by adding **epoxy solvent**:

- If it returns to its initial state when dry: proceed to paint.
- If the paint disintegrates or comes off: remove the paint coat completely before painting.

Adhesion must be promoted once the surface is consistent.

Application process:

Step 1. Clean the floor with the appropriate solvents and detergents.

Step 2. Sand the surface to obtain a matt finish with greater adhesion.

Step 3. Remove the residues from the sanding process, clean with water and leave to dry.

Correct application
It is essential to ensure the quality of the paint on the surface before coating.

Surface levelling.

Once the defective material has been removed from the surface and the appropriate texture has been defined, there may be a need to regularise the surface due to unevenness or to make the surface uniform after milling. In this case, it is recommended to apply a coat of mortar with the relevant primer.

Application process:

Step 1. Clean briskly with a wire brush.

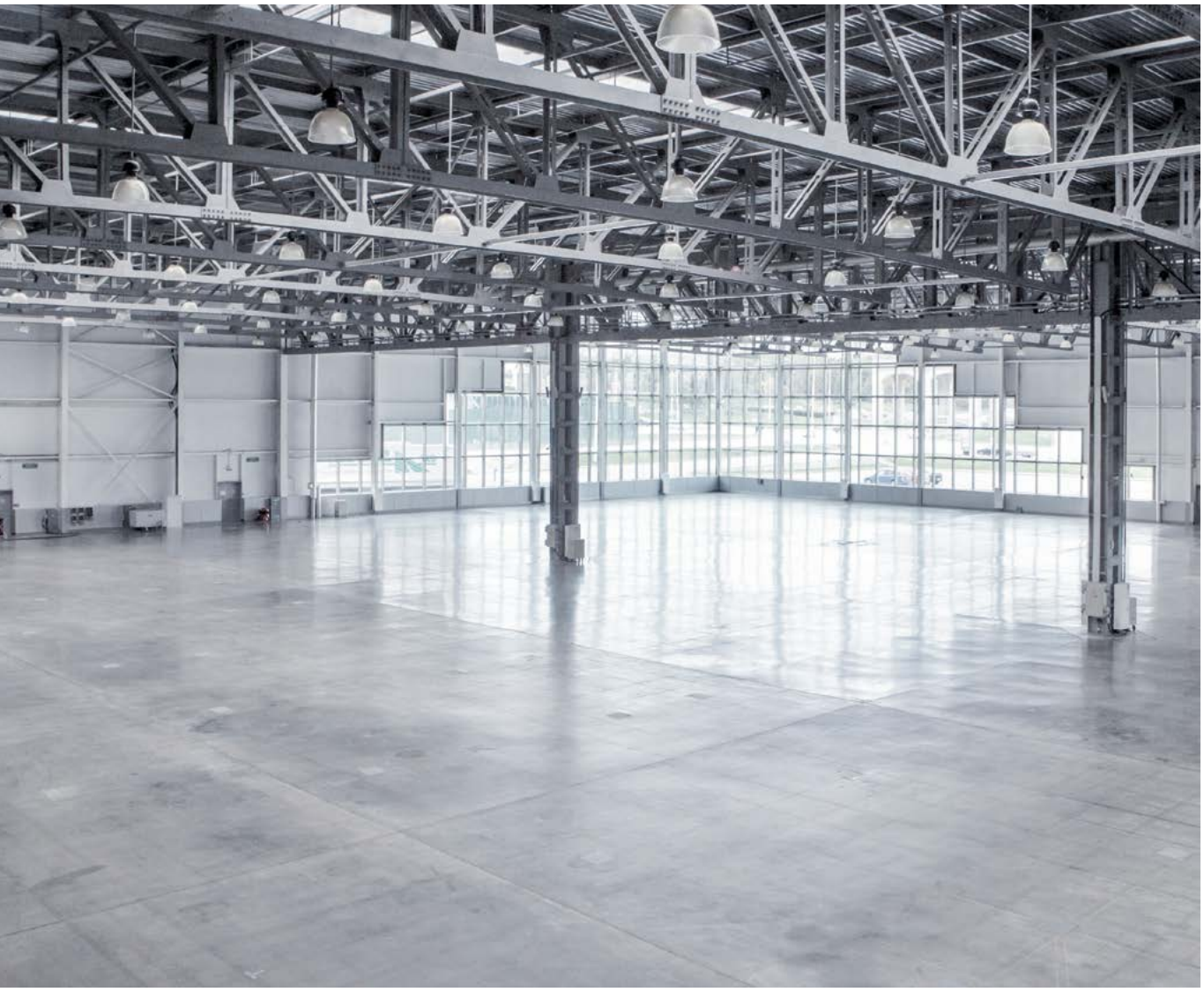
Step 2. Remove all dust using a vacuum cleaner.

Step 3. Cover the floor with **Rhona A-200** adhesive bond with a brush, roller or *airless* gun, at a rate of 200-300 ml/m^2.

Step 4. When the primed surface reaches the appropriate thermoplastic properties, apply a product from the **Rhona MA** line with a metal trowel and remove air with a spiked roller.

Do not overwork the material with the roller and do not touch up with the trowel on the floor when it is hardening so as to prevent damaging its properties.

In the SYSTEMS section, the most unfavourable option is considered in all finishes, which requires having a coat of mortar to regulate the surface.



Primer for finishing.

If it is to be painted directly, it is essential to prime with a sealer, finding three different products depending on their nature: solvent-free (**Epoxy colourless sealant 100% solids**), solvent-based (**Epoxy colourless sealant 40% solids**) or water-based (**Acquasell**).

To improve the fixing of coatings formulated based on chlorinated rubber or acrylic resins, the use of **Fixacril,** is recommended, whose adhesion is excellent on porous surfaces or which are in very bad condition and with problems of chalking.

Compatibility of primers according to systems.

	SYSTEM	Base	Epoxy colourless sealant 100% solids	Epoxy colourless sealant 40% solids	Acquasell	Fixacril
Systems Self-levelling	**Epoxy self-levelling EP3000**	✱	✔	⚭	⚭	—
	Epoxy self-levelling 100% solids					
Painting systems (Smooth finish)	**Epoxy self-levelling 100% solids**	✱	⚭	✔	⚭	—
	Isalpox Epoxy 2 comp.	●	⚭	✔	⚭	—
	Acquapox	○	⚭	⚭	✔	—
	Duepol Polyurethane floor 2 comp.	●	⚭	✔	⚭	—
	Duepol Acqua 2 comp.	○	⚭	⚭	✔	—
	Cholorinated rubber floors	●	⚭	⚭	—	✔
	Sport courts floors	○	—	—	—	✔
	Floor marking	●	⚭	⚭	⚭	✔
		○	⚭	⚭	⚭	✔

○ Water ● Solvent ✱ No solvent ✔ Recommended ⚭ Compatible

3.
SYSTEMS:
Protection and decoration at every step.

With the choice of the right system, satisfaction is guaranteed.

Once the surface is prepared, Isaval proposes different floor covering systems to meet the user's needs, depending on the properties to be reinforced and with the required coating and finishing.

Isaval presents a wide range of self-levelling systems for surfaces with large slopes, with high resistance requirements or when a continuous floor is needed to avoid microorganism accumulation, where no contact with food is required.

If you are looking for a slip-resistant finish, Isaval Paints has solutions for non-slip systems to achieve this finish with products that provide different benefits depending on the area to be painted.

Isaval also has paint systems designed to renew surfaces without excessive additional requirements; and with cement systems, especially developed to meet CE Marking requirements and designed to level, repair and patch floors and terraces.

3.1 Self-levelling systems.

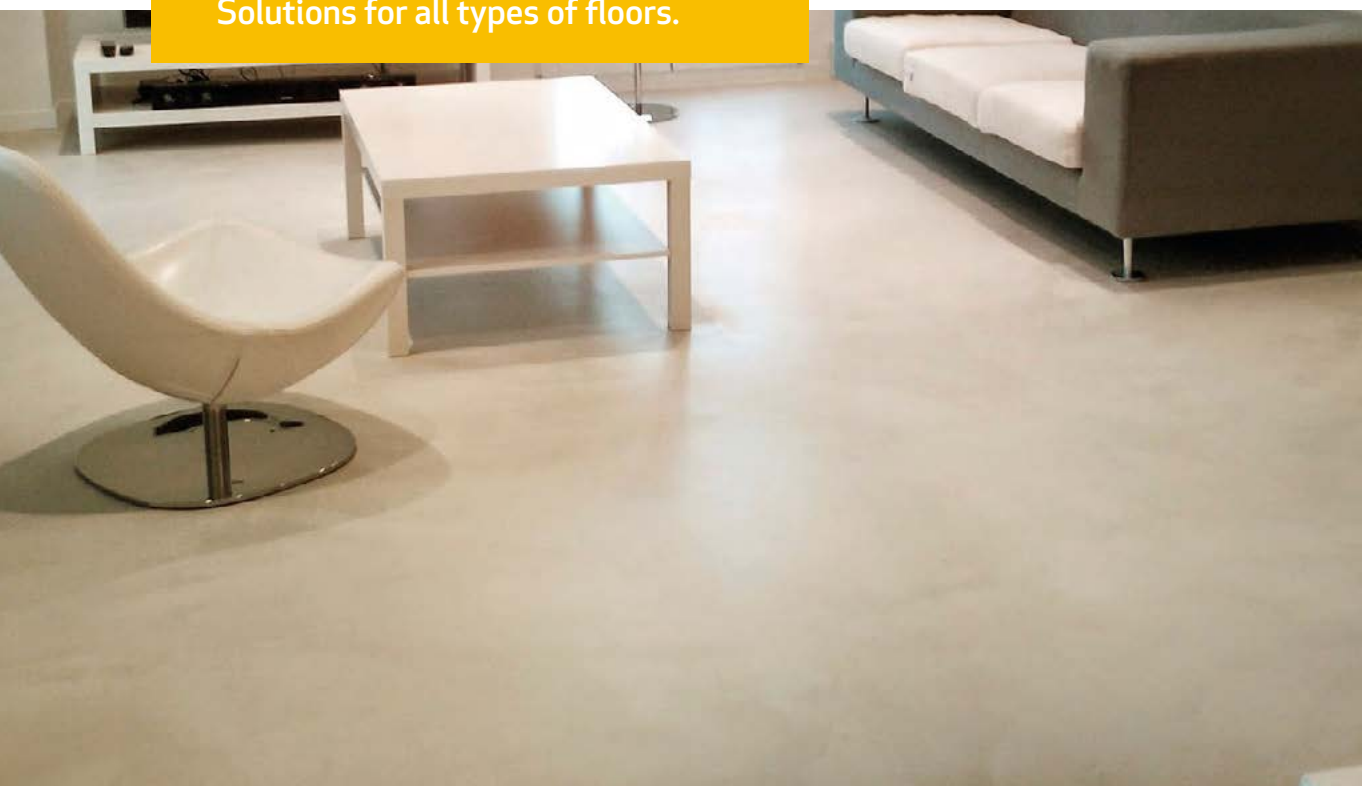
The best solution for floors with high requirements.

A self-levelling system is chosen when there is a series of special needs such as:

- Level and/or increase the thickness of the surface.
- Obtain much higher physical and chemical properties than in conventional smooth finishes.
- Eliminating joins in kitchens and bathrooms where additional hygiene measures are required.
- Surfaces suitable for use in certain areas of the food industry.
- Create highly decorative continuous floors.

Isaval has several finishes depending on requirements, where the thickness can range between 1 and 4 mm and the finish can be smooth or can include decorative motifs, such as multicolour chips or coloured quartz, among others.

Solutions for all types of floors.



Epoxy self-levelling finish EP 3000.

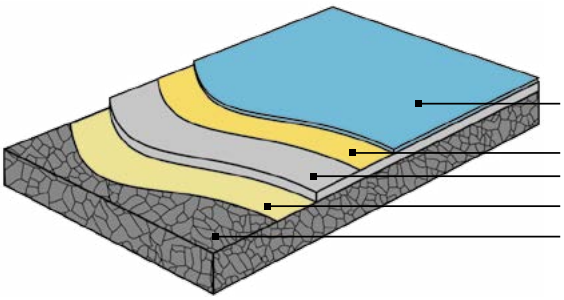
In order to obtain a finish with highly decorative gloss of 2-3 mm thickness and excellent physical and chemical resistance, a system is applied from **Epoxy self-levelling EP3000** to which aggregate is added (with a particle size of 0.1-0.4 mm). System suitable for interior use.

Application process:

Step 1. Apply **Epoxy colourless sealant 100% solids** with a roller (mixing time: 20-35 min.).

Step 2. When the sealant's drying time to the touch has transpired, mix and shake at low speed **Epoxy self-levelling EP3000** with hardener and **Saturation aggregates** in the following ratio:
A (paint) 5.78 kg, B (hardener) 4.22 kg, C (aggregate) 15 kg.

Step 3. Apply the mixture by expanding the product with a notched trowel and removing air with a spiked roller.



Epoxy colourless sealant 100% solids
Solvent-free epoxy primer sealant for concrete.

Epoxy self-levelling EP 3000
Solvent-free epoxy resin for decorative floors.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and approx. thickness	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 100% solids** (Use within: 20-35 min.)	0.25-0.35 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h Total drying time: 16 h	Roller or spray gun.
Finish	**Epoxy self-levelling EP 3000** + **Saturation aggregates** (0.1-0.4 mm) (Use within: 45 min.)	1.5-1.7 kg/m² and mm of thickness.	Dry to the touch: 4 h Repainting: 16-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Metal trowel (removing air with a spiked roller).

▸ Epoxy self-levelling finish with AGGREGATES.

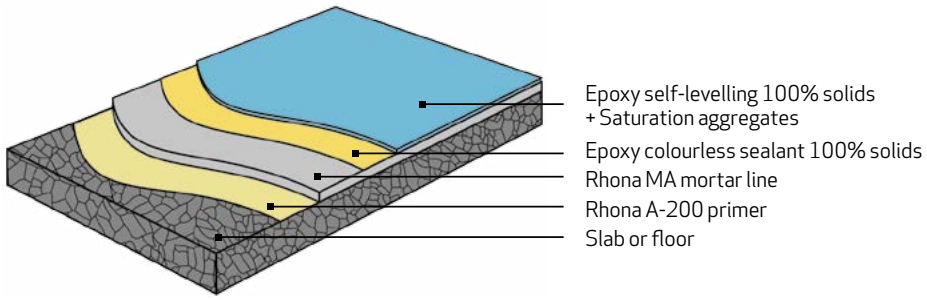
To obtain a smooth self-levelling finish, a system is applied from **Epoxy self-levelling 100% solids** to which aggregate is added (with a particle size of 0.1-0.4 mm), resulting in a mixture similar to a mortar. System suitable for interior use.

Application process:

Step 1. Apply **Epoxy colourless sealant 100% solids** with a roller (mixing time: 20-35 min.).

Step 2. When the drying time to the touch of the sealant has transpired, mix and stir **Epoxy self-levelling 100% solids** with hardener and **Saturation aggregates** at low speed in the following ratio:
A (paint) 12 kg, B (hardener) 4 kg, C (aggregate) 8 kg.

Step 3. Apply the mixture by expanding the product with a notched trowel and removing air with a spiked roller.



Epoxy colourless sealant 100% solids
Solvent-free epoxy primer sealant for concrete.

Epoxy self-levelling 100% solids
Solvent-free epoxy resin high performance.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 100% solids** (Use within: 20-35 min.)	0.25-0.35 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h Total drying time: 16 h	Roller or spray gun.
Finish	**Epoxy self-levelling 100% solids** + **Saturation aggregates** (0.1-0.4 mm) (Use within: 45 min.)	1 kg/m² and mm of thickness.	Dry to the touch: 4 h Repainting: 16-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Metal trowel (removing air with a spiked roller).

Epoxy self-levelling finish with MULTICOLOUR CHIPS.

The self-levelling finish with **multicolour chips** is indicated especially for places where decorative finishes are required, such as in hotels and shopping centres. It can be applied in all sectors such as the automotive, mechanical and electronic industries. System suitable for interior use.

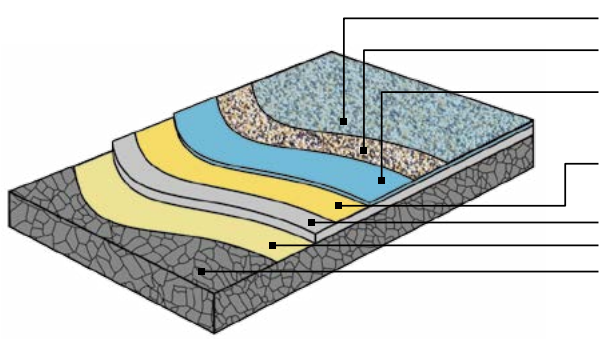
Application process:

Step 1. Apply **Colourless sealer epoxy 100% solids** with a roller or spray gun (mixing time: 20-35 min.).

Step 2. When the sealant's drying time to the touch has transpired, apply **Epoxy self-levelling 100% solids** with **Saturation aggregates** (in a 2:1 ratio), spreading the product with a toothed trowel and removing air with a spiked roller.

Step 3. Without letting it dry completely, apply **multicolour chips** with a continuous air gun without pointing directly, in order to disperse the chips uniformly.

Step 4. Once it has dried, seal the surface with **Isalpox Multi-coat** with the help of rubber brush or toothed trowel, removing air quickly with a spiked roller.



Multicolour chips
Coloured flakes of plastic material for decoration.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 100% solids** (Use within: 20-35 min.)	0.25-0.35 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h Total drying time: 16 h	Roller or spray gun.
Finish	**Epoxy self-levelling 100% solids** + **Saturation aggregates** (0.1-0.4 mm) (Use within: 45 min.)	1 kg/m² and mm of thickness.	Dry to the touch: 4 h Repainting: 16-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Metal trowel (air removed with spiked roller).
Dusting	**Multicolour chips**	0.15-0.3 kg/m²	Instant	Continuous air gun.
Sealed	**Isalpox Multi-coat** (Use within: 45 min.)	1 kg/m² and mm of thickness.	Dry to the touch: 4 h Total drying time: 16 h Light transit vehicles: 48 h Max. resistance: 8 days	Rubber brush or toothed trowel (removing air with a spiked roller).

▸ Epoxy self-levelling finish with COLOURED QUARTZ.

The **Coloured quartz** finish has a decorative purpose, like the finish with **Multicolour chips**. It can be applied in all sectors such as the automotive, chemical/pharmaceutical, mechanical, electronic industries and in sales areas, offices, hotels and restaurants, schools, floors with decorative finishes, etc. System suitable for interior use.

Application process:

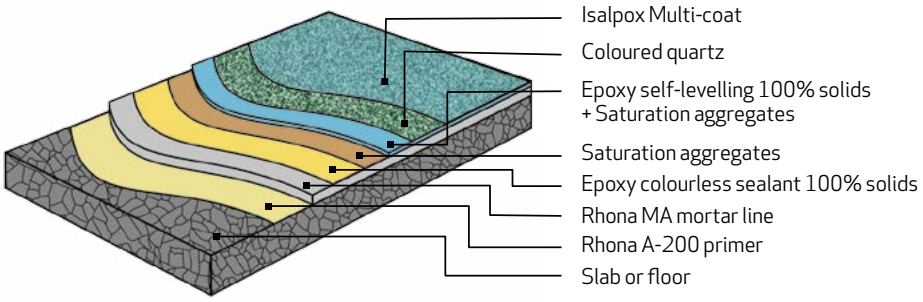
Step 1. Apply **Colourless sealer epoxy 100% solids** with a roller or spray gun (mixing time: 20-35 min.).

Step 2. Quickly, before the sealing product dries to the touch, sprinkle **Saturation aggregates**.

Step 3. When the sealant's drying time to the touch has transpired, apply **Epoxy self-levelling 100% solids** with **Saturation aggregates** (in a 2:1 ratio), spreading the product with a toothed trowel and removing air with a spiked roller.

Step 4. Without letting it dry completely, sprinkle* the other layer of aggregate, using **Coloured quartz** (coloured aggregate).

Step 5. Once it has dried, sweep to remove the excess aggregate and seal the surface with **Isalpox Multi-coat** with the help of rubber brush or toothed trowel, removing air quickly with a spiked roller.



Coloured quartz
Coloured aggregated for making decorative floors.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 100% solids** (Use within: 20-35 min.)	0.25-0.35 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h Total drying time: 16 h	Roller or spray gun.
Dusting	**Saturation aggregates**	1-2 kg/m²	Instant	Continuous air gun.
Finish	**Epoxy self-levelling 100% solids** + **Saturation aggregates** (0.1-0.4 mm) (Use within: 45 min.)	1 kg/m² and mm of thickness.	Dry to the touch: 4 h Repainting: 16-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Metal trowel (removing air with a spiked roller).
Dusting	**Coloured quartz**	2-3 kg/m²	Instant	Continuous air gun.
Sealed	**Isalpox Multi-coat** (Use within: 45 min.)	1 kg/m² and mm of thickness.	Dry to the touch: 4 h Total drying time: 16 h Light transit vehicles: 48 h Max. resistance: 8 days	Rubber brush or toothed trowel (removing air with a spiked roller).

*NOTE: When it is sprinkled, it must be saturated in order to cover the surface as much as possible. Once the coat is dried, sweep the surface to remove excess particles.

Epoxy self-levelling finish with decorative motifs.

Another very aesthetic alternative to self-levelling systems is to apply decorative motifs, such as vinyl, glitter details, among others, covered by **Isalpox Multi-coat** transparent self-levelling epoxy.

Ideal finish for specific areas in homes (bathrooms, games room, etc.) or businesses in which originality and differentiation is sought by showing a corporate logo or any detail that, with the epoxy coating, provides a glazed and very attractive finish.

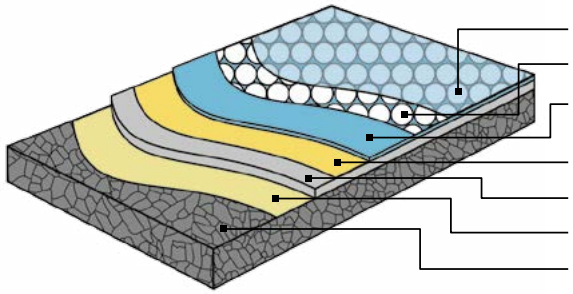
Application process:

Step 1. Apply **Epoxy colourless sealant 100% solids** with a roller (mixing time: 20-35 min.).

Step 2. When the sealant's drying time to the touch has transpired, apply **Epoxy self-levelling 100% solids** with **Saturation aggregates** (in a 2:1 ratio), spreading the product with a toothed trowel and removing air with a spiked roller.

Step 3. Without letting it dry completely, place the decorative motifs on the self-levelling finish.

Step 4. Once the objects have been fixed on the finished surface that is perfectly dry, seal the surface with **Isalpox Multi-coat** using a rubber brush or notched trowel until all the decorative motifs are covered, quickly removing air with a spiked roller; or without leaving it very thick by sealing the surface with a roller.



IMPORTANT: It is essential to ensure that the vinyl or decorative material has adequate adhesion to the surface, in addition to checking the compatibility with the Isalpox Multi-coat sealing product.

Isalpox Multi-coat
2K transparent epoxy resin
100% solid high performance.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 100% solids** (Use within: 20-35 min.)	0.25-0.35 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h Total drying time: 16 h	Roller or spray gun.
Finish	**Epoxy self-levelling 100% solids** **+** **Saturation aggregates** (Use within: 45 min.)	1 kg/m² and mm of thickness	Dry to the touch: 4 h Total drying time: 16-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Metal trowel. (removing air with a spiked roller).
Decorative motif	Place on the finish before total drying so that it anchors correctly.			
Sealed	**Isalpox Multi-coat** (Use within: 45 min.)	1 kg/m² and mm of thickness	Dry to the touch: 4 h Total drying time: 16 h Light transit vehicles: 48 h Max. resistance: 8 days	Rubber brush or toothed trowel (removing air with a spiked roller).

Continuous highly decorative floors.

Business image is a key factor for success. Thanks to the wide variety of self-levelling floor products, there are many possibilities for decorating a room with a high quality finish adapted to each requirement or corporate image.

All these self-levelling systems are suitable for application in most sectors. Highly recommended for places where high mechanical and chemical resistance is required (laboratories, workshops, warehouses, car parks and industry) and where easy cleaning and maintenance is required (shopping centres and hotels).

Laboratories.

Workshops.

Warehouses.

Parkings.

Shopping centres.

Hotels.

3.2 Painting systems: smooth finish.

Easy floor renewal.

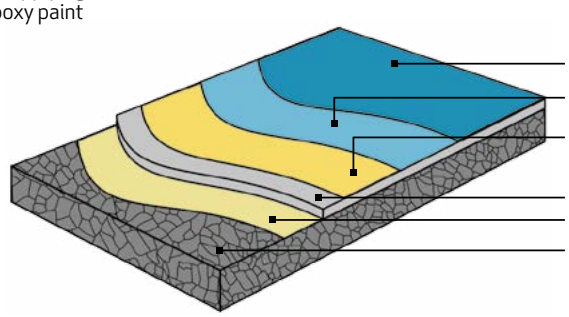
If there is a consolidated surface and you want to apply only a thin smooth coating, there are several systems available depending on the characteristics of the surface and the conditions to which it will be subject.

1 Resin: EPOXY.

To obtain a smooth finish based on epoxy resins, Isaval Paints offers a choice of products that are solvent-free, solvent-based or water-based.

The main feature of these systems is the **high chemical and physical resistance** they provide to the floor, as well as the option of solvent-free systems. Systems suitable for interior floors.

Schematic for applying systems with epoxy paint finish.



▸ Epoxy finish 100% solids.

This proposed system with 100% solids finish, indicated only for interior applications, provides very high chemical and physical resistance.

Classification: B_{FL}-s1.

Classification from data obtained in fire reaction tests pursuant to UNE-EN standard 13501-1: 07+ A1: 2010 under a painting system (see page. 9).

Epoxy colourless sealant 40% solids
Solvent-free epoxy primer sealant for concrete.

Epoxy self-levelling 100% solids
Solvent-free, high performance epoxy resin

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless seal-ant40% solids** (Use within: 20-35 min.)	0.1-0.2 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h	Roller or spray gun.
Finish	**Epoxy self-levelling 100% solids** (Use within: 45 min.)	4 m²/kg	Dry to the touch: 4 h Repainting: 16-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Roller or spray gun.

Solvent-based epoxy finish.

This solvent-based system is **highly resistant** to fuels, detergents and other **aggressive substances** and is very hard and resistant to vehicle traffic.

Classification: $A2_{FL}$-s1.

Classification from data obtained in fire reaction tests pursuant to UNE-EN standard 13501-1: 07+ A1: 2010 under a painting system (see page. 9).

Epoxy colourless sealant 40% solids
Solvent-free epoxy primer sealant for concrete.

Isalpox Epoxy 2 comp.
Two-component epoxy-polyamide paint, with high performance and resistance.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 40% solids** (Use within: 20-35 min.)	0.1-0.2 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h	Roller or spray gun.
Finish	**Isalpox Epoxy 2 comp.** (Use within: 4-6 h)	6-10 m²/L and coat	Dry to the touch: 2 h Repainting: 6-24 h Light transit vehicles: 48 h Max. resistance: 8 days	Roller or spray gun.

Water-based epoxy finish.

The unique feature of this system is the possibility of applying **on walls with high moisture** (up to 10-12%), while other systems are not suitable for moisture above 4%. Suitable for painting floors in industrial buildings, workshops, shops, hospitals, warehouses and car parks.

Classification: $A2_{FL}$-s1.

Classification from data obtained in fire reaction tests pursuant to UNE-EN standard 13501-1: 07+ A1: 2010 under a painting system (see page. 9).

Acquasell epoxy sealant
Two-component, water-based epoxy anchor aid for application on damp surfaces.

Acquapox
Water-based epoxy paint, two-component, high performance and resistance.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Acquasell epoxy sealant** (Use within: 1:30 h)	6-10 m²/L and coat	Dry to the touch: 4-5 h Repainting: 12-24 h Total drying time: 24 h	Roller or spray gun.
Finish	**Acquapox** (Use within: 1:30 h)	6-10 m²/L and coat	Dry to the touch: 4-5 h Repainting: 12-48 h Total drying time: 24 h Max. resistance: 8 days	Brush, roller or spray gun.

2 Resin: POLYURETHANE.

If a smooth finish is required with the properties that polyurethane provides, Pinturas Isaval offers solvent-based and water-based polyurethane resin paints and varnishes. These products are suitable for interior floors and outdoor paving.

The application procedure for the system with two-component polyurethane finish follows the same steps shown for epoxy systems, while the varnish finish does not require priming.

▸ Solvent-based polyurethane 2 comp. finish.

Highly recommended due to its excellent mechanical and chemical performance and designed for outdoor paving that does not yellow or age from UV radiation. Thanks to its gloss finish, a dust-free effect is achieved.

Classification: $A2_{FL}$-s1.

Classification from data obtained in fire reaction tests pursuant to UNE-EN standard 13501-1: 07+ A1: 2010 under a painting system (see page. 9).

Epoxy colourless sealant 40% solids
Solvent-free epoxy primer sealant for concrete.

Duepol Polyurethane floor 2 comp.
Two-component PU paint that protects against wear due to rolling action and with a dust-free effect.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Epoxy colourless sealant 40% solids** (Use within: 20-35 min.)	0.1-0.2 kg/m²	Dry to the touch: 4 h Repainting: 16-24 h	Roller or spray gun.
Finish	**Duepol Polyurethane floor 2 comp.** (Use within: 4-6 h)	4-6 m²/L and coat	Dry to the touch: 1 h Repainting: 12-48 h	Brush, roller or spray gun.

▸ Water-based polyurethane 2 comp. finish.

Especially formulated for floors with high requirements of resistance to cracking and scratching. It has excellent resistance to UV radiation, making it ideal for outdoor paving and for high-occupancy buildings, as it is a solution that is easy to clean and **long-lasting**.

Acquasell epoxy sealant
Two-component, water-based epoxy anchor aid for application on damp surfaces.

Duepol Acqua 2 comp.
Two-component water-based PU paint resistant to UV radiation with high durability.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and approx. thickness	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Acquasell epoxy sealant** (Use within: 1:30 h)	6-10 kg/m² and coat	Dry to the touch: 4-5 h Repainting: 12-24 h Total drying time: 24 h	Roller or spray gun.
Finish	**Duepol Aqua 2 comp.** (Use within: 45 min.)	10-12 m²/L and coat	Repainting: 12-24 h Total drying time: 5 days	Brush, roller or spray gun.

Solvent-based polyurethane varnish finish.

This system protects outdoor paving thanks to its excellent resistance to weathering. It is highly recommended for **exposing the texture and the original colour** of the paving to be covered because it is translucent. It does not require a primer coat.

Duepol Solvent-based varnish 2 comp.
Two-component PU varnish that protects against wear due to the passage of time for interior and exterior applications.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finish	**Duepol Solvent-based varnish 2 comp.** (Use within: 4-6 h)	10-14 m²/L and coat	Dry to the touch: 2 h Repainting: 8 h Total drying time: 8 days	Brush, roller or spray gun.

Water-based polyurethane varnish finish.

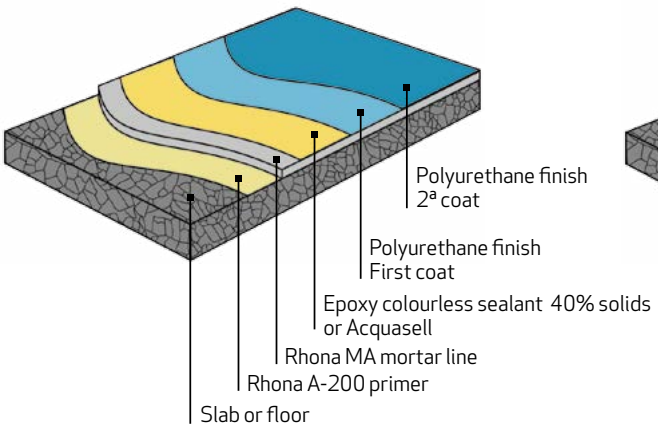
System that offers many advantages.Improves resistance to abrasion and resistance to UV radiation. It dries **very quickly** and has a transparent finish that maintains the colour and texture of the paving. It does not require a primer coat.

Varnish Acqua polyurethane floors
PU 1K protective varnish that offers durability in high-transit areas and UV resistance.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finish	**Varnish acqua polyurethane floors**	10-15 m²/L and coat	Dry to the touch: 30 min. Repainting: 2-3 h	Brush, roller or spray gun.

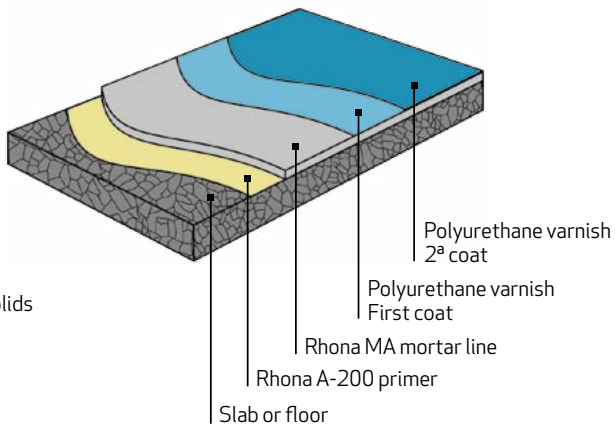
TWO-COMPONENT POLYURETHANE schematic.

Schematic for applying two-component, polyurethane finish systems.



POLYURETHANE VARNISH schematic.

Schematic for applying polyurethane varnish finish systems.



ⓘ Additional information

WHY CHOOSE EITHER **EPOXY** OR **POLYURETHANE**?

The **environmental conditions** in which it is applied and to which the coating will be subject are decisive when choosing one system or another.

Epoxy resin coatings offer **excellent resistance to water and chemical products** (solvents, diluted acids and bases, petrol, oils, etc.). Its use is limited to interior applications due to possible yellowing in the outdoors.

Polyurethane resin coatings are much more resistant to UV radiation, can be applied **outdoors** and are **highly resistant to vehicle traffic.**

Isaval recommends the use of epoxy-resin-based coatings for interior spaces such as industrial floors, workshops and hotels; while polyurethane paints offer better results for high requirements outdoors.

EPOXY

ADVANTAGES	DISADVANTAGES
- Hard, tenacious film	- Life of the mixture limited
- Resistant to abrasion and impact	- Limited time for repainting
- Excellent resistance to water	- Yellows in the outdoors
- Excellent chemical resistance	- Minimum polymerisation temperature
- Good adhesion to surface	

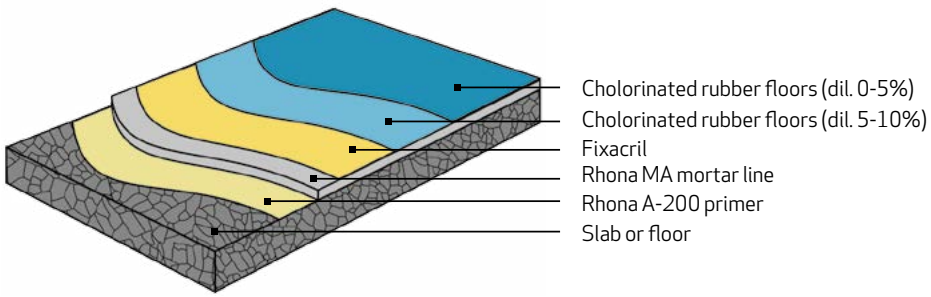
POLYURETHANE

ADVANTAGES	DISADVANTAGES
- Good adhesion on epoxy resins.	- Life of the mixture limited.
- Great hardness and resistance to abrasion.	- Limited time for repainting
- Good chemical resistance.	
- Curable at low temperatures.	
- Excellent shine and colour conservation.	
- Highly resistant to exterior conditions.	

3 Resin: CHLORINATED RUBBER.

Chlorinated rubber based coatings are designed for car parks floors and industrial buildings due to **their high adhesion to cement and concrete surfaces**. This system protects the floor and provides the surface greater durability.

The previous primer must be made with **Fixacril**, a solvent-based fixative for porous surfaces, in very poor condition or with chalking problems. To improve the final result, Isaval recommends applying a first coat of **Cholorinated rubber floors** diluted to 5-10% with chlorinated rubber solvent.



Cholorinated rubber floors
Special pigmented paint for protecting and decorating floors.

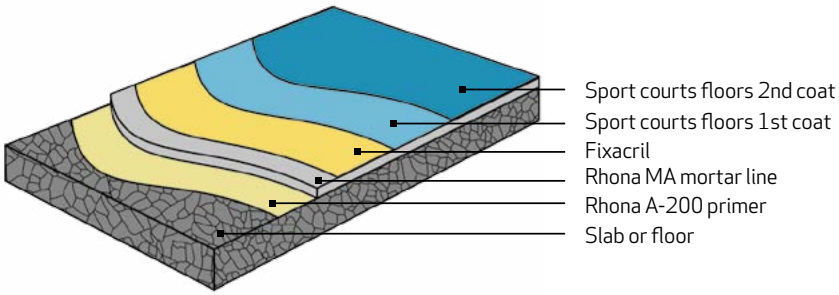
STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Fixacril**	Mortar: 10-15 m²/L Concrete and painted surfaces: 15-20 m²/L	Dry to the touch: 4-5 h Repainting: 12-24 h Total drying time: 24 h	Brush, roller or spray gun.
Recommended	**Cholorinated rubber floors** (Dilute chlorinated rubber solvent: 5-10%)	6-10 m²/L and coat	Dry to the touch: 30 min. Repainting: 6 h	Brush, roller or spray gun.
Finish	**Cholorinated rubber floors** (Dilute chlorinated rubber solvent: 0-5%)	6-10 m²/L and coat	Dry to the touch: 30 min. Repainting: 6 h	Brush, roller or spray gun.

4 ACRYLIC resins.

The paints formulated with acrylic resins present the solution for coating sports courts and light traffic areas, such as car parks.

▸ Sport courts finish.

The **Sports court floor** paint is an acrylic coating that offers extraordinary adhesion to the most common building materials. In addition to a non-slip effect, it has good flexibility and resistance to impact and the harmful effects of the weather.



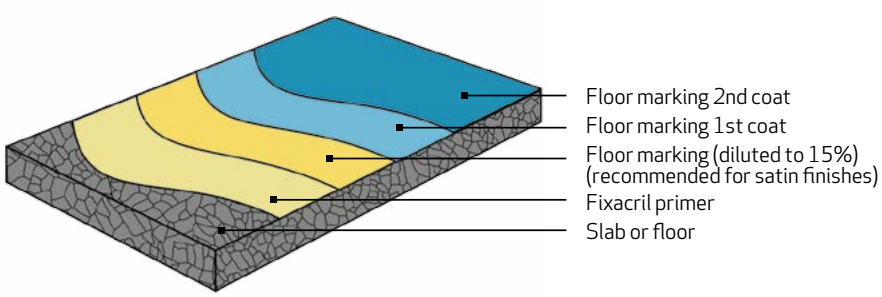
Sport courts floors
High resistance, hardness and durability paint with a non-slip finish.

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Mortar primer (optional)	**Rhona A-200**	0.1-0.2 kg/m²	Minimum 30 min.	Brush, roller or airless *spray gun.*
Surface levelling (optional)	**Rhona MA line**	1.5-1.7 kg/m² and mm of thickness approx.	Setting: 1.5 h approx. Drying time: 48 h approx.	Metal trowel (removing air with a spiked roller).
Finishing primer	**Fixacril**	Mortar: 10-15 m²/L Concrete and painted surfaces: 15-20 m²/L	Dry to the touch: 4-5 h Repainting: 12-24 h Total drying time: 24 h	Brush, roller or spray gun.
Finish	**Sport courts floors**	8-12 m²/L and coat	Dry to the touch: 30 min. Repainting: 3-4 h Total drying time: 15-20 days.	Brush, roller, or spray gun.

Floor marking finish.

Isaval's paints for floor markings are composed of high-performance solvent-based acrylic resins (**Floor marking**) and water-based (**Floor marking acqua**) that provide great resistance to abrasion, impact and the effects of weather. It offers very good adhesion on asphalt floors (does not bleed) and concrete and is very hard.

It is advisable to use **Fixacril** penetrating fixer to seal excessively porous concretes.



Floor marking
Acrylic paint for interior and exterior floor markings.

FLOOR MARKING (SATIN FINISH)

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Finishing primer* (optional)	**Fixacril**	Mortar: 10-15 m²/L Concrete and painted surfaces: 15-20 m²/L	Dry to the touch: 4-5 h Repainting: 12-24 h Total drying time: 24 h	Brush, roller or spray gun.
Coat recommended	**Floor marking** (Dilut. Chlorinated rubber solvent: 15%)	2-5 m²/L and coat	Dry to the touch: 10-15 min. Dry to walk on: 30 min (variable depending on thickness and atmospheric conds.).	Brush or roller.
Finish	**Floor marking** (Satin finish)	2-5 m²/L and coat	Dry to the touch: 10-15 min. Dry to walk on: 30 min (variable depending on thickness and atmospheric conds.).	Brush, roller, airless gun or spray gun.

* Do not apply the primer on asphalt.

Floor marking acqua
Water-based acrylic paint for interior and exterior floor markings.

ACQUA FLOOR MARKING (MATT FINISH)

STEPS	PRODUCT	USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
Finishing primer* (optional)	**Fixacril**	Mortar: 10-15 m²/L Concrete and painted surfaces: 15-20 m²/L	Dry to the touch: 4-5 h Repainting: 12-24 h Total drying time: 24 h	Brush, roller or spray gun.
Finish	**Foor marking acqua** (Matt finish)	3.5 m²/L (200 µm)	Drying no *pick up*: 25 min.	Roller, airless gun or spray gun.

* Do not apply the primer on asphalt.

5 Acrylic-PU resin.

Vulcapol finish.

The continuous and smooth floor systems may sometimes require reinforcement against staining and scratching due to constant traffic from vehicles and people.

Vulcapol is a water-based acrylic-polyurethane bicomponent varnish that has been especially developed for use on surfaces subjected to light but continuous traffic, where high chemical and scratching resistance are required, providing a high quality glossy finish.

Being a product based on acrylic resins and polyurethane, it presents great stability against solar radiation, which guarantees the durability of the finishes.

The properties of **Vulcapol** also provide impermeability and anti-dust effect to the surface, thus facilitating its cleaning.

Vulcapol
Aqueous varnish that provides great resistance and ease of washing.

APPLICATION USES AND SURFACES.

One of the main purposes of applying Vulcapol on smooth continuous systems is to reduce stains from hot tyres. So it is exceptional for floors in garages, car parks and workshops.

Its high chemical resistance and ease of cleaning also makes Vulcapol an ideal product for floor covering in laboratories and industries, as well as any floor covered with resins with high hygiene requirements.

Important: Do not apply Vulcapol on surfaces that have been waterproofed.

USAGE or YIELD	WAITING TIME (at 20ºC)	APPLICATION
10-15 m^2/L and coat. (depending on the surface and the thickness of the layer)	Dry to the touch: 30 min. Repainting: 2-3 h Vehicle transit time: 5 days.	Brush, short-bristled roller or spray gun.

3.3 Non-slip systems.

Safety as an essential attribute of the floor.

The Construction Technical Code determines that one of the legal requirements that floors must meet in certain specific locations is resistance to slipping (for more details, see page 8).

▸ Solutions for areas with requirements demanded by the Construction Technical Code.

This table shows the classification obtained in the tests developed by the accredited external laboratory for the different finishes.

ⓘ Any other proposal that does not include any of the systems explained in this table should be tested.

PRODUCTS	RESUL. CONCENTRATION (% in weight)	TOTAL PERFORMANCE OF THE FINISHING PAINT	R_d classification Applus	RECOMMENDED APPLICATION (on-site testing *essential*)
Epoxy colourless sealant 100% solids (Yield: 0.3 kg/m²) **+ Epoxy self-levelling 100% solids**	4%	4 m²/kg	1	**DRY interior areas** Surfaces with a slope LESS than 6%.
Duepol Solvent-based varnish 2 comp.	2 %	8 m²/L	1	
	5 %		2	**DRY interior areas** Surfaces with slope GREATER THAN or EQUAL to 6%.
Acquasell (Yield: 8 m²/L and coat) **+ Acquapox**	3 %	4 m²/L	2	**DAMP interior areas*** Surfaces with slope LESS than 6%.
	5 %		3	**DAMP interior areas*** Surfaces with slope GREATER than 6%. **Exterior areas** Pools**, showers, etc.
Isalpox Epoxy 2 comp.	2 %	4 m²/L	3	
Duepol Polyurethane floor 2 comp.	2 %	4 m²/L	3	
Cholorinated rubber floors	2 %	4 m²/L	3	
Sports courts	0 %	6 m²/L	3	
Duepol Acqua 2 comp.	10%	4 m²/L	3	

* Interior WET areas: Entrances to buildings from outdoor spaces (except in the case of direct access to restricted use areas), covered terraces, changing rooms, bathrooms, toilets, kitchens, etc.
** In areas provided for barefoot users and in the bottom of vessels, in areas where the depth does not exceed 1.50 m.

These tests **are intended as a guide**, since they are carried out under specific conditions, with determined performance and with the defined percentage of non-slip material (**Resul**). It is mandatory to perform the on-site test to evaluate the resistance to slipping achieved in each case.

Resul

Additive developed to achieve high-quality non-slip finishes.

Applus

The simplified test certificates carried out verify that the non-slip finish of all the proposed systems reaches the classification determined in the table with respect to the resistance to slipping in the conditions specified according to the UNE-ENV 12633:2003 standard.(Under other conditions, *on-site* testing is required when applying it).

▸ Solutions for null or restricted occupancy zones.

There are other solutions for areas of zero or restricted occupancy (excluded from the Standard) that provide a non-slip result: finishing products with aggregate dusting and non-slip spray.

ADDING AGGREGATE.

An alternative for obtaining an effective non-slip finish is adding aggregates to the finished product.

To achieve this reduced slipperiness, it is useful to finish the painting process with a mixture of saturation aggregates added to the coating. The paint-aggregate ratio will vary depending on the desired finish and the floor to be treated.

STEPS	PRODUCT				
Mortar primer (optional)	**Rhona A-200** (Yield: 0.1-0.2 kg/m²)				
Surface levelling (optional)	**Rhona MA line** (Yield: 1.6-1.7 kg/m² and mm of thickness.				
Finishing primer	**Epoxy colourless sealant 100% solids** (Yield: 0.25-0.35 kg/m²) (Use within: 20-35 min.)	**Epoxy colourless sealant 40% solids** (Yield: 0.25-0.35 kg/m²) (Use within: 20-35 min.)	**Acquasell epoxy sealant** (Use within: 1.5 h) (Yield: 6-10 m²/L)	**Fixacril** Mortar: 10-15 m²/L Concrete and painted surfaces: 15-20 m²/L	
Finish (mix with **saturation aggregates**)	**Isalpox Epoxy 2 comp.** (Yield: 6-10 m²/L and coat) (Use within: 4-6 h)	**Acquapox** (Yield: 6-10 m²/L and coat) (Use within: 1.5 h)	**Duepol Polyurethane floor 2 comp.** (Yield: 6-10 m²/L and coat) (Use within: 4-6 h)	**Duepol Acqua 2 comp.** (Yield: 10-12 m²/L and coat) (Use within: 45 min.)	**Chlorinated rubber floors** (Yield: 6-10 m²/L and coat)

SPRAY NON-SLIP.

A quick and easy solution to obtain surfaces with a low-slip finish is the **non-slip spray**. Ideal for stairs, ramps, shower trays and floors and in general where direct application is required without long waiting times. Thanks to the silicone coat it creates, when it comes into contact with water, the surface acquires a higher friction coefficient, which **reduces slipping and falling hazards**.

Application process:

Step 1. Clean the surface to be treated with synthetic solvent or abrasive paper.

Step 2. Shake the can well before application.

Step 3. Apply two light coats at a distance of 20-30 cm from the surface.

Step 4. After use, air spray for 2-3 seconds with the bottle upside down to avoid clogging the nozzle.

Spray Non-slip
Fast application product for creating non-slip surfaces.

3.4 Cement systems.

The best option to increase the resistance of the surface.

Cement systems are used to make, repair or patch screeds and floors. In many cases they serve to repair and protect concrete structural elements.

In those cases, the CE Marking of the products is required, which certifies that they comply with European Regulation No. 305/2011, which establishes harmonised conditions for marketing construction products; and the declaration of performance.

The essential characteristics specifications that must be certified are physical and chemical resistance to different phenomena (compression, bending, thermal shock, etc.) that a structure may be subject to.

Isaval has developed a series of self-levelling mortars that meet the requirements determined by the EU and are intended to meet different needs.

CE

Cement systems comply with all EU requirements imposed on the manufacturer by the CE Marking directives.

▸ Cement mortar classification.

Once the defective material has been eliminated from the surface and the necessary texture has been defined, the UNE-EN 13813:2003 Standard establishes the characteristics and specifications for self-levelling pastes for floors.Self-levelling mortars, whose base conglomerate is cement, are symbolised with the letters CT, while the self-levelling synthetic resin pastes, with SR.

Within the family of self-levelling mortars for Rhona floors, Isaval has mortars based on both types of binding agents. The great difference between them is their chemical resistance. The one corresponding to the formulations with synthetic resins are much higher than those mainly based on cement binders.

Specifications of self-levelling mortars according to the UNE-EN 13813:2003 standard:

Cement mortars, CT:	Synthetic resin mortars, SR:	Mortars for use on wear surfaces :
C: compression strength	**B:** tensile strength	**A:** "Böhme" wear resistance
F: flexural strength	**IR:** Impact strength	**AR:** Wear resistance "BCA"
		RWA: Resistance to wear due to rolling action

▸ Applying cement systems.

Once the defective material has been removed from the surface and the necessary texture has been defined, apply a coat of mortar with the relevant primer.

To attend to useful life, drying and curing indications of the mortar when planning to lay the cement floor.

Application process

Step 1. Clean briskly with a wire brush.

Step 2. Remove all dust using a vacuum cleaner.

Step 3. Cover the floor with **Rhona A-200** adhesive bond with a brush, roller or *airless* gun, at a rate of 200-300 ml/m^2.

Step 4. When coating the surface presents thermoplastic properties due to the condition of the primer, the cement mortar selected according to the requirements must be applied with a toothed trowel and then removing air with a spiked roller.

Cement binder motar.

Rhona MA-400
Cement self-levelling mortar for interior applications and pedestrian traffic areas for professional use.

Rhona MA-420
High performance cement self-levelling mortar for interior applications and pedestrian traffic areas.

Rhona MA-510
Cement self-levelling mortar for industrial use and medium transit interior and exterior areas.

Rhona MA-570
Cement self-levelling mortar for industrial use and heavy traffic areas indoors and/or outdoors.

Synthetic resin mortars

Rhona PU 3 comp.
Hybrid PU-cement coating with high resistance to abrasion, chemical agents and impact.

Choosing the cement system

PRODUCT	RHONA MA-400	RHONA MA-420	RHONA MA-510	RHONA MA-570	RHONA PU 3 COMP.
Chemical resistance	✔	✔	✔	✔	✔✔✔
Compression strength	✔	✔✔	✔✔✔	✔✔✔✔✔	✔✔✔
Flexural strength	✔	✔	✔✔	✔✔✔✔	✔✔✔
Transit	Pedestrian	Pedestrian	Medium	Heavy	Medium-heavy
Location	Interior	Interior	Interior-Exterior.	Interior-Exterior.	Interior

4.
PRODUCTS.
Technical data

Iconography **certifications**

Products classified according to the ISO 16000 series test standard determine emissions of volatile organic compounds, formaldehyde and acetaldehyde from a building material.

The paints that have this symbol provide anti-carbonation properties applied on concrete and cement.

All the references with this mark have been subjected to exhaustive tests in external laboratories that guarantee excellent performance of the product.

The paints that have this symbol are two-component or three-component.

Products with this mark reduce surface slipping applied according to accredited laboratory tests.

This symbol refers to the type of solvent recommended by Isaval for the product in question.

Products with this marking comply with all European Community requirements imposed on the manufacturer by CE Marking directives.

The paints that have this symbol are also marketed as a basis for the Essence Point of Sale tintometric systems.

Classification using data from reaction to fire tests according to 13501-1:07 under a painting system.

Iconography **technical data**

Description of the product

Uses

Product dilution

Maximum thickness

Mixing water

Product dilution

Surface

AB Ratio of the mixture

Life of the mixture (at 20ºC)

Setting time (at 20ºC)

Relative density (at 20ºC)

Pressure

Drying times (at 20ºC)

Granulometry

Shore C hardness (elastic hardness of the material)

Flexural strength (to 28 days)

Resistance to retraction/expansion (to 28 days)

Resistance to understanding

Adhesion

Product finish

Product usage or performance

Acquapox

High performance epoxy paint

Water-based epoxy paint, two-component, high performance and resistance.

Interior (on exterior applications it is subject to chalking and colour fading). Suitable for painting floors of industrial buildings, workshops, hospitals, warehouses, car parks, etc. Walls with high cleaning and hygiene requirements (schools, gyms, hospitals, abattoirs, warehouses, etc.).

Water. If it needs to be diluted, maximum 5% (for brush, roller or spray gun).

Acquasell epoxy sealant.

AB 3 to 1 in volume.

1:30 h

Dry to the touch: 4-5 h
Repainting: 12-48 h
Total drying time: 24 h
Max. performance: 8 days.

Satin and gloss.

6-10 m²/L and coat.

Satin: green, grey and red vial	
Base + Catalyser	
4 L	101302
15 L	101301
Gloss: green, grey and red vial	
Base + Catalyser	
4 L	102425
15 L	102393
RAL colours	
See the RAL special price list	

Acquasell
Epoxy sealant

Epoxy sealant and consolidator

Waterproof two-component epoxy colourless sealant. No odour, does not contain organic solvents.

Sealant and consolidator for concrete, cement, plaster, etc. Aids anchorage on difficult surfaces such as fine-cast concrete, aluminium, galvanised steel, etc. Adhesive bond between old and new coatings of solvent sensitive systems. Application on surfaces with moisture as a step before completion with finishing paints.

Water. If dilution is needed, maximum 5% (for roller or spray gun).

AB 3 to 1 in volume.

1:30 h

Dry to the touch: 4-5 h
Repainting: 12-48 h

Glossy.

6-10 m²/L and coat.

Satin	
Base + Catalyser	
4 L	100387
15 L	101311

Aggregate saturation

Aggregates for adding to self-levelling resins.

0.1-0.4 mm

1-2 kg/m²

Aggregates	
25 kg	110140

Varnish Acqua Polyurethane floors

Aliphatic polyurethane varnish.

Mono-component, water-based, aliphatic polyurethane varnish for treating, decorating and protecting floors.

Protection and decoration of floors, improving resistance to abrasion. Final coat in horizontal waterproofing systems, improving durability in high-transit areas and resistance to UV radiation. Concrete protection. Ideal for decorating and protecting all types of wooden surfaces (floors, doors, furniture, railings, frames, etc.).

Water. Brush or roller: 0-5%
Spray gun: 5-10%

Dry to the touch: 30 min.
Repainting: 2-3 h

Satin and matt.

10-15 m^2/L and coat.

Multicolour chips

Plastic coloured scales. Mix of chips of several colours for decorating floors. The decorative effect is obtained by sprinkling the chips on newly applied self-levelling systems, coating them with Isalpox Multi-coat.

0.15-0.3 kg/m^2

Cholorinated rubber floors

Pigmented chlorinated rubber paint

Paint based on chlorinated rubber resins especially indicated for protecting and decorating floors.

Interior and exterior. Developed for applying to floors of car parks, industrial buildings and places where floor protection and decoration is required.

Chlorinated rubber solvent (D-40). 0-5% (for brush, roller or spray gun).

It is recommended to use Fixacril penetrating fixer to seal excessively porous concretes.

Dry to the touch: 30 min.
Repainting: 6 h

Semi-satin.

6-10 m^2/L and coat.

Satin	
4 L	100369
Matt	
4 L	100370

Chip chart	
10 kg	101785

Semi-satin: green, grey and red vial	
0.75 L	100146
4 L	100144
16 L	100145

Coloured quartz

Coloured arid for making decorative floors by dusting them then fixing with Isalpox Multi-coat.

3-4 kg/m²

Quartz chart	
25 kg	
Colour C1	119100
Colour C2	119101
Colour C3	119102
Colour C4	119103
Colour C5	119104
Colour C6	119105
Colour C7	119106
Colour C8	119107

Duepol Acqua 2 comp.

Pigmented, water-based polyurethane paint.

Two-component, polyurethane water-based, solvent-free and reduced-emission finishing paint that provides a film resistant to UV rays once dry.

Interior/exterior use. Paint especially developed for application on car park floors, industrial buildings, workshops and, in general, all interiors and exteriors that require decorating, protecting or signage in specific areas. Horizontal and vertical surfaces.

Water.

Acquasell epoxy sealer or Duepol acqua 2 comp. diluted to 15%.

45 min.

Dry to the touch: 1 h / Repainting: 12-48 h
Light vehicle transit: 48 h
Max. resistance: 8 days.

Silky matt.

10-12 m²/L and coat.

Silky matt: green, grey and red vial	
Base + Catalyser	
4 L	102556
15 L	102557
RAL colours	
See the RAL special price list	

Duepol
Solvent-based varnish 2 comp.

Colourless aliphatic polyurethane varnish

Two-component aliphatic polyurethane varnish for treating, decorating and protecting floors.

Interior-exterior. Painted concrete, printed concrete, etc. floors. In general, for decorating and protecting floors against wear and tear caused by use and the passage of time.

Polyurethane solvent (D-30).
5% (for brush, roller or spray gun).

AB 4 to 1 in volume.

4 h

Dry to the touch: 2 h
Further coats: min. 8 h
Total drying time: 8 days.

Glossy, satin and matt.

10-14 m²/L and coat (to 30 microns dry).

Gloss	
Base + Catalyser	
4 L	100196
16 L	100195
Satin	
Base + Catalyser	
4 L	100188
16 L	100189
Matt	
Base + Catalyser	
4 L	100207
16 L	100208

Duepol
Polyurethane floor 2 comp.

Pigmented polyurethane paint

Two-component polyurethane paint suitable for floors where rolling resistance is required. Dust-free effect.

Interior and exterior use. Painted concrete floors, printed concrete, etc., for decorating and protecting floors against the wear and tear caused by use and the passage of time.

Polyurethane solvent (D-30). Brush or roller: 5-15%
Airless *spray gun*: 0-5%
Airbrushing spray gun: 5-10%

Epoxy colourless sealer 100% solids, Epoxy colourless sealer 40% solids or Duepol Polyurethane Floor 2 comp. diluted to 15%.

AB 4 to 1 in volume.

4-6 h

Dry to the touch: 1 h. Repainting: 12-48 h

Gloss.

6-10 m²/L and coat.

Gloss: green, grey and red vial	
Base + Catalyser	
4 L	101310
16 L	101309
RAL colours	
See the RAL special price list	

Epoxy self-levelling
EP 3000

Epoxy self-levelling resin

Epoxy self-levelling coating that, mixed with special aggregates, forms decorative pavements from 2 to 3 mm thick with high chemical and physical resistance. Contains no solvents (100% solids).

For interior use, as exteriors it is subject to chalking and colour fading. Coating for concrete floors that require high resistance to abrasion and chemical products, at the same time impermeable, easy to clean and highly aesthetic. Ideal for industrial and commercial premises, such as electronic component industries, laboratories, pharmaceutical industries, mechanical workshops, warehouses, etc.

Reactive diluent. If dilution is needed, maximum 5% (for roller or spray gun).

Epoxy colourless sealant 100% solids, Epoxy colourless sealant 40% solids.

AB (A) Paint: 5.78 kg
(B) Hardener: 4.22 kg
(C) Aggregates: 15 kg

45 min.

Dry to the touch: 4 h
Repainting: 16 h
Light transit vehicles: 48 h
Max. resistance: 8 days.

Gloss.

1.55-1.7 kg/m² and mm of thickness.

Gloss: green, grey and red vial	
Base + Catalyser	
10 kg	102574
RAL colours	
See the RAL special price list	

Epoxy self-levelling
100% solids

Pigmented epoxy resin

High-performance pigmented epoxy coating, offering maximum resistance against abrasion and wear. Contains no solvents (100% solids). Self-levelling mortar mixed with special aggregates.

Interior (on exterior applications it is subject to chalking and colour fading). Appropriate for making self-levelling mortars.Car parks, industrial warehouses, workshops, metal structures and industrial machinery and in general, in all interior applications in which specific areas need to be decorated, protected or marked out on vertical and horizontal surfaces.

Epoxy solvent (D-100).
If dilution is needed, maximum 5% (for roller or spray gun).

Epoxy colourless sealant 100% solids, Epoxy colourless sealant 40% solids.

AB (A) Paint: 12 kg
(B) Hardener: 4 kg
(C) Aggregates: 8 kg

45 min.

Dry to the touch: 4 h
Repainting: 16-24 h
Light transit vehicles: 48 h
Max. resistance: 8 days.

Gloss.

As self-levelling mortar:
1 kg/m² and mm of thickness.
As paint: 4 m²/kg

Gloss: green, grey and red vial	
Base + Catalyser	
16 kg	101305
RAL colours	
See the RAL special price list	

Epoxy colourless sealant 100% solids

Epoxy colourless primer without solvent.

Colourless primer, sealant without solvent (100% solids) based on epoxy resins with high wetting capacity and good penetration.

Excellent as a fixer, reinforcing degraded surfaces and as a sealant for porous concrete.

Epoxy solvent (D-100). Depending on application method: 0-30% (for roller or spray gun).

AB (A) Paint: 11.6 kg
(B) Hardener: 4.4 kg

20-35 min.

Dry to the touch: 4 h
Repainting: 16-24 h
Total drying time: 16 h

Gloss.

0.25-0.35 kg/m^2

Epoxy colourless sealant 40% solids

Epoxy colourless primer

Colourless sealant primer based on epoxy resins with high wetting capacity and good penetration.

Excellent as a fixer, reinforcing degraded surfaces and sealant for subsequently applying epoxy, polyurethane, chlorinated rubber, etc. on floors.

Ready-to-use (for roller or spray gun).

AB (A) Paint: 12.4 kg
(B) Hardener: 3.6 kg

20-35 min.

Dry to the touch: 4 h
Repainting: 16-24 h

Gloss.

0.1-0.2 kg/m^2

Fixacril Solvent-based acrylic fixer

Solvent-based acrylic fixer

Acrylic primer in highly penetrating solution for consolidating and sealing porous surfaces or surfaces in very poor condition and with chalking problems. Resistant to the surface's alkalinity (cement mortar, concrete, brick) and permeable to steam, allowing the surface to breathe. Anti-carbonation barrier.

Interior-exterior. Preparation for water- and solvent-based paints. Fixer on porous surfaces (cement mortars, concrete, brick). Consolidating surfaces in poor condition, whitewashed or weathering.

Ready-to-use (for brush, roller or spray gun).

Dry to the touch: 25-30 min.
Repainting: 4-6 h

Transparent.

Concrete: 15-20 m^2/L and coat
Mortars: 10-15 m^2/L and coat
Fibre cement: 10-15 m^2/L and coat
Plaster/Cast: 5-15 m^2/L and coat
Painted surfaces: 15-20 m^2/L and coat.

Gloss	
Base + Catalyser	
16 kg	101314

Gloss	
Base + Catalyser	
16 kg	101329

Transparent	
4 L	100347
16 L	100346

Isalpox
Epoxy 2 comp.
Pigmented epoxy-polyamide paint

Epoxy-polyamide paint, two-component, high performance and resistance.

Interior (on exterior applications it is subject to chalking and colour fading). Painting concrete floors and walls, industrial buildings, car parks, etc. Highly recommended for painting all types of metal structures used for construction or the manufacture of industrial machinery.

Epoxy solvent (D-100).
If dilution is required, 5% maximum (brush or roller).

Epoxy colourless sealant 100% solids, Epoxy colourless sealant 40% solids.

AB 3 to 1 in volume.

4-6 h

Dry to the touch: 2 h
Repainting: 6-24 h
Light transit vehicles: 48 h
Max. resistance: 8 days.

Glossy.

6-10 m^2/L and coat.

Satin: green, grey and red vial	
Base + Catalyser	
4 L	101317
16 L	100170
RAL colours	
See the RAL special price list	

Isalpox
Multi-coat
Transparent epoxy resin

Transparent two-component epoxy resin with high chemical and mechanical resistance for protecting and decorating floors. Contains no solvents (100% solids). Extremely resistant to solvents, acids and dilute bases, petrol, diesel fuel, brake fluid, lubricating oils and detergents.

Interior use. Suitable for making continuous decorated floors based on quartz systems and/or coloured chips. For use in offices, shops and in general for all interior applications where continuous floor decoration (without joints) is required.

Epoxy solvent (D-100).
If dilution is required, maximum 5% (for rubber brush or toothed trowel).

Suitable for preparing floors with Epoxy colourless sealant 100% solids, to seal the concrete pores.

AB (A) Paint: 1 L
(B) Hardener: 0.7 L

45 min.

Dry to the touch: 4 h
Total drying time: 16 h
Light transit vehicles: 48 h
Max. resistance: 8 days.

Gloss.

1 L/m^2 and mm of thickness.

Gloss	
Base + Catalyser	
16 kg	100167

Resul
Non-slip additive

Micro-polymers spherical shaped particles added to the paint to provide a non-slip and non-abrasive finish. Helps prevent slips and falls and ensure maximum safety and protection on slippery and dangerous surfaces.

Suitable for all types of paints and varnishes, both water based and solvent based. It is added directly to the paint to be used, requiring gentle shaking for incorporation into the product.

Colourless	
0.3 kg	119076

Rhona A-200

Tactifying primer

Synthetic liquid based on acrylic copolymers, stable in a humid environment, used to bond concrete and fresh mortar

Primers on all types of mineral surfaces for the subsequent application of any cement mortar and for bonding new concrete and already hardened concrete. Application: airless brush, roller or spray gun.

> 30 min

0.1-0.2 kg/m^2 (depending on the roughness of the surface).

Transparent	
4 kg	101992
15 kg	101993

Rhona M-311

Structural repair mortar

CE

Structural repair mortar based on Portland cement, selected aggregates, special fillers, chemical additives, fibres and polymers, which provide high compatibility with the concrete to correctly repair it.

For repairing large and small concrete areas. Permanent repair of any type of concrete and masonry. Indicated for areas where excellent thermal compatibility with the concrete and low retraction is required. For use in areas where high resistance to chlorides and carbon dioxide is required.

3-50 mm per coat for plastering.

20-25% water per kg of plaster (with metal trowel).

40-60 min (approx.)

Thickness 2 mm:
Concrete: 7-8 h
Paint: 7-8 h

Shore Hardness C: 85

>1.5 MPa

> 25 MPa (R3)

Concrete: >1.5 MPa

Textured, grey.

1.5-1.9 kg/m^2 and mm of thickness.

Grey vial	
25 kg	102407

Rhona M-322

Structural repair mortar

CE

Structural repair mortar based on Portland cement, selected aggregates, special fillers, chemical additives, fibres and polymers, which provide high compatibility with the concrete to correctly repair it.

Performing permanent repairs on any type of concrete or masonry. Repairing areas where excellent thermal compatibility with concrete is required. For use in areas where high resistance to chlorides and carbon dioxide is required.

3-50 mm per coat for plastering.

20-25% water per kg of plaster (with metal trowel).

40-60 min (approx.)

Thickness 2 mm:
Concrete: 7-8 h
Paint: 7-8 h

Shore Hardness C: 87

>2 MPa

> 45 MPa (R4)

Concrete: >2 MPa

Textured, grey.

1.5-1.9 kg/m^2 and mm of thickness.

Grey vial	
25 kg	102408

Rhona MA-400

Self-levelling cement mortar

CE

Cement self-levelling mortar modified with polymers for indoor use for regulating and levelling interior pavements that are to be covered later.

Levelling and surface up to 30 mm thick in floors for laying carpets, tiles, vinyl slabs, linoleum, rubber sheets, as well as epoxy and polyurethane coatings and floors. For levelling floors on site and their repair. Floors on which there will be pedestrian traffic. Typical applications for shops, homes, etc.

3-30 mm per coat for plastering.

20-23% water per kg of plaster (manual or pumping).

45-60 min.

1:15-1:30 h

48 h

>4 MPa

>16 MPa

Smooth, grey.

1.5-1.7 kg/m² and mm of thickness.

Grey vial	
25 kg	102646

Rhona MA-420

Self-levelling cement mortar

CE

Self-levelling cement modified with polymers for interior applications.

Interior use. Levelling and surface up to 25 mm thick in floors for laying carpets, tiles, vinyl slabs, linoleum, rubber sheets, as well as epoxy and polyurethane coatings and floors. For levelling floors on site and their repair. Floors on which there will be pedestrian traffic.

3-30 mm per coat for plastering.

20-23% water per kg of plaster (manual or pumping).

45 min.

1:15-1:30 h (approx.)

48 h (approx.)

>4 MPa

>16 MPa

Smooth, grey.

1.5-1.7 kg/m² and mm of thickness.

Grey vial	
25 kg	102546

Rhona MA-510

Self-levelling cement mortar

CE

Self-levelling cement modified with polymers for industrial use and use on areas with medium traffic.

Interior and exterior use. Levelling and surface up to 35 mm thickness. Especially indicated for refurbishing floors in undercover car parks with moderate traffic. It is used as a regulating coat for finishing with resin systems or paint for floors and as a screed coat for slabs and cement coatings.

3-35 mm

20-23% water per kg of plaster (with metal trowel).

45 min.

1:15-1:30 h (approx.)

48 h (approx.)

>6 MPa

>20 MPa

Smooth, grey.

1.5-1.7 kg/m² and mm of thickness.

Grey vial	
25 kg	102427

Rhona MA-570

Self-levelling cement mortar

Cement mortar modified with polymers used for regulating, restoring and levelling interior and exterior floors applicable in large thicknesses and where great resistances are required both in terms of flexion and compression.

Levelling of substrates in which high traffic conditions are required (heavy traffic) as long as it is covered with a polyurethane or epoxy nature paint. Indicated for restoration products. Product suitable for medium to heavy surface loads. Levelling of multipurpose floors to level and smooth concrete coatings at thicknesses of between 3 and 40 mm in a single application coat.

3-40 mm

21%-24% water per kg of plaster (with metal trowel).

45-60 min.

1:15-1:30 h

48 h

>10 MPa

>40 MPa

Smooth, grey.

1.5-1.7 kg/m² and mm of thickness.

White and grey vial	
20.9 kg	102647

Rhona PU 3 comp.

Cement-polyurethane hybrid mortar

Water-based hybrid cement-polyurethane coating indicated for levelling surfaces where high resistance to loads, high resistance to abrasion and chemical resistance is required. For interior use.

Indicated for areas subject to high loads, abrasion and chemical exposure, obtaining a suitable surface for food processing plants (without direct contact with food), in dry and wet areas, freezers and refrigerated areas, thermal shock areas, chemical plants, processing, laboratories, warehouses, etc. areas.

2-5 mm

AB (A) Paint: 3 kg
(B) Hardener: 3.14 kg
(C) Aggregates: 14.75 kg

15-20 min.

Pedestrians: 4-6 h
Light vehicles: 16 h
Heavy vehicles: 24 h
Total curing time: 3-5 days.

Concrete: >3.1 MPa

Smooth.

1.9 kg/m² and mm of thickness.

White and grey vial	
20.9 kg	102544

Rhonaplast XHA exteriors

High adhesion plaster

High performance plaster indicated for filling, repairing and renewing interior and exterior surfaces. Quick setting. Great adhesion even on non-porous materials. High impact resistance. Enables painting without risking colour change or the appearance of efflorescence. Very easy to apply. No reduction or crazing. Product reinforced with fibreglass. Can be used on floors.

Ideal product for use on drywall, traditional plastics, cement, concrete, block, brick, stone, gresite, glass paste, ceramics, etc.

10 mm to fill completely.
Unlimited for filling.

40-45% water per kg of plaster (with trowel or spatula).

20-40 min.

Thickness 2 mm:
Concrete: 4-5 h
Paint: 5-6 h

Shore Hardness C: 88

>2.1 MPa

Very thin and hard.

Powder: 1.00-1.10 kg/m²
Paste: 1.40-1.60 kg/m²
(1 mm coat).

White vial	
5 kg	102566
15 kg	102441

Floor marking

Acrylic paint for floor marking

Acrylic resin-based paint in a fast drying and excellent adhesion solution intended floor markings in car parks, on floors, warehouses, etc.

Interior-exterior. Car parks floors, fords, private time zones, etc.

Chlorinated rubber solvent (D-40).
Brush or roller: 5-15%
Airless *spray gun*: 0-5%
Airbrushing spray gun: 5-10%

It is recommended to use Fixacril penetrating fixer to seal excessively porous concretes.

Dry to the touch: 10-15 min. (200 µm coat).
Dry to walk on: 30 min.

Satin

2-5 m^2/L and coat.

Satin: white, yellow, red, RAL 3002 and blue vial

4 L	100152
15 L	100153

RAL colours

See the RAL special price list

Floor marking acqua

Acrylic paint for floor marking

Water-based acrylic paint applied in thick coat, very fast drying and great adhesion on asphalt and concrete floors.

Interior-exterior. Especially suitable for car parks, private areas, etc.

Water. Roller: 0%
Airless *spray gun*: 0-5%
Airbrushing spray gun: 0-10%.

It is recommended to use Fixacril penetrating fixer to seal excessively porous concretes.

25 min.

Matt

3.5 m^2/L and coat (200 µm).

Matt: white, blue, red, yellow vial

15 L	100166

RAL colours

See the RAL special price list

Spray Non-slip

Specific product for treating non-slip surfaces. It creates a coat of silicone that, when in contact with water, increases the friction coefficient, thereby reducing slipping and falling hazards.

Ideal for treating non-slip surfaces, such as stairs, ramps, shower trays and floors in general.

(at 20° C) 0.75 ÷ 0.80 g/mL

4-6 bar

Dust-dry: 10 min.
Touch dry: 15 min.
Thoroughly dry: 22 h

Colourless.

5 m^2 (400 mL).

Transparent

400 ml	144051

Sport courts floors

Sports facility paint

Aqueous dispersion paint with high strength, hardness and durability. Non-slip effect. Designed for protecting and decorating sports facility walls and floors and bike path, trail and pedestrian path markings.

Especially recommended for protecting and decorating sports facilities (tennis, pediment) on walls and floors.

Water. Brush or roller: 0-15%
Spray gun (always on asphalt): 10-15%.

It is recommended to use Fixacril penetrating fixer to seal excessively porous concretes.

Dry to the touch: 30 min-1 h
Repainting: 3-4 h
Total drying time: 15-20 days.

Semi-satin.

8-12 m^2/L and coat.

Vulcapol

Aqueous acrylic-polyurethane varnish

Two-component acrylic-polyurethane water-based varnish to provide the painted surface with greater resistance and ease of washing against the stains generated by tyres during transit.

Finishing product on continuous floors where waterproofing and anti-dust properties are required. Especially suitable for laboratory floors, garages, mortars, epoxy or polyurethane systems both interior and exterior. On systems subjected to light but continuous traffic, where high chemical resistance, scratch and light stability properties are required.

AB 100 to 5 in volume.

6 h

Dry to the touch: 30 min.
Repainting: 2-3 h
Vehicle transit: 5 days

Gloss.

10-15 m^2/L and coat.

Fronton green, tennis red, tennis green, blue grey, light blue and white vial	
4 L	101009
15 L	101008

Gloss	
4 L	102622
15 L	102625