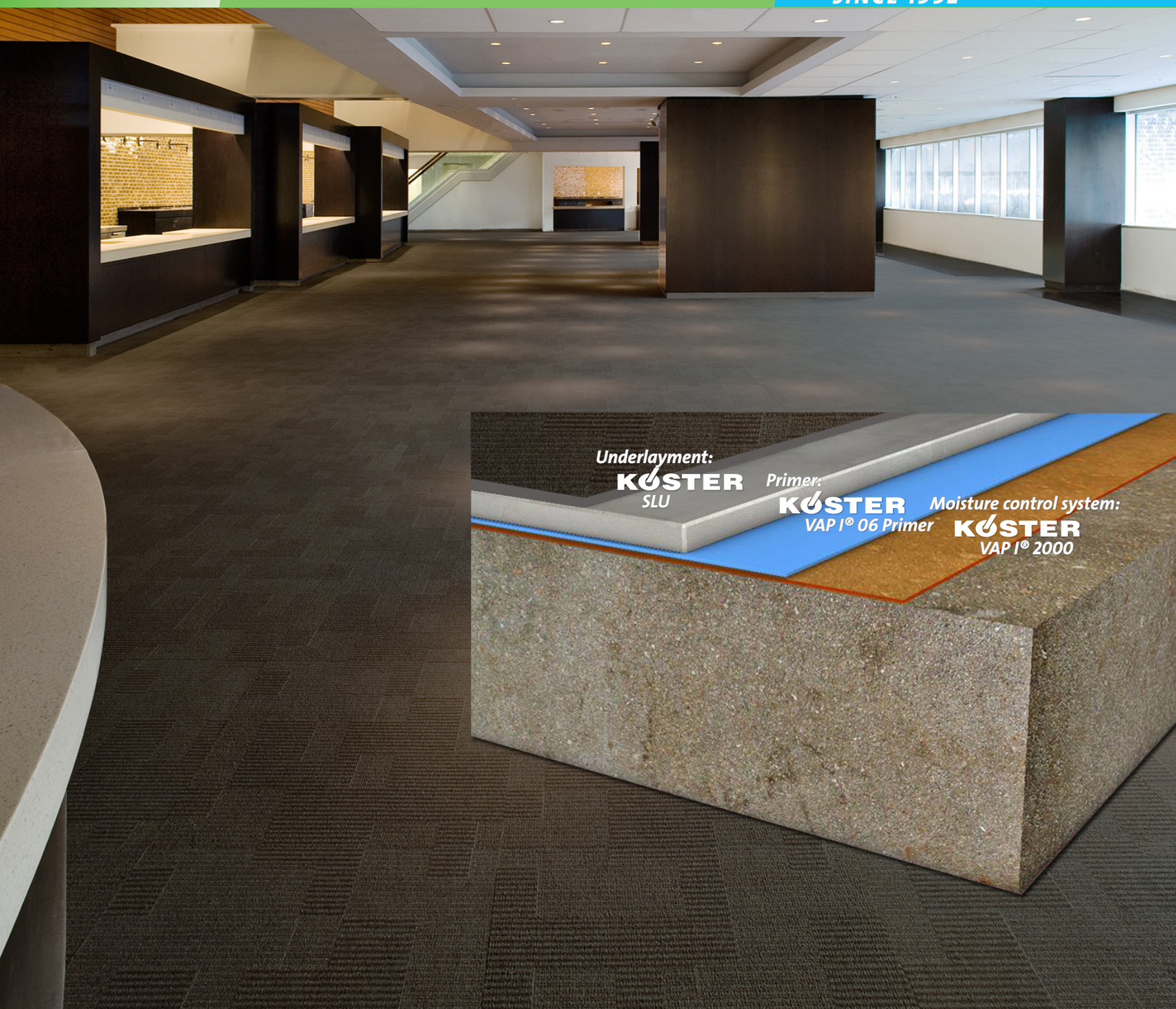
KÖSTER
Waterproofing Systems

MOISTURE CONTROL SYSTEMS

SINCE 1992



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Moisture Control Systems

Concrete is one of today's most important building materials. Most floor slabs are made of concrete. While concrete itself is permeable to moisture vapor, many modern flooring systems have very low moisture permeability and are susceptible to problems caused by moisture vapor. The moisture control systems manufactured by KOSTER American are designed to be applied on concrete to supress moisture vapor and the problems associated with it.

Why is moisture vapor an issue?

Flooring failures due to water vapor in concrete floor slabs have been plaguing the construction industry for decades, causing millions of dollars in damage to our economy. Typical damage patterns indicating a serious failure of the flooring system can be blisters in epoxy coatings, bubbles in sheet goods, unsightly staining at seams, adhesive bond failure, loose, curling and cracking VCT, warped wood floors and damp and mold infested carpets.

Re-emulsification of adhesive...

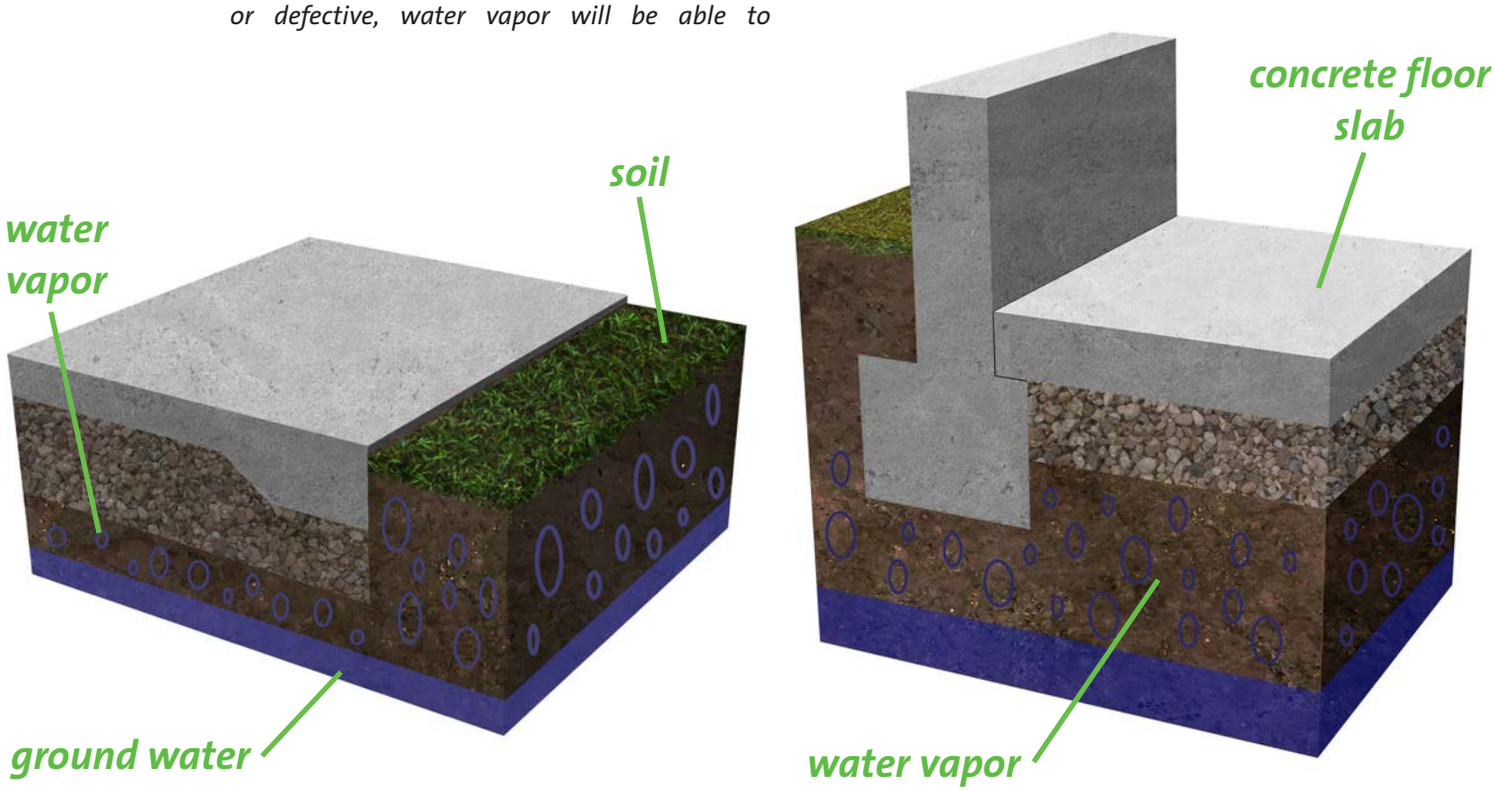
...resulting in down time

Typical blistering...

...containing high pH corrosive liquid

Where does the moisture vapor in floors come from?

Water is present in the ground everywhere, in liquid form as ground water or attached to or between soil particles and in the form of water vapor between the soil particles. While slabs on ground are unlikely to come in contact with liquid ground water, they definitely will come into contact with the water vapor that rises through the soil. If a below slab vapor retarder is missing or defective, water vapor will be able to penetrate the bottom of the slab and accumulate in the slab if it cannot evaporate. Slabs on ground in contact with moist soil can also lead to capillary moisture transfer into the slab. Basement floor slabs may come into contact with liquid water if submerged in ground water.



There are many sources of water that can lead to damage of concrete floors.

Water is an essential ingredient in concrete. At the time concrete is made, it contains liquid water. While a part of that water is used in the hydration of cement, another part of it remains in the concrete and slowly evaporates over time. The more water is added into concrete at the time it is batched and during curing, the longer it is going to take to dry to a condition that is acceptable for a flooring system.

Air conditioning and heating systems de-humidify the air in buildings. Since vapor will move from an area of high humidity to an area of lower humidity, a stream of water vapor from the floor slab into the air is set in motion. This process creates a moisture gradient within the slab; lack of a functional vapor retarder below the slab allows moisture to continually re-charge the slab.

Additional sources of water can be broken pipes under a slab, spills onto concrete, building use such as kitchens and bathrooms, cleaning and maintenance, rain and snow, ambient relative humidity and condensate on the concrete.

What other factors influence floor moisture vapor?

In new buildings:

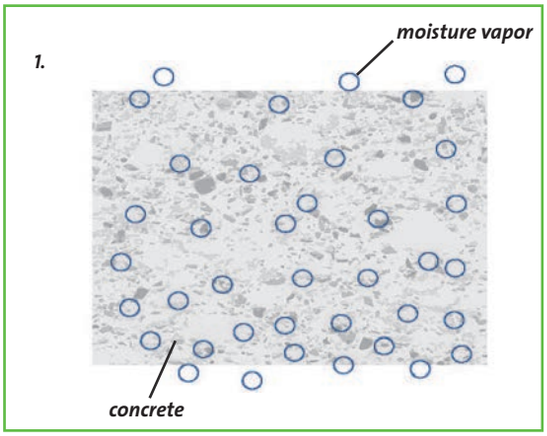
- Missing or damaged vapor retarders underneath slabs on ground prevent drying of floor slabs.
- Fast track construction often requires flooring installers to install flooring systems before the concrete has had sufficient time to dry.
- Elevated slabs are frequently made with light weight aggregate concrete. When light weight concrete is made, the porous light weight aggregate is saturated with water before it is added to the mix. The water that is captured in the aggregate of the concrete causes the lightweight concrete to need longer to dry to an acceptable level than normal weight concrete.

In existing buildings:

- Renovation of flooring systems:
  In the past, many flooring systems were more resistant to moisture and high pH. Many flooring systems today have a limited breathability and the adhesives have limits regarding the moisture and pH they can withstand. After a new, low permeable flooring system is installed, moisture vapor is trapped inside the concrete. That sets the condition for the moisture vapor damage mechanism to start, eventually leading to failure of the adhesive and the flooring.
- Changing environmental conditions:
  Moisture vapor conditions underneath a floor slab on ground can change over time, for example changing seasons, irrigation, or heavy rainfalls over a long time period can increase the soil moisture vapor condition.

How does moisture vapor harm flooring systems?

1. Concrete without floor covering

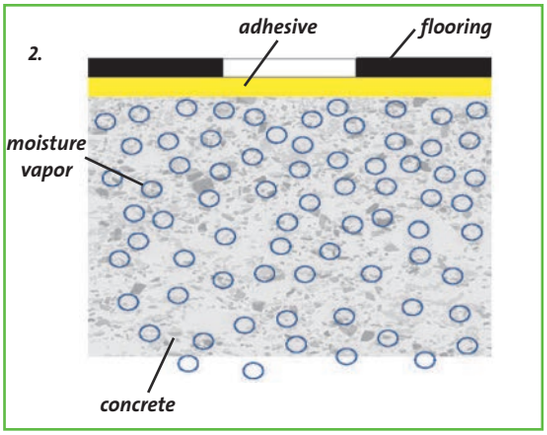


Concrete is a porous material. It allows moisture vapor to pass through it.

As long as moisture vapor can pass though the concrete, there will be a moisture gradient with the concrete drier near the top surface and more damp at the bottom.

Moisture can transport salts of various types into and through the concrete causing efflorescence on the surface of the concrete. This can be detrimental to serviceability.

2. Concrete with floor covering



When a flooring system is installed, it typically has lower vapor permeability than concrete.

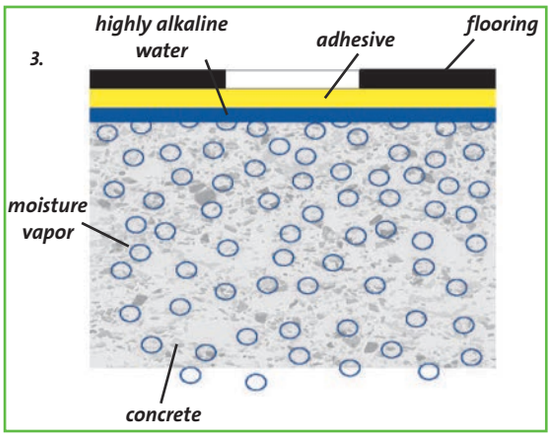
The water vapor can no longer evaporate from the surface of the concrete. As a result, the amount of water vapor that is present in the slab will slowly increase. This can be measured as an increase in the relative humidity in the concrete slab.

Many types of floor finishes can be damaged when exposed to high moisture over a longer period of time.

If concrete contains aggregate that is susceptible to Alkali Silica Reaction (ASR), the increased moisture now present in concrete can cause the reaction to start, leading to damage of the concrete.

Microbial growth can develop under floor coverings leading to health hazards for building occupants. Coatings and adhesives can debond when the moisture condition underneath the low permeable flooring becomes high enough.

3. Development of high pH

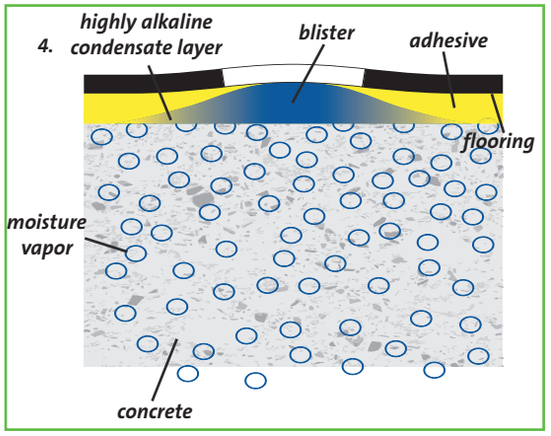


Cured concrete contains soluble calcium, potassium and sodium hydroxides. Once dissolved in water, conditions develop with pH readings up to 14.

Adhesives that bond floor coverings to the concrete can degrade and fail as a result of the high pH and moisture present on the concrete.

The high pH that develops at the surface of the concrete due to moisture can also discolor floor coverings.

4. Development of blisters



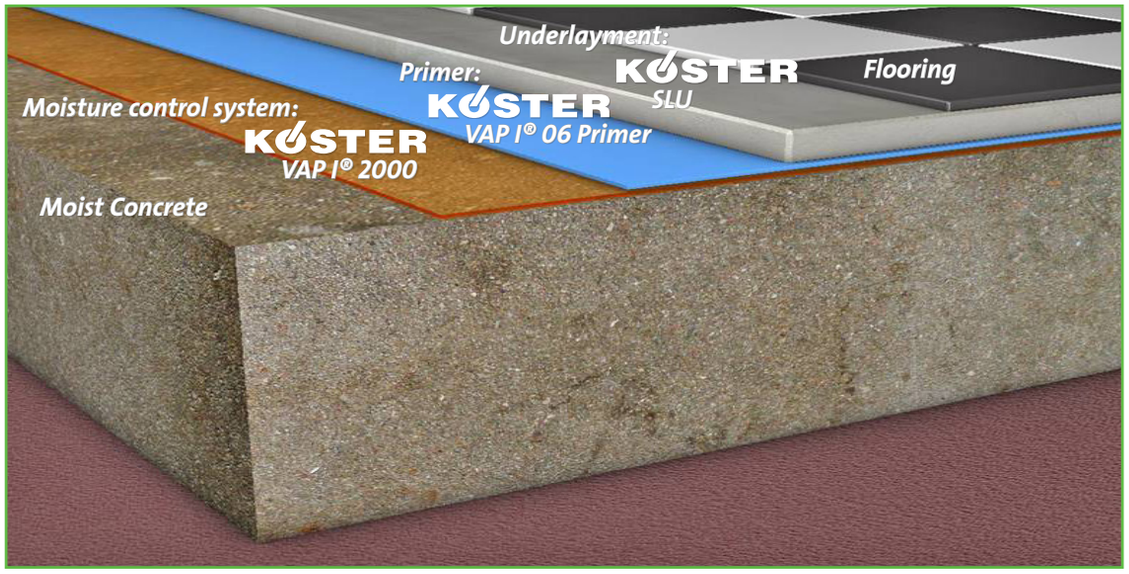
Once high pH condensation has developed underneath the surface of adhered low permeable floor covering, the adhesive is directly exposed to the high pH conditions. Adhesive can then degrade due to the high pH and high moisture exposure.

The time frame in which this distress takes place depends on vapor drive and the composition of the concrete. The liquid in blisters can have a pH of 14.

Typically, it takes 3 to 6 months for such moisture damage to appear.

How can moisture vapor problems be controlled?

If moisture tests indicate an elevated moisture vapor condition in the concrete, something needs to be done to be able to install the desired floor covering without producing a failure. Even if the concrete slab is not exposed to a constant source of moisture, drying of the slab may take many months or years. Usually that is not an acceptable alternative. In most cases the installation of a moisture control system is the only solution. The moisture control system blocks rising moisture vapor, and prevents adhesive and flooring from coming in contact with the high pH that develops in the concrete.



KOSTER VAP I® 2000: Moisture Vapor Control Systems

Successfully introduced to the American flooring market in 2001, KOSTER VAP I® 2000 systems have an impressive track record with thousands of satisfied customers. KOSTER VAP I® 2000 systems have been developed for the sole purpose of protecting flooring systems against moisture vapor damage. KOSTER VAP I® 2000 materials have been specially designed to provide successful long-term solutions even in difficult scenarios:

- *KOSTER VAP I® 2000 Systems withstand a permanently elevated moisture condition up to 100% RH (ASTM F2170)*
- *KOSTER VAP I® 2000 systems withstand a permanently elevated moisture vapor emission rate up to 25 lb/1000sqft/day (ASTM F1869)*
- *KOSTER VAP I® 2000 systems resist a sustained exposure to pH 14.*
- *KOSTER VAP I® 2000 systems provide a high degree of user friendliness due to their ease of installation and one coat application.*
- *KOSTER American offers a 15 year warranty.*

Choosing the right moisture control system

No two flooring projects are the same, and each has unique technical challenges. KOSTER American Corporation, the specialist in the field of moisture vapor control systems, has developed reliable systems that protect flooring from damage. These unique formulations are 100% solid epoxy, contain no fillers and are one coat systems. The materials can be applied to green concrete after 7 days, allowing for the fast tracking of flooring projects. KOSTER VAP I® 2000 systems have been formulated to withstand 100% relative humidity (RH) (ASTM F2170) and up to pH 14.

KOSTER VAP I® products have an outstanding vapor diffusion resistance. While all of KOSTER's VAP I® products have always been low VOC and low odor, KOSTER now has two vapor suppression products that are zero VOC: KOSTER VAP I® 2000 Zero VOC and KOSTER VAP I® 2000 FS. The test certificates that show LEED compliance are available upon request.

The available systems differ from each other mainly with regard to the curing times: KOSTER VAP I® 2000 (12 hours), KOSTER VAP I® 2000 FS (fast setting 4-5 hours), for overnight installations, KOSTER VAP I® 2000 UFS (ultra-fast setting, 3 hours) for very fast installations.

KOSTER Moisture Control Systems

Technical product information	VAP I® 2000	VAP I® 2000 Zero VOC	VAP I® 2000 FS	VAP I® 2000 UFS
				
Time to proceed with flooring*	12 hours	12 hours	4-5 hours	3 hours
VOC´s	Low	Zero	Zero	Low
ASTM E 96 Water Method 73°F (at 100 sq ft/gal) perms grains/hrs/sqft/in Hg)	0.091	0.056	0.047	0.060
ASTM F1869, lb/1000 sqft/24hr.	warrantied to 25 lb			
ASTM F2170, % Relative humidity	warrantied to 100% RH			
Layers	True one coat system			
Material	100% solid epoxy, no fillers			
Withstands pH	up to pH 14			

Product usage				
Fast tracking of flooring projects	Apply to green concrete after 7 days			
Overnight projects	Yes	Yes	Same Day	Same Day
LEED points (EQ Credit) 4.2	1	1	1	1
Compatible flooring systems	• Adhered floor coverings • Coatings / seamless floor systems • Medical floors • Sports floors		• Adhesives and setting systems • Cementitious levelers and toppings • Rubber flooring systems • Terrazzo / Poured in place flooring	
Areas of application	• Industrial facilities • Schools • Sports facilities • Residential buildings		• Retail stores • Hospitals • Warehouses	

Additional product information	
15 Year Warranty	Yes
Application training required	Yes

**Coating curing time may vary due to concrete condition & temperature*

Why is the perm rating of a moisture control system important?

Materials have a moisture vapor transmission rate that is measured by a standardized test method. ASTM E96 Permeance is reported in perms, a measure of the rate of transfer of water vapor through a material (1.0 US perm = grains h^{-1} ft^{-2} in Hg^{-1} ≈ 57 SI perm = 57 ng/s•m2•Pa).

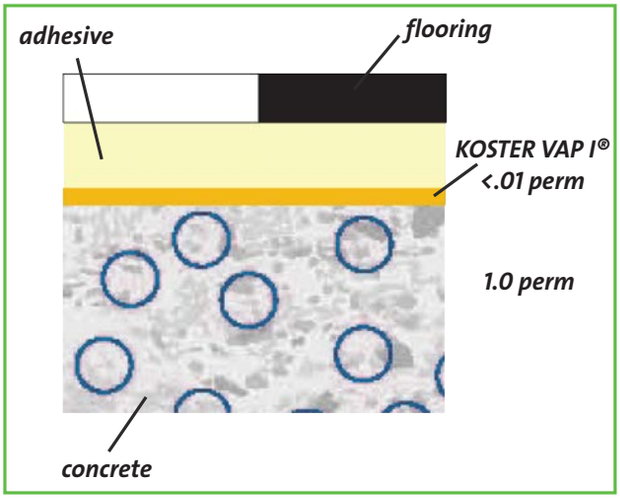
Moisture suppression systems for use under resilient floor coverings must meet performance requirements of ASTM F 3010.

A moisture control system has to reduce the amount of moisture vapor to the level that the finish floor covering can tolerate.

Typical concrete has a permeability of 2-3 perms per inch. Many floor coverings have a much lower permeability to water vapor.

To prevent moisture damage from taking place, a moisture control system should be installed directly onto the concrete before the flooring is installed. This moisture control system has to bond to the concrete despite moisture and high pH. It also has to reduce the amount of moisture vapor that passes through it to a level that the flooring and adhesive can tolerate.

Because low permeability floor coverings and their adhesives are sensitive to high moisture and high pH, moisture control systems must meet the requirements of ASTM F 3010. All KOSTER VAP I®2000 products meet the requirement of this ASTM standard for low permeance and strong bond to concrete to resist the forces of moisture and pH.



Flooring manufacturers publish the maximum acceptable moisture levels for their products in their technical literature. In order to protect a flooring system, a vapor control product must reduce the amount of moisture vapor that it lets pass through it to meet the requirements of ASTM F 3010, not to exceed 0.1 perms.

Is my concrete slab dry enough to receive flooring?

28 days is often cited as the minimum length of time for concrete to "cure" and develop strength. This time period of 28 days is often incorrectly interpreted as the time necessary for the concrete to dry sufficiently to receive a flooring system.

As a rule of thumb: The drying time for a concrete slab in a climate controlled environment is approx. one month per inch of thickness. For a standard 4-in. – 6-in. slab, the drying time would be approx. 4 – 6 months.

Several factors can extend the drying time. To accurately determine a floor's moisture condition, the flooring manufacturer´s guidelines and the industry standard ASTM F 710 should be adhered to, which state: "All concrete slabs shall be tested for moisture regardless of age or grade level".

There are several tests that can be used to quantify how much moisture is in a floor slab. The relative humidity (RH) test is currently the most widely accepted test and has become the industry standard while the calcium chloride moisture vapor emission rate ($CaCl_2$) test is being phased out. Relative humidity data is not comparable to calcium chloride test results.

The relative humidity test

The RH probe test according to ASTM F 2170 is conducted as follows:

For slabs on ground, a hole with a depth of 40 % of the slab´s thickness is drilled. Probes are placed in the hole and the results are read after an equilibration time of at least 24 hours. The relative humidity test determines relative humidity in the slab. Three tests should be carried out for the first 1000 ft² with 1 per additional 1000 ft². The test results according to ASTM F2170 should not exceed the RH specified by the flooring manufacturer. For links to current floor covering and adhesive RH limits, see www.RHspec.com.

Advantages of using the Relative Humidity Test

- *Less impact of ambient conditions due to measuring inside the concrete*
- *Becoming a more and more popular and required testing method, flooring industry accepts RH testing*
- *Easier to understand for project participants than calcium chloride ASTM F 1869*
- *Trained and certified testing technicians through International Concrete Repair Institute*
- *Moisture profile of concrete possible, when measuring at different depths*
- *Costs are comparable to calcium chloride ASTM F 1869*
- *$CaCl_2$ measures only top ½ inch of slab which is the driest, does not reveal deeper moisture conditions*
- *RH probes can quickly re-measure slab moisture conditions while $CaCl_2$ takes an additional 3 days per test*

Moisture testing should be carried out by independent and certified experts. Proper testing requires background knowledge and experience, so that all project participants can be assured of the quality and objectivity of the test results. This is important, as elevated moisture levels in the concrete can cause delays in the construction schedule or require additional, often not budgeted expenses. Therefore moisture vapor problems should be anticipated during the planning phase and hence be part of the specifications. Flooring contractors should be especially aware of this topic and, if a moisture control system is not specified, talk about this topic as soon as possible with owners and planners - in everyone's interest.

What can cause problems with flooring systems besides moisture?

When dealing with new concrete, sufficient reliable information is usually available. In new construction, usually the concrete mix design is available as well as information about curing compounds used. When dealing with older concrete, reliable and comprehensive information is usually not available.

Substances that have a negative effect on the bonding of the flooring system may have been introduced to the concrete over time. If such substances are present in the concrete that is to be coated they can be evaluated by analysing a sample of that concrete.

New concrete	Old concrete
• *Concrete placement and curing procedures can be reviewed and evaluated for problematic ingredients that can cause bonding problems for topically applied vapor suppression products.* • *Topically applied curing compounds can act as bond breakers.* • *Adequate drying time for the concrete should be built into the construction schedule and moisture testing should be carried out before any flooring is installed.*	• *Chemical Analysis can be used to determine if contaminants are present in the concrete.* • *ASTM C856 Petrographic Analysis can be used to evaluate the concrete condition and assess if deleterious constituents may be present in concrete.*

Reference: Met Life Stadium, New Jersey

- *Met Life Stadium is located in East Rutherford, New Jersey and serves as a venue for the New York Giants as well as for the New York Jets. It is the only NFL stadium shared by two teams. It provides seating for a maximum of 82,566 people.*
- *Construction started in 2007 and finished in 2010, when it became successor to the former Giants stadium. Construction costs add up to a total of approximately $ 1.6 billion.*

KOSTER provides reliable solutions even in difficult cases.

Core testing

Core testing means that a piece of concrete is removed from the slab and sent to an accredited laboratory for analysis. KOSTER can provide a list of independent concrete testing laboratories in the US.

We strongly recommend core sample testing of slabs with existing floor failures to identify the cause of the failure.

Based on the results of the lab evaluation and analysis, KOSTER Technical Staff can recommend the right system for the specific project. KOSTER holds monthly training on moisture vapor control systems for professionals: applicators, engineers, architects, general contractors, facility managers, etc.

The ease of use and long term track record for a broad range of applications are the main success factors of KOSTER VAP I® 2000 systems. Even in difficult cases, KOSTER provides reliable solutions. Our customers benefit from our more than 20 years of experience in the field of moisture vapor control systems.

- *Our technical department provides detailed pre-job checklists and helps to identify possible problems during the planning phase, recognize relevant conditions and evaluate test results.*

- *The tightly scheduled construction required a reliable Moisture Control System for the protection of subsequent flooring systems.*
- *The contractor (Re:Source from New Jersey) decided to go for a high quality Solution: KOSTER VAP I® 2000. All concrete basement slabs and upper floor slabs were protected.*
- *KOSTER American Corporation was awarded the Starnet Preferred Vendor 2011 for this project.*

Application of KOSTER VAP I® 2000 Systems

Testing of the substrate (moisture testing / core samples):

KOSTER recommends testing to determine the moisture vapor condition in the concrete utilizing RH probe in situ tests (ASTM F2170), considered the industry standard. Calcium chloride tests (ASTM F1869) have been used for this purpose in the past but these are being used less.

Substrate preparation:

Concrete substrates to receive KOSTER VAP I® 2000 systems must be structurally sound, solid, absorptive and meet acceptable industry standards as defined in ACI Committee 201 Report "Guide to Durable Concrete". Surfaces must be free of adhesives, coatings, curing compounds, concrete sealers, efflorescence, dust, grease, oils and other materials or contaminants that may act as a bond breaker. The concrete surface must be at least 5°F above the dew point temperature. Avoid application in a high dew point atmosphere, when the ambient relative humidity is above 95% or the concrete surface is wet.

1. Mechanically prepare the substrate by shotblasting to an ICRI Concrete Surface Profile CSP 3. 2. Grinding is permitted only in areas inaccessible to shot blasting or for edging purposes. Upon completion of the grinding followed by shotblasting, the concrete slab must be vacuumed free of all dust, dirt and debris prior to the installation of KOSTER VAP I® 2000 systems. Do not use sweeping compounds as they may contain oil.

Mixing:

3. Pour the B component into the short-filled A component container while continually mixing .

4. Mix using a slow speed electric mixer (<400 RPM) and mixing paddle for 3 minutes.

Application:

5. *Pour the mixed KOSTER VAP I® 2000 onto the substrate immediately after mixing. Completely empty the mixing container.*

6. *Spread KOSTER VAP I® 2000 using the appropriate notched squeegee. KOSTER VAP I® 2000 systems are applied in one coat.*

7. *The material is then backrolled using a 3/8 inch epoxy rated nap roller, at a right angle (90 degrees) to the direction of the squeegee application. Thereby the product is evenly distributed with no missed areas.*

Coverage:

Minimum coverage at CSP 3: 150 ft²/gal

If standard concrete prepared to a CSP 3 is coated with KOSTER VAP I® 2000 at 150 ft²/gal, the cured coating can be expected to have a layer thickness of approximately 11 mils (0.011-in). A rougher surface profile and / or a porous or absorptive concrete will require the use of more material to obtain a sufficiently thick, continuous layer needed to achieve a sufficiently low permeability.

ASTM E96 water method testing shows the following relationship between coverage, layer thickness and permeability:

		KOSTER VAP I® 2000	KOSTER VAP I® 2000 Zero VOC	KOSTER VAP I® 2000 FS	KOSTER VAP I® 2000 UFS
Spread Rate	Layer Thickness	Perm Rating	Perm Rating	Perm Rating	Perm Rating
100 ft²/gal	16 mils	0.054 perms	0.056 perms	0.047 perms	0.060 perms
150 ft²/gal	11 mils	0.10 perms	0.086 perms	0.070 perms	0.094 perms

Next layers:

Prior to the installation of a subsequent flooring system, the cured KOSTER VAP I® 2000 systems must be clean and free of all dust, dirt and debris. Sanding is not required. KOSTER VAP I® 2000 products do not develop an amine blush and can be re-coated or covered with primer and underlayment at later ages as long as the KOSTER VAP I® 2000 coating surface is clean.

KOSTER VAP I® 2000 coatings must not be exposed to direct sunlight for more than 48 hours after application on concrete. If installing MMA's or PMMA's, the recoat window is 48 hours after KOSTER VAP I® 2000 systems have cured. KOSTER VAP I® 2000 systems may only be applied by KOSTER trained and approved installers.

Components of a standard flooring system

KOSTER VAP I® 06 Primer for cementitious underlayments

KOSTER VAP I® 06 Primer is a one component primer, specifically designed to bond to cementitious products, providing maximum adhesion between a non porous substrate such as KOSTER VAP I® 2000 and the cementitious leveling compound.

KOSTER VAP I® 06 Primer is a water based, solvent free system for priming KOSTER VAP I® 2000 moisture mitigation systems, terrazzo, marble, metal decking, ceramic, and quarry tile prior to the installation of cementitious products such as underlayments. The combination of quality, ready to use packaging, and the rapid drying time of the material have set a standard for non-porous substrate primers.

Benefits of KOSTER VAP I® 06 Primer:

- No mixing required, single component
- Rapid drying
- Excellent bonding
- Water and pH resistant
- VOC compliant
- Water based
- Solvent free

Technical data:

Packaging:	2.5 gallons
Coverage rate :	650 – 800 sq ft / gal
Working time:	approx. 3 hours (at 70°F)
Drying time:	30 Min – 1 hour (at 70° F)

KOSTER cementitious underlayments

KOSTER Self-Leveling Underlayments are high strength, fast-curing, and low shrinking. They provide a smooth, level surface ready to receive flooring systems. KOSTER SLUs accept all major floor coverings and are compatible with most adhesives. If the underlayment is installed onto smooth, non absorbent substrates such as a KOSTER VAP I® 2000 coating, the substrate must be primed with KOSTER VAP I® 06 Primer. Absorbent substrates such as concrete are primed using KOSTER SL Primer.

KOSTER SL Premium

Technical data:

Packaging:	55 lb bag
Compressive strength*:	6500 PSI
Working time (at 70°F):	approx. 15-20 min
Foot traffic:	approx. 3-4h
Ready for Flooring:	approx 24-72 h

KOSTER LevelStrong™

Technical data:

Packaging:	50 lb bag
Compressive strength*:	>4200 PSI
Working time (at 70°F):	approx. 25-30 min
Foot traffic:	approx. 3-4h
Ready for Flooring:	approx 16h

KOSTER SL LevelStrong™ High Strength

Technical data:

Packaging:	50 lb bag
Compressive strength*:	>6000 PSI
Working time (at 70°F):	approx. 25-30 min
Foot traffic:	approx. 3-4h
Ready for Flooring:	approx 16h

* at 28 days (ASTM C109)

Treating moving cracks and movement joints

KOSTER Joint Sealant FS-H

Moving cracks and expansion joints must be filled with a material that can follow the substrate movements elastically. A joint waterproofing must allow for movement in the construction without causing damage to the construction itself. Moving joints up to a width of 1.4" can be waterproofed with KOSTER Joint Sealant FS-H, which is a self-leveling, rubbery-elastic sealing compound with high chemical resistance. Therefore, it is ideal material to waterproof horizontal joints in heavy construction, foundations, waste water treatment plants, garages, tunnels, etc.

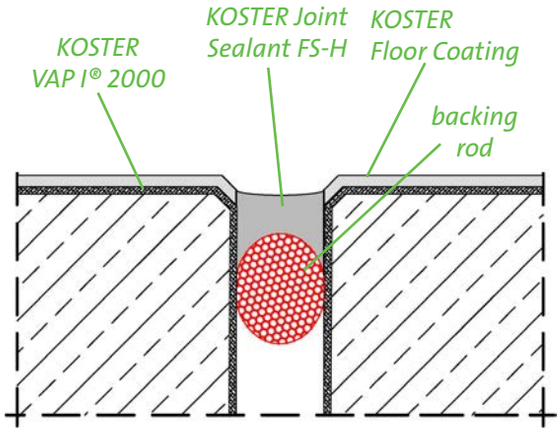
Benefits of KOSTER Joint Sealant FS-H:
- *High mechanical load capacity*
- *Good chemical resistance*

Technical data:

Max elongation at break:	*approx. 15%*
Shore A-hardness:	*approx. 35*
Consistency:	*Castable, Self-leveling*
Pot Life:	*approx. 20 min*
Curing Time:	*approx. 24 hrs*

The expansion joint must be installed so that the joint s honoured vertically through the entire flooring system, including all final floor coatings. The prepared joint flanks are coated with KOSTER VAP I® 2000. Allow the KOSTER VAP I® 2000 moisture control system to cure for a minimum of 4-12 hours (depending on the product) before installing the backing rod and the joint sealant. Do not use FS primer 2C if the Joint Sealant is installed directly onto KOSTER VAP I®2000.

See also the KOSTER Brochure on "Waterproofing Construction Joints."



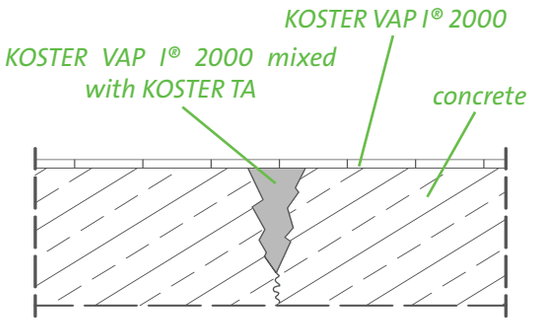
Reference: Walmart, Fort Wayne, IN

- *KOSTER VAP I® 2000 FS applied during the renovation phase.*
- *KOSTER VAP I® 2000 FS was chosen to control the moisture vapor while also providing a smooth surface to VCT to be installed over top of the moisture vapor barrier.*
- *KOSTER VAP I® 2000 FS's short cure time of 4 hours kept the project on schedule.*
- *Walmart was able to stay open during the application due to KOSTER VAP I® 2000 FS having zero VOC.*
- *Total area of the job: 150,000 sq. ft.*

Treating non-moving joints, cracks, spalls, and voids

Non-moving joints, cracks, and voids must be completely cleaned and repaired using KOSTER VAP I® 2000 or KOSTER VAP I® 2000 mixed with KOSTER TA, thickening agent. Narrow cracks can be repaired with a low-viscosity, high-modulus epoxy such as KOSTER KB-Pox IN. Chase with thin diamond blade or angle grinder, do not widen or deepen more than necessary. The crack or sawcut joint must be filled as fully as possible to stabilize the concrete against movement.

See KOSTER VAP I® 2000 installation instructions for details.



KOSTER VAP I®2000 Systems: Equipment for proper installation

Squeegee Frame and Squeegee Blades

KOSTER supplies squeegee frames and squeegee blades.

Width: 30”
Notch sizes: Green: 15-20 mils
Orange: 25-30 mils
Black: Flat Edge
½” Notched (UC 100)

KOSTER Product Range

W ***Waterproofing systems***
Basement, tank, and area waterproofing

M ***Masonry***
Restoration of masonry, anti mold systems

IN ***Injection systems***
Crack injection and crack repair systems

C ***Concrete protection and repair***
Concrete and mortar additives

SL ***Self leveling underlayments***
Self leveling mineral underlayments, floor patching materials, corresponding primers

CT ***Coatings***
Floor and corrosion protection coatings, moisture control systems

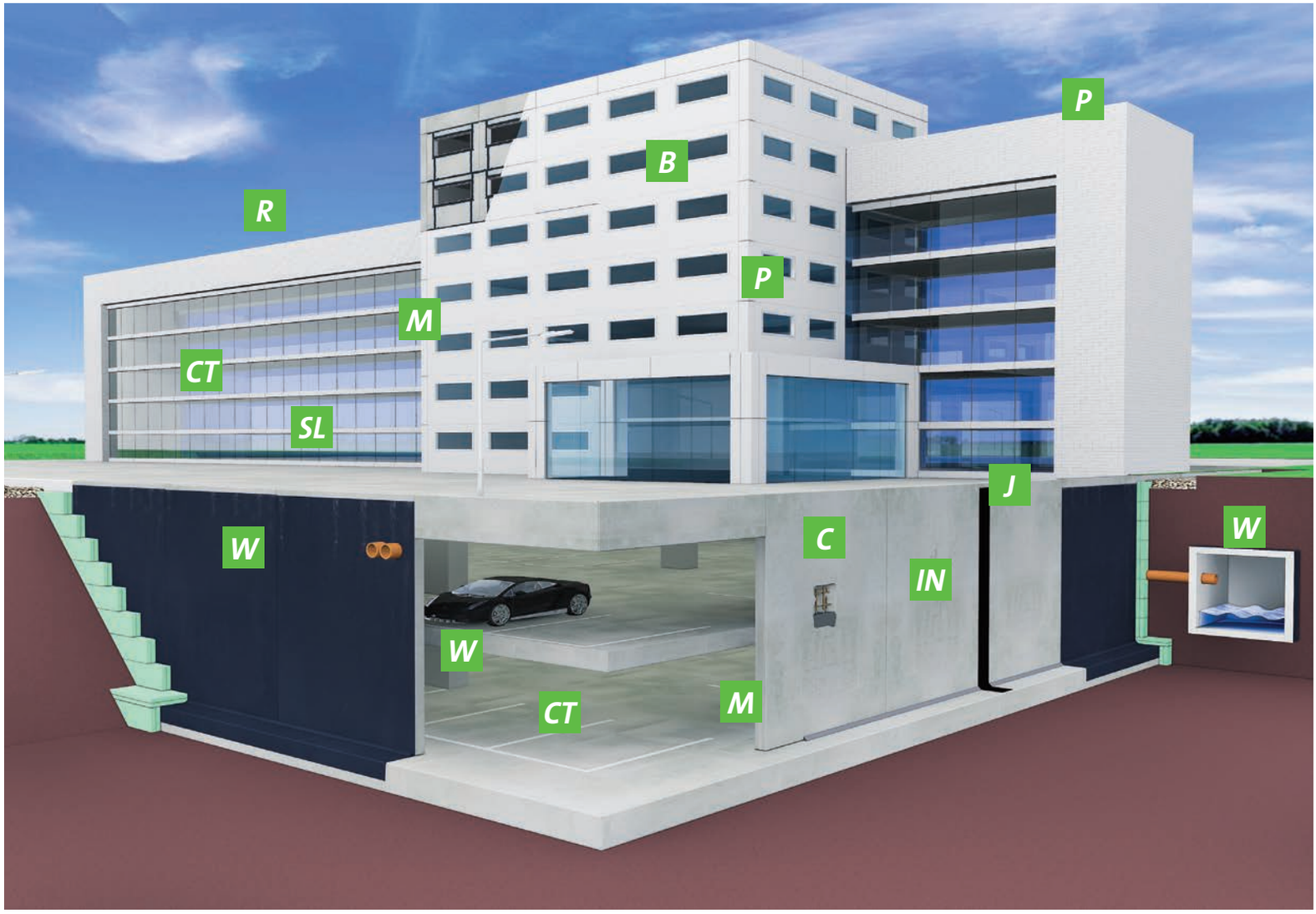
J ***Joint sealing***
Joint sealants, joint tapes

B ***Wet room waterproofing***

P ***Façade protection and paints***

R ***Roofing membranes, roof waterproofing***

X ***Accessories***



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