PERMACON



Preventive Maintenance Guide for **Concrete Landscaping Products**

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Introduction

In order to preserve and enhance the beauty of your concrete products and to make the most out of your investment, we have created this detailed maintenance guide. Aimed at exterior landscaping products (pavers, slabs, retaining walls, etc.) for residential use[1], this guide is intended to be a practical and educational reference tool.

For more than 65 years, Permacon has embodied innovation as well as a strong commitment to product quality, with our products meeting and even surpassing industry standards. Here are some of the standards that we adhere to:

> Pavers: CSA –A231.2 Standard - Precast Concrete Pavers

> Slabs: CSA –A231.1 Standard - Precast Concrete Paving Slabs

> Walls: ASTM C 1372 Manufacturing Standard - American Society for Testing and Materials

The robust quality of our products ensures their durability over time as well as the harsh climate in which we live. Compared to other outdoor landscaping products, concrete has the notable advantage of requiring very little maintenance.

To fully benefit from the advantages of a concrete product, there are a few simple steps you can take. The use of a sealer, the immediate cleaning of deposits, and the timely removal of organic matter are just a few examples.



[1] A residential use applies to a residential building (5 units or fewer) such as a single-family, bi-generational, or semi-detached home. However, certain elements presented in this guide can be applicable to commercial use, i.e. a space featuring 5 dwellings or more such as a public square, sidewalk, factory, shopping center, school, university, seniors' residence, etc. However, some differences may apply since this guide was not specifically designed for commercial use.

Preventive Maintenance for Every Season

Winter

DE-ICING

RECOMMENDED

> We recommend sodium chloride (NaCl) de-icing salt

> Spread salt on icy and/or snowy surfaces

> Remove excess salt from concrete surfaces to preserve the quality of your products

> Fine-grained sand (without medium and coarse particles) can also be used to obtain a certain grip on the ice. DO NOT SPREAD SAND ON A PERMEABLE INSTALLATION AS THIS WILL COMPROMISE THE SYSTEM'S PERMEABILITY PERFORMANCE.

NOT RECOMMENDED

> The use of abrasive agents such as gravel can scratch and damage the products' surface.

> The use of de-icing salt based on magnesium chloride ($MgCl^2$), calcium chloride ($CaCl^2$), or chemicals (ammonium nitrate or sulphate, fertilizers, etc.) is prohibited.

Permacon products are compatible with underground heating systems (electric heating cables or radiant glycol heating system).

CAUTION

If you do not know the composition of the de-icing product you normally use, we suggest that you do not use it.

SNOW REMOVAL EQUIPMENT

To avoid scratches and rust marks left by metal, we recommend adding the following protection to your snow removal equipment.

We also recommend the use of plastic shovels without metal blades.



Adjustable Depth Skate



Snow Guard Blade



Preventive Maintenance for Every Season

Spring

VISUAL INSPECTION OF PAVEMENT CONDITION

> After a thaw, verify the integrity of the edging and ensure that there is no shifting in the pavement along the structure's perimeter. Repair as required to preserve the self-locking mechanism.

> Readjust pavers if they have shifted

> **Replace pavers that have been damaged by winter hazards in order to maintain structural integrity**

INSPECTION OF POLYMERIC SAND JOINTS

Polymeric sand plays a vital role in the maintenance of concrete products. Like the curb, it helps preserve the mechanical self-locking system.

FOR THIS REASON, WE RECOMMEND THE FOLLOWING VISUAL EXAMINATION:

Inspect the polymeric sand joints and reinstall if necessary. To ensure the durability of the polymeric sand installation, we suggest removing at least 1 ½" (± 38 mm) of the old sand to install new sand in its place. Polymeric sand is typically installed in the summer in order to respect the minimum temperatures prescribed by the manufacturer. It is recommended to read the product's technical data sheet and follow the manufacturer's recommendations before proceeding. Refer to page 11 of this document for more information regarding Techniseal polymeric sand.

CLEANING

> It is recommended that all debris deposited on surfaces be removed with a broom or leaf blower in order to avoid stains.

> To facilitate the cleaning of residual stains, we suggest using Techniseal maintenance products[1 2]. Clean all excess salt residue and dirt with a garden hose[3]. Use the hose at a 30-degree angle and perpendicular to the joints so as not to dislodge any polymeric sand. To tackle stubborn salt build-up, you can use Techniseal's HD Paver Preparer[1 2] along with one of the brush models listed below:





RECOMMENDED
Scrub or bristle brush



NOT RECOMMENDED
Wire brush

Remember that occasional maintenance will facilitate the general cleaning of your concrete products.

[1 2] **Note on the use of Techniseal maintenance products:** Read the manufacturer's instructions carefully before cleaning. It is recommended to test on a less visible section of your surface or to use an extra piece of paving stone. The goal is to validate the result and ensure your own satisfaction before proceeding with the complete cleaning.

[3] **Note on the use of pressure washers:** The use of a pressure washer to clean surfaces is not recommended unless you are a qualified and experienced professional. Improper use of this type of equipment could alter the surface and cause irrevocable damage. Please note that the damage caused by this type of equipment does not fall under warranty. For professionals, it is recommended to start with a low-pressure jet with a wide and diffused beam and to keep a sufficient distance in order to preserve surface quality.



TIP

Remember that regular and quick maintenance will prolong the beauty of your concrete products.

Preventive Maintenance for Every Season

Summer

During the summer season, regular surface maintenance is recommended in order to avoid staining of the concrete products. Organic matter such as sediment, leaves, grass clippings, soil, cedar mulch as well as fertilizers (which can cause rust stains) should be removed quickly. Note that the effectiveness of the cleaning process directly correlates to how quickly such matter is removed.

If you use a sprinkler system to irrigate your lawn, proper calibration is important in order to avoid water accumulation on concrete surfaces, especially in areas with little sunlight. These wet areas are conducive to the development of moss on pavers and in joints. To solve this issue, the use of an organic stain remover is recommended.

Fall

Refer to the *Visual Inspection of Pavement Condition* section to prevent snow removal equipment from damaging concrete units. An inspection of polymeric sand joints is also recommended. Fall is conducive to the accumulation of organic matter such as dead leaves as well as nuts and fruits from certain trees. We suggest cleaning concrete surfaces regularly.



Maintenance Products

In order to effectively clean an entire surface, it is important to first remove any stains by choosing the appropriate cleaning product from category 1. Once these stains have been removed, it is possible to proceed with a complete surface cleaning by choosing the appropriate product from category 2.

	PROBLEM	SOLUTION	USES	CARACTERISTICS
1	 GREASE	Professional-Grade Oil and Grease Remover 950 ml 60102032	Concrete pavers and slabs, concrete surfaces and natural stone	> Removes penetrated petroleum-based products > Ideal for older, penetrated stains > Dries from a liquid to a powder WARNING: This product may strip sealed surfaces
	 OIL	Dirt and Grease Cleaner 1 L 60102031	Concrete pavers	> Removes motor oil and grease (ex. BBQ) > Dissolves, dislodges, and encapsulates grease > Ideal for sealed surfaces and fresh stains
	 RUST	Rust Remover 1 L 60100115	Concrete pavers	> Effectively removes stains caused by steel, rusted metal objects, fertilizers, etc. > Contains no muriatic acid > Will not discolour pavers when used according to instructions
	 ORGANIC WASTE	Organic Stain Remover 700 g 60102044	Concrete pavers, slabs and walls. Can also be used on poured and stamped concrete	> Requires minimum scrubbing > Effectively removes moss, mildew, dead leaves, wine, blood, and non-greasy food stains
	 PAINT TIRE TRACKS	Paint, Tar and Rubber Remover 1 L 60100111	Concrete pavers	> Dissolves tire marks, paint, tar, and chewing-gum WARNING: This product may strip sealed surfaces
2	 EFFLORESCENCE	HD Paver Prep 4 L - 60200206 18,93 L - 60200207	Concrete pavers	> Specially formulated to dislodge tough and stubborn efflorescence > Brightens up the colour of pavers > Prepares pavers prior to the application of a protector
	 WHITISH HAZE	Paver Restorer (if needed) 4 L - 60200243 18.93 L - 60201005	Concrete pavers	> Removes haze created by some polymeric sands > Removes stains generated by pavers and slabs cuts



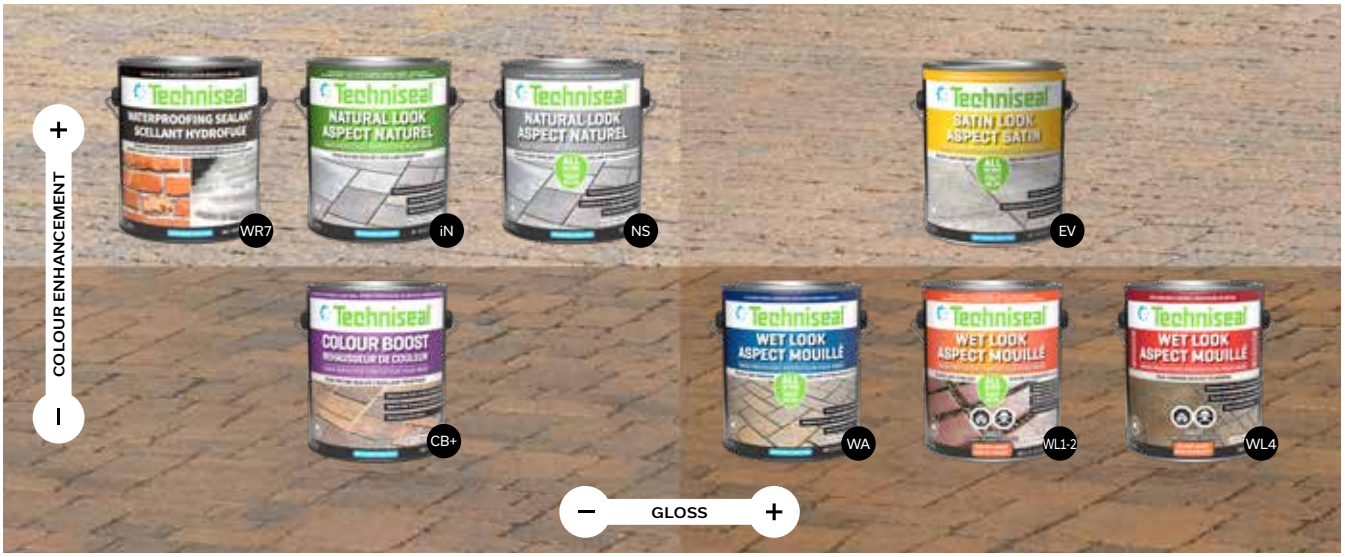
IMPORTANT

Polymeric sand curing time after installation: 30 days

Before applying any TECHNISEAL product, remember to always to read the complete directions provided on the label, as well as in the Technical Data Sheet available on techniseal.com

Sealers

Once the surfaces of slabs and pavers have been freshly washed (clean and free of stains, efflorescence, dirt, etc.), it is possible to provide additional surface protection with a sealer. While the use of a sealer is not a necessity, its application facilitates stain removal and reduces contaminant accumulation. We recommend Techniseal sealers, which are divided into 4 categories of appearance and finishes:



	Protector	Water-based or solvent-based	Film forming or Penetrating	All-in-one sealant and joint stabilizer	Ideal for	Finish	Code
3	iN Natural look	Water-based	Penetrating		Concrete, clay and wet-cast pavers, poured concrete and natural stone	Matte	3.78 L : 60102138 18.93 L : 60301877
	NS Natural look	Water-based	Film forming	ALL IN ONE	Concrete pavers and aggregates	Matte	3.78 L : 60301581 18.93 L : 60101191
	EV Satin look	Water-based	Film forming	ALL IN ONE	Concrete pavers and aggregates	Satin	3.78 L : 60301873 18.93 L : 60102099
	CB+ Colour boost	Water-based	Penetrating		Concrete pavers and natural stone	Matte with colour enhancement	3.78 L : 60301582 18.93 L : 60301583
	WA Wet look	Water-based	Film forming	ALL IN ONE	Concrete pavers and aggregates	Matte with colour enhancement	3.78 L : 60300163 18.93 L : 60300158
	WL1-2 Wet look	Solvent-based	Film forming	ALL IN ONE	Concrete and wet-cast pavers, natural stone and aggregates	Matte with colour enhancement	3.78 L : 60102173 18.93 L : 60102172
	WL4 Wet look	Solvent-based	Film forming		Concrete pavers	Matte with colour enhancement	3.78 L : 60102104 18.93 L : 60102102
	WR7 Water proofing	Water-based	Penetrating		Horizontal and vertical, brick and concrete surfaces	Matte	3.78 L : 60102144 18.93 L : 60102143

Polymeric Sand

HP NextGel and SmartSand are offered in **Tan** or **Grey** by Permacon. Other colours are available; to learn more visit Techniseal's official website at techniseal.com

SMARTSAND® with NextGel™ TECHNOLOGY

> Ideal for residential projects, requires mechanical compaction
> Designed for optimal jointing of interlocking pavers
> Ideal for narrow joints 1/16" - 1" wide
> For pedestrian and low-traffic areas such as driveways, walkways, patios, etc.



TAN



HP NextGel

> For residential, commercial, industrial and public projects where mechanical compaction is possible and/or mandatory
> Ideal for concrete, wet-cast, textured or clay pavers and porcelain tiles (only if mechanical compaction is possible)
> For false joints
> Ideal for joints 1/16"- 2" wide
> For high-humidity areas, heavy-sloped and high-traffic areas



GREY



Questions?

If in doubt, do not hesitate to contact our certified technical support team. Available Monday to Thursday 8 a.m. to 5 p.m. (EST), and Friday 8 a.m. to 4 p.m. (EST). To contact our team:

> Call 1 800 465-7325
> Send an email to service@techniseal.com
> Visit techniseal.com and fill out the form in the SUPPORT section

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Efflorescence

It is possible that a whitish residue, commonly called efflorescence, may appear on some products (slabs, paving stones, low walls) upon installation. Efflorescence may also appear 12 to 18 months after installation. This is a normal occurrence caused by crystalline deposits of soluble salts, which are the result of water evaporating on the product's surface. This phenomenon occurs regardless of the concrete product manufacturer and does not affect structural integrity. Cleanable in the vast majority of cases, efflorescence typically disappears by itself over time.

For slabs and pavers, the optimal waiting period before washing is 12 to 18 months in order to allow the efflorescence phenomenon to continue its natural process. This recommendation is intended to prevent efflorescence from reappearing soon after washing. However, cleaning can be performed earlier if necessary. Techniseal recommends a waiting period of at least 30 days post-installation to allow time for the polymeric sand inside the joints to cure properly.

TIP

Before taking any direct action to counter efflorescence, we recommend that you consult an expert to ensure that the phenomenon is properly identified. Read and follow the manufacturer's recommendations regarding the efflorescence cleaner before proceeding. It is strongly recommended to test the product on excess pieces or on a less visible part of the work in order to ensure satisfactory results. The use of this type of product can cause irrevocable damage to the paving and Permacon cannot be held responsible. Certain types of acids, including muriatic acid, should be avoided. In case of doubt, we recommend that you refer to Techniseal or a qualified and experienced professional.



Retaining Walls

A retaining wall installed according to the rules of the trade should require little maintenance. At the beginning of spring, we suggest verifying the solidity of the capping units and steps connected to the retaining walls. If certain elements appear less secure, we suggest that they be reinforced with an adhesive designed for this purpose, such as Structure Bond by Techniseal. For optimal use of this product, read and follow the manufacturer's instructions before proceeding. In the event of organic stains or efflorescence, we recommend using the same maintenance products as for slabs and pavers.

Frequently Asked Questions

Can a damaged concrete paver be replaced?

Yes, as long as you have kept a few extra pavers from the initial installation. To replace a paver, remove the sand joint that surrounds it. Next, remove the paver with two screwdrivers and replace it with the new one. Fill the joint with sand and compact it with a rubber mallet.

Do I need to seal my pavers?

Applying a sealer is not necessary since Permacon pavers and slabs are designed to resist the elements. Sealers are designed to facilitate maintenance, with some even capable of enhancing colors. The use of a sealer is therefore a matter of personal preference.

What steps do I need to follow if I want to seal my pavers and slabs?

We recommend the following steps:

STEP 1 – Follow the steps described in the *Preventive Maintenance – Spring* section

STEP 2 – Refer to the *Sealers* section

What should I do about stains on my concrete pavers?

1. Identify the type(s) of stains that must be removed

2. Choose the right tools. Refer to the section below or to the *Maintenance Products* section.

Visit www.techniseal.com in case of doubt or for additional information regarding maintenance products. It is also recommended to directly consult a Techniseal specialist.

3. Once you have selected the appropriate product(s), follow the steps described in the *Cleaning* section

Which Techniseal product do you recommend for the following types of stains?

> Stains from barbecue grill grease – sealed surfaces and fresh stains: **Dirt and Grease Cleaner**

> Stains from barbecue grill grease – older, penetrated stains : **Pro-Grade Dirt and Grease Stain Remover**

> Cleaning efflorescence: **HD Paver Prep**

> Cleaning whitish film: **Paver Restorer**

> Removing paint, tar, tire marks, chewing gum, or caulk: **Paint, Tar and Rubber Stain Remover**

> Remove rust, or fertilizer stains: **Rust Stain Remover**

> Clean and remove organic moss, black lichen-like stains, dead leaves, grass, mud, soil, cedar mulch, creosote, wine, non-greasy food, and bird droppings: **Organic Stain Cleaner**

> Remove mortar: **Paver Restorer**

Where can I procure Techniseal products?

Please refer to the locator tool to find your nearest Techniseal retailer: techniseal.com/locator

I have questions about polymer sands, cleaning products and sealers. Who should I contact?

We recommend that you consult www.techniseal.com or communicate with a Techniseal specialist.

I have questions about Permacon products. Where should I call?

In order to be directed to the right department, please contact our customer service at 1 888 737-6226 or visit the following web address: Contact Us

What is Permacon's warranty policy?

In order to be directed to the right department, please contact our customer service at 1 888 737-6226 or visit the following web address: Warranty

Landscaping work has recently been completed and I can see a whitish film on the paving stones. What can I do about it?

There are a few potential answers to this question, but here are the typical causes:

> In high humidity and heavy rain, it is possible to see efflorescence appear on concrete. This is a natural phenomenon that does not affect the integrity of the product. For more information, consult the *Efflorescence* section.

> The appearance of a whitish film is mainly caused by the polymer within the sand. When water accumulates on pavers, it is possible for certain additives to rise to the surface and leave a whitish film. In such a case, we recommend using the HD Paver Prep product as needed. Refer to page 8 before proceeding.

Once the installation of polymeric sand is completed, we recommend a period of 30 days before proceeding to wash any surfaces. This will allow the polymeric sand joints to fully cure and harden, preventing them from weakening or dislodging during a wash.



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PERMACON WARRANTY
50
YEARS
PERMACON WARRANTY

To reach Customer Service:
1-888-737-6226 or permacon.ca

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