



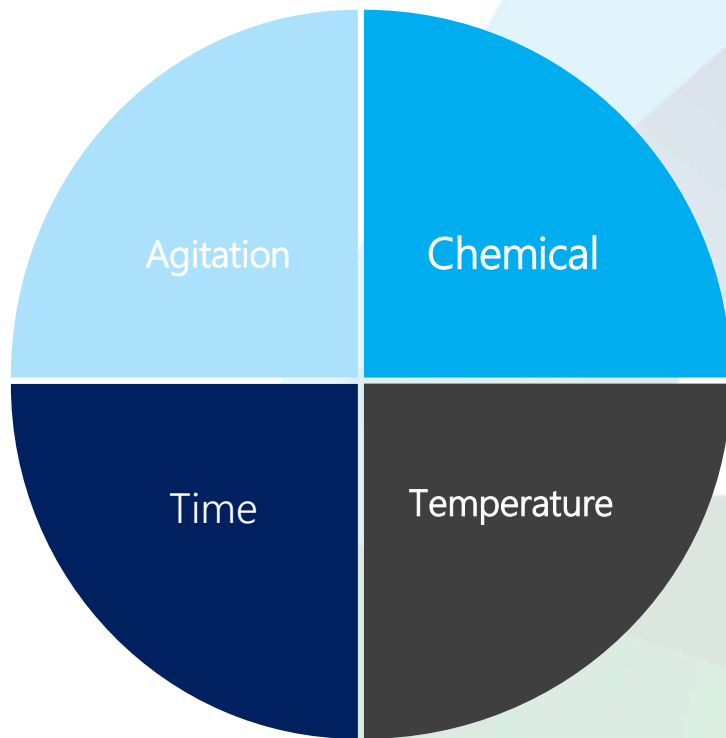
## The Chemistry of Cleaning

A brief overview of the dynamics  
and chemistry of cleaning

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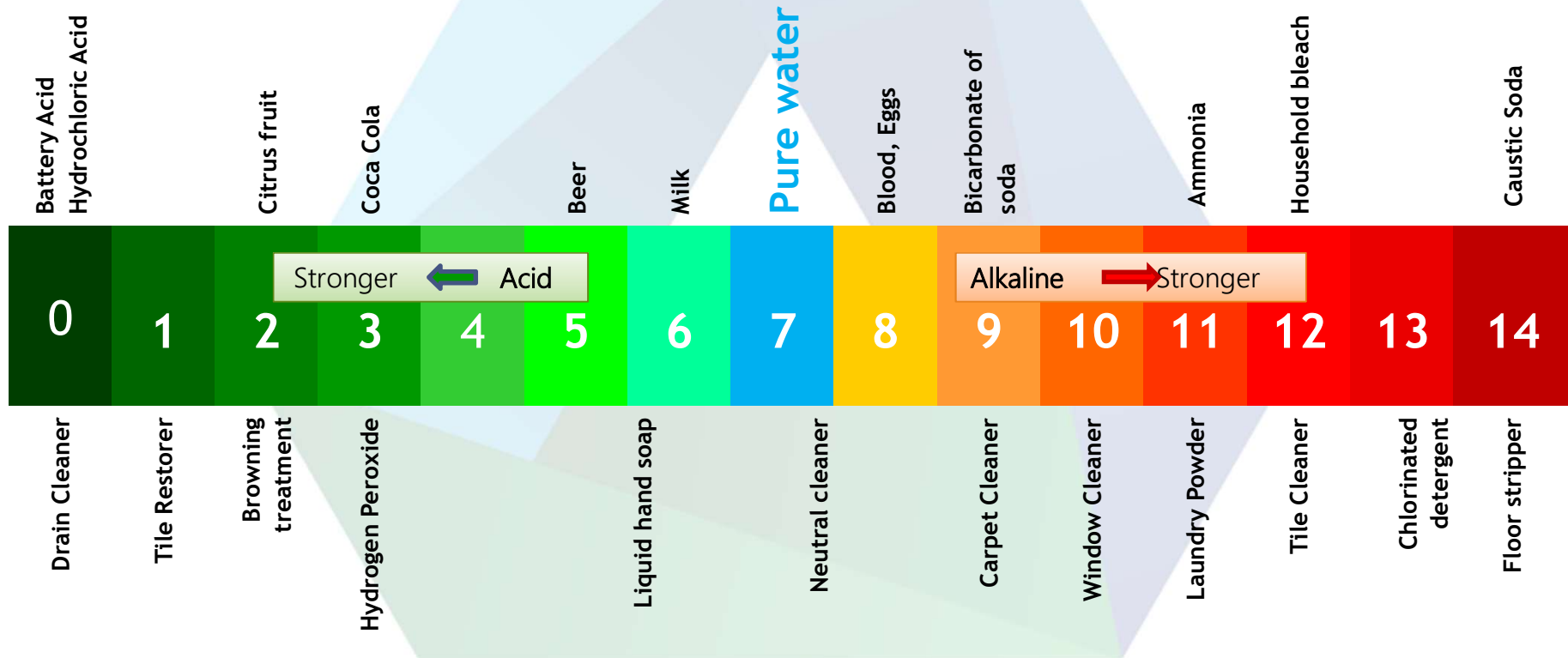
# What it Takes to Clean

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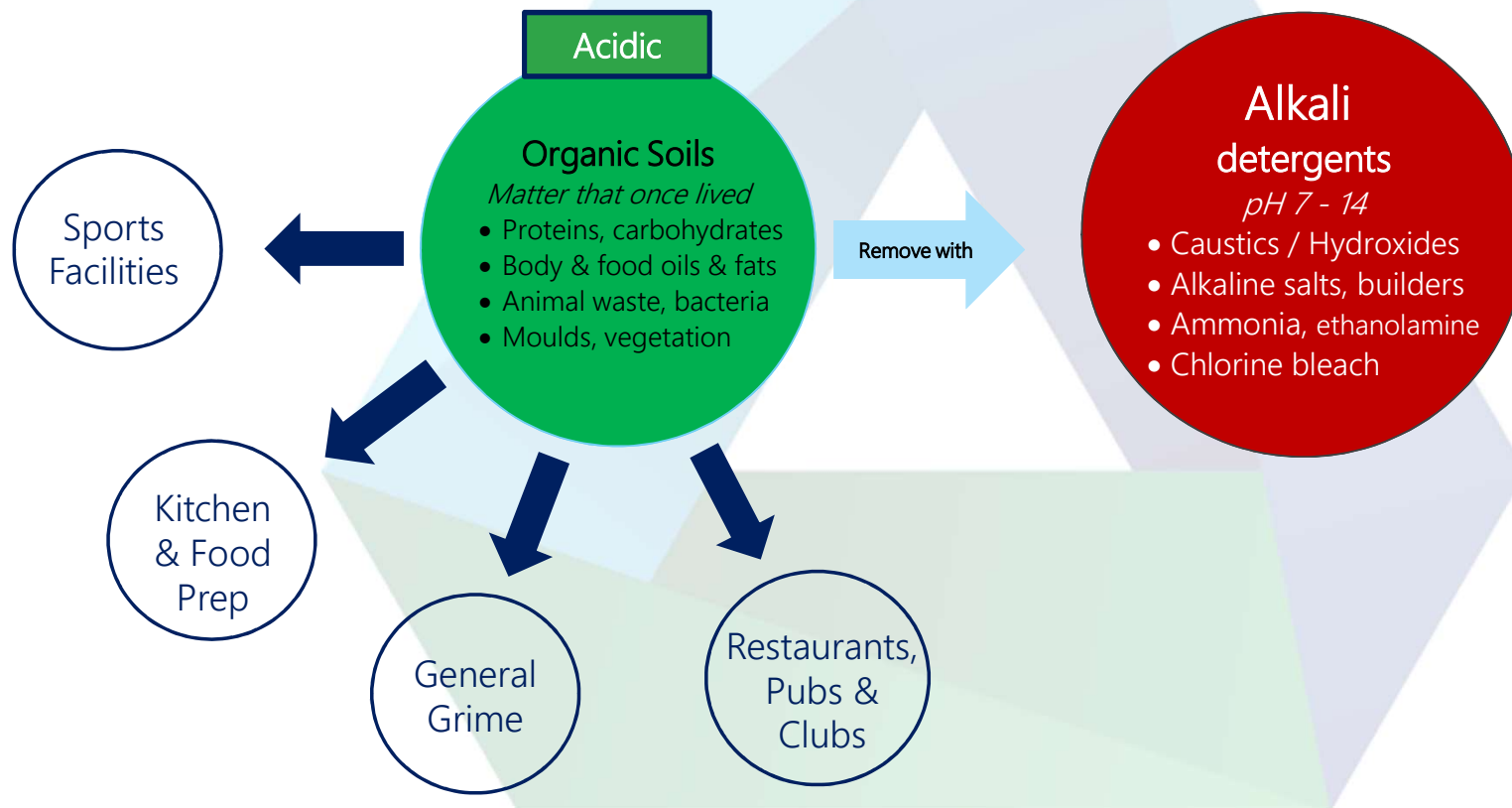


All four  
components are  
needed for  
effective cleaning.

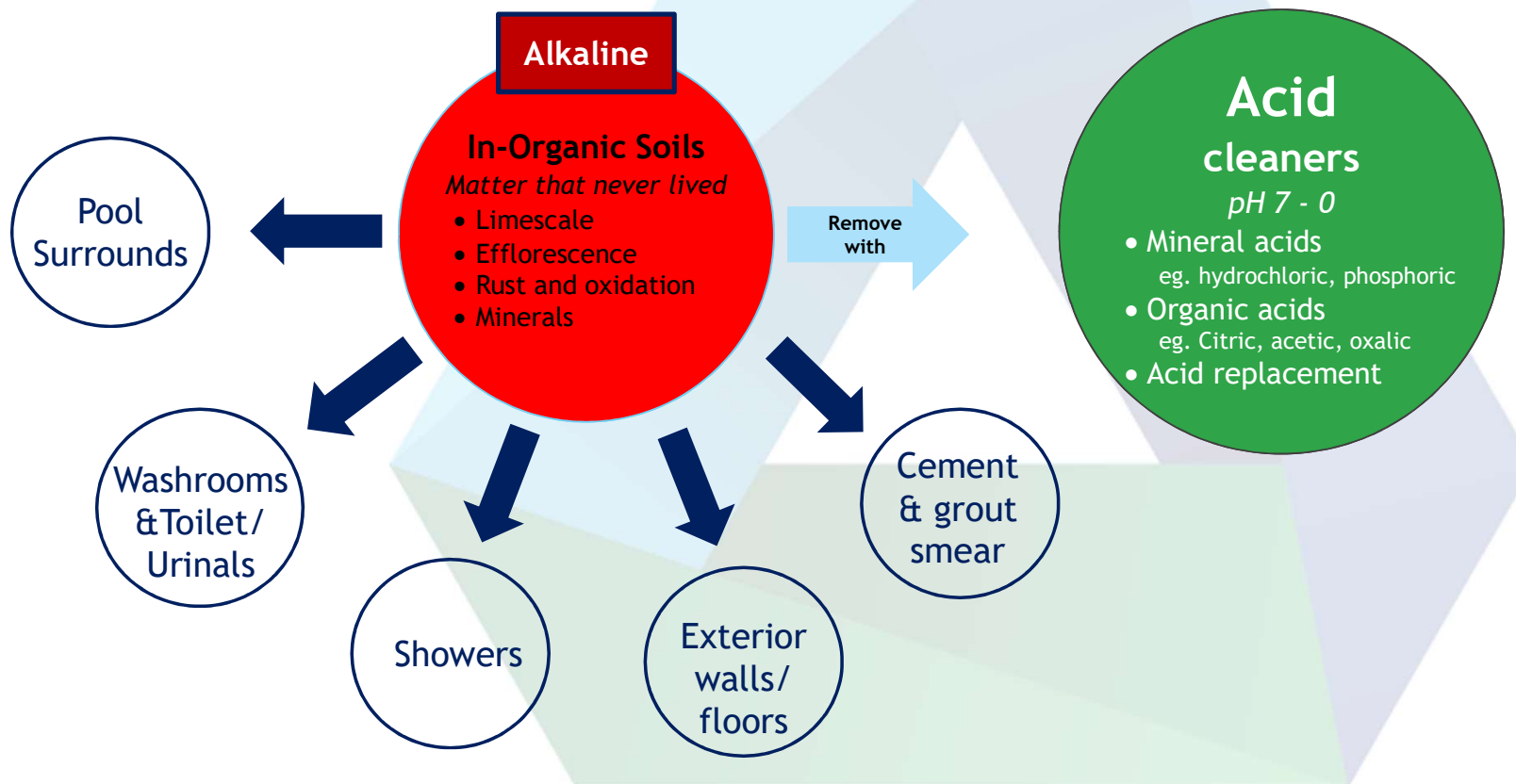
# pH – The pH Scale



# pH Understanding acids and alkalis

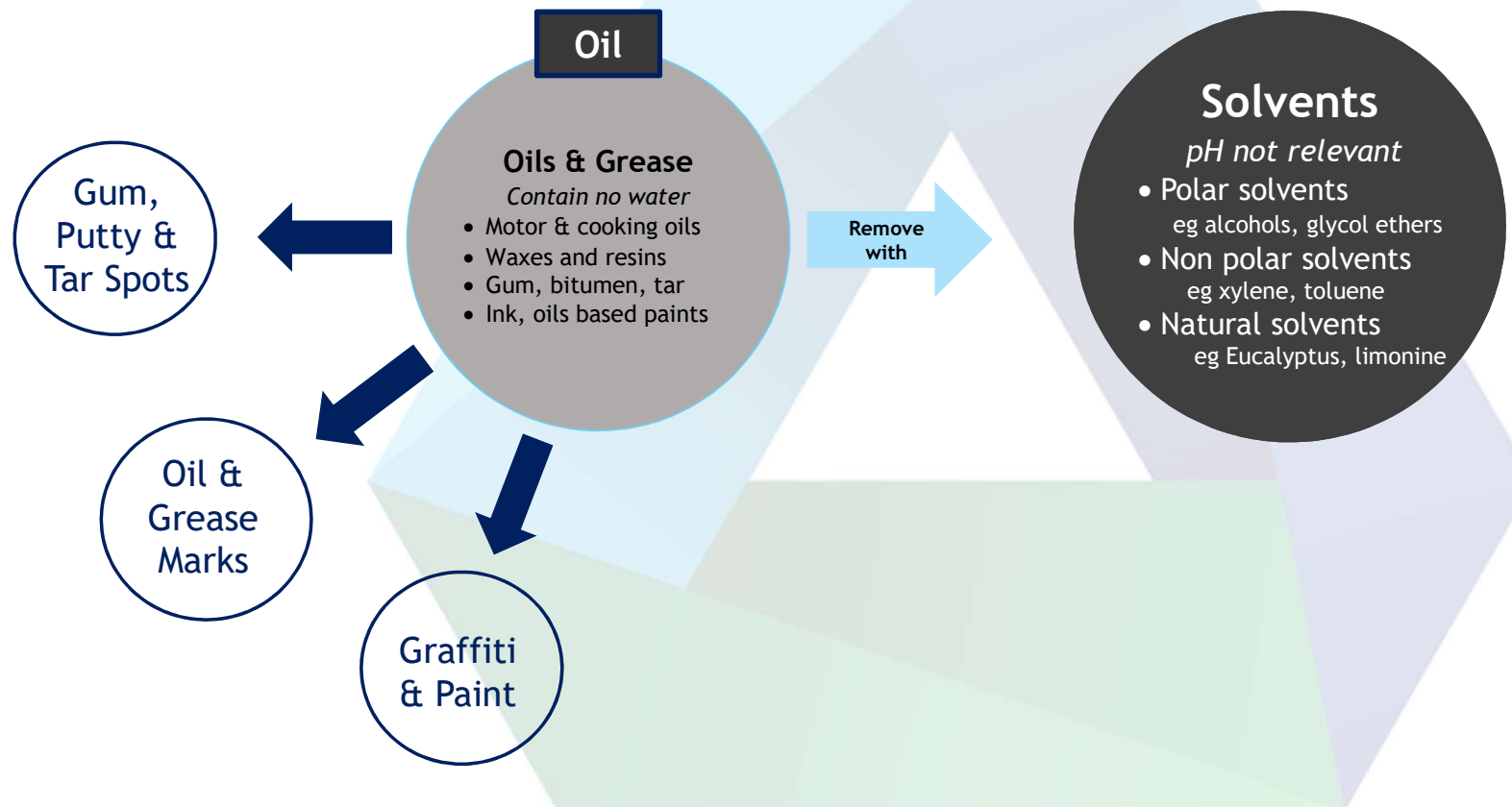


# pH Understanding acids and alkalis



# pH Understanding acids and alkalis

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# pH Understanding acids and alkalis

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## Urine

Urine is organic but pH changes to alkaline  
alkaline → remove with acid

## Wet area cleaning




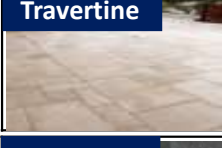
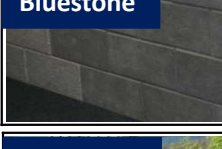
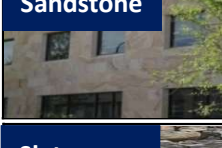

Showers, aquatic pool surrounds contain inorganic salts  
and organic body fats  
Acid & alkaline components → dual cleaning  
required

## Precleaned tiles





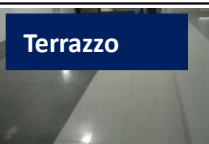


Ceramic & porcelain tiles are often layered with detergent  
residue  
alkaline → restore with acid



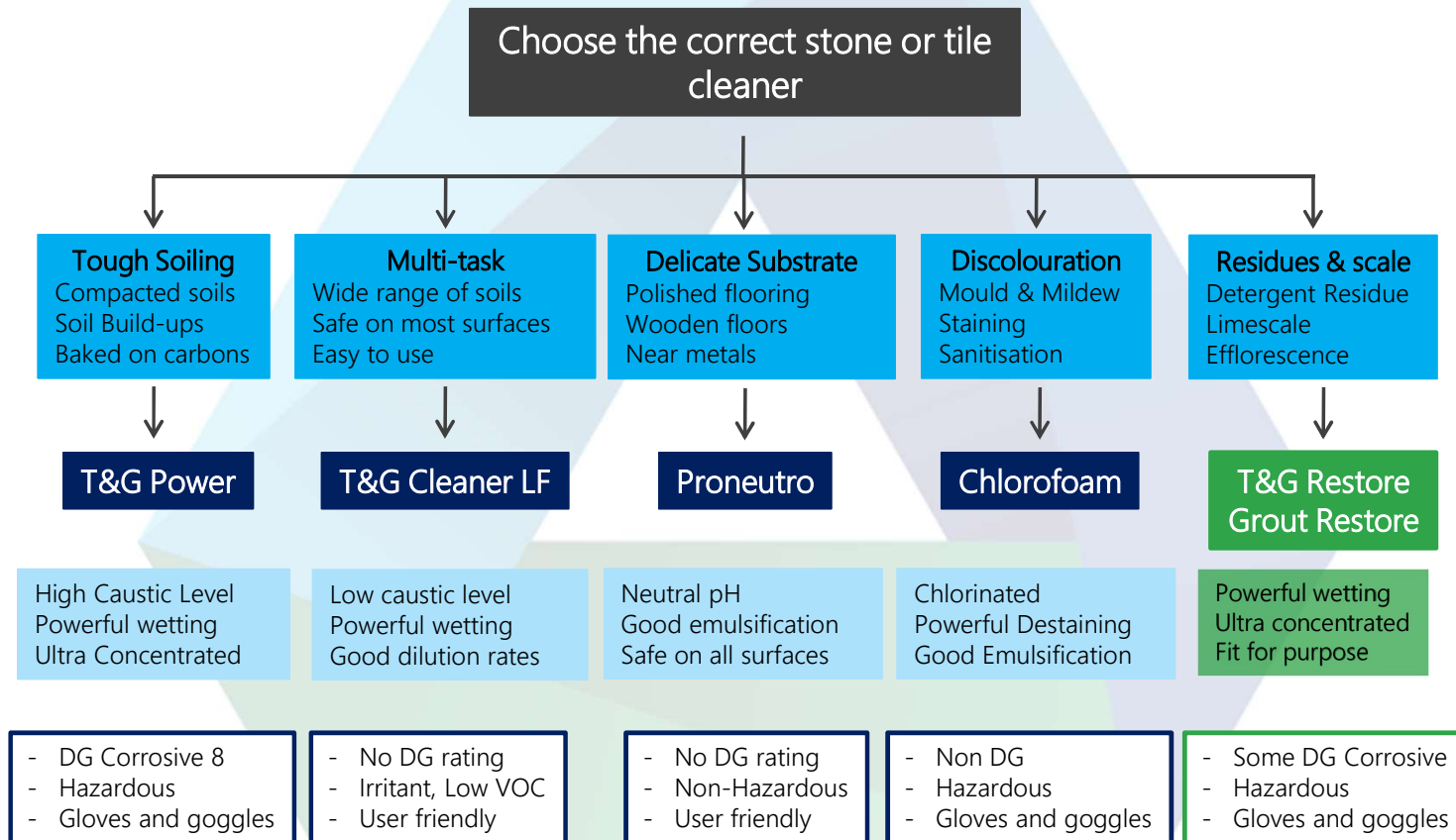
# Identification of Stone and Tiles

	Type and Identification	Typical Finishes	Typical Applications	Compatibility		Special notes	Sealing
				Acids	Alkalis		
 <b>Granite</b>	<b>Granite</b> is very hard stone with a grainy appearance.	Polished Honed Exfoliated (flamed) Sandblasted Sawn	Internal and external flooring, Benchtops, Building facades, Paving	✓  Pretest. Do not use on honed or polished.	✓✓  	Granite is an Igneous stone Granite has low porosity. Absorption is 0.02-0.4%.	Responds best to solvent borne sealers. Low solids sealer best for polished granite.
 <b>Marble</b>	<b>Marble</b> is a porous stone with a fine grainy appearance & distinct veins.	Polished Honed Sawn Tumbled	Internal flooring, Benchtops, Feature walls, Building facades, Washrooms	✗  Never use any acid on marble.	✓✓  Avoid heavy caustic detergents.	Marble is a Metamorphic stone. Marble has fair porosity. Absorption is 0.06-1.0%.	Solvent or water borne sealers. Low solids sealer best for polished marble.
 <b>Limestone</b>	<b>Limestone</b> is a soft and porous stone with a very fine grainy appearance often with visible fossils.	Polished Honed Sawn Tumbled	Internal flooring, Feature walls, Washrooms	✗  Never use any acid on limestone	✓✓  Avoid heavy caustic detergents.	Limestone is a Sedimentary stone. Limestone has high porosity. Absorption is 0.5-20.0%.	Solvent or water borne sealers. Water borne best for very porous limestone.
 <b>Travertine</b>	<b>Travertine</b> is a porous stone. Naturally has open pits in the surface which are sometimes filled and honed.	Polished Honed Filled and honed Sawn Tumbled	Internal flooring, External flooring, Pool surrounds, Paving, Feature walls, Washrooms	✗  Never use any acid on travertine	✓✓  Avoid heavy caustic detergents.	Travertine is a sedimentary stone. Travertine has fair porosity. Absorption is 0.1-2.5%.	Solvent or water borne sealers. Low solids sealer best for polished travertine.
 <b>Bluestone</b>	<b>Bluestone</b> is a durable porous stone with grey-blue tones often with open pits and pores.	Semi - polished Honed Sawn Exfoliated (flamed) Sandblasted	External flooring, Construction, Pool surrounds, Paving, Feature walls	✓  Pretest. Do not use on honed or polished	✓✓  	Bluestone is an Igneous stone. It is also called Basalt. Bluestone has fair porosity. Absorption is 1-2%.	Solvent or water borne sealers. Water borne best for very porous bluestone.
 <b>Sandstone</b>	<b>Sandstone</b> is an extremely porous stone with a gritty appearance. Mostly found in tan/cream colouring or brown/grey.	Honed Sawn Split faced Sandblasted Tool worked	External flooring, Landscape walling, Construction, Pool surrounds, Paving, Feature walls	✓  Pretest. Rinse and neutralise.	✓✓  	Sandstone is a sedimentary stone. Bluestone has high porosity. Absorption is 1-20%.	Solvent or water borne sealers. Water borne best for very porous sandstone.
 <b>Slate</b>	<b>Slate</b> is a porous stone with a rough split-face finish. Honed finishes are also available. Mostly are grey or tan/red.	Honed Sawn Split faced Tumbled	External flooring, Internal flooring, Landscape walling, Pool surrounds, Paving, Stack stone	✓  Pretest. Do not use on honed slate.	✓✓  	Slate is a metamorphic stone. Slate has fair porosity. Absorption is 0.1-0.5%.	Solvent or water borne sealers. Slate flooring often sealed with topical sealers.



	Type and Identification	Typical Finishes	Typical Applications	Compatibility		Special notes	Sealing
				Acids	Alkalis		
 <b>Ceramic</b>	<b>Ceramic tiles</b> are made from clay pressed and fired at lower levels than porcelain. They are always glazed.	Glazed Wide range of colours and patterns. Colour limited to the surface. Not rectified	Mainly internal. Often in bathrooms and kitchens. Too slippery for external applications	✓  Not Hydrochloric or Fluorine acid	✓✓	Absorption is nil.	They cannot be sealed.
 <b>Vitrified</b>	<b>Vitrified</b> tiles are contain more silica than ceramic tiles and are fired at higher temperatures, making them virtually non-porous	Glazed or unglazed. Anti-slip surfaces. Wide range of colours Colour throughout tile body.	Internal flooring & wall External flooring & wall Commercial and domestic areas	✓  Not Hydrochloric or Fluorine acid	✓✓	Absorption is very low.	No sealing required
 <b>Porcelain</b>	<b>Porcelain</b> tiles are made from fine china clay. They are pressed and fired at extremely high temperatures.	Glazed Polished Unpolished Textured Anti-slip surfaces	Internal flooring & wall External flooring & wall Commercial and domestic areas	✓  Not Hydrochloric or Fluorine acid	✓✓	Absorption is negligible on unpolished porcelain and low on polished porcelain	Only seal polished porcelain with purpose built solvent sealer.
 <b>Terracotta</b>	<b>Terracotta</b> is a porous tile made from earthy clay baked not fired. Characterised by earthy browns and reds	Normally a dull non-smooth surface which is mostly also slightly undulating. Often has irregular edges.	Internal flooring & wall External flooring & wall Often used for balconies and walkways.	✓  Can be discoloured by acid. Pretest.	✓✓	Terracotta is a very porous tile.	Topical sealer + floor finish. Solvent or water based impregnating sealer.
 <b>Terrazzo</b>	<b>Terrazzo</b> is an agglomerate tile made of marble chips set in cementitious base which is then cut and polished.	Semi - polished	Commercial flooring Changeroom partitioning	✗  Do not use any acids	✓✓	Terrazzo is a moderately porous tile.	Topical sealer + floor finish.Solvent or water based impregnating sealer for vertical partitions
 <b>Clay</b>	<b>Clay</b> is a specific clay which is moulded and baked. Normally used for paving and pottery.	Semi-smooth.	External flooring, walkways, roads	✓  Can be discoloured by acid. Pretest.	✓✓	Clay is a moderately porous substrate.	Solvent or water borne sealers.
 <b>Concrete</b>	<b>Concrete</b> and cement products are composed of stone aggregate and clean sand bonded together with lime based cement	Wood float Smooth steel float Honed & polished Textured	External flooring, Internal flooring, Driveways, walways, roads. Structure	✓  Can be discoloured by acid. Pretest.	✓✓	Concrete is a very porous substrate. Concrete is alkaline and reacts with acids. Only use acid if necessary.	Solvent or water borne sealers. Concrete often sealed with topical sealers.

# Choosing the correct tile & stone cleaner



# Choosing the correct Tile & Stone Cleaner

Product	Dilution	pH	Stone & Tile Types				Notes	
			Granite	Marble & Fine Stone	Sandstone & Bluestone	Porcelain & Ceramics		
Cleaning & Restoration Solutions								
AP167 T&G Cleaner LF	1:10 / 1:200	alkaline	✓✓	✓✓	✓✓	✓✓	excellent all-rounder	Greasy grime. Kitchens and workshops. Also excellent maintenance cleaner for high traffic areas
AP163 T&G Power	1:20 – 1:50	alkaline	✓✓	✓✓	✓✓	✓✓	Radical degreasing cleaner	For grime build-ups, kitchens, industry & food factories. CORROSIVE 8
AP160 T&G Restore	1:10	acid	×	×	✓	✓✓	excellent all-rounder	Restoration of washrooms, bathrooms and porcelain & ceramic tiles.
AP159 Grout Restore 60	1:10	acid	×	×	✓	✓✓	60% Phosphoric acid cleaner	Ideal for grout smear, limescale, efflorescence and rust. CORROSIVE 8
AP161 Grout Restore 20	1:4	acid	×	×	✓	✓✓	20% Phosphoric acid cleaner	Ideal for grout smear, limescale, efflorescence & rust. Non corrosive.
AP662 Proneutro	1:100 – 1:200	neutral	✓✓	✓✓	✓✓	✓✓	maintenance cleaner	Ideal for maintenance cleaning of fine stone, porcelain and ceramics.
AP720 Chlorosan	Up to 1:30	alkaline	✓✓	✓✓	✓✓	✓✓	Chlorinated detergent	Use for removing mould, mildew and stains.
Specialty Products and Problem Solvers								
AP152 T&G Cream	Ready-to-use	n/a	✓✓	✓✓	✓✓	✓✓	Citrus solvent based cream	Ideal for paints spots, wax films, bitumen, tar, gum and deep set grime.
AP168 Stone Gel Pro	Ready-to-use	alkaline	✓✓	✓✓	✓✓	✓✓	Specially for fine stone	Use for fine stone in bathrooms and kitchens.
AP151 Actisorb	Ready-to-use	alkaline	✓✓	✓✓	✓✓	✓✓	Professional poultice powder	For removing oil and other stains from porous stone, grout and concrete.

# Choosing the correct Tile & Stone Sealer

## Penetrating Sealers

### Choose the correct stone or tile sealer

#### Organic staining

- Inhibit plant material stains
- Inhibit mould & mildew.
- Inhibit pollution discoloration

#### Water contaminants

- Inhibit efflorescence
- Prevent salt attack, spalling and stone degradation

#### Oily stains

- Food & beverages
- General grime
- Body oils & fats

#### Solvent Based

Better penetration in dense substrates.  
Better performance in some applications.

#### Water Based

Safe to use  
Environmentally friendly  
Non-flammable  
Often lower cost

Defender SV

Defender SV

Defender WB

Defender WB Gold

Solv Sealer Pro

Solv Sealer Gold

T&G Sealer Pro

Stone Sealer Gold

# Choosing the correct Tile & Stone Sealer

## Topical Sealers

**Tile & Fine Stone**

- Terracotta, quarry, slate
- Polished concrete
- Terrazzo
- Granite, Marble
- Limestone, Travertine

**Synthetic**

- Vinyl
- Linoleum

**Floor Preparation**

Removal of old polish, wax and resins

**Instastrip Powerstrip**

**Instastrip**

**Sealer / Polish**

Offices  
Retail / Shops  
Institutions

**Instaseal**  
- Base bonding coat  
**Instagloss**  
- Gloss and repairability

x 2 x 3

**Instagloss**  
- Gloss and repairability

x 4

**Floor Maintenance**

Cleaning,  
repair and  
gloss

**Proneutro**  
- Daily cleaning  
**Instabuff Super**  
- Gloss and repair

**Proneutro**  
- Daily cleaning  
**Instabuff Super**  
- Gloss and repair