

Considerations When Selecting a Sustainable Drainage Provider

INTRODUCTION

Amidst the rapidly expanding local and global construction sectors, sustainability is a key concern. Architects and specifiers must navigate a tricky terrain of mandatory regulation and compliance hurdles, coupled with growing social pressure and, importantly, their own drive to make a positive impact on the world.

With growing numbers of home buyers and renters concerned about the sustainability credentials of their dwellings¹, and increasingly willing to pay more for sustainable residences², the writing is on the wall. Architects and specifiers continue to rise to the challenges of increasingly sustainable architecture and now lead the charge with ever-more innovative solutions.

Within the context of residential architecture, efficient and environmentally-friendly drainage is a paramount concern if the project is to perform as sustainably as possible. For architects, building and maintaining relationships with trusted drainage suppliers is one of the easiest and most effective ways to guarantee that the most sustainable solutions are being specified and that the products themselves perform as suggested. There are many ways for suppliers to prove their sustainability credentials, however it's important to know what to look out for in order to avoid greenwashing and substandard solutions.

This whitepaper will provide a detailed overview of factors for consideration by architects and specifiers when choosing a renowned, industry-leading drainage supplier to deliver effective sustainable drainage solutions.

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SUSTAINABLE DRAIN MATERIAL CHOICES

Stainless steel

Marine-grade stainless steel is a hardwearing and fully recyclable material, perfect for drainage grates. 316 grade drain grates do not decay, and are serviceable and reusable for thousands of years, when properly treated and recycled. The treatment of marine-grade stainless steel makes it corrosion-resistant and therefore longer lasting in high-moisture environments such as near pools, high-salt environments near the coast, or environments with highly acidic or basic soil. Furthermore, new stainless steel composition regularly includes upwards of 50% existing stainless steel products.³

While the ideal end-of-life scenario would be for all stainless steel to be properly recycled, the reality is that some will make its way to landfill. The coating on stainless steel has low toxicity and will therefore have few - if any - adverse reactions on the environment due to degradation in landfill, adding to its sustainability profile.

PVC

PVC is an ideal material for drainage channel construction. As a polymer, there are environmental issues inherent in its production that are impossible to avoid, however through careful consideration and responsible product stewardship, they can be mitigated - something that will be expanded upon later in this whitepaper.

As a drain material, PVC's lifespan is extensive - the material should retain 20% of its initial impact resistance after 80 years, and still be serviceable past that time. It doesn't rust or degrade over time and is resistant to both acid and alkaline soil types. This means that any PVC drain channels will rarely have to be replaced due to deterioration, making it an incredibly sustainable material from a whole-of-lifecycle perspective. Furthermore, PVC is fully recyclable and top-tier drain manufacturers should offer point-of-purchase recycling initiatives to facilitate this.

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CERTIFICATION

One of the most effective and time efficient ways to determine whether a drainage supplier is truly committed to sustainability is to assess the voluntary product certifications their products and business have earned. Voluntary certification schemes show that not only is a supplier designing their products to high sustainability standards, but that they are willing to dedicate time and effort to proving that performance under rigorous testing. Some of the key certifications are explained below.

Global GreenTag

Global GreenTag certifications assist consumers to source sustainable drainage systems based on trustworthy environmental credentials. They also enable designers and specifiers requiring certified products for projects involved in the Green Building Council of Australia Green Star rating system to quickly and easily determine how that particular product will fit within the project's overall Green Star rating.

Global GreenTag PHD

The Global GreenTag Product Health Declaration (PHD) is the first of its kind in the world; a certification tool that recognises manufacturers who fully disclose the toxicity information of their products with 100 percent transparency. The GreenTag PHD then provides a GreenTag HealthRATE™ mark, which clearly communicates for manufacturers, industry and consumers a measurement of the varying levels of healthiness of their products as well.

At all turns, architects and specifiers should opt for products that have achieved the highest possible level of GreenTag HealthRate certification - Platinum. The Platinum tag indicates a 'world-leading' profile, based on comparison against scientific information and a peer-

reviewed risk assessment from toxicologists. Not only does specifying Platinum rated products ensure that designers and specifiers are selecting the products with the lowest material toxicity, it provides added incentives for supplier businesses to continue earning these voluntary certifications.

Global GreenTag LCARate

LCARate is a rigorous Life Cycle Analysis-based rating system that allows environmentally-conscious product manufacturers to have their products' achievements in cradle-to-grave sustainability outcomes recognised. The certification requires manufacturers to submit a full disclosure of materials used in manufacture to be assessed. This allows every stage of the product lifecycle to be scrutinised by third-party assessors from raw material extraction, processing and transport to product manufacturer, packaging, in use cleaning and maintenance, replacements and end of life disposal and recycling.

PVC Stewardship

Due to its high durability and inability to rust, PVC is an excellent material for drains. However, due to both its chemical makeup and manufacturing process, PVC can present challenges when it comes to sustainability. Responsible PVC stewardship is the answer.

The Australian PVC industry administers a voluntary Product Stewardship Program through the Vinyl Council of Australia. By embracing the voluntary commitments made under Product Stewardship Program, drainage suppliers commit to addressing the environmental issues associated with the manufacture, use and disposal of PVC products in Australia.



UNDERSTANDING OF BEST PRACTICES FOR ENVIRONMENTALLY SUSTAINABLE DRAINAGE

Sustainably-designed drainage solutions serve to mimic the natural flow of storm and surface water runoff wherever possible. They are built to decrease the amounts of material debris that is collected, transported, and deposited during heavy downpours. However, in order to achieve the most sustainable outcomes possible, a number of factors must be considered on a case-by-case basis. Drain positioning, installation and build quality all significantly impact the quality of outflows.

One of the guiding frameworks in sustainable drainage design is Water Sensitive Urban Design (WSUD). Sydney Water notes that “WSUD recognises that in natural

environments rainwater is mostly absorbed into the ground, used by plants or evaporates back into the atmosphere. In urban areas, hard surfaces such as roads, roofs, driveways and paths stop water being absorbed by the ground and create what is known as stormwater runoff”.⁴ Experienced suppliers of sustainable residential drainage solutions should be able to discuss with designers and specifiers not only how specific products contribute to WSUD principles, but also to engage in helpful discussion around wider WSUD principles (such as grading or use of permeable paving) to further improve the sustainability profile of a particular project.

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STORMTECH

Stormtech is Australia's leading supplier of sustainable drainage solutions. Stormtech's patented linear drains are functional, durable, and manufactured to the highest environmental standards. Stormtech's commitment to sustainability is evident across its entire product range, marked by a number of achievements.

Sustainability Certification

Globally, Stormtech has obtained Global GreenTag LCARate Gold and Level A GreenRate GreenTag™ certification across every product line, giving designers and specifiers peace of mind as to the products' efficacy and enabling them to make a clear contribution to Green Star rated residences.

More recently, Stormtech achieved GreenTag HealthRate Platinum certification for the Slimline Composite uPVC Channel and Stainless Grate (the G kit range), Slimline Stainless Steel Drainage System Series (the 'I' kit range, MTL, CO, and Custom) and Slot Drain, uPVC products, putting each in the 'world-leading' category. This provides designers, specifiers, and end users with full transparency and verified information regarding the material toxicity of Stormtech drains.

Stormtech drain trenches are manufactured using high quality uPVC, and Stormtech fully acknowledges the sustainability issues arising from use of PVC. By embracing the voluntary commitments made under Product Stewardship Program, Stormtech commits to addressing the environmental issues associated with the manufacture, use and disposal of PVC products in Australia.

To fulfill this commitment, Stormtech assists customers in the responsible disposal of unused PVC channel and fittings as well as stainless steel channel, fittings and grates by receiving these products or part of products, for recycling purposes at their points of purchase. This is a simple, yet effective, means of encouraging responsible handling of Stormtech products by end users, and a way to take ownership of product impacts across the full lifecycle. For more information on Stormtech's voluntary sustainability commitments, check out their website.

Advancing sustainable drain technology

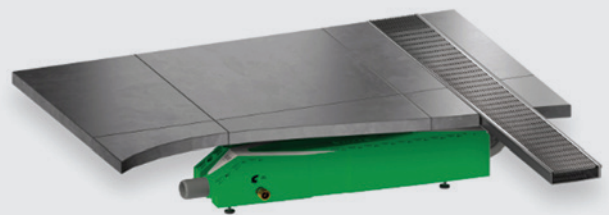
In addition to continuous improvement and investment across its manufacturing processes and products, Stormtech partners with the most advanced drain technology businesses in the world to bring innovative and environmentally-friendly technologies to the local market.

Stormtech has exclusively partnered with Zypho to bring the Zypho iZi system to Australia. The system captures heat from waste shower water as it passes through the drain and transfers it back to the cold-water supply via the shower mixer or water heater. Pre-heating the cold-water supply by up to 15°C, before it even reaches the shower heating system, delivers massive energy savings of up to 30% – simultaneously cutting household energy usage and costs.

The Zypho is Watermark Certified and fully compatible with the complete Stormtech product range and, as Zypho's exclusive Australian partner, Stormtech can assist with integration requirements, site specific needs and installation suitability.



Zypho iZi Product



Zypho iZi In Situ

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