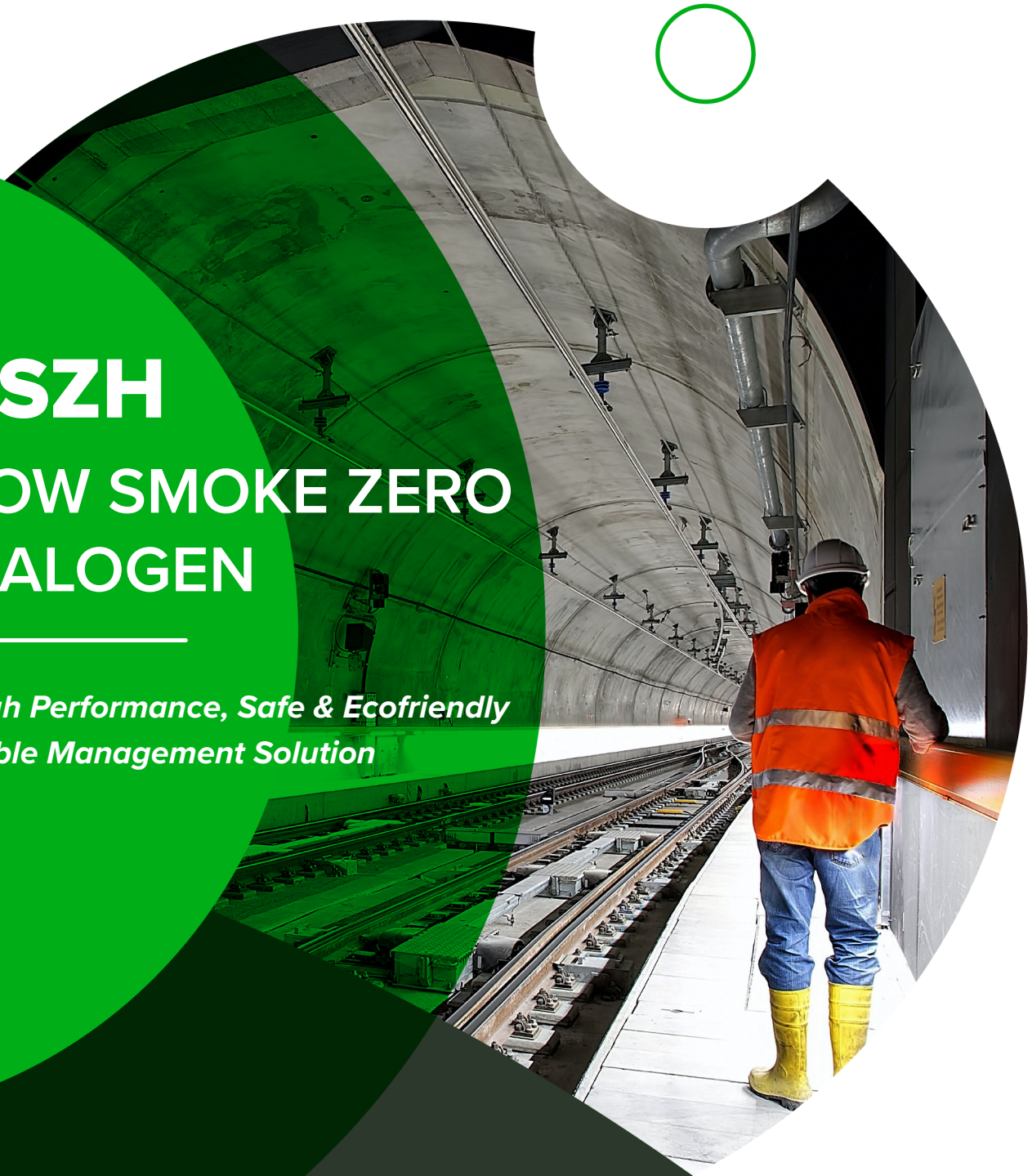
GREENBUILD
SUPPLY



LSZH

LOW SMOKE ZERO HALOGEN

High Performance, Safe & Ecofriendly Cable Management Solution

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Section 1:

Introduction

The realm of construction and infrastructure has steadfastly stood as a testament to human innovation and our ceaseless drive for progress. In its early days, the emphasis was predominantly on building structures renowned for their strength and durability but with growing cognisance about sustainability, environmental conservation and the paramount importance of safety there is a palpable shift in the benchmarks and goals of the construction sector. The contemporary construction narrative is about crafting sustainable and safe environments for future generations. This transformation is epitomised by the rise of ***LSZH (Low Smoke Zero Halogen)*** materials, particularly for electrical cable management and which is not just another material but also symbolises the nexus of modern-day construction ideals where the planet's well-being converges with the safety of its occupants. A significant concern with widely used materials like PVC conduits and fittings (Polyvinyl Chloride) is its environmental and safety implications especially when subjected to fire or heat. PVC combustion can unleash toxic halogenated compounds detrimental to both the environment and living beings and therefore LSZH emerges as a beacon of hope in this context by decisively negating such risks.

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Section 2:

Why LSZH?

In the construction sector, traditional materials used as ***electrical cable management solutions***, particularly PVC (Polyvinyl Chloride), have been widely chosen due to their inherent advantages and cost-effectiveness. But, the accelerating inflation of materials and labour continues to drive up the cost of building and a closer look at both materials PVC and LSZH shows that LSZH has now become the more valuable choice when building new infrastructures by setting a new standard for the industry.

Further, a significant drawback associated with PVC is its response to high temperatures or direct fire exposure. When subjected to such conditions, PVC combusts and discharges toxic halogenated compounds. These emissions not only pose direct health risks to humans, leading to respiratory complications and potential long-term health issues, but also have detrimental effects on the environment. The harmful residues can contaminate water sources, degrade air quality, and contribute to broader environmental degradation.

Recognising these alarming consequences, the industry's focus has shifted towards seeking safer and more environmentally friendly alternatives. With ***LSZH conduits and fittings***, the risks associated with toxic emissions during combustion are drastically reduced. Its design inherently minimises the release of harmful compounds, making it a ***preferred choice for modern applications that prioritise both safety and environmental sustainability.***

Section 3:

Key Material Characteristics

Fire Resistance

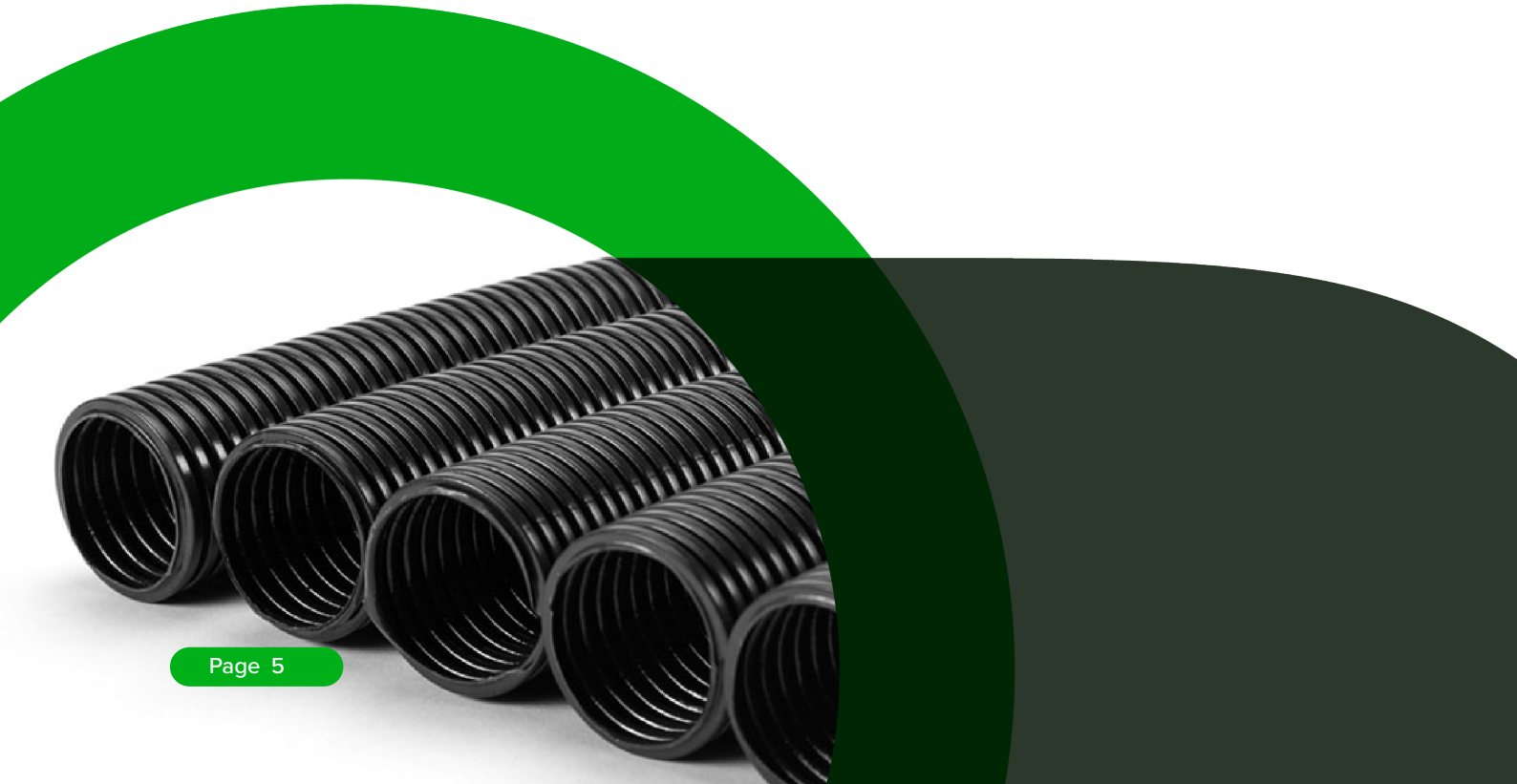
In the vast repertoire of construction materials, LSZH emerges with a suite of distinctive attributes that set it apart. Foremost among these is its fire resistance. The non-flame propagating nature of LSZH conduits is a sentinel against rampant fire spread, offering a fortress of safety.

Broad Temperature Stability

Its broad temperature stability ensures that LSZH remains unyielding across a spectrum of temperatures, bolstering its reliability.

Zero Halogen

The “Zero Halogen Verified” stamp is not just a certification but also a promise of significantly reduced toxic emissions during combustion. When ignited, its light smoke profile means less dense, non-toxic smoke, mitigating inhalation hazards.



Resilience

Additionally, LSZH's resilience ensures there's no material drip under flame, curtailing secondary fire threats.

High Level of Strength

Another advantage lies within its physical properties and high level of strength that ensure great durability, protection and reliable performance in various applications in public spaces over a long time.

UV Resistance

For infrastructures exposed to sunlight, its UV resistance guarantees prolonged durability, while its impact rating testifies to its formidable resistance against physical stresses.

Environmentally Friendly

This material isn't just about strength and safety but also its environmentally friendly nature epitomises the essence of eco-conscious construction.

Green Star Rated

Furthermore, for projects with an eye on green ratings, LSZH's potential Green Star Credits provide a competitive advantage. Particularly in high-traffic zones, LSZH+ stands as a guardian, ensuring that in emergencies, patrons can exit without the menace of toxic smoke.

Section 4:

LSZH in Global and Australian Contexts

The global construction and manufacturing landscape is dotted with the evolution of various materials, each marking its own era. However, occasionally, a material emerges that not only addresses the contemporary challenges but also sets a new standard for the industry. LSZH (Low Smoke Zero Halogen) is one such groundbreaking material, gaining traction worldwide not only for electrical applications. While its attributes have been recognised globally, in Australia, its significance is especially pronounced. Australia's commitment to both safety and environmental sustainability makes LSZH particularly relevant, aligning with the nation's ethos of adopting progressive and eco-conscious solutions. The introduction of LSZH by Greenbuild Supply in the Australian market is not a mere addition to the catalogue of available materials. It signifies a conscious choice driven by the material's unparalleled quality and safety features. ***This confidence in LSZH is further solidified by its selection and approval for a multitude of metropolitan infrastructure projects across the country***. The endorsement of such high-profile projects testifies to LSZH's potential as a key player in shaping Australia's modern construction paradigm.

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Section 5:

Comparative Analysis of PVC and LSZH

Flame Resistance

When navigating the world of construction and electrical insulation materials, two names prominently arise, that is, ***PVC and LSZH***. Each material possesses distinct attributes, giving them specific advantages and limitations.

PVC is widely recognised for its flame-resistant properties due to its chlorine content and is not without its drawbacks. While it stands its ground against fire, once combusted, PVC conduits become a source of toxic halogenated compounds.

Contrarily, **LSZH** is crafted to offer flame resistance without the accompanying release of halogens upon combustion, signifying a more refined and safer approach to fire hazards. Another crucial difference between the two surfaces when subjected to fire.

Release of Smoke & Toxic Emissions

PVC, upon burning, emits a dense, obscuring black smoke, potentially hindering evacuation and rescue efforts. Beyond the immediate visible threats, there's the issue of toxic emissions. Burnt PVC releases hydrochloric acid fumes, a nightmare for both human health and sensitive electronic equipment.

LSZH cable support systems, in stark contrast, emit minimal smoke, ensuring improved visibility and consequently, heightened safety during fire emergencies. LSZH, being conscientiously designed, curtails the production of toxic emissions, thereby minimising risks to both individuals and devices.

Flexibility

In terms of flexibility, **PVC**, though versatile, often requires the addition of plasticizers to achieve the desired flexibility. Over time, these can leach out, compromising the material's integrity.

LSZH, though typically more rigid, can be tailored to desired flexibilities without resorting to potentially harmful additives, ensuring both safety and performance.

Environmental

Environmental factors also come into play.

UV rays can degrade **PVC** unless it undergoes specific stabilisation processes. Furthermore, the environmental footprint of PVC is concerning, as its production and disposal can release dioxins, adding to environmental pollution. Lastly, PVC's cost-effectiveness has made it a staple for a variety of applications, from cable insulation to piping

LSZH naturally exhibits commendable resistance to UV degradation, making it a long-lasting choice for electrical applications under sunlight exposure. LSZH's environmentally-conscious composition ensures a reduced emission of harmful substances, aligning with the modern emphasis on sustainability. LSZH carves a niche for itself in environments where safety and equipment protection take precedence.

LSZH is the material of choice for public areas, spaces with restricted movement, and zones housing sensitive equipment, as it ensures minimised harm during unforeseen incidents.

Section 6:

Greenbuild Current Applications

Greenbuild Supply's enthusiasm is palpable in our involvement with the ***Westgate Tunnel project***, emphasising its role in sculpting the infrastructure of the future.

Another noteworthy collaboration is with CGBU on the ***Cross-River Rail project***, a state-of-the-art 10.2-kilometre rail line originating from Dutton Park.

Simultaneously, Melbourne's urban landscape is experiencing a major transformation, with Greenbuild Supply's contributing significantly to the long-awaited ***Metro Tunnel construction***, a pillar of Victoria's ***"Big Build"***.

Additionally, Greenbuild Supply's expertise is being channelled into the enhancement of the ***Melbourne Underground Rail Line (MURL)***, reaffirming our dedication to modern, safe, and efficient urban transport solutions.

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