Welcome to

Advanced Textiles EXPO®

ORGANIZED BY ATA

Designing Circularity into Technical Coated Textiles

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The problem to solve…

- As an industry, how do we reduce the environmental impact from short-lifespan Technical Coated Fabrics made from non-recyclable material?
- How do we do this without compromising on performance?
- How do we make this more sustainable on an ongoing basis?

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Agenda

- Environmental Challenge with Traditional PVC Coated Fabrics
- Responsible Alternatives to Coated PVC fabrics
- Examples of Applications in Australia, Circularity in Action

Coated PVC's are a composite product

PVC-coated fabrics have many desirable attributes, which is why they are so widely used in our industry.

Key features, and how they are achieved, include:

- High strength and dimensional stability (from the Polyester scrim)
- Good levels of durability (from the PVC coating and surface lacquers)
- High flexibility (derived from plasticizers in the coating)
- Ease of fabrication through HF/RF welding (due to Chlorine branching)

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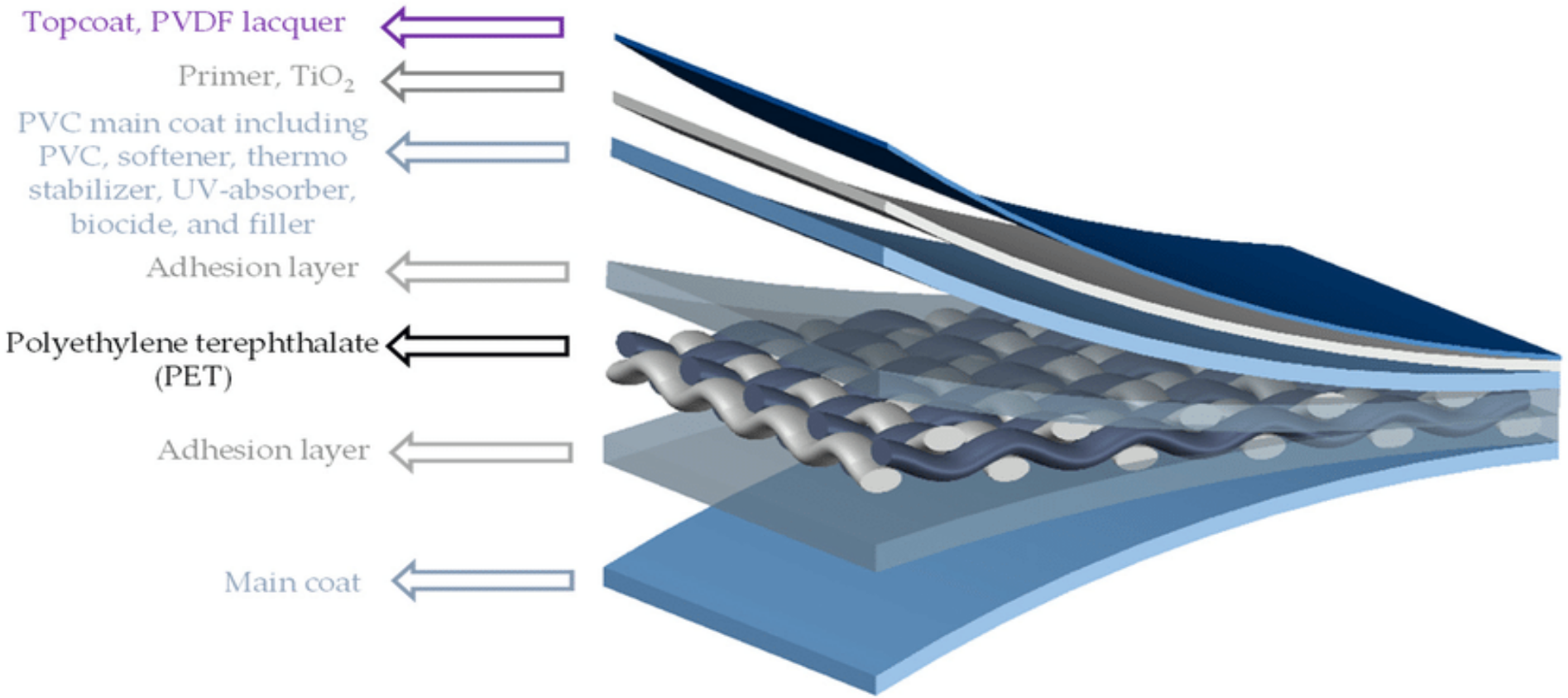
Make-Up of a Composite PVC Fabric Structure



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How to overcome these challenges

Develop and manufacture a coated fabric from a single source polymer – removing the need to separate individual components.

Combining PolyEthylenes (PE) has been widely used in the technical textile market for decades.

- Typically, this will involve blending an HDPE base fiber with an LDPE/LLDPE coating.

Combining PolyPropylenes (PP) is a more recent development. PP based fabrics have aesthetics and flexibility that more closely align with flexible PVC.

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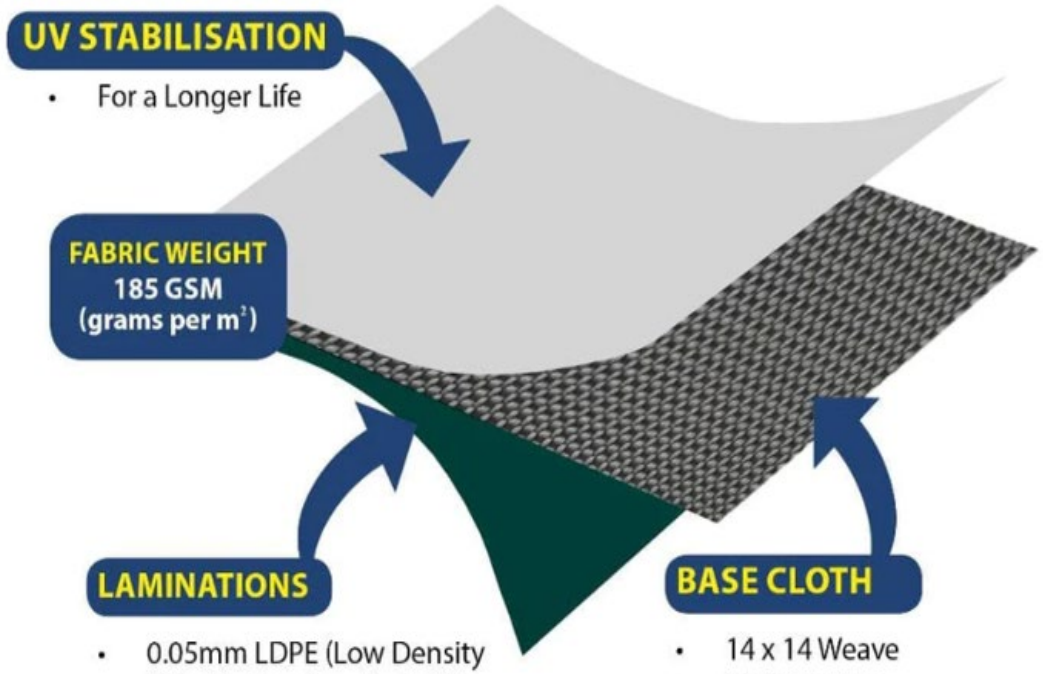
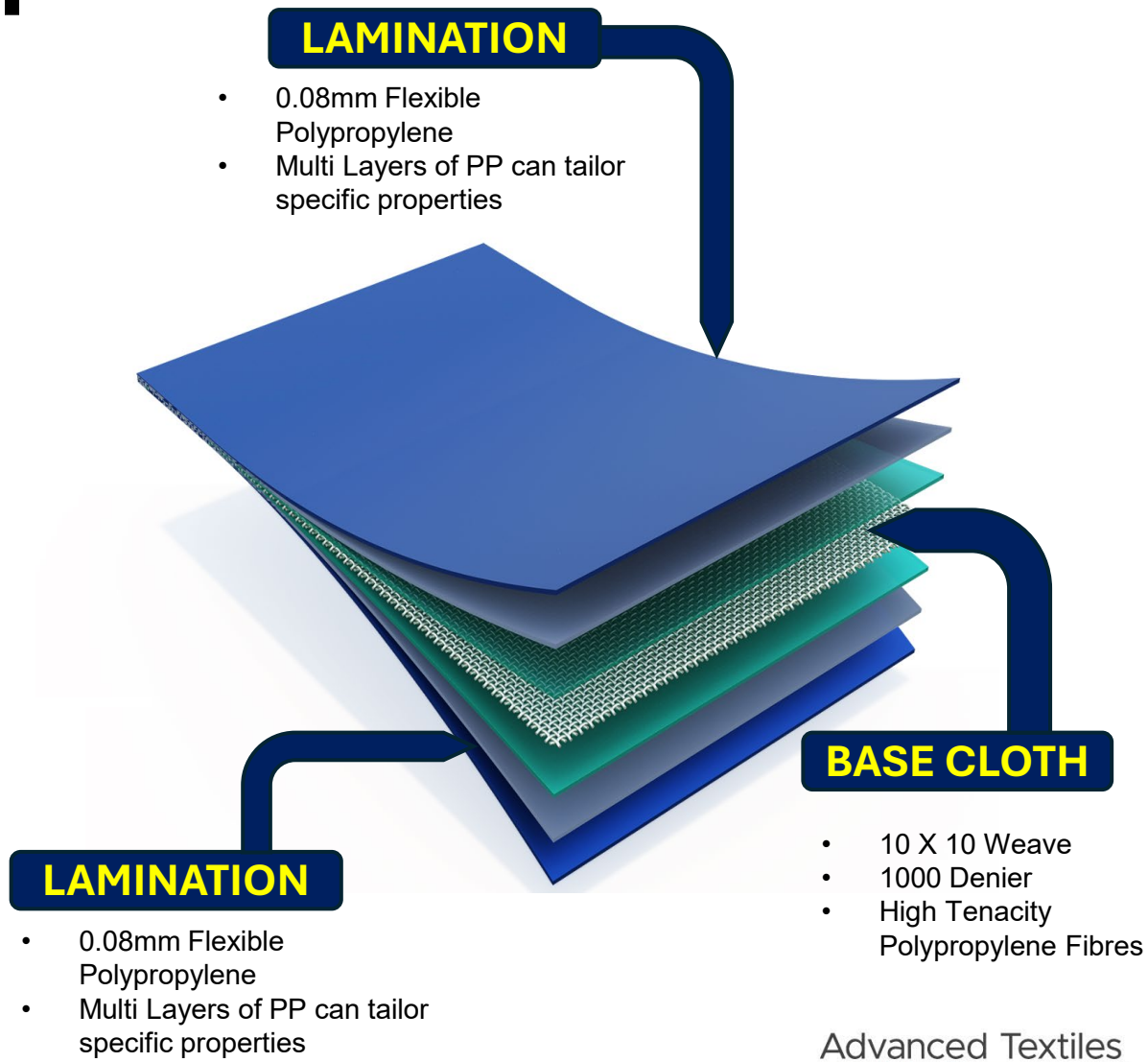
PE and PP Fabric Design



PolyEthylene Coated Fabric



PolyPropylene Coated Fabric

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Key Attributes of PE and PP Fabric Design

Strength

Flexibility

Phthalate and Halogen Free

Water Resistance

Lightweight

Tear Resistance

PFAS Free

Durability

Flame Resistance

Recyclable

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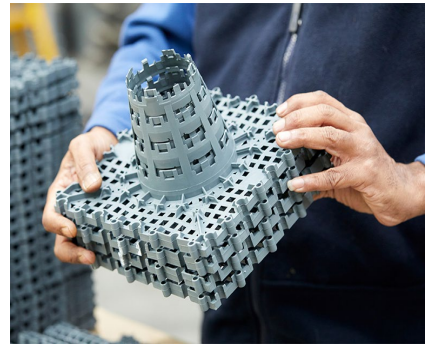
Technical fabrics from PE/PP can be easily recycled

Mechanical Recycling Process

Collection → Shredding → Washing → Pelletising → Re-Purpose







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Moving from Re-Purposing to Circularity

Compounding

Recycled resin is compounded to enhance properties to perform similar to prime, enabling a high percentage of addition.

Coating blend

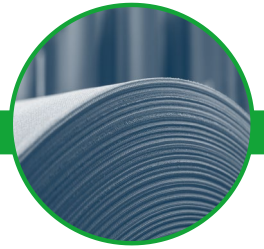
Prime resin, recyclated, colour, UV stabilisers and other additives specially formulated to suit product performance requirements.

Extrusion coating

Coating to woven fabric, on both sides.

Finished Roll

Bulk rolls are tested and sent for fabrication.

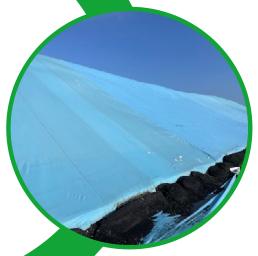


Fabrication

Typically thermal welding and sewing is utilized to convert rolled fabric into a finished good.

Installation/Use

Recycled fabrics will commonly be used anywhere from 6 months to 10+ years, depending on application.



Collection

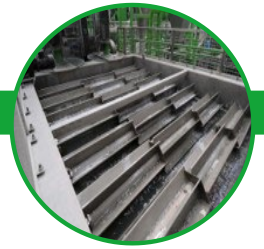
End-of-life Polyfabrics are collected and sent to a recycling facility.

Shredding

Large sheets of fabric are shredded to around 1 inch in diameter

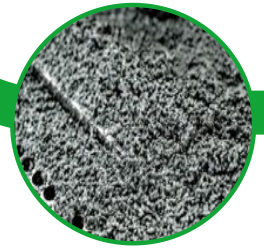
Washing

Dirt and surface contamination is removed



Palletising

Washed fabric is extruded, filtered and palletised



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Examples PVC-Free Coated Fabrics entering Circularity in Australia

- Grain Covers and Agricultural Covers
- Water Containment
- Roofing Membranes
- Signage and Banner Fabrics

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Agricultural Covers

- Polypropylene based product
- Designed for excellent outdoor durability, ease of handling and high flex resistance
- Polypropylene offers superior strength-to-weight properties compared to coated PVC

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Water Containment

- Polypropylene based product
- Designed for excellent flexibility, water tightness and stress crack resistance
- NSF61 and AS4020 certification can be achieved with appropriate formulations

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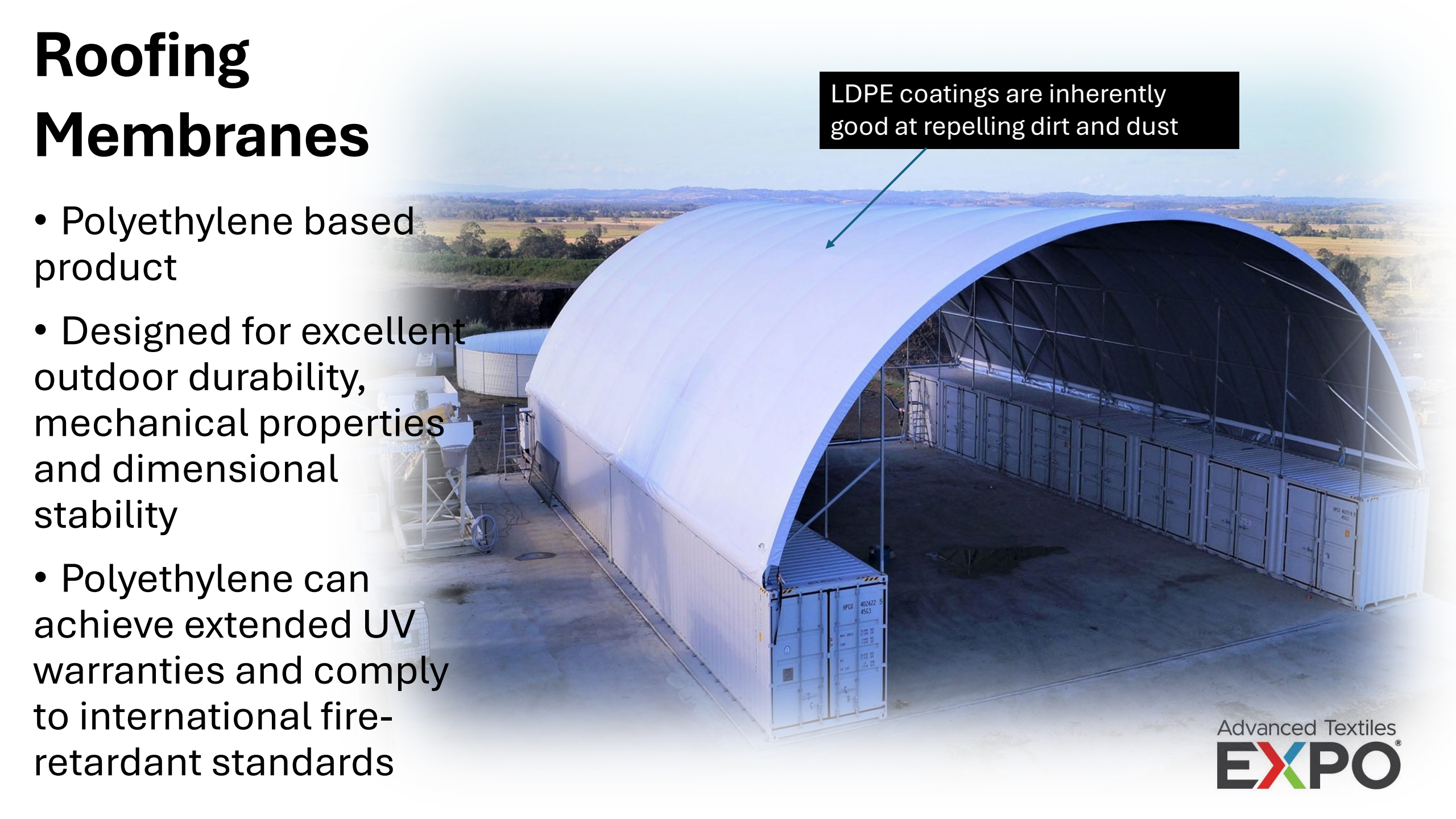
Roofing Membranes

- Polyethylene based product
- Designed for excellent outdoor durability, mechanical properties and dimensional stability
- Polyethylene can achieve extended UV warranties and comply to international fire-retardant standards



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Large Format Banners

- Polypropylene based product
- Designed for excellent ink adhesion, aesthetics, softness and mechanical properties.
- Polypropylene needs to be surface treated to assist with print performance.

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Thank you and Questions?

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See You Next Year

ORLANDO, FL

Nov. 3–5, 2026

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