SHEAR
EDGE

MATERIALS DEVELOPED IN NEW ZEALAND

PRODUCT BROCHURE

Wool reinforced polymer compounds

Natural fibre reinforcement. Practical material development.



PP



rPP



ABS



HDPE



PLA

Innovate with nature.

PP / RECYCLED PP / ABS / HDPE / PLA

www.shearedge.co.nz

Patented Keravos Technology™

Natural wool.
New material possibilities.

Shear Edge combines strong wool fibre with polymers to create compounds with practical performance benefits. Underused and often undervalued, strong wool finds new purpose as reinforcement, opening up markets for farmers and bringing renewable fibre into manufactured products.

FIVE POLYMER FAMILIES

POLYMER	MAIN OPPORTUNITY	PAGE
PP	Higher stiffness and tensile yield strength	**03**
Recycled PP	Renewable fibre reinforcement for recycled resin	**04**
ABS	Improved flexural and tensile yield strength	**05**
HDPE	Higher stiffness with a lower reported density	**06**
PLA	Promising strength, stiffness and elongation ranges	**07**

More value from strong wool

By turning underused strong wool into a valuable manufacturing material, we create new demand for a fibre that can otherwise be discarded. Stronger markets can help farmers capture more value and reinvest in soil health, biodiversity and land regeneration.

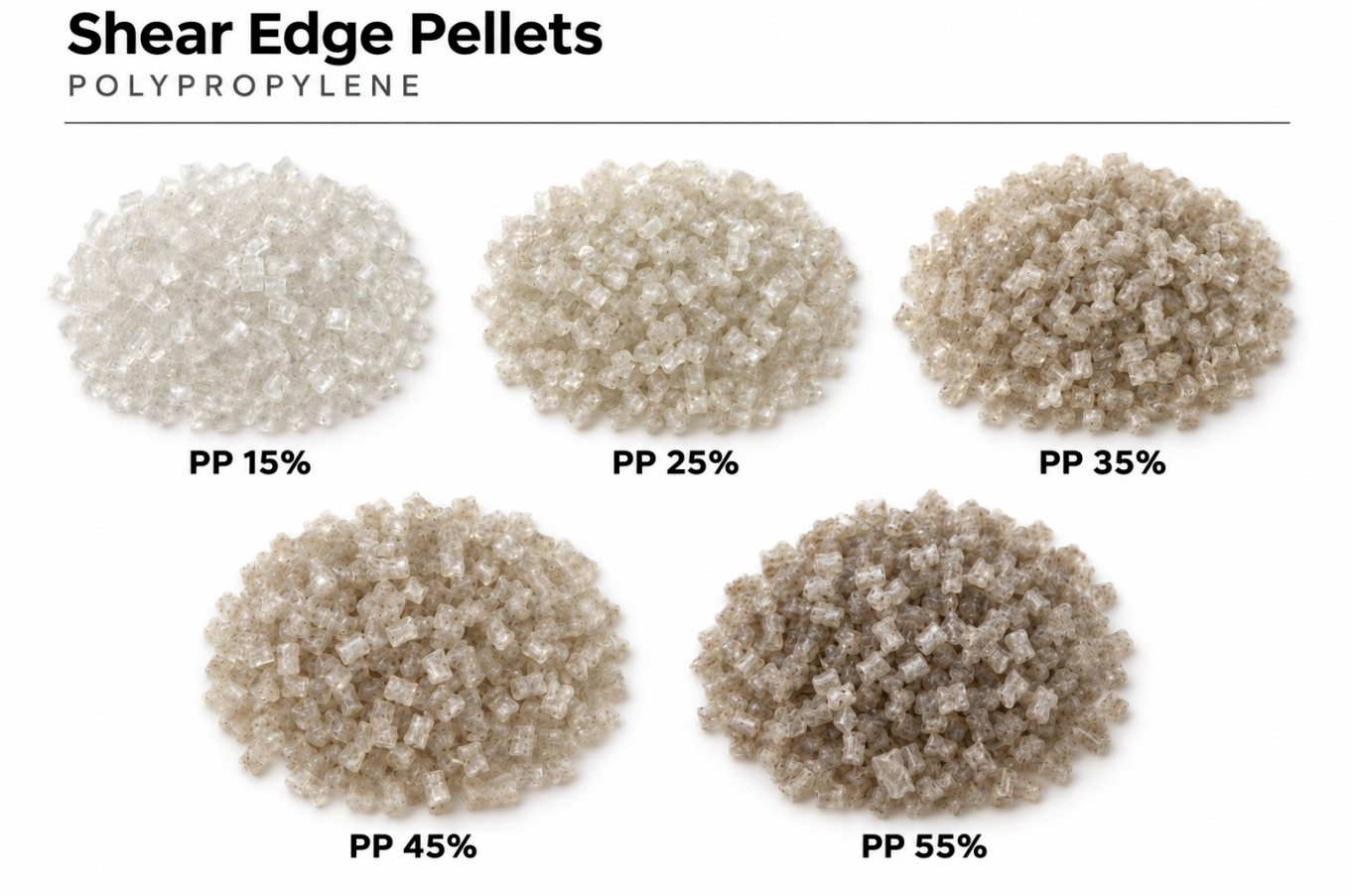
The images illustrate compound variants. Contact Shear Edge to confirm wool loading, formulation availability and processing requirements for your selected grade.

SHEAR EDGE

PP

Polypropylene

Bring renewable wool fibre into PP components with greater rigidity and improved resistance to permanent deformation.



56%

UP TO / GREATER STIFFNESS

Up to 56% greater stiffness gives designers a route to reduce flex in parts such as storage-box sidewalls, organisers and appliance covers.

25%

UP TO / HIGHER TENSILE YIELD STRENGTH

Up to 25% higher tensile yield strength can help handles and support features resist permanent distortion when a load is applied.

Real-life application opportunities

Storage bins that hold their shape, firmer organiser trays and more rigid appliance covers are practical trial opportunities. Part geometry and loads guide the final formulation.

Injection moulding grade formulations are described in the PP technical data. Confirm drying, temperature and tooling settings for the selected grade.

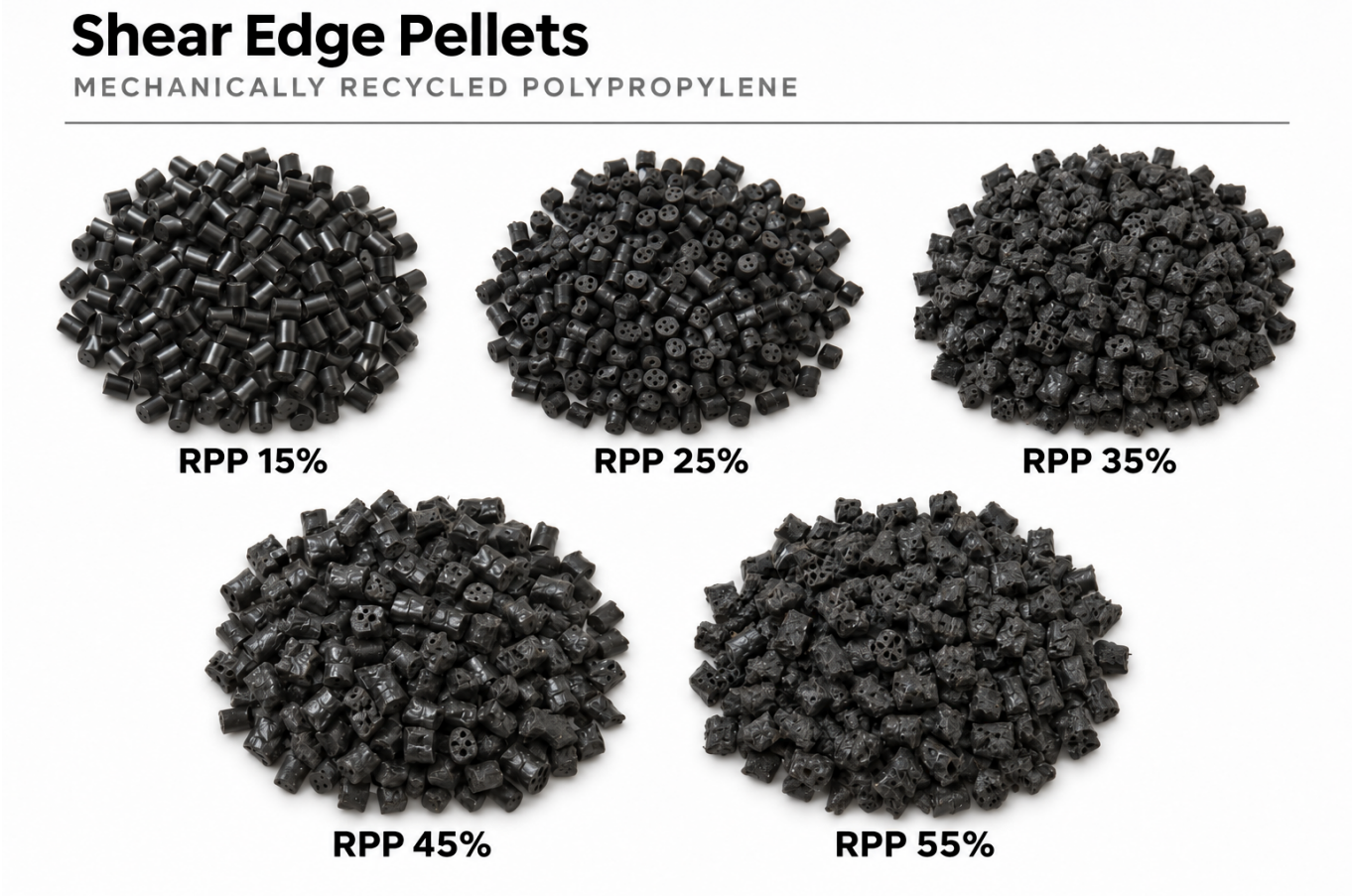
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SHEAR EDGE

rPP

Mechanically recycled polypropylene

Give recycled PP added rigidity while putting renewable strong wool fibre to productive use.



56%

UP TO / GREATER STIFFNESS

The reported stiffness improvement of up to 56% opens up possibilities for more rigid products made with recycled PP, such as tool trays and storage organisers.

Wool + rPP

NATURAL FIBRE / RECYCLED RESIN

Combines mechanically recycled polypropylene with renewable wool fibre, giving brands another route to develop products using recovered resin and natural reinforcement.

Real-life application opportunities

Tool trays, drawer organisers, plant pots and non-critical equipment covers are useful candidates for trials where retaining shape and incorporating recycled resin both matter.

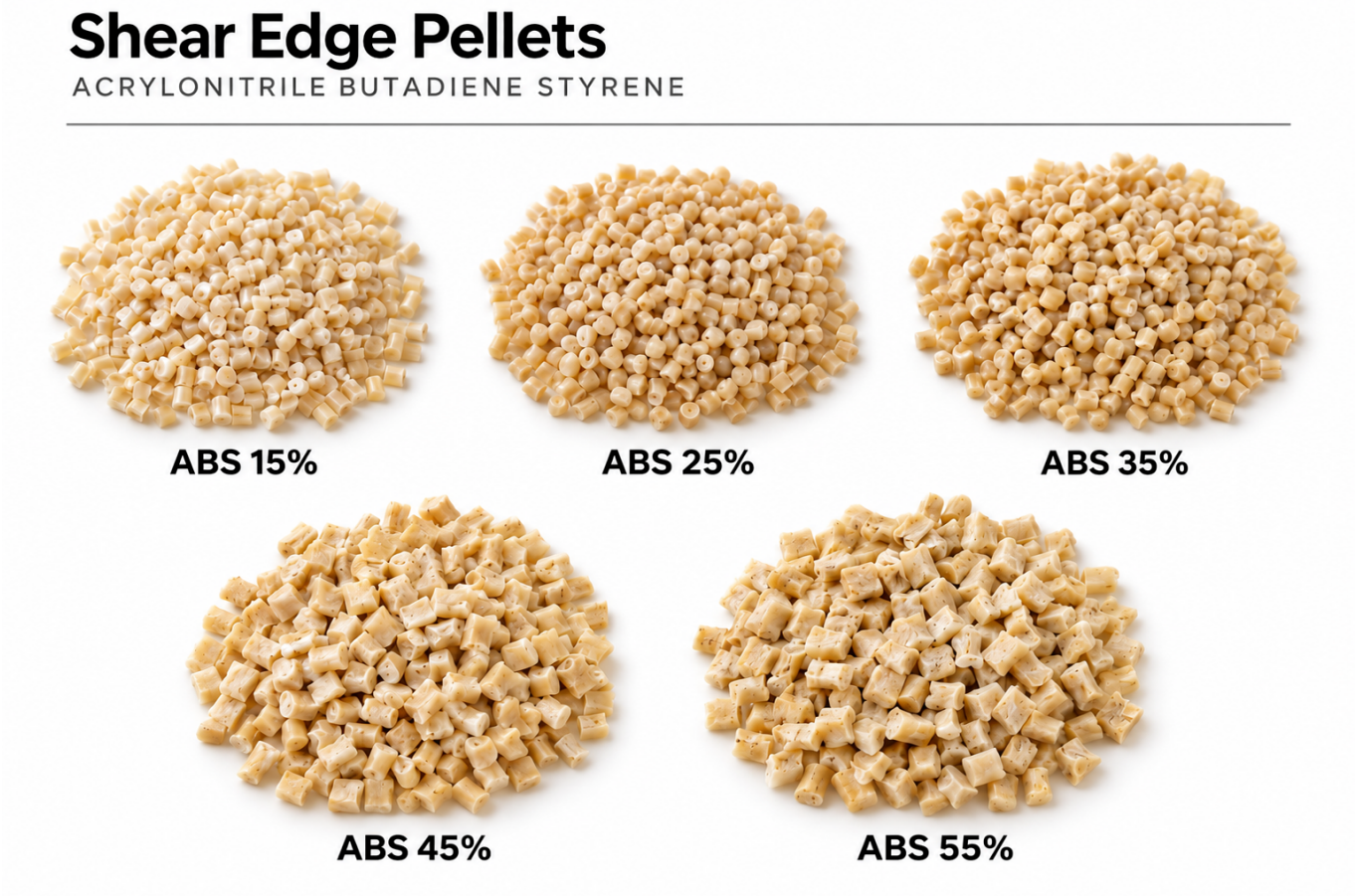
Injection moulding grade formulations are described in the rPP technical data. Review consistency, flow and finished-part performance during trials.

SHEAR EDGE

ABS

Acrylonitrile butadiene styrene

Develop rigid ABS parts with stronger reported performance under bending and tensile loads.



17%

UP TO / HIGHER FLEXURAL STRENGTH

Up to 17% higher flexural strength can help housings and panels withstand bending stresses during handling and everyday use.

~11%

APPROX. / HIGHER TENSILE YIELD STRENGTH

Approximately 11% higher tensile yield strength offers scope to improve resistance to permanent distortion in loaded support and mounting features.

Real-life application opportunities

Appliance housings, electronic-device casings, instrument covers and mounting brackets are examples where bending strength and resistance to deformation can add practical value.

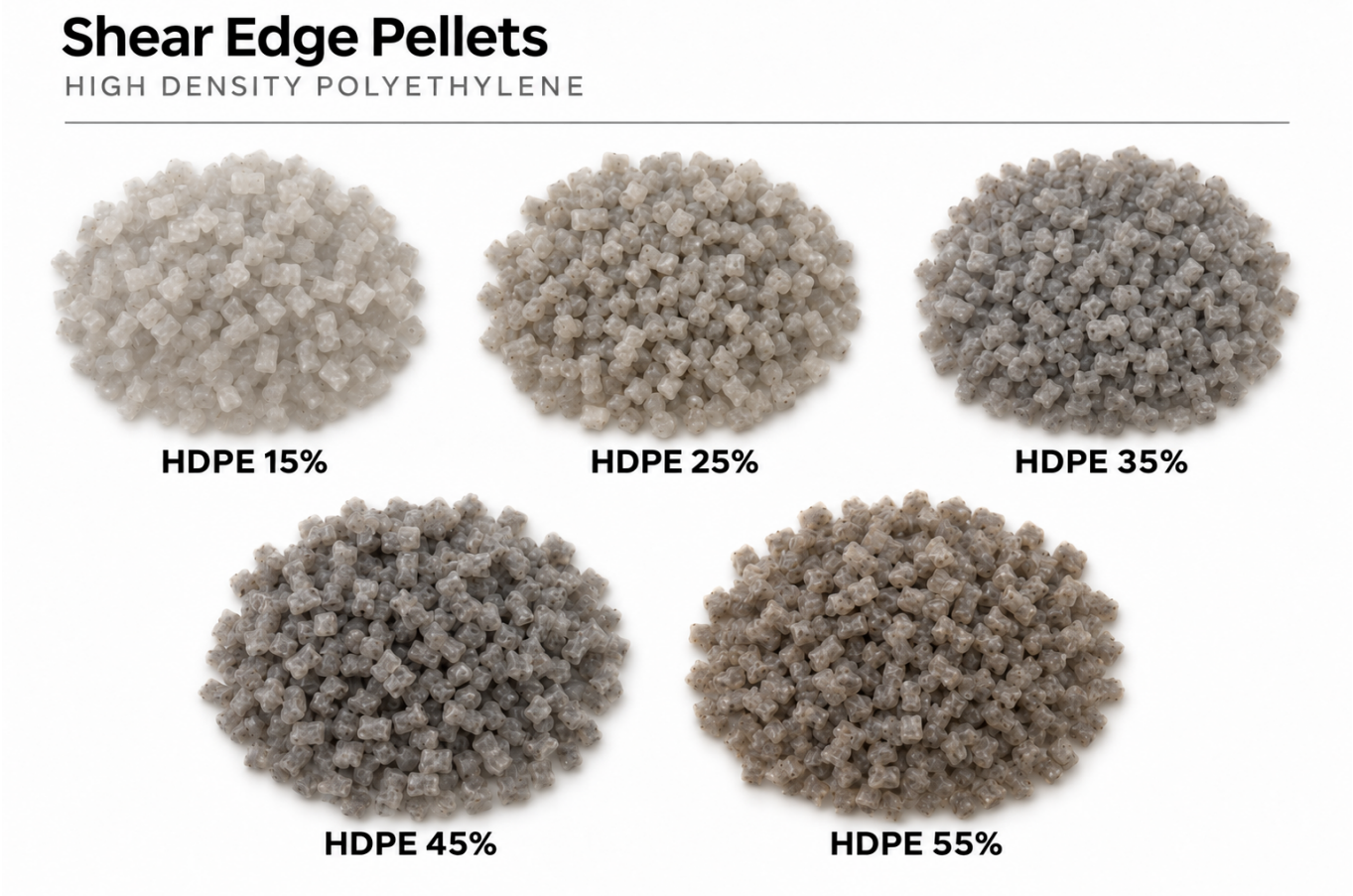
The ABS technical data describes injection moulding grade material. Validate surface appearance, dimensional requirements and processing settings in trials.

SHEAR EDGE

HDPE

High density polyethylene

Add rigidity to HDPE-based products, with the additional opportunity offered by a lower reported material density.



42%

UP TO / GREATER STIFFNESS

Up to 42% greater stiffness offers a route to reduce flex in HDPE-based bins, planters and non-critical storage components.

~2%

APPROX. / LOWER MATERIAL DENSITY

Approximately 2% lower material density means less material mass at the same volume, giving designers another lever when part weight matters.

Real-life application opportunities

Utility bins and planters that better retain their shape are practical trial examples. Equal-volume components may also benefit from lower mass; final weight depends on the design.

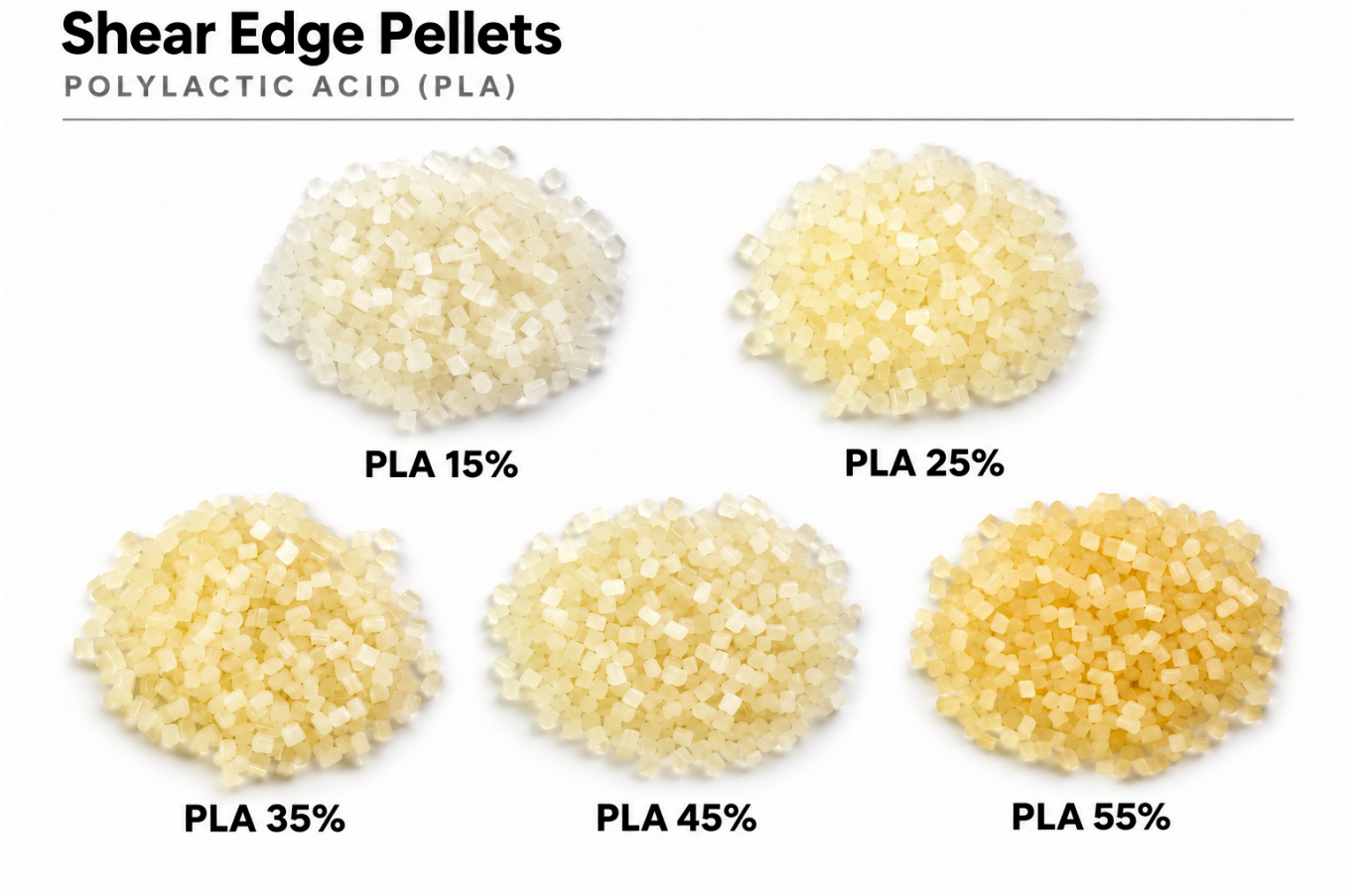
Confirm the processing route for your chosen formulation. Existing HDPE technical information includes rotational moulding applications; assess compatibility for your intended process.

SHEAR EDGE

PLA

Polylactic acid

Bring renewable wool fibre into PLA products with promising strength, stiffness and elongation performance.



39%

UP TO / HIGHER TENSILE MODULUS

Up to 39% higher tensile modulus delivers greater stiffness and rigidity, helping parts resist flex under load.

17%

HIGHER ELONGATION AT BREAK

17% higher elongation at break improves the material's ability to deform before failure.

11%

HIGHER TENSILE STRENGTH

11% higher tensile strength provides improved resistance to tensile loading in housings and support features.

Real-life application opportunities

Display stands, desk organisers and accessory housings are practical trial candidates. Higher reported elongation offers scope to tolerate more strain before breaking; hardness and tear strength ranges are retained, with broadly overlapping impact ranges.

PLA findings are based on supplied comparative results against standard PLA. Performance varies by formulation and test conditions. Confirm grade-specific processing and finished-part suitability through trials.

Patented Keravos Technology™

Develop your next product with Shear Edge

From our Auckland base, we work with manufacturers and product developers to explore where wool reinforced polymer compounds can deliver practical value.

01 Share your application

Tell us about the part, its function, target properties, appearance and manufacturing process. We can discuss which polymer family may be worth evaluating.

02 Choose a formulation to trial

Discuss grade options, sample and trial availability, technical data and processing guidance. Confirm drying and temperature requirements for the specific formulation.

03 Evaluate the finished part

Review strength, stiffness, impact, flexibility, surface quality and dimensional requirements together. Agree the next steps for your application and supply needs.

Naturally flame resistant wool

Wool's natural flame resistance brings an additional material-development opportunity. Fire retardancy testing of our compounds is showing promising early results. Fire performance must be established for the finished formulation and intended application.

Compounds tailored to your application

Every application is different. We can customise our compounds to suit your product and processing requirements, including incorporating additional additives where needed. Work with us to develop a formulation that balances performance, appearance and manufacturing needs.

Let us explore your application.

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Evidence: Shear Edge development results and technical data; supplied PLA range comparison; Woolmark guidance on natural flame resistance and regenerative agriculture (woolmark.com). Results apply to evaluated formulations. Application examples are opportunities for trials; confirm finished-part suitability and current grade-specific data. November 2026.