



TPV Standard Glazing Range

Edition 1 September 2023



Disclaimer

Every care has been taken to avoid errors in this brochure, but even with the greatest of care mistakes may occur. EPL would appreciate advice should any errors or omissions be discovered so that the necessary corrections can be carried out in the next update.

It must be noted that the system is a dynamic one and as such changes may be made without notice.

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A Long History in Innovation.

Drawing on almost 50 years of experience, we offer real end to end solution delivery - from R&D and design services to solve a specific challenge right through to being the manufacturing partner for that solution.

We were founded by Jerry O'Neill and Neal Ottmann. Our current Managing Director, Tom Thomson, ONZM, has been with us since 1975. EPL continues to be a privately New Zealand owned company.

We're experts in polymer extrusion and injection molding. Our capabilities cover both product design and development, and manufacturing, in traditional and sustainable material.



Our custom designed Head office and manufacturing facility is located in Ōtautahi, Christchurch. Our Location is within a short drive to Lyttelton Port and Christchurch International Airport making it a central location to serve not only New Zealand but also our International customers. We export from New Zealand to around the world. As well as being a product supplier, our history as innovators has seen us partner with clients to meet their current needs and look for future opportunities to make a difference and add value.

Innovation is in our DNA:

- **First in New Zealand to introduce Santoprene and 80 Shore A plus hardness silicone blocks (for commercial applications).**
 - **First in NZ to do a quad profile extrusion.**
-





Quality +

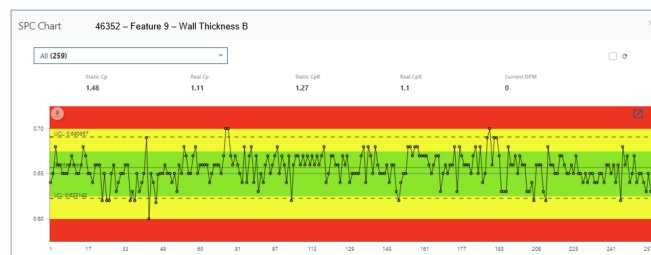
At EPL, 'quality' isn't just a buzzword or a box to tick.

ISO 9001 registered since 1993, we go beyond this standard, using Net Inspect to provide further transparency across our quality assurance process. Net-Inspect is now used by over 6,000 companies in 48 different countries.

Net-Inspect gives our operators and our leadership team real time access to what is happening on the production lines 24 hours per day. Net Inspect monitors measurement trends within quality zones. These Quality Zones are used to quickly identify in-process trends with colour coded sigma bands and monitor process control through CPK and real-time CPK calculations.



Below are samples of the reports we receive. Measurements within the green area are ideal, measurements within the yellow zone are still fine, but are at the upper end of the tolerances and measurements in the red zone mean the product gets rejected.



If there is an out of specification measurement (Red zone) the operator is guided to an eTag (non-conformance) recording window, the Production and Quality managers receive an email message.



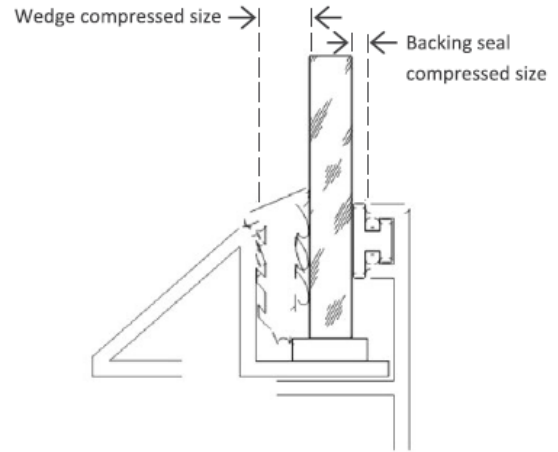


Types of Glazing Seals

Wedges and Backing Seals.

Wedges and backing seals are needed to provide a cushion between the glass and the aluminum frame. They also protect the glazing unit against external weather events. Selecting the ideal wedge/backing seal combination is a relatively simple process:

- Measure the gap in the aluminum extrusion where the glass is to be secured.
- Determine which backing seal fits the aluminum extrusion.
- Measure the thickness of the glass.
- Add the glass thickness to the compressed size of the backing seal and subtract from the total gap measured in the aluminum extrusion.
- The resulting measurement is the ideal compressed wedge size.



Prior to final assembly, it should be checked that the locating fins on the wedge correctly fit the serrations in the aluminum extrusion. It is important that the wedge is the correct size. An oversized wedge will increase the risk of glass breakage. Likewise, a smaller wedge will eventually fall out and expose the glazing unit to weather damage.



Types of Glazing Seals

TPV (Thermo-Plastic Vulcanate)

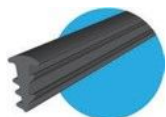
EPL introduced this material into the New Zealand market in 1983. It has become the ideal choice in applications where peace of mind is required.

In the early days, EPDM and Neoprene were commonly used as glazing materials. However, the high cost to manufacture and batch to batch variability brought about the search for a "rubber" that could be processed like a plastic.

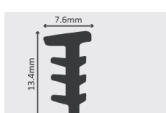
TPV offers the flexibility of EPDM rubber but can be melt processed like polypropylene. Originally developed under the trade name "Santoprene", TPV emerged as the market leader for glazing seals.

A maximum service temperature of 85°C is recommended for this material.

Property	TPV Scale 1- 5 1 = Lowest -5 = Highest
Heat Resistance	3
Cold Resistance	4
Hardness vs Temperature Dependence	4
Weatherability	3
Chemical & Oil Resistance	3
Flexural Strength	3
Abrasion Resistance	3

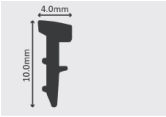
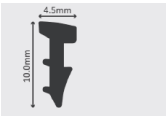
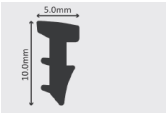
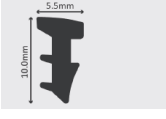
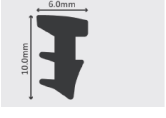
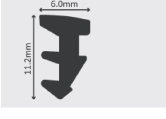
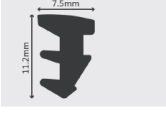
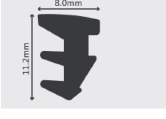
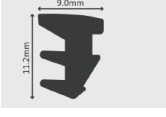
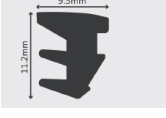


TPV Standard Wedge

	Item Number	Description	Quantity Per Spool	In Stock Or Made To Order
	25033	WEDGE 3.0MM TPV	400 M	Made to order (Minimum order quantity may be required)
	25062	WEDGE 3.5MM TPV	250 M	Made to order (Minimum order quantity may be required)
	25049	WEDGE 4.0MM TPV	250 M	Made to order (Minimum order quantity may be required)
	25017	WEDGE 4.5MM TPV	200 M	Made to order (Minimum order quantity may be required)
	25009	WEDGE 6.0MM TPV	125 M	Made to order (Minimum order quantity may be required)
	25001	WEDGE 7.5MM TPV	100 M	Made to order (Minimum order quantity may be required)



TPV Low Rise Wedge

	Item Number	Description	Quantity Per Spool	In Stock Or Made To Order
	48035	WEDGE 2MM GREY STRIPE TPV	400 M	Stocked
	48036	WEDGE 2.5MM BLUE STRIPE TPV	300 M	Stocked
	48037	WEDGE 3MM PURPLE STRIPE TPV	250 M	Stocked
	48038	WEDGE 3.5MM RED STRIPE TPV	250 M	Stocked
	48039	WEDGE 4MM ORANGE STRIPE TPV	200 M	Stocked
	48040	WEDGE 4.5MM YELLOW STRIPE TPV	200 M	Stocked
	48041	WEDGE 5MM WHITE STRIPE TPV	150 M	Stocked
	48042	WEDGE 5.5MM GREEN STRIPE TPV	150 M	Stocked
	48043	WEDGE 6MM BROWN STRIPE TPV	120 M	Stocked
	48044	WEDGE 7MM BLACK STRIPE TPV	120 M	Stocked

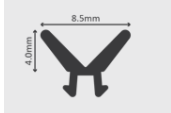
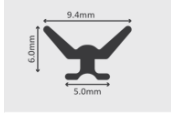
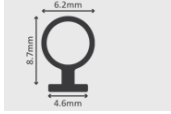


TPV Jumbo Wedges

Item Number	Description	Quantity Per Spool	In Stock Or Made To Order
46632	Jumbo Wedge 8.5mm TPV		Made to order (Minimum order quantity may be required)
46637	Jumbo wedge 9.5mm TPV		Made to order (Minimum order quantity may be required)
46627	Jumbo wedge 10.5mm TPV		Made to order (Minimum order quantity may be required)
TBA	Jumbo Wedge 12.5mm TPV		Made to order (Minimum order quantity may be required)
TBA	Jumbo Wedge 14.5mm TPV		Made to order (Minimum order quantity may be required)
46496	Jumbo Wedge 15.5mm TPV		Made to order (Minimum order quantity may be required)



TPV Backing Seals

Item Number	Description	Quantity Per Spool	In Stock Or Made To Order
	25839 BACKING SEAL 1.5MM DUOFOOT	300 M	Stocked
	25059 BACKING SEAL 1.6MM TPV COEXTRUSION	300 M	Stocked
	25076 BULBSEAL 1.1MM TPV COEXTRUSION	300 M	Stocked



Technical Considerations

Service Temperatures

The effect of temperature on glazing seals can be significant. Polymers react in different ways to variations in ambient temperature. In New Zealand, this temperature can range from -15°C to 35°C as a norm. Materials with poor heat resistance will experience warping and may cause the glazing unit to fail. PVC is a commonly used material but is also most affected by this problem. There is a noticeable change in hardness between a PVC seal when viewed on a cold morning and a hot afternoon. Where temperature will likely be an issue, it is recommended that the gasket be made from either TPV or silicone rubber. It should be noted that silicone rubber is utilised in sealing applications in excess of 250°C.

Weatherability.

Glazing seals are subject to a wide range of weather conditions, including frost and high UV concentrations. Add to this the effects of driving wind and rain and the resulting dynamic loads can be quite severe. All this accelerates the ageing process.

Different techniques are used to improve weatherability of polymers but the most universal solution is to make the product black. The black additive in rubber and many thermoplastic products is a UV absorber that prevents the polymer from degrading over time.

In flexible PVC, harsh weather will drive out the plasticising agent (the component that makes it flexible), leaving the seal hard and brittle. The ideal material for most weather resistance applications is TPV, as this material does not rely on plasticiser for flexibility.

Silicone rubber tends to be used where total peace of mind is required.

Compression Set.

This technical term describes the polymer's ability to bounce back to its original form once the compressing load has been removed. This is very important in an opening sash situation. If the polymer loses its "bounce", then it becomes a flatter profile and no longer seals correctly. It should be noted that compression set is often measured at 23°C. An elevation in temperature usually increases the compression set. Where compression set is likely to be an issue, it is recommended that a high specification TPV or silicone rubber be used.

Tolerances.

Tolerances are an important consideration when designing new products for the glazing industry. Extruded products require greater tolerances than those produced by moulding due to the unsupported nature of the process. EPL manufactures to the following ISO tolerances:

Tolerance (MM)			
0	up to	1.50	+/-0.15
1.50	up to	2.50	+/-0.20
2.50	up to	4.00	+/-0.25
4.00	up to	6.30	+/-0.30
6.30	up to	10.00	+/-0.40
10.00	up to	16.00	+/-0.50
15.00	up to	25.00	+/-0.70
25.00	up to	40.00	+/-0.80
40.00	up to	63.00	+/-1.00
63.00	up to	100.00	+/-1.30



Company Legal Information

Company Name	Elastomer Products Limited
Company Number	135324
NZBN	9429031857031
GST Number	020-253-819
Incorporation Date	28 Feb 1974
Company Status	Registered
Entity Type	NZ Limited Company
Registered Office	Epl, 60 Kennaway Road, Christchurch, 8080 , New Zealand
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Website	www.eplgroup.com
Email	info@eplgroup.com
Phone	





Terms & Conditions

1. INTERPRETATION AND APPLICABLE LAW

Elastomer Products Ltd its successors or assigns is herein described as the "Seller".

The person company or other entity with which the seller enters into a contract is herein described as the "Buyer". An officer of the Seller is limited to persons holding the following company positions:

Managing Director, General Manager, Marketing Manager, Plant Manager, Secretary and CFO.

This contract shall be governed by and construed in accordance with the Laws of New Zealand.

2. ACCEPTANCE OF CONDITIONS OF SALE

Any of the following actions by the Buyer are deemed to be acceptance of the Terms and Conditions of sale contained herein:

(a) Application for a debtors account to be opened with the Seller, or

(b) Acceptance of any tender provided by the Seller, or

(c) Order from the Buyer for the supply of any goods by the Seller.

(d) Acceptance of delivery from the Seller; And such terms and conditions shall constitute the only terms and conditions to be contained in any contract resulting between the Seller and Buyer, and unless modification is agreed by the Seller in writing signed by an officer of the Seller, these terms and conditions override and negate any contrary condition contained in the Buyer's conditions of purchase or Conditions of Contract.

None of the Seller's agents or representatives are authorised to make any representations, statements, warranties or conditions not expressly set out herein, and the Seller is in no way bound by such statements unless such statement is in writing and signed by an officer of the Seller.

3. WAIVER AND FORBEARANCE

No delay or forbearance shall be construed to be a waiver of the Seller's rights hereunder unless such waiver is given in writing under the signature of an officer of the Seller.

4. PRICE

When a price increase is necessary the Seller will endeavour to fulfil Buyer's orders received prior to the effective date of the price increase at prices applying on the date the order was received. Notwithstanding this the Seller reserves the right to decline to supply any Buyer's order received and outstanding at the time a price increase becomes effective.

The Seller reserves the right to alter its prices without notice even after acceptance of the Buyer's order where such alteration arises from circumstances beyond the Seller's control.

Goods and Services Tax shall be paid by the Buyer in addition to quoted prices.

5. FREIGHT

Unless otherwise stated, the carriage of goods within New Zealand will be made freight prepaid. The Seller shall have the right to select the means of transportation. If a Buyer requires a means of transport other than that selected by the Seller, any cost incurred by reason of using such other means shall be paid by the Buyer.

6. PAYMENT

Where no other terms of payment have been advised in writing by the Seller, payment without deduction or set-off is due on or before the 20th of the month following the month in which the goods were despatched from the Seller's premises.

Overdue accounts may incur interest charged at the rate of 18% p.a. calculated daily from the due date of payment until the price and interest have been paid in full.

The Seller shall not be bound to perform or comply with any further obligation to the Buyer should any amount owing by the Buyer be overdue.

The Buyer will pay and reimburse the Seller for all costs and expenses (including costs on a Solicitor to client basis) which the Seller may incur as a result of the Buyer's failure to pay the price and other monies in terms of these conditions.

7. RETURN OF GOODS

Goods may only be returned to the Seller with the prior agreement of an officer of the Seller and on the following terms and conditions:

(a) The Buyer is to pay the cost of returning the goods, and

(b) The goods are to be returned within 30 days of the date of despatch to the Buyer, and

(c) The Buyer is to enclose documents with the goods identifying the Buyer, the quantity and description of the goods and the Seller's invoice or packing slip number and date of that document.

8. ALLOCATION

If for any reason the Seller is unable to supply the total demand for the goods ordered by the Buyer, the Seller may then distribute its available supply among its customers, or any of them, including departments and divisions of the Seller on such basis as it may in its sole discretion deem fair and practical.

9. QUOTATION AND TENDERS

Unless otherwise specified quotations are for information only and are not intended as an offer.

Quotations are subject to change without notice in all respects, including price, delivery date, terms, quantities or specifications.

Tenders are open for acceptance for 30 days from the

date of written tender after which they will lapse. The Seller may withdraw any tender at any time prior to acceptance.

Acceptance of tenders must be in writing and accompanied by sufficient information to enable the order to be proceeded with.

10. QUANTITY VARIATIONS

On any individual order or release against an order the Seller reserves the right to supply and invoice a quantity of goods that conforms to the Seller's standard cartons, packages or spools. This quantity may exceed or be less than the Buyer's ordered quantity.

11. CANCELLATION & CHANGE OF ORDERS

The Buyer may not change or cancel any order except with the prior written agreement of an officer of the Seller and provided that the Buyer indemnifies the Seller against any loss or harm it suffers.

12. RISK

The Buyer bears the risk of any loss, damage to, or deterioration of the goods due to any cause whatsoever from the time the Seller gives possession of the goods to a carrier or if the Seller delivers the goods in its own vehicles from the time of the arrival of the vehicle at the place of delivery.

It is the Buyer's sole responsibility to lodge a claim for any goods damaged in transit with the Freight Company concerned.

13. OWNERSHIP

Notwithstanding the right of the seller to charge interest on overdue accounts as provided in clause 6, property in and the right to possession of goods shall remain vested in the Seller until such time as the Seller has been paid all monies due to it by the Buyer. Pending payment the Buyer will hold the goods properly stored and secured on consignment from the Seller as bailee and as the Seller's fiduciary agent. The Seller may retake possession of the goods from any premises where they are situated at any time until the Seller has been paid in full.

Pending payment property in the proceeds of any sale of the goods or in any product into which the goods are incorporated or intermingled by or on behalf of the Buyer in any manufacturing or assembly process shall be and remain in the Seller.

14. PERSONAL PROPERTY SECURITIES ACT 1999 ("PPSA")

Capitalised expressions in this clause have the meaning prescribed to them in the PPSA.

As security for payment of the price of the goods and payment of any other amount owed by the Buyer to the Seller from time to time and as security for the performance by the Buyer of the obligations set out in these Terms and Conditions the Buyer grants the Seller a Security Interest in the goods.

The Seller reserves the right to register a Financing Statement in the Personal Property Securities Register to perfect its Security Interest in the goods.

The Seller's costs of registering a Financing Statement or a Financing Change Statement may, at the Seller's discretion, be debited against the Buyer's account with the Seller.

On request by the Seller the Buyer will sign any documents and provide any information to enable the Seller to perfect its Security Interest in the goods.

The Buyer will not allow any person to register a Financing Statement over the goods without the prior written consent of the Seller.

The Buyer waives its right to receive a copy of the Verification Statement.

15. CONFIDENTIALITY

If either party acquires any information regarding the current or future business interests, methodology or affairs of the other party ("Confidential Information"):

(a) the party will only be permitted to use the Confidential Information to the extent necessary to enable it to perform its obligations under this Agreement; and

(b) the party will not disclose the Confidential Information to any third party without the prior written consent of the other party unless required by law to do so.

Each party will ensure that its directors, employees, agents and contractors comply with the obligations under this clause.

The provisions of this clause continue to bind each party notwithstanding the expiry or termination of this Agreement or that it may have ceased to be a party to this Agreement.

16. INTELLECTUAL OR INDUSTRIAL PROPERTY RIGHTS, MOULDS, DIES, TOOLS

(a) The Buyer warrants that the carrying out by the Seller of this contract does not infringe the intellectual or industrial property rights of any other person and the Buyer will indemnify the Seller in respect of any claim arising thereunder including the Seller's costs arising therefrom.

(b) The Buyer shall maintain in good condition at its cost any dies, tools, printing plates or wheels and other items supplied by it for the process of manufacture and the Seller shall not be liable for any loss or damage occurring thereto.

(c) Notwithstanding the Seller's right to charge a fee for development costs, and unless there is an express written term to the contrary, the property in all designs, sketches, formulations and specifications and all dies, tools, and other manufacturing items shall be and remain that of the Seller.

17. WARRANTY

Except as required by the Consumer Guarantees Act, the Seller warrants only that the goods supplied hereunder shall conform to the description or specifications stated on the face of the relative price list and/or quotation, and/or packing slip, and/or invoice. The Buyer's exclusive remedy and the Seller's sole liability hereunder shall be limited to refund of the purchase price of, or replacement of, all goods shown to be otherwise than as warranted and the Seller shall in no case be liable otherwise or for incidental or consequential damages. The said refund or replacement is conditional on the Buyer giving the Seller notice within thirty (30) days from the date of invoice that the said goods are otherwise than as warranted. Failure by the Buyer to give said notice within the thirty (30) day period shall constitute a waiver by Buyer of all claims hereunder with respect to the said goods. If requested by the Seller, the Buyer shall promptly return to the Seller's supplying plant all unconsumed goods alleged by the Buyer to be otherwise than as warranted and the Seller will pay freight thereon.

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR UNWRITTEN, EXPRESSED OR IMPLIED REPRESENTATIONS, WARRANTIES OR CONDITIONS AND THE SELLER HEREBY EXPRESSLY DISCLAIMS AND EXCLUDES ANY AND ALL EXPRESSED OR IMPLIED REPRESENTATIONS WARRANTIES AND CONDITIONS AS TO FITNESS FOR ANY PARTICULAR PURPOSE AND MERCHANTABILITY, ALL SAID GOODS BEING SUPPLIED TO THE BUYER "AS IS".

18. INDEMNITY

The Buyer hereby indemnifies the Seller for any loss, costs, damages, expenses and injury to property or persons (including but not limited to legal expenses, loss of profits, business or other direct, indirect, special consequential or incidental damages) ("the Losses") resulting from, arising out of or in connection with the goods supplied by the Seller under this Agreement except where the Losses arise solely as a result of the negligence of the Seller.

19. USE

The Buyer declares itself familiar with the nature and use of the goods and acknowledges that the determination of the suitability or fitness of the goods for the use or purpose contemplated by the Buyer or Buyer's customers for the goods is the sole responsibility of the Buyer or Buyer's customers whichever the case may be.

The Seller may furnish such technical assistance and information as it has available with respect to the use of the goods sold hereunder and the Buyer assumes sole responsibility for the results obtained in reliance thereon.

The furnishing of such technical assistance and information shall be governed by the provisions of clause 15 above and no claim or action may be founded on any act or omission of the Seller in furnishing such assistance and information, the accuracy of which the Buyer will confirm independently.

20. SPECIFICATIONS

(a) Subject to the provisions of Clauses 15 and 16 the goods will comply with the written descriptions stated on the face of the Seller's price list, quotation, packing slip or invoice.

(b) If a colour is specified a reasonable tolerance of light or dark shadings shall be allowed.

(c) Where the Buyer or its nominee is to supply inserts, parts or other materials to be incorporated in or used with the goods, reasonable tolerances shall be allowed by the Buyer. The quantity of inserts, parts or other materials supplied shall make allowance for reasonable manufacturing loss or waste.

21. DELIVERY AND FORCE MAJEURE

Delivery is offered subject to the following conditions:

(a) The availability of transport

(b) The availability of raw materials, manufacturing aids, and plant capacity

(c) The absence of delays from fires, lockouts, trade disputes, power restrictions, and other contingencies beyond the control of the Seller

The Seller is not to be under any liability whatever in respect of any failure to deliver or delay in delivery due to any cause of whatever nature not within the control of the company.

22. TERMINATION

Either party (First Party) may terminate this Agreement, with immediate effect, by notice to the other party, if the other party:

(a) fails to perform any of its obligations under this Agreement and the failure has not been remedied within 180 Business Days of receipt of a notice from the First Party requiring the failure to be remedied; or

(b) is unable to pay its debts in the ordinary course of business or is insolvent; or

(c) has an administrator, receiver, a receiver and manager, a liquidator, a statutory manager or an equivalent person appointed in respect of it or all or part of its assets or undertaking; or

(d) makes a compromise with its creditors or enters into a court-approved arrangement or a capital reorganisation or reconstruction or there is a change in the effective management or control of the Supplier

The expiry or termination of this Agreement is without prejudice to the rights and obligations of the parties accrued up to and including the date of expiry or termination.



New Zealand

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