



TECHNICAL MANUAL

PROLASTIK Neutral Cure Silicone Sealant

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1.1 About This Manual:

This manual has been developed to effectively assist fabricators and contractors to work with PROLASTIK. Due to the uncontrollable conditions onsite and different methods of job scope, as well as the variable skills and judgment of installers and the quality of equipment, tools, etc, the suggestions and recommendations contained in this manual are provided without warranty. The information and recommendations herein are believed to be correct at time of publishing.

BLUECHIP reserves the right to revise the contents of this manual without prior notice. Any construction or use of the product must be in accordance with all local zoning and/or building codes and in accordance with the current NCC at the time of use. Except as contained in a written warranty certificate, the supplier does not provide any other warranty, either express or implied, and shall not be liable for any damages, including consequential damages.

1.2 Company Background:

Founded in 2003 by five brothers, BLUECHIP has grown every year since to become one of Australia's leading suppliers of architectural building envelopes. BLUECHIP's product range covers the complete system from the structure out including all types of cladding materials, composite decking, sub-framing, insulation, waterproofing and fixings.

With offices in Sydney, Melbourne and Perth, BLUECHIP has supplied more than 3,000,000m² of materials to Australian projects since 2003. Our commitment to innovation and ongoing investment in R&D ensures BLUECHIP will continue to lead the market with BCA/NCC compliant facade solutions in the years ahead.

For architects and consultants, BLUECHIP's wide range of different materials and 'complete-system' approach enables the creation of inspiring high-performance facades. For builders and contractors, BLUECHIP's large local stock, well established supply chains and genuine appreciation for our clients means you can trust us to deliver as promised every time.

1.3 Company Details:

Company: Blue Chip Group Pty Ltd
ABN: 98 162 282 064
Locations: Sydney | Melbourne | Brisbane | Perth
Phone: 1300 945 123
Email: sales@bluechipgroup.net.au



1.4 Product Description:

Neutral Cure Silicone Sealant

PROLASTIK Weatherproofing Sealant is a non-slumping high performance, 100% neutral cure silicone sealant formulated with calcium carbonate filler system. It has excellent resistance to weathering, UV radiation, vibration, moisture, ozone, temperature extremes, airborne pollutants, and many cleaning detergents and solvents. It is a single-component elastomeric sealant that is permanently elastic upon curing and has a movement capability of $\pm 50\%$. Specially formulated to achieve superior performance and environmentally friendly (APEO, formaldehyde and phthalate free), PROLASTIK complies with the stringent requirements of the Singapore Green Building Product Labelling Scheme (SGBPLS) and ASTM C920.

1.5 Product Features & Benefits

- Recommended joint sealant by the cladding & façade industry
- 100% neutral cure silicone
- Environmentally friendly – SGBPLS and ASTM C920 compliant
- APEO, formaldehyde and phthalate free
- Excellent weatherproofing and UV resistance
- Permanently flexible
- Suitable for indoor and outdoor use
- Matte finish

1.6 Common Uses & Applications

- Well-suited for providing a strong weatherproof seal with excellent adhesion to most common building materials such as aluminium, galvanised steel, zinc-coated steel, painted surfaces, glass, bricks and concrete
- Widely used and recommended for joints between PVDF coated aluminium panels

2.1 Physical Properties – Technical Data

ITEM	TEST STANDARD	UNIT	RESULT
Physical State – Before Curing	Actual	-	Paste
Physical State – After Curing	Actual	-	Elastic Rubber
Tack-free / Skin-form Time	25°C & 50% RH	Minutes	10-30
Storage Temperature	Actual	°C	<30
Application Temperature	Actual	°C	-20 to +50
Service Temperature	Actual	°C	<150
Curing System	Actual	-	Moisture
Specific Gravity	Actual	g/mL	1.33
Slump Resistance	ASTM D2202	mm	<1
Maximum Tensile Strength	ASTM D412	N/mm ²	1.3
Elongation at Break	ASTM C412	%	360
Movement Capability	ASTM C719	%	+/-50
Peel Adhesion	ASTM C794	N	>35
Shore A Hardness	ASTM C661	Actual	33
Low VOC Compliance	SCAQMD	#1168	Pass
VOC Content	USEPA Method 24	g/L	98.84



3.1 Joint Design

When proposing to use PROLASTIK sealant as joint sealant in any application, it is very important to consider the expansion & contraction rates of the materials involved. Panel sizes should be limited as required for any given application, considering the minimum & maximum temperatures the panel will be exposed to, the colour of the panel and the façade orientation to ensure the panels thermal movement will not exceed the systems capabilities and to ensure ongoing durability and weatherproofing.

Special consideration should be given to the following.

- The specified sealant bead size / joint width should be calculated to comply with the compression and extension capabilities of the sealant in relation to the anticipated joint width due to expansion and contraction of the materials involved.
- Notwithstanding that PROLASTIK has a +/-50% movement capability, calculation of the width of the sealant bead should be computed based on a maximum $\pm 25\%$ movement capability.
- Minimum joint depth should not be less than 6 mm to accommodate movement.
- Joint width-to-depth ratio should be 2:1 except for narrow joints as shown in table below.

3.2 Coverage Calculations

Based on PROLASTIK standard 600ml sausages, approximate coverage figures in lineal metres of joint are shown below assuming a 10% wastage allowance. Actual coverage may vary.

Coverage Formula = $X / [(Y \times Z) \times 1.1]$

VOLUME (X)	WIDTH (Y)	DEPTH (Z)	COVERAGE
600ml Sausage	6mm	6mm	15.15lm
600ml Sausage	10mm	10mm	5.45lm
600ml Sausage	15mm	10mm	3.64lm
600ml Sausage	20mm	10mm	2.73lm
600ml Sausage	25mm	12.5mm	1.75lm
600ml Sausage	30mm	15mm	1.21lm

4.1 Application – Preparation

- Substrate surface must be dry and clean and free of dirt, grease, oil, or standing water.
- Use the two-cloth method to clean if surface is dirty.
- For a neat finish, use masking tapes and remove it within the working time.
- Solvent-based primer is recommended especially for porous substrates such as concrete for excellent adhesion.
- For sealant designs with depths of over 10 mm, use approved backing materials.

4.2 Application – Directions

- Cut the tip of the sausage carefully and slip it into the caulking gun.
- Cut the nozzle into an appropriate diameter at an angle of approximately 45° to 60°.
- Place the nozzle into the caulking gun and screw tight.
- Extrude the sealant with a single bead.
- Tool the sealant bead with a clean and dry tool within the appropriate working time for a smooth finish.



4.3 Application – Clean Up

- Wet sealants can be cleaned up with acetone or mineral spirits.
- Cured sealants can only be removed mechanically.

4.4 Application – Limitations

As with other silicone-based sealants, PROLASTIK is not recommended to be used in the following applications or situations:

- Structural glazing applications
- Below waterline or permanent water immersion.
- Traffic areas subject to abrasion.
- Polycarbonate and polyacrylate materials, if under tension.
- Applications that require the sealant to be painted.
- Neoprene rubber.

4.5 Application – Accessories

Backing Rod:

PROLASTIK silicone sealant shall be installed over closed cell foam backing rod or bond-breaker tape to manufacturer's specifications.



4.6 Application – Health & Safety

As with all silicone-based products, PROLASTIK releases methylethylketoxime during application and curing which may cause an allergic skin reaction. Avoid breathing the vapours.

Contaminated work clothing should not be allowed out of the workplace and wash contaminated clothing before reuse. Wear protective gloves. IF ON SKIN: Wash with soap and water and if skin irritation or a rash occurs get medical advice/attention. Keep out of reach of children. Contains aminosilane which may produce an allergic reaction. Safety data sheet available on request. For further health and safety information, consult the latest safety data sheet.

4.7 Application - Warranty

Blue Chip Group Pty Ltd provides a PROLASTIK material warranty for a duration of 10 years if the product is used within its shelf life and in compliance with industrial standard application procedures. Blue Chip Group Pty Ltd disclaims liability for any consequential or incidental loss or damages caused by incorrect usage. The material warranty only covers the replacement of the product without the other costs incurred if the failure is proven to be directly related to the product within the warranty period. Material warranty will only be available once customer submits all the necessary documents and information, and an official material warranty letter is issued by Blue Chip Group Pty Ltd. Any claim of warranty shall be made directly to Blue Chip Group Pty Ltd in writing. Blue Chip Group Pty Ltd shall hold no responsibility until site inspection by representatives of Blue Chip Group Pty Ltd to confirm the alleged failure has occurred.