

## Data Sheet Grades

General Comparison between Bonethane Premium , Bonethane IPA Acrylic.

Categories	Properties	Bonethane Premium	IPA Acrylic Acrylic
Toughness	Impact Resistance	Superior	Good
	Breakage Resistance	Superior	Fair
	Scratch Resistance	Good	Excellent
	Stiffness Buffing	Medium Excellent/fine scratches	High Excellent/fine scratches
	Weathering	Yellowing	Excellent
	Gloss Retention	Superior	Superior
Machining	Routing, Sawing	Excellent	Good
All Battery operated tools must be fully charged. Sharp blades a must. Bonethane GN to be cut with plastic blade.	Jig Saw, Hand Saw	Standard fabricating equipment, Sharp Blade, fine sharp teeth. Fully charge for battery operated tools.	Sharp fine teeth Plastic Blade for Cutting  Fully charge for battery operated tools.
Visual	Light Transmission	Superior	Superior

**Do not polish ISPS grades for high gloss finish. Once washed and rinsed with soft cameo. Rinse & wipe with warm damp towelling cloth allowing ISPS grades to air dry & shine**

**PREMIUM**

**TECHNICAL DATA**

CRITICAL Test Methods:

AS1580 410.1 Cold Checking Cycling 20 Cycles, ASTM D 4585-99, 1000Hrs/60C Water Resistance, KCMA 9.3, 24 Hours Chemical Resistance

BS 3962 Part 2 1980 Resistance to Dry Heat BS 3962 part 3 1980 Resistance to Wet Heat Steel Wool Surface Scratch Test 10 Double Rubs on Coating Formulae to back. Full immersion boiling hot water Test, 3 min 100 °C

**Grades**

Bonethane **PREMIUM**

PHYSICAL PROPERTIES MECHANICAL	TEST METHODS	UNIT/VALUE BONETHANE premium
SPECIFIC GRAVITY	ASTMD792	1.2 g/cm
LIGHT TRANSMISSION	ASTMD1003	85-91
TENSILE STRENGTH	ASTMD638	58.8 - 68.6
FLEXURAL STRENGTH	ASTMD790	80.5-95.2
ELONGATION	ASTMD638	90 – 140
NOTCHED IZOD IMPACT STRENGTH NOTCHED UNNOTCHED	ASTMD256	70 – 100 kj/m2 12-16 NO FAILURE
VICAT SOFTENING POINT	ASTMD1525	135 °C
THERMAL CONDUCTIVITY	ASTMC177	.19
THERMAL EXPANSION	ASTMD696	.7
<b>CONTINUOUS SERVICE TEMPERATURE</b> : <b>NOT</b> SUITABLE FOR GAS HOB.	DO NOT BUTT UP TO HIGH HEAT SOURCE.	110 °C

Test conditions and typical Values. Units and the Standards measured by.			
HEAT DEFLECTION TEMP	ASTMD648 - 264 psi ASTM D648 - 66 psi	132.22 °C 137.77 °C	
SMOKE DENSITY .125	ASTMD2843		
COMBUSTIBILITY	Self Extinguishing ISO1210:1992	SELF EXTINGUISHING when ignition removed.	
<b>THERMAL</b>			
D696	Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	3.9	1.2
D648	Heat Deflection Temp (°F / °C) at 264 psi	270 / 132	295 / 146
D3418	Glass Transition Temp (°F / °C)	293 / 145	300 / 149
-	Max Operating Temp (°F / °C)	250 / 121	270 / 132
C177	Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F) (x 10 <sup>-4</sup> cal/cm-sec-°C)	1.3 6.9	1.3 6.9
UL94	Flammability Rating @ less than .45" (11.5mm) thickness @ .45" (11.5mm) thickness and above	H-B V-0	H-B V-0
Temperature of deflection under load	Method A: 1.80 MPa		
Thermal conductivity	ratio 0.19 W(m-k)	ASTM C177	
Dielectric strength Volume resistivity Dissipation factor	30 kV/mm 10 <sup>16</sup> /Ohm·cm at 100 MHz	,10, 10 <sup>-4</sup> ,	ASTM D150 ASTM D150 ASTM D150

### Bonethane Premium Chemical and Physical Properties

- Greater heat distribution and electrical resistance
- Critical Strength, impact and breakage defiant.
- Sheet application as indicated in our step by step instructions, coloured in any colour easily.
- Can be 100 % fully recycled in to Bonethane10
- Can be cut drilled and planned without cracking and splitting.
- Maximum Temperature Load 155 °c
- Continuous Service Temperature 100 °c
- Low weight, superior strength.

**IPA Acrylic** Grade 6mm Acrylic

PHYSICAL PROPERTIES	Value		Units
SPECIFIC GRAVITY	1.19		
LIGHT TRANSMISSION	93		%
TENSILE STRENGTH	Rupture	560	Kgcm <sup>2</sup>
	Modules of Elasticity	25000	Kgcm <sup>2</sup>
	Elongation	3-7	%
FLEXURAL STRENGTH	Rupture	1003	Kgcm <sup>2</sup>
	Modules of Elasticity	24700	Kgcm <sup>2</sup>
SHEAR STRENGTH	443		Kgcm <sup>2</sup>
IMPACT STRENGTH	200 gr steel ball	0.4	m
HEAT DISTORTION	75		°C
MAX RECOMMENDED CONTINUOUS SERVICE TEMP	55		°C

Grades, IPA Acrylic

Based on 3mm thickness

**BONETHANE PREMIUM** (Tests conducted on 3mm thick material)

Difficult to light, self extinguishes. May soften, spurt, char or decompose.

Surface Spread of Flame	BS 476: Part 7	Class 1Y
Fire Propagation Index	BS 476: Part 6	I = 7.5
Rate of Burning	BS 2782	NIL mm/sec

**IPA ACRYLIC** (Tests conducted on 3mm thick material)

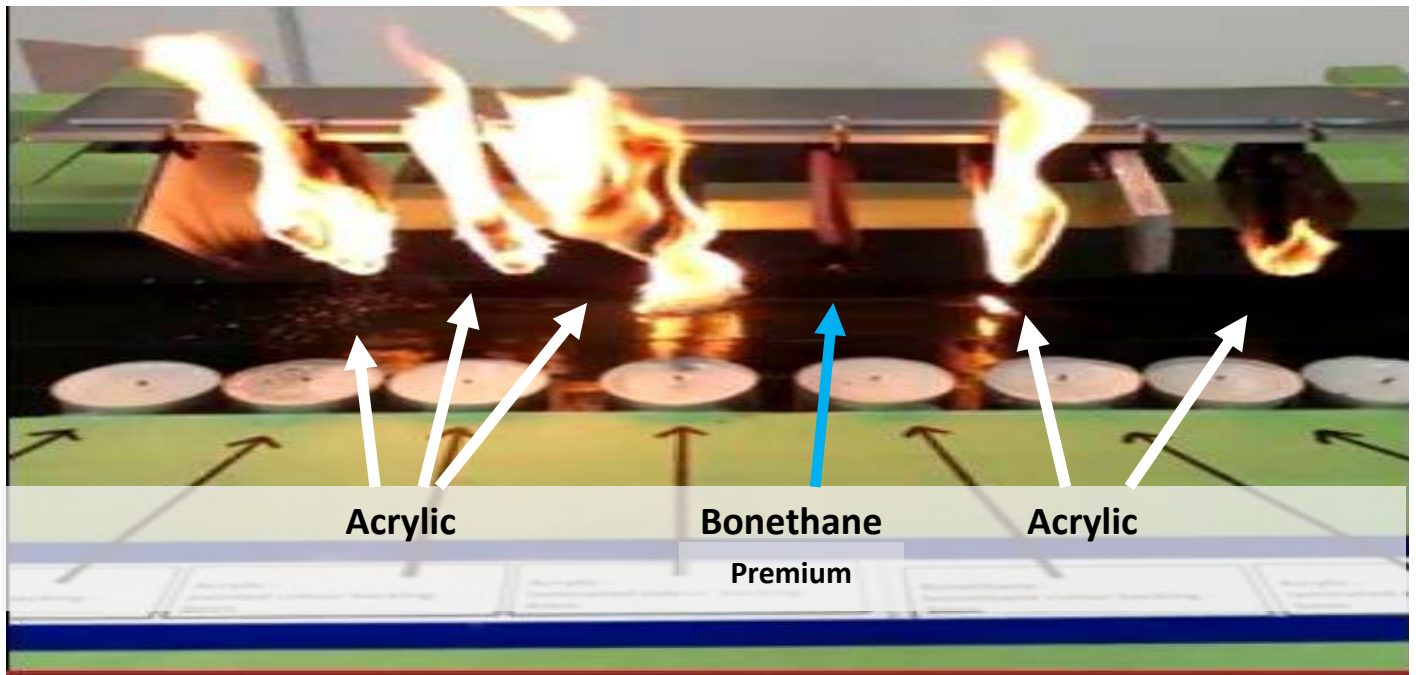
Lights readily does not self extinguish. May crackle, soften, char or spurt.

Flammability	UL94	Class HB
Burn Rate (Horizontal)	ASTM D635	33mm / min

**IPA ACRYLIC UV** (Tests conducted on 3mm thick material)

Lights readily does not self extinguish and will drip. May crackle, soften, char or spurt.

Flammability	UL94	Class HB
Ignitability Index (0-20)	Australian Standard 1530 Part 3	14
Spread of Flame Index (0-10)	Australian Standard 1530 Part 3	8
Heat Evolved Index (0-10)	Australian Standard 1530 Part 3	6
Smoke Developed Index (0-10)	Australian Standard 1530 Part 3	4



## PRODUCT LIABILITY CLAUSE

This information and our technical advice whether verbal, in writing or by way of trials, are given in good faith but without warranty as our advice does not release you from your obligation to verify the information provided in our safety data and technical information sheets and to use the products in which they have been tested for their suitability & intended use, processes & application. This is what your warranty covers.

The application, use and processing of our products and the products manufactured or used by you in conjunction with Bonethane Premium or IPA Acrylic on the basis of our technical advice are beyond our control and therefore entirely your own responsibility.

These figures report reliable & accurate information to the best of our knowledge; however guarantees cannot be given due to conditions of use being beyond our control in your environment and supervision. Sheeting applications should be considered on the merits and if in doubt contact ISPS.

### Warranties

#### Kitchen Areas

Do not use Bonethane Premium or IPA Acrylic behind Gas Burners. Do not leave kitchen unattended when cooking for long periods of time, without supervision. Please take up our star-fire glass offer for cooktops if sufficient space behind cooktop is not allocated. Our advice does not release you from the obligation to verify the suitability for the products resting place. Bonethane & IPA Acrylic must not go behind direct extreme heat gas flame source. Use VetroPoly™ Star fire toughened Glass. Follow Australian standard regulations which has been put together for your safety. Gas Burners require 20cm clearance from direct flame source, 60mm clearance for induction or ceramic elements for Bonethane. Do not press hot pots up against sheeting, maintain appropriate clearances.

**Bathroom & wet areas.** Ensure areas are waterproofed and cured prior to placement of polymer substrates. Walls should be lined prior to placement of sheeting.

#### Adhesives & use of Adhesives or Slow Releasing Vapours.

Use neutral cure non acidic silicone in grid format 10 cm apart. We have a list of quality tested adhesives against our range. Ensure that coated walls are fully cured prior to placement. **DO NOT:** use varnishes with slow releasing vapours (decking varnishes etc.) this can eat into coatings and delaminate. Maintain receipt for proof of purchase and warranty on all substrates and adhesives.

#### Expansion & Contraction

Allow 1 to 2mm gap around parameter of sheeting accept where butt joining on one end or placement of joining strip. It is important that one vertical or horizontal edge allows for expansion leverage. With internal joins like a shower cubical allow 2mm internal, slotting in first sheet then sliding in second sheet to meet internal point. If you have any concerns contact ISPS Innovations prior to placement. ISPS are contactable 7 days a week till 9pm nationally. [www.ispsinnovations.com.au](http://www.ispsinnovations.com.au) PH: 08 8381 8880