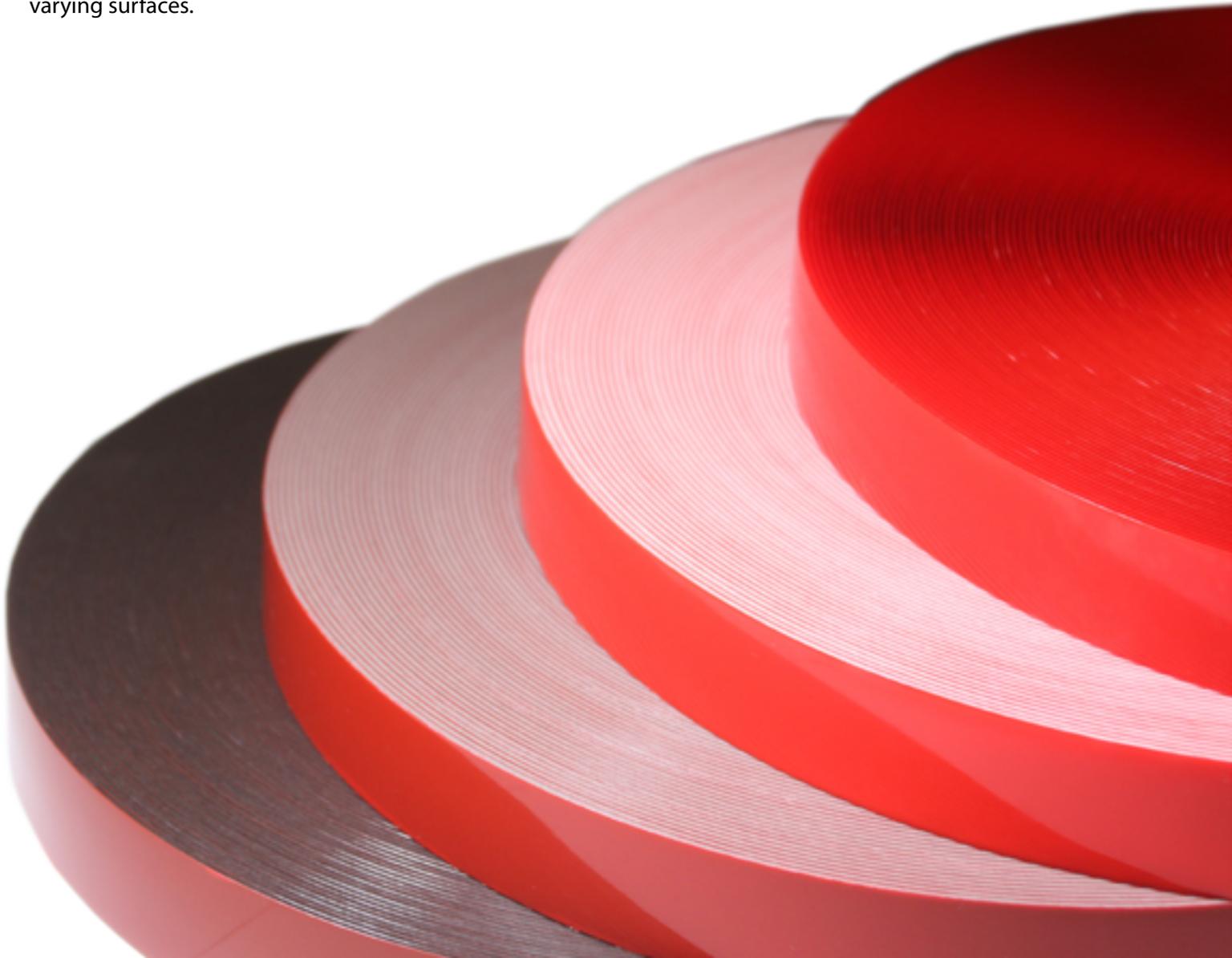


# ULTRA STRONG BONDING SOLUTIONS

## Foamed Acrylic Double Sided Tape Range

### **UHB Ultra High Bond Foamed Acrylic Double Sided Tapes**

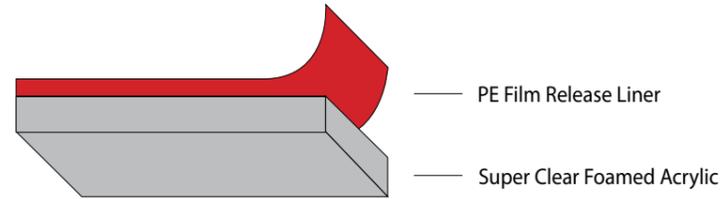
The **UHB** range is made of a technically advanced closed cell foamed acrylic adhesive core, which is often coated for extra initial Adhesion properties. These **UHB** tapes are able to bond with outstanding strength and exhibit greater durability and elasticity than conventional double sided foam tapes. The foamed acrylic structure has unique dual properties of being viscous (liquid) and elastic (solid). The viscous properties means the adhesive will flow into microscope surface irregularities to form a strong mechanical bond. While the elastic properties allow the **UHB** to absorb dynamic loads and accommodate degrees of differential expansion and contraction between varying surfaces.



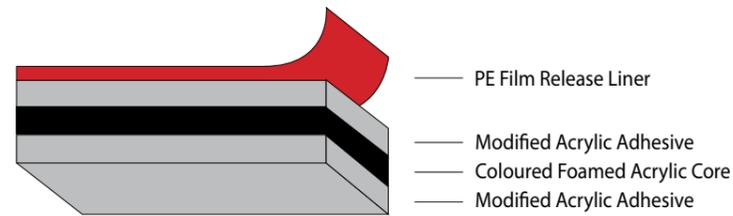
# UHB Closed Cell Foamed Acrylic



Uncoated Version



Coated Version



## Features & Benefits:

- ▶ The UHB tapes are designed to replace or compliment traditional fastening systems such as rivets, screws, welding and liquid adhesives.
- ▶ They exhibit excellent resistance to long term environmental conditions such as:
  - ◆ UV light, temperature cycles & humidity.
  - ◆ Normal weather, moisture & wind conditions.
- ▶ Resist most solvents and salt water conditions.
- ▶ Assist in preventing corrosion between dissimilar metals.
- ▶ Absorb dynamic loads & accommodate differential expansion & contraction.
- ▶ Used for effective vibration dampening & noise reduction.
- ▶ The UHB release liner is made from strong PE film which will not tear on removal.

## Extra Benefits:

- ▶ Fast - no mess with clean application
- ▶ Virtually an invisible method for bonding & attachment, resulting in improved appearance to enhance visual appeal.
- ▶ Various product densities available - soft conformable type & firmer for dimensional stability.
- ▶ Reduce manufacturing & assembly costs.



# Typical Applications - Guide Only

The products listed are only intended as a guide and selections must be based on various factors including - thickness & colour required, type of substrate & environment. We recommended consultation with us to assist in selecting the correct product and testing to assess application suitability.

Applications	Clear	White	Grey	Black
<b>CONSTRUCTION - BUILDING</b>				
Bonding architectural cladding panels		1902	1917	
Securing interior partition panels			1908 / 1910	2046
Securing skylights.		1901	1908 / 1910	2046
Mounting architectural hardware - decorative trim, handles & kick plates.	1906	1901	1910	2045
Fixing interior wall systems - used in conjunction with liquid adhesive.		1901	1910	2045
Bonding extrusions (metal & plastic) to windows & building framework.	1905	1901	1908	
Mirror mounting		1901	1910	
Bonding muntin bars (glazing bars) to window.	1906		1908	2045
<b>ELECTRONICS</b>				
Bonding trim onto electrical components & audio/ visual equipment.		1901	1908 / 1910	2045
Sealing / bonding of cabinets & machinery casings.			1908 / 1910	2046
Mounting alarms/ security cameras, car aerials etc.	1906 / 1903	1901	1910	
Securing components - battery packs, circuit boards & cables.	1906		1910	2045
<b>METAL &amp; PLASTIC FABRICATORS &amp; GENERAL MANUFACTURING</b>				
Bonding various smooth profiles - powder coated metal & moulded plastic.		1900 / 1901	1908 / 1910	
Bonding on rough or a gap filler is required	1907	1902		1917
Bonding clear acrylics for point of sales display	1905 / 1906 / 1903 / 1904			
Mounting magnetic extrusions to metal & plastic profiles.		1900	1908	
Furniture - bonding thin wood, plastic & metal panels & profiles.	1905	1900	1908	
<b>SIGN &amp; GRAPHICS</b>				
Bonding clear / translucent acrylics & polycarbonates for signage.	1905 / 1906 / 1903 / 1904			
Mounting permanent signs, decals & nameplates.	1906	1900 / 1901	1910	
Fixing individual signage lettering.	1905 / 1906	1901	1908	
Bonding stiffeners to metal panels for road signs.			1910	2045 / 2046
<b>TRANSPORTATION - Car, Bus, Horse Trailers, Truck, Caravan &amp; Marine.</b>				
Badge and emblem mounting			1908 / 1910	2045
Attaching vehicle side moulding & trim			1908 / 1910	2045
Bonding roof and side panels			1910	2045
Bonding reinforcing profiles to panels			1910 / 1917	2046
Mounting mirrors, spoilers, tread plates, wheel arch mouldings & protective floor trims.		1901	1908 / 1910	2045

# UHB Foamed Acrylic Product Range

UNCOATED RANGE						
Colour	Code	Adhesive Type / Density Foamed Acrylic Core	Thickness	Description	Temperature Resistance	Relative Adhesion
Super Clear	1905	Firm 1000 Kg/m3	0.5 MM	Excellent dimensional stability & clarity. For invisible mounting & bonding.	- 40°C to +120°C (+149°C short periods).	MSE (Good) - HSE (Excellent)
Super Clear	1906	Firm 1000 Kg/m3	1.0 MM	Excellent dimensional stability & clarity. For invisible mounting & bonding.	- 40°C to +120°C (+149°C short periods).	MSE (Good) - HSE (Excellent)
Super Clear	1903	Firm 1000 Kg/m3	1.5 MM	Excellent dimensional stability & clarity. For invisible mounting & bonding.	- 40°C to +120°C (+149°C short periods).	MSE (Good) - HSE (Excellent)
Super Clear	1904	Firm 1000 Kg/m3	2.0 MM	Excellent dimensional stability & clarity. For invisible mounting & bonding.	- 40°C to +120°C (+149°C short periods).	MSE (Good) - HSE (Excellent)
Super Clear	1907	Firm 1000 Kg/m3	3.0 MM	Excellent dimensional stability & clarity. For invisible mounting & bonding.	- 40°C to +120°C (+149°C short periods).	MSE (Good) - HSE (Excellent)
COATED RANGE						
Colour	Code	Adhesive Type / Density Foamed Acrylic Core + Modified Acrylic Coating	Thick	Description	Temperature Resistance	Relative Adhesion
White	1900	Medium 730 Kg/m3	0.6 MM	Excellent conformability & initial bond strength. For Multi-purpose use.	- 40°C to +120°C (+149°C short periods).	LSE (Primer) - MSE (Good) - HSE (Excellent)
White	1901	Medium 730 Kg/m3	1.1 MM	Excellent conformability & initial bond strength. For Multi-purpose use. Good for Low temperature applying ('+ 5°C)	- 40°C to +120°C (+149°C short periods).	LSE (Primer) - MSE (Good) - HSE (Excellent)
White	1902	Medium 730 Kg/m3	2.0 MM	Excellent conformability & initial bond strength. For Multi-purpose use.	- 40°C to +120°C (+149°C short periods).	LSE (Primer) - MSE (Good) - HSE (Excellent)
Grey	1908	Medium 730 Kg/m3	0.6 MM	Excellent conformability & high bond strength. V good long - life bonding.	- 40°C to +120°C (+149°C short periods).	LSE (Good) - MSE (V Good) - HSE (Excellent)
Grey	1910	Medium 730 Kg/m3	1.1 MM	Excellent conformability & high bond strength. V good long - life bonding. Good resistance to plasticiser migration (Vinyl materials).	- 40°C to +120°C (+149°C short periods).	LSE (Good) - MSE (V Good) - HSE (Excellent)
Grey	1917	Medium 730 Kg/m3	2.3 MM	Excellent conformability & high bond strength. V good long - life bonding.	- 40°C to +120°C (+149°C short periods).	LSE (Good) - MSE (V Good) - HSE (Excellent)
Black	2045	Firm 930 Kg/m3	1.1 MM	Excellent dimensional stability & strength. For Multi-purpose mounting & bonding.	- 40°C to +120°C (+149°C short periods).	LSE (Primer) - MSE (V Good) - HSE (Excellent)
Black	2046	Firm 930 Kg/m3	1.5 MM	Excellent dimensional stability & strength. For Multi-purpose mounting & bonding.	- 40°C to +120°C (+149°C short periods).	LSE (Primer) - MSE (V Good) - HSE (Excellent)

**Note On Product Density:**

Softer Densities offer better conformability & flexibility.  
Firmer Densities offer better dimensional stability & load bearing.

## UHB Foamed Acrylic Curing Time Guide:

This is a rough guide to assist in the process of understanding the time required for the foamed acrylics to reach their max bond strength.

- ▶ After 20 mins - 50%
- ▶ 1 Hour - 75%
- ▶ 1 Day - 90%
- ▶ 3 Days - 100%

In consideration of the curing time it is important not to put the bond under immediate stress or loading. Where this is not possible please consider using either mechanical clamps temporarily or use a greater amount of tape to compensate for any extra loading.

It may also be possible to use other tapes such as masking or cloth tapes to temporarily assist in supporting structures while curing is taking place.

Example of the amount of tape required in Meters to support a given weight in kgs. (Guide only).

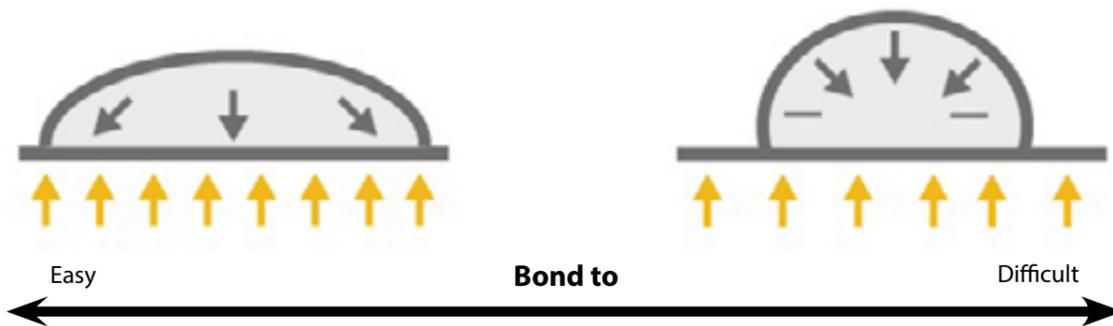
KG's	1	5	10	20	25
18mm	0.32	1.55	3.1	6.2	7.8
24mm	0.24	1.15	2.3	4.6	5.8

## Different Substrates & Relative Surface Energy Guide

NOTE: This relates to the UHB foamed acrylic chart on previous page

High Surface Energy  
Easy to adhere  
Good adhesive "wet out"

Low Surface Energy  
Hard to adhere  
Poor adhesive "wet out"



High Surface Energy (HSE)	Medium Surface Energy (MSE)	Low Surface Energy (LSE)
Stainless Steel	Acrylic	Polyethylene
Aluminium	Rigid PVC	Polypropylene
Glass	Polycarbonate	Silicone
Anodized Aluminium	ABS	Acetate
Zinc	Polyester	Teflon
Cooper	Nylon	Tedlar
Lead	Kapton	Polystyrene
Painted Metal (not powder coated)	Epoxy & PU Paint	EVA
	Powder coated Metal	

Note: The higher the surface energy, the greater the strength of adhesion.

## Quick Tape Selection Guide For Consideration



The factors below can influence your selection and success

Consideration graph

Surface Type	Environmental Factors	Application Techniques
Surface texture	Solvents/Chemicals	Preparation - Key
Surface contour	Temperature Exposure	Time
Surface energy	UV Light Exposure	Temperature
Surface contamination	Weather conditions	Pressure
Surface rigidity & Stiffness	Differential Expansion & Contraction	Selection of Thickness and Width



## Tape Application Guide - Advanced

Recommended application guide for UHB Foamed Acrylic Tapes & Double Sided Tape Systems. These methods will assist in obtaining optimum surface adhesion.



### Surface Preparation Guide:

All surface contact areas must be free from dirt, grease, wax, moisture and contaminants such as release agents used on plastics, residual detergents, oil from skin and loose particles from unsealed surfaces.

#### Action:

- ▶ Wipe surfaces with a typical cleaning solvent example 50/50 IPA isopropyl alcohol/ water mixture. Since not every cleaning agent is suitable for every substrate, please check the cleaning agent suitability.
- ▶ Remove all residues with a clean, lint free wiping cloth (ensure you wipe in one direction to prevent cross contamination).
- ▶ All surfaces must be dry, free from moisture before applying the tape.

In addition to chemical cleaning it may be necessary to use an abrasive pad to prepare surfaces such as bare metals, heavily contaminated surfaces, remove old paint, rust & oxides. Please ensure to remove all dust with a lint free wipe.

## Special Considerations:

- ▶ Low Surface Energy substrates may need to be chemically primed before tape application to ensure an effective bonding surface. Please contact us for primer information.
- ▶ Most porous surfaces such as concrete, wood, plaster, & fabrics need to be sealed for effective tape bonding. Ensure that any sealers used are fully cured prior to applying the tape.
- ▶ Some materials such as copper, bronze, lead & plasticized vinyl may need to be sealed or primed prior to applying the tape.
- ▶ Glass surfaces may need to be primed especially if used in high humidity conditions.
- ▶ Best bonding results are generally achieved on smooth surfaces, however on textured or uneven substrates it is important to select & test a suitable tape with a thicker carrier & a heavier adhesive mass.



## Application Pressure:

The bond strength is a direct function of the contact between the adhesive and the substrates. Good surface contact is attained by high application pressure, which can be obtained, for instance, by using a squeegee, pressure roller or pressure fixture. Generally this results in a better bonding contact than the application by hand. The way the pressure is applied and the amount of pressure depend on the materials used. It is therefore necessary to co-ordinate the application pressure parameters with the materials. Please bear in mind that, depending on the adhesive system used, it may take up to 72 hours to attain the final bond strength.

Please make sure that the ends of the parts to be joined are strain-free. Shear and tensile loads acting on the bonded parts must be able to spread over the entire adhesive surface. Long-lasting tensions generally have a negative impact on the bond strength.

## Processing / Application Temperature:

Optimum processing temperatures (object temperature and ambient temperature) range from +15°C to +30°C. We do not recommend working at higher temperatures unless adhesive systems that were especially developed for that purpose are used. If the tape is applied below the recommended temperature, the adhesive may harden, compromising the desired adhesion.

The formation of condensate must always be avoided. Condensate can form only when the adhesive tape and/or the substrate is moved from a cold area to a warmer one. In such cases sufficient time should be allowed between transportation and application so that the temperatures of all parts to be joined become similar and rise to a value



within the above-mentioned temperature range.

## Product Storage:

Adhesive tapes must be stored in their original packing at 20°C and relative humidity of 50%. High relative humidity & direct sunlight must be avoided at all costs. Normal storage timeframe from date of manufacture is 12 months.

## Tape Application:

Remember: Pressure sensitive tapes ideally require around 15psi (100 kPa) to achieve good “wet out”, however this will be affected by the smoothness of the two surfaces and the ambient temperature.

Unwind the tape and smooth down with hand pressure, avoiding any wrinkles



## Note – Application Temperature:

- ▶ Depending on the surface type you may need to apply a primer &/or use an abrasive pads – follow surface preparation guidelines.
- ▶ Apply firm, even pressure across the surface of the release liner with a hand pressure roller to ensure entire surface contact with no air bubbles.
- ▶ The release liner should be left on until the second surface is prepared & ready to be bonded.
- ▶ It is recommended to peel back the release liner at 90° especially if one is positioning the tape in a mounting application. Expose part of the tape to assist in correct positioning and remove the rest of the release liner once in place. In some cases clamping surfaces together maybe beneficial to assist in a solid bond over the curing time.

These processing instructions are based on our know-how and experience. They do not explain all bonding aspects to be taken into account. The user is expected to have subject specific knowledge and know-how. Because of the large number of potential influences resulting from processing, bonding and use we recommend that you conduct tests on our products before using them for special applications. Our data do not imply any guarantee of specific properties.

For more specific information on application of our tape products, contact our helpful sales team.