

Adhesives

trade essentials®





Trade Essentials® Adhesives are a range of high quality glues specifically designed for the trade to bond a wide variety of products, including laminates, melamine board, wood and wood based panel products.

Trade Essentials® Adhesives are manufactured specifically for Laminex by one of Australia's largest and most experienced adhesive manufacturers. When you purchase Trade Essentials® Adhesives you can be assured that these adhesives are of the highest possible quality and have been thoroughly tested to ensure they meet our standards.



The following product groups are available in the Trade Essentials® Adhesives range:

- Contact Adhesives
- Construction Adhesives
- PVA's and Water Based Adhesives
- Cleaners

Contact Adhesives

Trade Essentials® Contact Adhesives are solvent based products designed to provide superior bonds specifically for decorative high pressure laminates and other non-porous building products. Contact adhesives are available in both sprayable and brushable formats.

Sprayable Contact Adhesive

Sprayable Contact Adhesive is a sprayable solvent based contact adhesive that offers a high strength heat-resistant bond that is resistant to water, many household chemicals and ageing. It is available in clear or in red and in either a 20 litre or 200 litre size.

It is designed for use in the furniture and building trade for bonding a wide range of surfaces such as fabric backed plastics, plywood, particleboard, MDF, wood veneer, plasterboard, laminated plastics, aluminium, mild steel, galvanised iron and polyurethane foam without the need for clamps or mechanical support. It is used in the manufacture of counter tops, table tops, desk tops, vanities, furniture, sandwich panels, doors, cabinets, partitions, wall panels and other laminated products.

It is not suitable for bonding polystyrene, solid polypropylene, polyethylene, copper, copper alloys, exterior applications or load bearing joints.

Typical Properties	
Colour	Sprayable Contact Adhesive – Red Sprayable Contact Adhesive – Clear
Bonding Range	Up to 30 mins
Heat Resistance	140°C (AS1937.4)
Solids	17.5% approx. (sprayable grade)
Viscosity	300cps approx. (sprayable grade)
Specific Gravity	0.86 Kg/Lt approx.
Coverage	6-8m ² per litre for total area

Surface preparation

Surfaces must be clean, dry, free from oil and dust. Wipe metal surface with solvent to remove oil often found on metal.

Application

Sprayable Contact Adhesive can be applied using conventional air-spray equipment, with pressure pot being best to use. Spray adhesive to both surfaces to be bonded. Apply adhesive to approximately 80% coverage over the entire area, half in a north-south spray pattern and half east-west. Apply additional adhesive to edges or areas that will be post-formed to achieve 100% coverage.

Allow surfaces to dry before bonding. This will take 5-10 minutes when cold spray equipment is used. A longer drying time may be necessary under high humidity conditions. When dry, the adhesive will feel tacky, but will not transfer to the finger when touched. Surfaces should be joined within 30 minutes after application. If the surfaces are not joined within this time, they can be re-activated by applying another coat of adhesive.

A minimum of 276 Kpa (40PSI) bond pressure is suggested for best results. A pinch roller or rotary press is recommended. If not available, use a 75mm rubber hand roller and apply pressure from the centre toward edges to avoid air pockets and bubbles. Do not use so much pressure as to crush core materials.

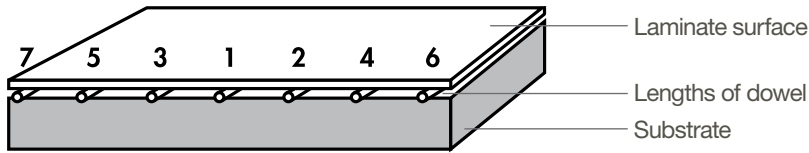
Proper spraying

1. Adjust the gun to give correct coverage of adhesive. i.e. Fluid control, air control, gun depression (trigger).
2. Spray at 45° to the substrate and hold gun 300-375mm from substrate while spraying. Do not forget to trigger the gun when you complete your pass.
3. Spray the least porous surface first.
4. Adhesive must be thoroughly dry before bonding. Do not exceed bonding range of adhesive.
5. Combine substrates and run through pinch roller immediately after combining.
6. Full curing achieved after 7 days.

When bringing the two surfaces together work from the centre out to the edges/ends. This will remove any tension that can be in the laminate sheet. When hand rolling, work from the centre to the end also.



Bring the two surfaces together



Caution

Highly Flammable – use in a ventilated area away from flame or sparks. Store in a cool, dry place.

Note: The two most common causes of bond failure are:

1. Not enough pressure applied when bonding.
2. Adhesive coating too thin.

Red Sprayable Contact Adhesive minimises operator error in this regard.

Equipment and adhesive spills can be cleaned with Trade Essentials® Adhesive Cleaner.

Note: Solvent is not recommended for removing adhesive from vinyl or lacquered surfaces.

Spray application solutions

Symptom	Cause	Action
Adhesive coating splatters and is uneven	Too much fluid reaching tip. Atomisation pressure too low. Air cap clogged.	Reduce fluid pressure and flow. Increase air pressure. Clean with solvent or broom straw.
Narrow fan	Improper choice of air cap. Inadequate air pressure. Fluid pressure too low.	Choose correct air cap. Increase air pressure. Adjust pressure balance (air versus fluid).
Too light spray pattern	Insufficient adhesive reaching gun. Atomisation pressure too high. Gun nozzle or caps are plugged. Spray gun moving too fast.	Increase fluid pressure. Reduce air pressure. Clean with solvent or broom straw. Slow speed.
Adhesive cobwebs when sprayed	Gun too far from work. Atomisation pressure too high.	Reduce distance between gun and work to 300mm. Reduce air pressure.
Adhesive film has lost its 'tack' or initial grab	Conditions too cold. Blushing.	Raise area temperature to above 18°C. Use approved hot air blowers to remove moisture. An additional coat of adhesive may be required.
Adhesive separating in drum, with thinner solvent on top and thicker solids on bottom	Material has phased or settled.	Thoroughly stir and remix before using.

Brushable Contact Adhesive

Brushable Contact Adhesive is a general purpose polychloroprene based, brush-scraper grade contact adhesive used for bonding decorative laminates to plywood, particleboard, and medium density fibreboard. It is available in 4 litres or 20 litres.

It is also used for bonding supported PVC, cork, leather, wood, metal and most types of rubber. This adhesive is not suitable for external use, waterproof bonds, bonding fibreglass to fibreglass, or for bonding materials to copper or its alloys.

Typical Properties	
Colour	Yellow to amber
Heat Resistance	140°C (AS1937.4)
Solids	22.5% approx.
Viscosity	1500cps approx.
Specific Gravity	0.84 Kg/Lt approx.
Coverage	4m ² /Lt per surface



Surface preparation

To obtain the best results, the surfaces to be bonded should be dry, clean, and free from dust, grit, oil, loose materials etc.

Application

Apply an even film of adhesive with a brush, or serrated scraper (provided with the adhesives) to both surfaces to be bonded, paying particular attention to the edges.

Allow the coated surfaces to dry until slightly tacky, approximately 15 minutes at normal room temperature.

A longer drying time may be necessary under high humidity conditions. Bring both surfaces together with a rolling action to avoid trapping air, ensuring that they are in the correct position at first application, as the surface will adhere immediately on contact. Apply hand pressure strength.

If possible, roll the surfaces together through a pinch roller or press with a rubber hand roller from the centre out to eliminate air pockets. Full bond strength will be achieved in about two days from bonding; however, about 90% of the bond strength will be obtained within 24 hours of bonding.

Clean up

Equipment or adhesive spills can be cleaned up with Trade Essentials® Adhesive Cleaner.

Note: Solvent is not recommended for removing adhesive from vinyl or lacquered surfaces.

Contact Adhesive Handy Hints

DO NOT leave the lid off containers.

DO NOT store containers on concrete floors. Store on wooden base to prevent cold concrete chilling.

DO NOT store containers outside as this could lead to adhesive solidifying.

DO NOT smoke or have open flame near adhesive.

DO NOT add foreign solvent to Trade Essentials® Adhesives.

DO NOT apply adhesive at temperatures below 10°C unless adequate heating and drying facilities are installed. There is a definite loss of 'grab' at low temperatures.

DO NOT apply adhesive over painted surfaces.

DO check for proper surface preparation. Wipe metal with cleaner before applying adhesive. Mill process oil is often found on metal. Mould release powders are often found on rubber and plastic castings.

DO test adhesive on new or different components before going into production.

DO apply two coats to rough end grain.

DO apply enough adhesive and pressure to surfaces. 85% of failures are due to one or both of these factors.

DO regularly check the condensation trap to ensure air lines are free of water.

DO clean up using Trade Essentials® Adhesive Cleaner.

Bond Failure

The main symptoms and causes are:

Symptom	Possible Cause
Edge lifting	Insufficient adhesive. Bonding too soon. Insufficient pressure. Exposed to direct heat from the sun before 72 hrs.
Bubble in centre of laminate	Bonding too soon, trapping solvent. Edges were bonded first, instead of bonding from the centre outwards. Insufficient adhesive or inconsistent spray pattern.
Shiny area over entire surface	Insufficient pressure.
Dull areas on substrate	Coating too thin on highly absorbent surfaces.
Adhesive stringy when delaminating	Insufficient drying time, therefore bonding too soon.
Small circular unbonded areas:	Dry or contaminated areas.
Water film on top of adhesive (blushing):	Usage in cold weather without the use of an approved hot air blower or industrial heater.

Construction Adhesives

Trade Essentials® Construction Adhesives are solvent based mastic adhesives packaged in cartridge form and designed for use by the construction industry. They are suitable for a wide variety of jobs including wall and floor panelling. Product available in 300ml.

Wet Area Panelling Adhesive

Wet Area Panelling Adhesive is a high strength, polychloroprene rubber based adhesive/sealant supplied in a ready to use cartridge. It cures to form a tough, flexible heat and moisture resistant bond.

Applications

Wet Area Panelling Adhesive is recommended for bonding a wide variety of materials including timber, tileboard, hardboard, gyprock, steel, aluminium and cement sheet etc. It is ideal for the installation of most wallboards and interior panelling products.

It is not suitable for the bonding of polystyrene foam.

Typical Properties	
Colour	Pale yellow
Solids	42% approx.
Viscosity	180,000 CPS @ 25°C approx.
Specific Gravity	0.95 Kg/Lt
Coverage	A 300ml cartridge will form 15 metres of a 5mm bead
Quantity	300ml
ASW Code	716106

Directions

Surfaces to be bonded must be dry, clean and free from paint, oil, grease, dust, etc. Apply a 5mm bead of Wet Area Panelling Adhesive to each stud, batten or frame section to be covered. If fixing to a solid surface such as a brick or concrete wall, place dabs of adhesive spaced 150mm apart, 35mm in diameter and 4-5mm thick.

Position wall panelling to be bonded and press together ensuring a transference of half the adhesive to back of panel.

Pull the two surfaces apart and allow the adhesive to dry for 5-15 minutes depending on weather conditions.

Reposition the panelling and press the two surfaces together. Use a rubber mallet or a hammer and clean block of wood to ensure a complete bond. The joint will continue to gain strength for 2-3 days and maximum stress loading should not be applied until such time.

Clean up

Use Trade Essentials® Adhesive Cleaner.

Please refer to Wet Area Panelling Installation Guide for detailed instructions on this product.



PVA's and Water Based Adhesives

Trade Essentials® PVA's and water based adhesives are designed for use on a wide range of timber and wood based panel products and various applications.

General Purpose PVA

Trade Essentials® General Purpose PVA is a high quality adhesive designed for most woodworking uses. It dries clear, is easily sanded, and is fast setting. Cured bonds will withstand a wide range of temperature and humidity conditions. It is available in a range of sizes, 5 litre or 20 litre.

Properties and applications

Trade Essentials® General Purpose PVA is a fast setting high bond strength grade PVA, suitable for bonding most soft and hard woods as well as particleboard and MDF. It is an excellent adhesive for dowel, mortice and tenon joints. It is suitable for general purpose bonding for joinery and assembly work, where good bond strength and short clamp times are desirable.



Typical Properties	
Colour	White liquid, dries clear
Solids	High (approx. 48%)
pH	4 - 5
Viscosity	Medium (5,500 cps)
Open Assembly Time	5 mins. maximum at 20°C
Closed Assembly Time	10 mins. maximum at 20°C

Directions

- All surfaces to be bonded must be clean, dry and free from oil, grease, dust etc.
- General Purpose PVA Adhesive may be applied by squeeze bottle, trowel, roller coater, air activated glue gun or mechanical glue spreader.
- Bonds must be made while adhesive coating is wet. Where possible, assembled pieces should be clamped for a minimum of 30 minutes while adhesive sets. Light machining is possible after this time, however it is best to allow 24 hours before subjecting bonds to any stress.
- Excessive adhesive can be removed with a damp cloth while adhesive is still wet.
- For exterior applications, use Trade Essentials® Cross Linking PVA.

Coverage

Trade Essentials® General Purpose PVA Adhesive should be applied at a rate of 100 to 200 grams per square metre (5 to 10m² per litre), depending on the porosity of the substrate, application and ambient temperature.

Clamp times (minimum)

Temperature	Low Density Timbers	High Density Timbers
20°C	60 minutes	120 minutes
30°C	30 minutes	60 minutes

When the minimum clamp time is used, the freshly bonded panels should be stacked for a minimum of 24 hours before machining.

Storage

Keep containers sealed and away from direct sunlight. Recommended storage temperature is 5-30°C. General Purpose PVA has a storage life of 12 months.

Limitations

General Purpose PVA is not suitable for load bearing applications or where a water resistant bond is required.

Cross Linking PVA

Cross Linking PVA Adhesive is a unique single pack PVA that provides superior bonding properties to normal PVA. It provides excellent bond strength, high heat and humidity resistance. It is available in either 5 litres or 20 litres.

Properties and applications

Cross Linking PVA Adhesive is fast setting, develops high bond strength and heat and humidity resistance, without Catalyst addition, when dried at normal or elevated temperatures.

The properties of Trade Essentials® Cross Linking PVA are superior to normal PVA, and conform to BS EN 204 – Exposure Group D3.

Applications for Cross Linking PVA include:

- Edge gluing timber.
- Solid timber veneer to core stock.
- Finger jointing.
- Panel to frame gluing.



Typical Properties	
Colour	White liquid, dries clear
Solids	High (approx. 48%)
pH	3.3
Viscosity	Medium (4,500 cps)
Open Assembly Time	5 mins. maximum at 20°C
Closed Assembly Time	10 mins. maximum at 20°C

Directions

Cross Linking PVA Adhesive may be applied via brush, roller or squeeze bottle. It is also suitable for use on powered roll glue spreader or air assisted / airless spray equipment. Cross Linking PVA Adhesive is designed for use with hot press, radio frequency (RF) equipment, or standard cold press setups.

- All surfaces to be bonded must be clean, dry and free from dust, oil, grease etc.
- Timber moisture content should be between 8% and 12%.
- Ambient and panel temperatures should be above 10°C.
- Adhesive should be applied as a thin, even coating to one surface only. Parts should be combined, while the adhesive is wet, using good even pressure (30 to 130 psi is recommended) until the adhesive has set. (See table opposite for adhesive cure times).
- Clamp time details are listed in table below.
- Excessive adhesive can be removed with a damp cloth while adhesive is still wet.
- Not suitable for below waterline applications or for continuous submersion.

Adhesive Cure Times	
Hot Press Cure	Typically 60-90 secs @ 100°C (depending on coating weight & substrate thickness)
Rf Cure	A LOW power setting is preferred to produce workable amperage without arcing. A minimal change after the initial amperage drop-off will indicate adhesive is sufficiently set.
Cold Press	20 - 30 minutes @ 23°C

Coverage

The rate of usage of Trade Essentials® Cross Linking PVA Adhesive is governed by the type of application, substrate and ambient conditions. Coverage shall fall in the range of 75 to 150 grams per square metre (6 to 14m² per litre), for most applications.

Clamp times (minimum)

Temperature	Low Density Timbers	High Density Timbers
20°C	60 minutes	120 minutes
30°C	30 minutes	60 minutes

When the minimum clamp time is used, the freshly bonded panels should be stacked for a minimum of 24 hours before machining.

For lamination of High Pressure Laminates to particleboard or MDF board using a hot press, the following settings have been found to be generally suitable:

Adhesive Coating Weight	70-80gsm
Temperature:	80°C
Press time:	2 minutes
Pressure:	100-150psi

Storage

Keep containers sealed and away from direct sunlight. Recommended storage temperature is 5-30°C. Cross Linking PVA has a shelf life of 6 months. Material Safety Data Sheets are available on request.

Limitations

Cross Linking PVA is not suitable for load bearing applications.



Melamine Adhesive

Melamine Adhesive is an emulsion adhesive for the bonding of synthetic laminated (non-porous) board to timber, particleboard, Craftwood® and other porous surfaces. It is an excellent adhesive for a variety of laminates including DAP, melamine and vinyl coated board. Melamine Adhesive dries to a clear glue line. It is available in either 5 litres or 20 litres.

Properties and applications

Melamine Adhesive is widely used in cabinet making for assembly of laminated board with traditional fittings such as dowels, cams, staples and screws. It is a versatile adhesive that will also bond a variety of porous materials such as timber, particleboard, MDF board and Craftwood® to non-porous substrates such as rigid foam, melamine surfaces and cultured marble.

Typical Properties

Colour	White liquid, dries clear
Solids	High (approx. 50%)
Viscosity	3,500 cps
Open Assembly Time	5 mins. maximum at 20°C
Closed Assembly Time	10 mins. maximum at 20°C
Clamp Time	4 hours minimum

Directions

- Melamine Adhesive can be applied using a roller, spray, brush or squeeze bottle.
- Melamine Adhesive should be used as supplied. Dilution is not recommended.
- All surfaces to be bonded must be clean, dry and free from dust, oil, grease etc.
- Ambient and panel temperatures should be above 10°C.
- Adhesive should be applied as a thin, even coating to particleboard or MDF surface. Parts should be combined, while the adhesive is wet, using good even pressure (30 to 130 psi is recommended) until the adhesive has set.
- With these joints it is also preferable to rub the bead of the glue into the end grain of the particleboard – commonly known as a rub joint. In the dowel application, the glue should be run on the laminated surface and inserted into the dowel holes. Optimum bond strength is obtained after 24 hours assembly.
- Parts should be clamped overnight.
- Excessive adhesive can be removed with a damp cloth while adhesive is still wet.

Storage

Keep containers sealed and away from direct sunlight. Recommended storage temperature is 5-30°C.

Melamine Adhesive is suitable for packing into tubes for ready-to-assemble furniture. Melamine Adhesive has a storage life of 12 months.

Material Safety Data Sheet is available on request.

Limitations

Melamine Adhesive is not suitable for load bearing applications. Melamine Adhesive is not recommended for bonding melamine to melamine.



Adhesive Cleaner

Adhesive Cleaner is a solvent which has been designed for the cleaning and removal of dried solvent based rubber adhesives (contact adhesives). As an Adhesive Cleaner it may be used for the cleaning of equipment and adhesive spillage.

Applications

Trade Essentials® Adhesive Cleaner is not recommended for the thinning of Neoprene contact adhesives.

It is **not** suitable for cleaning bonded Polystyrene foam, since attack of the foam will occur.

Please read the Material Safety Data Sheet for this product before it is used.

Typical Properties	
Colour	Clear liquid
Specific Gravity	0.87 Kg/Lt approx.
Viscosity	Water thin
Solids	0%
Quantity	20 litre
ASW Code	700421



ABS Edge Strip Cleaner

ABS Edge Strip Cleaner is an aliphatic solvent mixture which has been designed for the cleaning and removal of hot melt residues from the surface of ABS melamine and PVC edging.

Applications

ABS Edge Strip Cleaner is not recommended for the thinning of Neoprene contact adhesives nor is it recommended for removal of dried solvent based rubber adhesives.

Hot melt residues can be removed from the surface of ABS, PVC and Melamine Edging by rubbing with a soft cloth containing ABS Edge Strip Cleaner. Severe rubbing may result in gloss change to the surface so care must be exercised.

ABS Edge Strip Cleaner will not damage melamine laminate surfaces. ABS Edge Strip Cleaner can also be used to remove hot melt residues from brushes, machines etc.

Solvents are hazardous. Please read the Material Safety Data Sheet for the solvent before it is used.



Typical Properties

Colour	Clear liquid
Specific Gravity	0.72 Kg/Lt approx.
Viscosity	Water thin
Solids	0%
Quantity	20 litre
ASW Code	786041



Safety and usage of water based adhesives

Storage recommendations

Store in well sealed containers away from heat. Prevent from freezing.

Observe shelf life conditions for the specific products.

PVA and water based adhesives

Materials are water based and non-hazardous.

General ventilation is recommended during normal use. Wash any spillage from skin with water.

If swallowed seek medical assistance. There are no known symptoms of ingestion.

Keep containers closed when not in use.

In case of fire use CO₂, dry chemical or water.

Material Safety Data Sheets are available for all products listed.

General recommendations for water based adhesives

Application can be by glue spreader, roller, squeeze bottle or brush.

Keep measuring equipment clean and accurate.

Adhesive bonding hints

1. Ensure moisture content of timber is under 14%, preferably 8-12%.
2. Timber surfaces should be machined for gluing on the same day.
3. Ensure surfaces for gluing are prepared with sharp well aligned cutters.
4. Assembly should be done within the specified assembly time, and glue squeeze out achieved on pressing.
5. Clamp pressure should be adequate for the assembly to get intimate contact of surfaces. Softwood 50-100 PSI Hardwood 150-200 PSI
6. Test adhesive on new or different components before going into production.
7. Vary coverage rate to suit the porosity of the surface.
8. Do not apply adhesive at temperatures below 15°C, unless adequate heating facilities are installed.
9. Do not apply adhesive over painted surfaces.
10. As hardness / density of timber species increases, the adhesive selected should be the higher crosslinked type.

Bond failure

The most common causes of bond failure are:

- Shrinkage stress from high or variable moisture content of timber.
- Exceeding assembly time of glue in hot or dry weather.
- Poor preparation of the surfaces for gluing.
- Insufficient pressure on large assemblies particularly with hardwoods.
- Use of a glue that is inadequate for the application or substrate.

Adhesive Products & Selection Guide

	SUBSTRATES											APPLICATIONS						
	Particleboard	MDF Board	High Pressure Laminate	Wet Area Panelling	Melamine	Timber	Metals ¹	Plaster Board	Cement Sheet	Masonry	Plastic ²	Rubber ³	Laminating	Post Forming	Edge Gluing	Wall Panels	Flooring	Assembly
Contact Adhesives																		
Brushable Contact Adhesive	•	•	•	•		•	•	•	•	•	•	•	•	•				
Sprayable Contact Adhesive	•	•	•			•	•	•	•	•	•	•	•	•				
Cleaners & Solvents																		
ABS Edge Strip Cleaner															•			
Adhesive Cleaner													•	•			•	
Construction Adhesives																		
Wall Panelling Adhesive	•	•			•	•	•	•	•	•	•					•		
Liquid Bond	•	•				•	•	•	•	•	•					•	•	
PVA Adhesives																		
Cross-Linking PVA Adhesive	•	•	•			•		•	•				•	•	•	•	•	•
General Purpose PVA Adhesive	•	•				•		•	•				•					•
MDF PVA Adhesive	•	•				•		•	•				•	•		•	•	•
Melamine Adhesive	•	•			•	•												•

1. Except copper and its alloys

2. Except polyethylene, polypropylene, teflon, etc.

3. Except silicone or fluropolymers



Available in the Trade Essentials range:

Adhesives
Craftwood (MDF Products)
Fire Retardant Products
Lightweight PVC Panel Products
Particleboard Products
Plywood Products
Strandboard Products
Triboard Products
Ultra LDF Products
White Board and Edging Products

Adhesives are part of the Trade Essentials® range of products

For more information visit tradeessentials.thelaminexgroup.com.au or call 132 136.

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