

BOTE-COTE PHYSICAL PROPERTIES

		Bote Cote Epoxy	Bote Cote CF Resin	EPOX- E-GLUE
Tensile strength	Mpa	55	65	48
Tensile elongation	%	6-8	2-4	6-8
Tensile modulus	Mpa	2.6	3.3	2.58
Flexural strength	Mpa	76	85	76
Flexural modulus	Mpa	2.4	3.7	2.76
Compressive strength				
@ yield	Mpa	90	95	90
@ failure	Mpa	180	200	193
Hardness	Shore D	80	80	75
Heat Distortion Temperature				
RT Cured	Deg C	53-55	53-55	53-55
80°C post cure	Deg C	75-80	75-80	75-80

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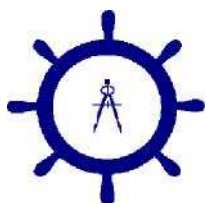
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Bote-Cote

**AUSTRALIA's Modern Technology
MARINE EPOXY SYSTEM**

Why BOTE-COTE?

BOTE COTE is an epoxy system specially formulated to meet the needs of wooden boats and their builders along with carrying out repairs and building of fibreglass composite boats. It offers superior clear finishing to timber which will not Yellow off over time.

BOTE COTE is highly resistant to attack by water and other chemicals and solvents, and as an adhesive, it grips tenaciously to timber and other materials. In particular it is formulated to match the flex properties of timber, so that it is not brittle and will not crack away from the timber as the structure moves naturally. Its high solids formula provides an excellent moisture barrier, and its fast wetting and penetrating properties make it an ideal matrix for fibreglass and other synthetic fibres.

BOTE COTE is based on Modern Technology and is the Safest & easiest to use Epoxy System in Australia.

The main ingredients in the old technology epoxy hardeners which affect people is TETA (TriethyleneTetraAmine) plus a couple of corrosives which have a High Vapour Pressure which means it gases easily and as a result makes it difficult to avoid breathing the vapour. The reason is that the molecules are very small which also allows the chemicals to easily penetrate your skin causing the redness / rashes. Basically anything which is 3:1, 4:1 or 5:1 ratio will be old technology & I have even come across 2:1 epoxy which is laced with nasties. Have a smell of the hardener (be careful it can really affect you if you get a good whiff) and if there is a strong pungent smell it is full of nasties. Another way to tell if the Epoxy is old technology is that they are classed as Dangerous Goods due to the nasties in the hardener.

The reason **BOTE COTE** is much safer is that the chemicals used in the hardener are a much lower Vapour Pressure (meaning less likely to turn into a vapour) and the molecules are much larger in size minimising the chance of affecting the user. **BOTE COTE** has other advantages over other epoxies available in Australia as it is easier to mix the correct ratio, does not suffer Amine Blush with the full explanation available over the page.

Basic epoxy is extremely rigid, so much so that it cracks. **BOTE-COTE** has been formulated to be a little flexible. This way, when the coated timber bends, the epoxy does not crack. Many other commercially available marine and general purpose epoxies are more rigid.

BOTE-COTE mixes at a ratio of 2:1 resin : hardener. This has an immediate benefit to the user of being easy to achieve the correct ratio when mixing. Many older formulations are 5:1, a tiny error in the hardener [which would make it 4:1 or 6:1] is a huge percentage error which will cause weak epoxy or worse – it will not cure.

BOTE-COTE does not exhibit amine blush. The older formulations, and especially the 5:1 formulations, exhibit amine blush especially when used in cold or humid conditions. This is a waxy layer that appears on the surface of the cured epoxy that must be scrubbed off before the epoxy can be re-coated or painted. Even though some of the more expensive epoxies sold in Australia do blush, it is the use of the cheaper materials in formulating the epoxy that causes it. If you use a blushing epoxy, you will be forever worried whether one coat will separate from the coat under it because the blush was not fully removed.

BOTE-COTE has lower allergenic potential. All epoxies have the potential to cause allergic reactions in sensitive people and to make non allergic people become allergic. Over the last few years, the chemical ingredient manufacturers have identified the most troublesome items and have made available materials with lower allergic risk factors. **BOTE-COTE** uses these low allergic risk materials to the maximum extent. Many long-term epoxy users tell us that **BOTE-COTE** is the only epoxy system that they are able to use, as all the others cause them to have reactions.

BOTE-COTE is almost all pure epoxy liquids. Additives and extenders such as Nonyl Phenols or solvents can be found in many other epoxies. If these compounds are present they can degrade the strength and water resistance of the epoxy. Some formulators add Nonyl Phenol to their hardeners to make 5:1 seem like a 3:1 or even 2:1 formulation, when in fact the components are still the basic, nasty 5:1 ingredients.

BOTE-COTE contains a small amount of thixotropic agent. This reduces the tendency to produce runs.

BOTE-COTE includes an insect repellent. Don't you hate those insects landing in your new coating and doing the breast stroke across your nice finish. **BOTE-COTE** users have less trouble with insect swimmers.

BOTE-COTE has a full range of hardeners, Fast (for cold weather), Standard and Tropical (slow for warm weather). It also has a Non Yellowing hardener specifically formulated to resist yellowing due to ultra violet light. The range includes an accelerator for use when an extremely fast cure is required and a Timber Preservative and Reactive Diluent Agent (TPRDA) which is used in the first coat to ensure best penetration into the timber.

BOTE-COTE also has a full range of fillers (including High Strength, Gluing & Filleting & Sanding), formulated to avoid the health and usage problems that come with raw fillers.

Pigments can be incorporated in the resin to colour / tint it. **BOTE-COTE** and its accessories comes in a wide and convenient range of sizes.

What is BOTE-COTE?

BOTE-COTE is an epoxy chemical composition particularly for application in marine and other timber construction including high strength timber applications. It is especially designed for a unique concept – surface penetration and saturation of a substrate to create a strong impermeable layer fully sealed against water, dirt, and chemical ingress. It has been developed over many years of testing, in real boats, under real sea-going conditions and in many exterior applications where a water resistant barrier is required.

The technology of wood - epoxy composites has been developed to the point where timber is employed as a fibrous structure in combination with a properly formulated epoxy resin such as **BOTE-COTE** to form a composite engineering material. Application of **BOTE-COTE** to all surfaces on a boat produces an epoxy - wood or composite sandwich, sealing the moisture content of the wood at the level it was at the time of construction – usually around 12% in a normal dry environment. This epoxy coated surface is nearly impermeable to water vapour, remains tough and elastic, and has superior bonding capabilities. In addition, **BOTE-COTE** functions as a fully compatible fibreglass or other fabric laminating resin, as a structural adhesive, and as a fairing compound, in combination with appropriate fortifying and filling compounds.

Such an engineering material is strong and stable, and most importantly no longer suffers deterioration due to rot. Rot is caused by fungous organisms feeding on the wood in the presence of water and oxygen. Sealing the surface with impervious **BOTE-COTE** prevents entry of these components necessary for rot to develop.

BOTE-COTE contains no volatile solvents or harmful chemicals, and is one of the safest epoxies on the market. There is no loss of material nor pin holes (porosity) resulting from evaporation of the solvent, and no hazardous solvent vapours. **BOTE-COTE** is easily applied by paint roller or brush to any properly prepared surface.

As a two component material, the **BOTE-COTE** epoxy system consists of a resin and a reactive hardener. Several hardeners are available to provide a range of reactivates to optimise its use in different climatic conditions. Properly formulated fillers for making glues or fairing compounds are an integral part of the system. **BOTECOTE** is also available as a pre-thickened two part glue called **EPOX-E-Glue**.

BOTE-COTE was developed in Australia by an Australian specifically for Australian conditions. It is manufactured in Brisbane from Australian and imported raw materials.

Additional information is available at our website with examples of its uses www.boatcraftnsw.com.au/botecote/info.html