



TIKAL[®]
MARINE SYSTEMS



Tikalflex TSCplus

Application Guide

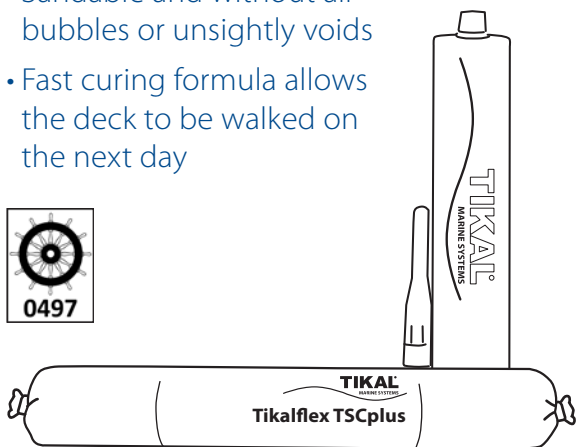


Tikalflex TSCplus

TSCplus is one of the highest quality materials available for sealing teak deck joints and has been in production for over 25 years. The 10 year guarantee for Black **TSCplus** proves our confidence in the material and sets us far ahead of competition. With excellent flexibility and anti-UV properties, **TSCplus** is the first choice for many Mega- and Superyachts.

Properties

- Requires no primer
- Remains flexible – will not shrink, crack, crumble or dry out
- Resists staining, mildew, spotting and color change
- Long-life reliability – 10 years guarantee
- Sandable and without air bubbles or unsightly voids
- Fast curing formula allows the deck to be walked on the next day

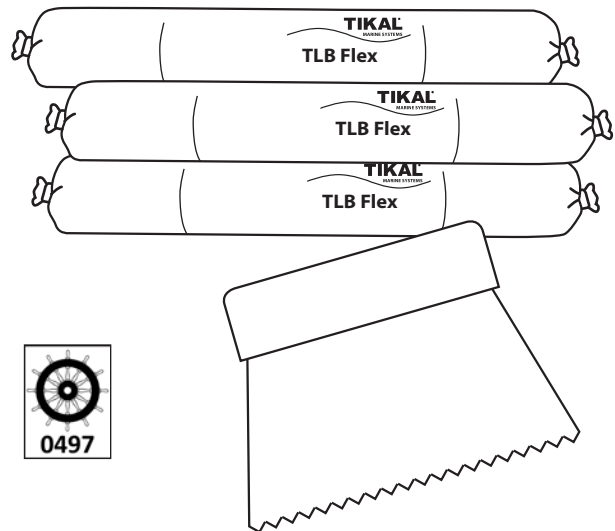


Tikalflex TLB Flex

TLB Flex is a one-part, paste like neutral cure MS Hybrid Polymere adhesive, designed to glue Teakwood and Panels to ship decks (CFK, steel, wood, aluminium). It cures when exposed to moisture in the air forming a tough, flexible bubble free seal.

Properties

- Very long open time, up to 45 min
- Very good adherence to teak
- Very good adherence to CFK, metal and wood
- Requires no primer



Chem. Base	Advanced Silanpolymer
Density	1,25 g/ml
Colour	Black, grey, (white)
Skintime	10 min.
Curing speed (25°C / 65% R.H.)	3 mm in 24 h
Hardness Shore A	35
Elongation at break	600%
Tensile Strength	1,7 N/mm ²
Adhesion to Teak	3,00 N/mm ²
Temperature resistance after cure	- 30° C to 150° C
Application temperature	min. 5° C to max 40° C
Shelflife when stored at 5° C to 25° C	18 Months
Packing	12 x 300 ml cartridge 12 x 600 ml sausage

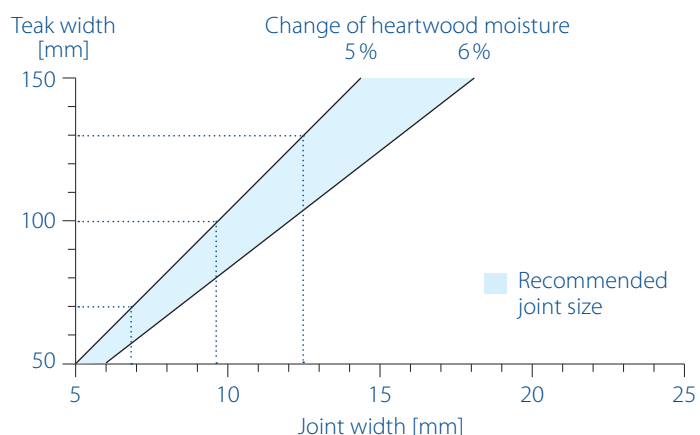
Chem. Base	Hybrid MS Polymere
Density	1,7 g/ml
Colour	black
Skintime	45 min
Curing speed (25°C / 65% R.H.)	2 mm in 24 h
Hardness Shore A	55
Elongation at break	150%
Tensile Strength	1,4 N / mm ²
Shear Strength	2,0 N / mm ²
Temperature resistance after cure	- 30° C to + 90° C
Application temperature	min. 5° C to max 35° C
Shelflife when stored at 5° C to 25° C	12 Months
Packing	12 x 600 ml sausage

Dimensions of the joints

If the joints are correctly dimensioned, Tikalflex TSCplus can absorb up to 15% expansion of the joint. Raw wood swells or shrinks primarily through moisture absorption or release. Under regular conditions the moisture changes ca. 5% to 6%.

The width of the joint depends on the width of the teak planks, the joint depth, and the heartwood moisture. From these parameters, it is recommended to choose a joint width using the relations as shown in the table.

Plank width	Minimum joint width	Minimum joint depth
50 mm	5 mm	5 mm
70 mm	9 mm	8 mm
100 mm	10 mm	9 mm
130 mm	12 mm	10 mm



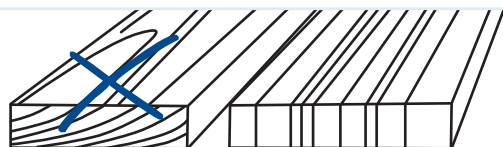
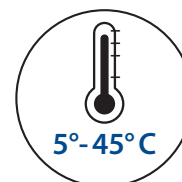
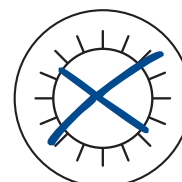
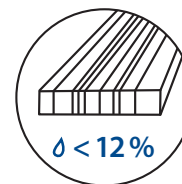
Preconditions

Never caulk wet seams! Never caulk when it rains. Wood moisture must be less than 12%.

For best results, the temperature while caulking must be between 15° C to 30° C. The colder the temperature the slower the curing.

In tropical heat, avoid direct sun to avoid critically high surface temperatures and always apply caulking under a canopy.

Care for good ventilation of your workplace.



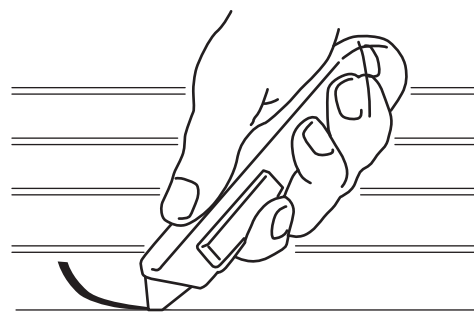
Avoid lying tree rings, preference vertical tree rings.

Preperation of old seams

When refitting an old deck, remove old caulking with a very sharp knife and hooking tool.

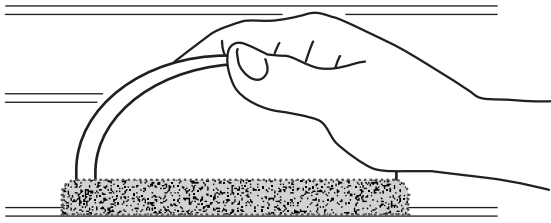
For larger areas, one can use electrical tools like routers and circular saws, carefully avoiding damage to the wood. Best results will be achieved with an oscillator (e.g. FEIN Multimaster).

Old residue must always be fully removed.





Preparation of old seams

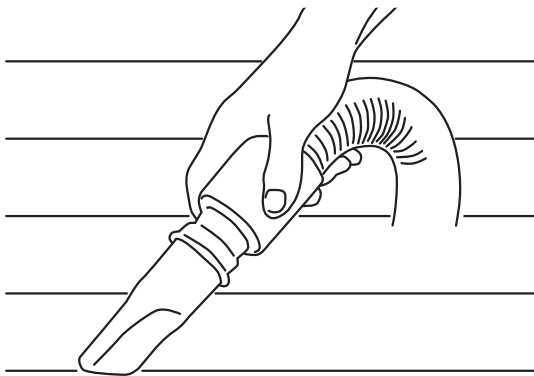


Sanding of the seam walls with 40 - 80grit paper on a Seam-Sander or similar tool.

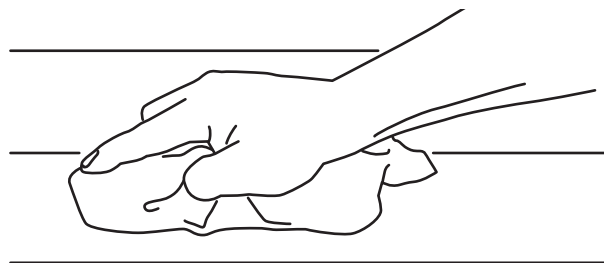
This should fair the seam's surface, rough up remaining mill marks or saw 'polishing' and also remove any wood grain filaments.



Use a brush to loosen debris inside of the old seam.



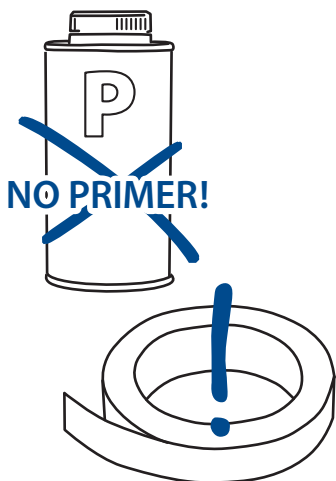
Thorough cleaning with a vacuum or air blower is a must to remove any sawdust or other contaminants.



Seams must be carefully cleaned inside with clean cotton rags and oil-free ethanol or acetone.

Never use mineral/white spirits!

Bonding surfaces on both new and remedial joints must be clean, dry and free of dirt, dust and film.



Primer & Bondbreaker

Do not use any primer, as this will diminish the adhesion of the product, void the warranty, and may cause staining within the cured caulking. **Only use a bond breaker tape when the joint width is greater than its depth (greater than a ratio > 1,3).**

The bondbreaker shall be placed at the bottom of the seam to create a parallel 2-side bond. The Bond breaker must be the same size as the joint itself. A second roll of tape, or preferably the tape core of the taperoll, can be used to guide the tape into the seam. Avoid use of a backer rod, as this will not achieve a good, tight seal at the base of the seam. A proper caulk seam must fill the complete base of the joint.

Caulking preparation

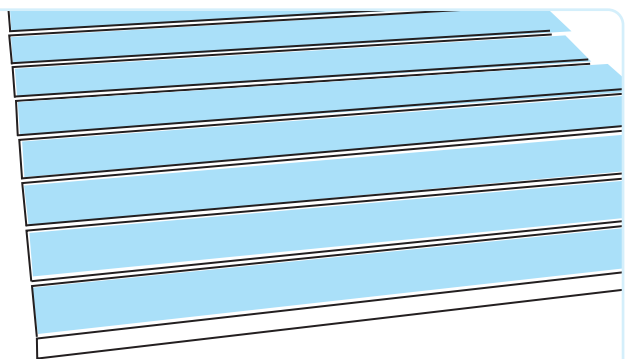
Insert sausage or cartridge into a suitable gun. (Tikal HQ300 for cartridges or HQ600 for sausages, also any pneumatic or electric gun can be used)

If using a cartridge, cut the tip at a slight angle. Ensure the sausage or cartridge have a temperature of around 20° C to improve the viscosity of the caulk.



Masking Tape

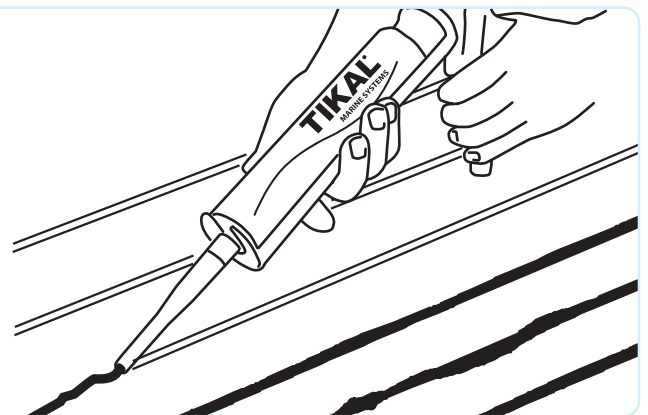
Avoid using tapestripes on the surface of the teak. If removed too early the jointflanks could be damaged and if removed too late the tape is hard to remove.



Caulking

For best results, caulk the seams from the bottom to the top of the joint, allowing the caulking to flow upwards until crowning above the top of the seam.

Steadily pull the gun along the seam. Avoid interruptions or changes in direction that may entrap air.

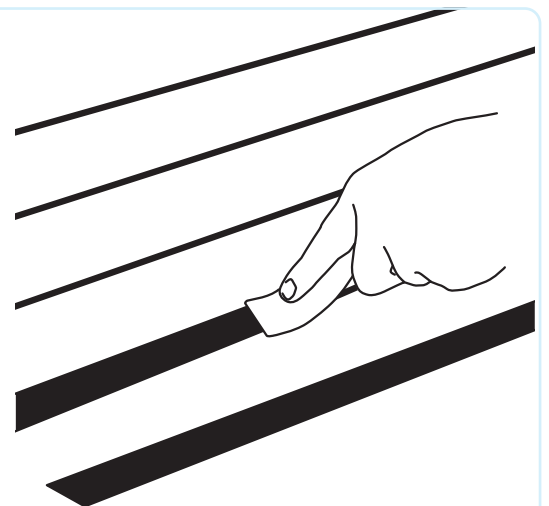


Spooning

Immediately after application, one must Spoon the caulked seams.

Draw a flexible putty knife or a flexible spatula over the seam at a 60° angle to ensure any trapped air bubbles etc. are compressed out. The caulk bead should be proud of the deck to allow approximately 5 % product shrinkage. Work with enough pressure to ensure the caulking completely fills the full joint, but leaves the caulk proud to allow for slight settling.

Once complete, do not disturb the curing process!





Curing and Sanding

After at least 48 hours of curing the material can be cut back with a very sharp cutter-carpet knife or an electrical oscillator (Fein Multimaster f.e.). Strictly avoid using a blunt knife or chisel.

When using very dry wood, and under constant conditions of around 55% air humidity and 20°C air temperature, the sanding is acceptable after another 24 hours (a total of 3 days).

High wood moisture content and air humidity, along with low ambient temperatures, will all add to the time required for a complete cure.

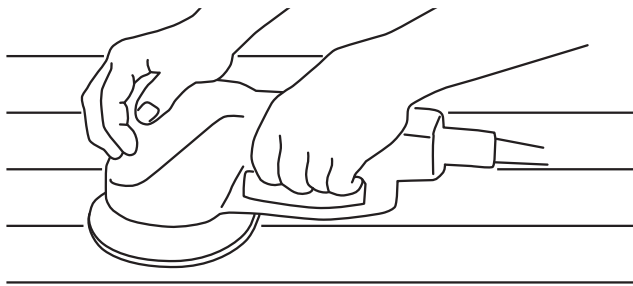
We recommend strongly to start the sanding earliest after 10 days for a full warranty and a very long lasting result.

Generally, the caulking cures from the top down at a rate of about 3 millimetres per day.

Premature sanding of caulking that is not fully cured may result in shrinkage, deformation, and 'dragging' or wrinkling of the caulk surface.

It may also cause premature seam failure. This must be avoided because uncured caulking will absorb the sanding dust as well as other contaminants, causing discolouration and potential compromising of the seam.

Action	Time	Total
Cut back excess material	48 h after caulking	2 days
Sanding possible when 20°C / 55 %	2 days + 24 h (after caulking)	3 days
Recommended	2 days + 8 days (after caulking)	10 days
White / Grey	2 days + 10 days (after caulking)	12 days



Sand the deck by using belt grinders, plate grinders or elastically mounted grinding wheels. Start with 40 grit sandpaper to remove the TSCplus on the surface. Following the 40 grit, switch to 60 and then 80 grit.

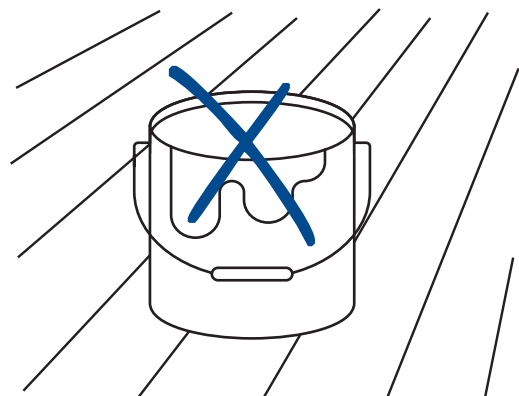
If caulking with grey or white, then a final sanding with 120 grit is required.

Paint & Maintenance

It is not recommended to paint a teakdeck. Most dry paint lacks the flexibility to withstand the typical movements occurring on the wood and joints. This will lead to cracks and an ingress of water beneath the wood.

If you choose a flexible paint, ensure it does not contain any acid or solvents.

It's not necessary but possible to use a special teakoil. The oil or sealer should not contain kerosene or any kind of petroleum products, as this may cause the caulk to swell and damage the caulking over time.





REFERENCES

Tikalflex TSCplus* can be found on all vessels referenced above.

TLB Flex was used to adhere the wood "Al Salamah" and to the substrate decks of MY "Alexander".

* **Tikalflex TSCplus** is identical to **Teaksolutions Caulk**, which was the commercial name used at the time of the refits.

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