



The Great Goo Chase Begins

Teakdecking Systems, used here, was one of seven teak caulks PS tested.

Testers search for the perfect teak caulk—or at least one that doesn't incite acts of rage.

There's an old adage that when it comes to boats with teak decks, there are only two types of owners: those who have leaks and those who have them but don't know it. Newer methods of bonding teak deck overlays in modern construction using fitting epoxies or other such products substantially reduces the need for screws (and the potential leaks associated with them); however, for boat owners with traditional decks or decks with mechanically fastened teak overlays, the quest remains the same: Find a seam caulk that's durable, easy to apply, bonds tenaciously to teak, remains flexible, and is resistant to both UV light and chemicals such as cleaners, oils, fuel, etc.

This review, the first of several looks into teak caulks, compares products' ease of application. Future articles will address adhesion, strength, elasticity, and chemical resistance.

Few other boat-related tasks prompt such universal hatred among sailors as caulking a teak deck. Anxiety, loathing, despair, and endless hours of back-breaking, knee-wrecking agony are just some of the prospects as-

sociated with the job—and those are the highlights. Reefing out the old caulking, inspecting and prepping the seams (ensuring each is of sufficient depth and width, and is dry and oil free), installing (or blowing off) bond breaker tape, the troll-like shuffle up and down the decks dispensing a noxious black goo so insidious in nature as to actually leap onto any unsoiled surface within a 10-foot radius of the project—it's no wonder those who've experienced it know any product that increases the time between caulking jobs is worth its weight in gold.

WHAT WE TESTED

We compared seven caulks advertised for use in teak deck seams from five manufacturers. Noticeably absent are products from 3M and SIKa, both well-known companies in the marine caulking arena that either do not have a product recommended for use on teak decks, or (in the case of SIKa) have one, but don't market it in the U.S.

The test group was a mix of polysulfide-, polyether-, Silyl Modified Polymer- (SMP), and silicone-based products; it also included both single

and two-part products. Test samples came in standard caulking gun cartridges, sausages with special guns, or in the case of the two-part caulk, empty cartridges for use during application. The caulks themselves are available in a wide variety of containers and quantities.

BoatLIFE provided three caulks for our comparison: Life-Caulk, Teak Deck Sealant, and Life-Calk Type P. Also included in the test were Simson Marine Special Range (MSR) Deck Caulk Plus, Maritime Teak Deck Caulking, Teakdecking Systems SIS 440 Teak Deck Caulking, and West Marine's Multi Caulk Sealant.

BOATLIFE LIFE-CAULK

BoatLIFE, a division of Life Industries Corp. of Charleston, S.C., is a well-known manufacturer of numerous marine products (caulks, sealants, cleaners, epoxies, etc).

Life-Caulk is a one-part, polysulfide-based rubber compound advertised for use above and below the waterline on fiberglass, wood, metal, and glass. It's not recommended for use on plastics. It can be painted, but you'll likely have to prime it first. Seam preparation includes cleaning with Life-Caulk Solvent & Cleaner, and on oily woods (such as teak),

Photo by Nick Lafakis



The ongoing test of teak caulks includes tests for chemical resistance, left above. The panels will be regularly doused with certain chemicals and monitored to see how they hold up. To test adhesion and strength, the caulks were dolloped onto teak squares fitted with metal eyes, center above, which were weighted down and monitored. For the test, PS used new teak panels, right above.

Sticking it to Teak Caulks

Sealants facing adhesion, strength, and elasticity tests.

Tests were designed to comparatively evaluate how well each product delivers on the four basic qualities anyone choosing a teak deck caulk would want: ease of application, adhesion, durability, and resistance to chemicals.

To compare ease of application, we applied the products to seven 9-inch teak "planks" (2 inches wide x a ½-inch thick) each containing a single square seam, a ¼-inch deep by a ¼-inch wide, running the length of the plank to simulate a typical teak deck seam. The seam in each plank was prepped and caulked as per manufacturer's instructions, while noting points such as seam preparation requirements, ease of application, and other observations made during application. After 14 days (to allow plenty of cure time), the panels were placed outdoors and fully exposed to the weather, where they'll be monitored over the course of two years to gauge product durability.

It's important to note that when testing caulks with an expected/hoped-for life expectancy of 10 to 15-plus years, the question of how long each caulk will last most likely won't be definitively answered in a

two-year period. What this portion of the test will provide, however, is an opportunity to carefully observe each caulk for a set length of time for short term problems that may be indicative of long-term performance.

CHEMICAL RESISTANCE

Sixteen teak panels 8 inches x 4 inches are the platform for testing product resistance to the various chemicals a teak deck likely will be exposed to over its lifetime. All panels contain a 4-inch bead of each product tested, each applied per manufacturer instructions. Of these panels, 13 will be exposed to a single chemical, while the 14th will be exposed to all chemicals used in the test—the 15th panel will be exposed to no chemicals.

Chemicals used in our test include gasoline, diesel, motor oil, ammonia, household bleach, Cetol Marine Oil, Acetone, Starbrite Teak brightener (containing Oxalic acid), WD-40, brush cleaner, Fantastic, Murphy's Oil soap, MEK, and a heavy-duty bilge cleaner from West Marine. For added fun, fish blood and oil will be applied.

After a two-week curing period,

all panels were moved outside, fully exposed to the weather, and given the initial dose of their respective chemicals, which will be applied monthly thereafter and in such a quantity as to thoroughly saturate each caulk bead and the test panel surface. Panels will be monitored regularly over a two-year period to see how well each product holds up.

ADHESION, STRENGTH, AND ELASTICITY

This test panel consists of a 2-foot teak plank 4 inches wide and 1 inch thick, upon which seven 2-inch-x-2-inch squares of teak were mounted with walnut sized gobs of each caulk tested, once again following manufacturer directions for surface preparation on new teak. The panel was kept indoors for four weeks for curing, then it was placed outdoors and fully exposed to the weather. Each square has a mechanically fastened eyebolt to which a three-pound lead weight was attached (these will be increased monthly in 3 pound increments). The samples will be checked monthly for any signs of failure.

PS VALUE GUIDE			TEAK CAULKS				
CAULK	TDS	MARITIME TDC	WEST MARINE MULTI-CAULK	BOATLIFE LIFE CAULK	BOATLIFE TEAK DECK SEALANT	BOATLIFE TYPE P	BOSTIK/SIMSON
TYPE	Silicone based	Silicone based	Polyether based	Polysulfide based	Polysulfide based	Polysulfide based	Silyl Modified Polymer
POT LIFE (TWO PART)	N/A	N/A	N/A	N/A	N/A	1 hour at 75 F and 50% relative humidity	N/A
TACK FREE	20-40 mins.	15-20 mins.	1 hour skin-over time	Tack free 1-3 days	30 mins.	1 hour	Skins over in 45 mins.
CURE TIME	48 hours	24 - 48 hours (full cure after 14 days)	2 days (depending on temp and humidity)	7-10 days	24 hours	24 hours	7 days
SANDABLE	After 48 hours	After 24-48 hours	After 2 days	After 7-10 days	After 24 hours	Not specified	After 7 days
PRIMER	N/A	N/A	N/A	Life-Caulk Primer	N/A	N/A	Simson Primer P
TOOL CLEAN UP	Acetone/Mineral spirits	Acetone	MEK	Life-Caulk Solvent & Cleaner	Life-Caulk Solvent & Cleaner	Life-Caulk Solvent & Cleaner	Simson Cleaner E
COMMENTS	Smooth, easy to apply	A bit smoother than TDS	Thicker than Maritime TDC; still easy to apply	Comparable to WM; must wait 1 hour to apply after priming	Application similar to Life-Caulk, but no need to prime	Pourable; fairly thin and runny, particularly when using a cartridge gun	Thickest; must wait 1 hour to apply after priming; cleaner and primer have strong smell
THICKNESS (1=THIN, 4=THICK)	3	2	4	4	3	1	4
COST*	\$11	\$9.50 (Must order by the case: 12 for \$114)	\$12	\$19 Cleaner: \$16 (pt.) Primer: \$18 (6 oz.)	\$16	\$68/ qt.	\$12.50 Cleaner: \$11.50 (pt.) Primer: \$39.50 (pt.)

*per 10.6-oz. caulking gun cartridge, unless noted

priming with Life-Caulk primer.

Bottom Line: Life-Caulk paid easily into the seam, but the requirement to prime each seam (along with having to wait one hour to caulk) adds additional steps and time to each caulking job. At \$19 a cartridge, it's also one of the more expensive caulks tested.

BOATLIFE TEAK DECK SEALANT

Teak Deck Sealant is also a one-part, polysulfide-based caulk, but unlike Life-Caulk, it doesn't require priming the seams—just a thorough cleaning with Life-Caulk Solvent & Cleaner. It also has a faster cure time (tack-free in 30 minutes, fully cured in 24 hours) as compared to the three-day tack-free, seven-plus days full cure for Life-Caulk. It's advertised as being resistant to teak cleaners, teak oils, gasoline, and diesel fuel.

Bottom Line: Application-wise, Teak Deck Sealant was similar to BoatLife's Life-Caulk, but without the added step of priming the seams—and at \$16 a tube, it's also a little less expensive.

BOATLIFE LIFE-CAULK TYPE P

Life-Caulk Type P is a pourable, two-part polysulfide deck and hull seam compound with a 24-hour cure time (tack free in one hour) also advertised as being resistant to teak cleaners, oils, fumes, gasoline, and diesel.

Seams are cleaned with Life-Caulk Solvent & Cleaner, but no primer is necessary with Type P (black). If using Type H or any other color, you'll have to prime with BoatLife Life-Caulk Primer. (Type P already contains the primer; the others don't.)

Bottom Line: The only two-part caulk tested. Being pourable, it's out of necessity thinner and runnier than the other caulks tested, a particularly noticeable characteristic when applying with a cartridge and caulk gun.

BOSTIK / SIMSON MSR DECK CAULK PLUS

Simson MSR Deck Caulk Plus is a one-part Silyl Modified Polymer-based caulk available in any color you want (as long as that color is black). According to the manufacturer, it holds up well in high traffic areas, is permanently elastic between -40°C

to 100°C, and is extremely resistant to UV, temperature extremes, cleaners, and exposure to fresh and salt water.

Seam preparation includes cleaning with Simson Cleaner E and priming with Simson Primer P. According to product literature, seams can be caulked between one and six hours after priming, and decks can be sanded after approximately seven days, depending on temperature and relative humidity.

Simson is one of the adhesives and sealants divisions of Bostik, an independently operating company that is part of the "specialties chemical group" of France-based Total, the fourth largest gas and oil company in the world.

Bottom Line: Although "thickest" of all the caulks tested, MSR Deck Caulk Plus still applied fairly smoothly. As is the case with BoatLife's Life-Caulk, you have to prime each seam and wait one hour before caulking, again adding additional steps. The required cleaner and primer are pretty strong smelling, and at \$12 and \$40 a pint (respectively), they aren't cheap.

The seven teak caulks undergoing testing are: from left, BoatLIFE Life-Caulk Type P, BoatLIFE Teak Deck Sealant, BoatLIFE Life-Caulk, Teak-decking Systems SIS 440, Maritime Teak Deck Caulk, West Marine Multi Caulk, and Simson MSR Deck Caulk Plus.



MARITIME TEAK DECK CAULK

Maritime Wood Products Corp. of Stuart, Fla., is a custom manufacturer of teak decks and high-end wood products for yacht building and restoration. Its custom caulk blend, Maritime Teak Deck Caulk, is billed as a “one-part, neutral curing, silicone adhesive sealant specially formulated for caulking teak decks” with “excellent temperature stability and resistance to chemicals and ultraviolet rays.”

No primer is required, and denatured alcohol is the recommended cleaner when de-oiling seams. It is tack-free in 15-20 minutes, and you can sand in as little as 24 hours (depending on temperature and humidity). Full cure (maximum adhesion) takes approximately 14 days.

Maritime Teak Deck Caulk is available in black—white and custom colors are available, but a set minimum quantity is required. It has a shelf life of 18 months.

Bottom Line: Maritime Teak Deck Caulk and the other silicone-based test caulk, TDS SIS 440, were both exceptionally smooth and easily laid into the seams (possibly due to the slippery nature of silicone), with Maritime having a slight edge in the “smoothness” category. The minimum order for Maritime Teak Deck Caulk is by the case (\$114 for 12 cartridges); however, this bulk purchase requirement makes it the least expensive caulk tested.

TEAKDECKING SYSTEMS SIS 440 TEAK DECK CAULKING

Florida-based Teakdecking Systems is an industry giant in the design and installation of custom teak decks, from private and production yachts to cruise ships. SIS 440 is a special seam compound designed specifically for

TDS to complement the miles of seams they fill each year. According to TDS literature, SIS 440 is “a one-part, paste-like oxime cure system, which when exposed to moisture in the air reacts to form a tough, flexible solid rubber compound.”

It requires no primer, is tack-free in 20 to 40 minutes, and can be sanded in 48 hours. It’s available in black or white, and has an 18-month shelf life.

Bottom Line: TDS was smooth and easy to apply. At \$11 a tube, it’s the second least expensive caulk tested. As with other silicone products, SIS 440 is paintable, but may cause “fish-eye” if nearby surfaces are not thoroughly cleaned of potential contaminants prior to painting or varnishing, particularly if decks are sanded after caulking. However, TDS maintains that because SIS440 is a fluid-free polymer, when cured, it won’t cause the same problems associated with typical silicone products.

WEST MARINE MULTI CAULK SEALANT

Marine retail giant West Marine’s Multi Caulk Sealant is a new polyether-based caulk billed as a versatile, waterproof sealant for use in teak deck seams, bedding fittings, etc. It can be used above and below the waterline, is reportedly unaffected by teak cleaners, brighteners, oils and fuel, and creates a permanently flexible bond between and with fiberglass, wood, glass and metal. It’s not recommended for use on ABS and Lexan plastics. It’s sandable and can be painted.

Product literature states Multi Caulk skins over in one hour and cures through one-eighth of an inch thickness in around two days (at 73 degrees and 70 percent relative

Teak Decking Systems SIS 440



Maritime TDC



West Marine Multi-caulk



BoatLIFE Life-Caulk



BoatLIFE Teak Deck Sealant



BoatLIFE Life-Caulk Type P



Bostik/Simson MSR Deck Caulk Plus



humidity). Our test panel with its quarter-inch-by-quarter-inch seam was slightly tacky until Day 6.

Application instructions on the test cartridge read “no primer is required under normal conditions except new teak applications,” however it didn’t state which primer to use in such cases. A quick call to West Marine clarified the issue: Primer in this case refers to a cleaning agent to remove



Preparation plays a large part in a successful caulking job. Most caulks PS tested suggest specific cleaning agents, and some require a primer as well.

surface oil and wax, so that the sealant can obtain a good bond to the wood. They recommend prepping new seams by wiping with a strong solvent such as methyl ethyl ketone (MEK), toluene, lacquer thinner, or acetone. We used MEK.

Bottom Line: The second thickest caulk tested, MultiCaulk nonetheless was easy to apply. However, it also took the longest to cure tack-free to the touch.

CONCLUSION

Everything else being equal (product quality, durability, etc.), we prefer quick-curing, one-part caulks requiring no special cleaners or primers. The caulk itself may be the primary expense, however, the additional cost of special seam cleaners and primers can add significantly to the job, both in terms of money and time. Why spend \$18 for a pint of seam cleaner (verses \$8 for a gallon of alcohol) or take the added step required to prime each seam (and wait for it to dry before caulking), if you don't have to. In the same vein, if you're in a hurry to finish the job, a caulk that's sandable in 24 hours is preferable to waiting a week or more for a project to cure.

The other end of the mastic-covered stick is not only the requirement to prime, but the problems that can arise when directions aren't followed. Primers typically

can be applied only once, meaning if you miss the application window, you'll have to sand the seams again and re-apply the primer. It's also interesting to note the varying philosophies manufacturers have with regard to seam cleaning, even with somewhat similar products. Take the two silicone-based products we tested: Maritime Wood Products recommends de-oiling seams with denatured alcohol as some acetones contain wax; Teakdecking Systems recommends acetone or mineral spirits. Wax and mineral oil are both detrimental to caulk adhesion. This seems an obvious contradiction. Perhaps they're both right and just base their recommendations on the one they feel is more of a threat to their respective products.

One-part caulks are less of a potential headache than two-part caulks. Even though you follow the directions for mixing to the letter, there's always that nagging worry you've somehow screwed up and it won't cure properly or—horror of horrors—you somehow manage to tip over the can (You were mixing it on the dock and not the deck, right?). One-part caulks come pre-mixed in nice, safe tubes or sausages, helping us protect ourselves from such self-inflicted woes.

Based on preliminary evaluations concerning ease of application and our preferences stated above, three

products stand out: Teakdecking Systems SIS 440 Teak Deck Caulking, BoatLIFE Teak Deck Sealant, and Maritime Teak Deck Caulk. Of these three, TDS and Maritime are tied at this point, with Teak Deck Sealant a close second (primarily because it costs more than the other two and requires the added expense of a special seam cleaner).

We were also impressed by Life-Caulk and MSR Deck Caulk Plus during the application process, however the additional requirement (and expense) to prime each seam is a disadvantage, in our opinion. We'd gladly suffer these additional requirements if it meant a caulk job that was decidedly superior and longer lasting; however, if you can get equal results without having to prime, you've come out ahead.

We have the same thoughts on one-part vs. two-part caulks such as Life-Caulk Type P. If a one-part product delivers comparable performance without the need to mix, we'd chose it. As for West Marine's Multi Caulk Sealant, the only disadvantage we note at this point is the length of cure time as compared with the other caulks during our initial test.

We would hesitate to make any recommendations based solely on the above factors. The upcoming chemical tests should give us a clearer picture of whether our initial impressions hold water—or not, as the case may be. ▲

Photo by Nick Lafakis

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