



Teak Sealants: Chemical Fanfare

A fresh look at our test panels reveals how the products stand up to chemicals commonly on board.

Two years after the test began, Practical Sailor rates the teak caulks on durability and chemical resistance. Among the leaders is the still-pliable Teakdecking Systems SIS 440, shown here being flooded into a decking seam at the company's Sarasota, Fla., facilities.

In June 2006, we began our test of seven caulks advertised for use in teak-deck seams. The goal was to evaluate each product on the four basic qualities anyone choosing a teak-deck caulk would want: ease of application, adhesion, durability, and resistance to chemicals.

The September 2006 issue reported on each product's ease of application, and in the March 2007 issue, *PS* rated the caulks on pliability, durability, and adhesion. In this update, we take a look at long-term durability and how each caulk reacts to multiple chemicals. Down the road, we'll test the products' strengths to failures and will rate the caulks' overall performances, based on all of the previous tests.

WHAT WE TESTED

Our caulk test group is a mix of polysulfide, polyether, silyl modified polymer (SMP), and silicone-based products, as well as both one- and two-part products that include three BoatLIFE caulks, Bostik/Simson Marine Special Range Deck Caulk Plus, MARITIME Teak Deck Caulk, Teakdecking Systems (TDS) SIS 440 Teak Deck Caulking, and West Marine's Multi Caulk Sealant.

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 do not market it in the United States.

HOW WE TESTED




One of our primary goals was to see how well each caulk could hold up not only to the torture of ultraviolet (UV) rays, but to the chemicals that teak decks are likely to be exposed to during their lifetime. So, we applied a 4-inch bead of each test caulk to 16 different teak panels (8 inches by 4 inches), and then doused them regularly with the chemicals.



Thirteen of the panels were exposed to a single chemical; one was alternately exposed to each chemical; and another (our control panel) was exposed to no chemicals. Yet another

The teak caulks being tested are: (from left) BoatLIFE Life-Caulk Type P, BoatLIFE Teak Deck Sealant, BoatLIFE Life-Caulk, Teakdecking Systems SIS 440, MARITIME Teak Deck Caulk, West Marine Multi-Caulk, and Bostik/Simson MSR Deck Caulk Plus.



PS VALUE GUIDE TEAK CAULKS at 2 YEARS

CAULK	BOATLIFE LIFE CAULK	BOATLIFE TEAK DECK SEALANT	BOATLIFE TYPE P	BOSTIK / SIMSON 	MARITIME TDC 	TEAKDECKING SYSTEMS 	WEST MARINE MULTI-CAULK
TYPE	Polysulfide based	Silicone based	Polysulfide based	Silyl modified polymer	Silicone based	Silane polymer	Polyether based
PRICE*	\$19 Cleaner: \$16 (pt.) Primer: \$18 (6 oz.)	\$16	\$68 / qt.	\$12.50 Cleaner: \$11.50 (pt.) Primer: \$39.50 (pt.)	\$9.50 (Sold by the case)	\$11	\$13
CURE TIME	7-10 days	24 hours	24 hours	7 days	24-48 hours	48 hours	2 days
EASE OF APPLICATION	Good	Good	Fair	Good	Excellent	Excellent	Good
DURABILITY/CHEMICAL RESISTANCE (AT 2 YEARS)	Fair	Poor	Fair	Excellent	Excellent	Excellent	Fair

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

er—coated with a wood finish—was dropped from the test when it was obvious no chemicals were getting through the finish.

After a two-week curing period, all test panels were mounted outside, fully exposed to the weather, and given the initial chemical dose. Testers then applied the chemicals once a month for the following two years. The panels and each caulk bead were thoroughly saturated each time.

The chemical lineup included gasoline, diesel, motor oil, ammonia, household bleach, acetone, Star brite Teak brightener (oxalic acid), WD-40, brush cleaner, Fantastic multi-purpose cleaner, Murphy's Oil soap, Methyl Ethyl Ketone (MEK), and a heavy-duty bilge cleaner from West Marine. The caulks seemed to have the hardest time with acetone and MEK.

Our test was admittedly harsh—it's doubtful any teak deck has been tortured to the extent our test panels were. But it was intended to determine which caulks held up the best to chemicals.

A number of factors come into play when deciding just what makes a teak-deck caulk the easiest to apply. Everything else being equal (product quality, durability, etc.), ease of application to us means a quick curing, one-part caulk requiring no special cleaners or primers (both of which can add significantly to the job in terms of money and time). Spending \$18 for a 6-ounce can of seam primer plus the additional step required to prime each seam—and waiting for the primer to dry before caulking—

are good examples of things that impact application ratings.

Similarly, a caulk that can be sanded after 24 hours is preferable. We also consider one-part caulks to be 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 it won't cure properly, or—horror of horrors—you somehow manage to tip over the can during mixing. (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.

For this evaluation, testers scratched, poked, and probed each caulk bead with their fingernails, and then ranked each on its pliability, texture, and overall physical condition for each chemical panel. A rating of Excellent indicates the caulk was still firm, supple, and in excellent condition. A rating of Fair indicates that the product was still in decent shape, but that testers were able to make permanent indentions in the caulk with a thumb nail and were able to remove some of it by scratching along the length of the bead. A rating of Poor indicates that large chunks of the caulk were easily removed with a thumb nail and that overall, the caulk's condition was clearly inferior.

WHAT WE FOUND

During our first caulk checkup (March 2007 issue), which was just eight months into our long-term evaluation, testers found that each of

the seven products was holding its own with no signs of deterioration or damage. At that time, the softest caulk (West Marine Multi-Caulk) had the resilience of a neoprene wetsuit, while the hardest caulk (BoatLIFE Life Caulk) was slightly firmer than a pencil eraser.

However, now—two years after the application—testers found some eye-opening differences.

BOATLIFE LIFE-CAULK

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 was in the middle of the pack in our chemical test, earning good ratings on most panels, but only fair on the acetone, MEK, and WD-40 panels. The Life-Caulk beads on those panels hardened considerably, lost some adhesion, and were dry to the point that chunks of caulk were easily scratched off.

Bottom line: At \$19, Life-Caulk Type P was one of the more expensive caulks tested. As for chemical resistance and longevity, Life-Caulk rated Fair overall and was not at the head of the class after two years.

BOATLIFE TEAK DECK SEALANT

Teak Deck Sealant is a one-part, silicone-based caulk advertised as resistant to teak cleaners, teak oils, gasoline, and diesel fuel. The Teak Deck Sealant test beads appeared in good shape, but all of them—including the control—were easily damaged with



Beads of each test caulk were applied to more than a dozen wood panels, which were mounted outside and exposed to various chemicals regularly.

a tester's thumb nail. Most of them maintained their elasticity, however, the bead on the All Chemicals panel lost adhesion, and testers were able to scratch chunks off the MEK victim with little effort.

Bottom line: BoatLIFE Teak Deck Sealant received a Poor in this durability test.

BOATLIFE LIFE-CAULK TYPE P

This product is a pourable, two-part polysulfide deck and hull seam compound advertised as resistant to teak cleaners, oils, fumes, gasoline, and diesel.

Testers found that the Life-Caulk Type P was holding up well after two years, rating Good on most chemical panels. The acetone bath did the most damage, however, the control panel bead still looked



good—supple and not dried out like the BoatLIFE Deck Sealant.

Bottom line: The only two-part caulk tested, Life-Caulk Type P costs \$68/qt and requires no special seam primers. It rated Fair overall in our chemical resistance/durability test. Performance-wise, it's comparable to BoatLIFE Life-Caulk.

BOSTIK / SIMSON MSR DECK CAULK PLUS

MSR Deck Caulk Plus is a one-part, silyl-modified, polymer-based caulk. According to the manufacturer, it 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. Our test beads of the MSR Deck Caulk Plus are still in excellent condition, maintaining pliability and adhesion.

Bottom line: MSR Deck Caulk Plus lives up to its claims and is impressive even after two years of chemical baths. It's one of our three top picks so far. MSR's downside is the need to prime each seam, and the cost of the special seam cleaner (\$12 a pint) and primer (\$40 a pint).

BoatLIFE Teak Deck Sealant performed in the middle of the pack. After two years, the test beads had dried out and were cracking.

MARITIME TEAK DECK CAULK

MARITIME Teak Deck Caulk is 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.”

Another top performer, the MARITIME test samples are still pliable and strong. All but one test bead received top ratings—the one that was doused with ammonia—and it still received a Good rating.

Bottom line: MARITIME Teak Deck Caulk is rated Excellent and is included in our top three picks.

TEAKDECKING SYSTEMS SIS 440

According to TDS's literature, SIS 440 is a one-part, paste-like oxime cure system that forms a tough, flexible rubber compound; it does not sag during cure, and when cured, it has excellent temperature stability and chemical resistance. SIS 440 held up admirably to the onslaught of chemicals and cleaners. Testers gave it across-the-board Excellent ratings as it maintained adhesion and pliability without drying out or crumbling.

Bottom line: The TDS product showed Excellent chemical resistance and shows long-term durability at the two-year mark.

WEST MARINE MULTI-CAULK

Multi-Caulk Sealant is a 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; with fiberglass, wood, glass, and metal; and claims to be unaffected by teak cleaners and brighteners, and oils and fuel.

Multi-Caulk received a mix of ratings, Good to Poor, in the chemical resistance test and had a particularly hard time with motor oil, MEK, Murphy's oil, ammonia, and the Fantastic. Although the Multi-Caulk beads were still somewhat pliable, many were easily scratched by our tester's

thumbnail. The control panel Multi Caulk, with no chemical interaction, was rated Good.

Bottom line: The West Marine Multi-Caulk performed in the middle of the pack in this test.

CONCLUSION

Although the challenges of evaluating in two years a product that should last seven to 10 years are readily apparent, we were still able to make some hard and fast conclusions about the caulks and whether we would or would not use them on our own teak seams, particularly considering the time and effort involved in the re-caulking process.

Two silyl-modified polymers, Teakdecking Systems and Bostik/Simson MSR Deck Caulk Plus, along with the silicone-based MARITIME, are our top picks for chemical resistance and durability at two years. We gave the TDS caulk the edge due to its slightly better performance in chemical testing, and its better pricing and availability.

For more on teak caulk application notes and ratings, revisit “The Great Goo Chase Begins” (September 2006) or check out “Teak Caulk Update 2007” (March 2007) at www.practical-sailor.com in the “Tools and Techniques” section. ▲

CONTACTS

BOATLIFE
843/566-1225
boatlife.com

BOSTIK INC.
800/523-2678
bostikfindley-us.com

MARITIME WOOD PRODUCTS
772/287-0463
maritimewoodproducts.com

TEAK DECKING SYSTEMS
941/756-0406
teakdecking.com

WEST MARINE
800/685-4838
westmarine.com

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- **SEPTEMBER 2008:** Electric Propulsion; Medical Kits III; Offshore kits; Performance Sailing Gloves; SPOT satellite personal messenger; Acrylic Coatings for Fiberglass (Gelcoat restorers); Large Ice Chest Test; Chandlery: SteriPEN; PS Advisor: Marine plywood vs. regular plywood
- **AUGUST 2008:** Navy 44 MkII; Inflatable PFDs with Harnesses; Garmin vs. Raymarine chartplotter head-to-head; Topside Paints Test; Catalina 22 refit report; Storm Trysails; Snatch Blocks Update: Ronstan Blocks; Chandlery: Boatsense boat alarm; PS Advisor: Painting Your Deck
- **JULY 2008:** 10-foot Rigid Inflatable Dinghy Shootout; Safety and Electronics for the Singlehander; Standard Horizon CPV550 review; Foul-weather Gear for Women; Inflatable Fenders; Mooring Chain Test Finale; Chandlery: Summer reading list, Walker Bay Airis inflatable kayak, Crocs kneepads; PS Advisor: Troubleshooting AC units
- **JUNE 2008:** Singlehanded Sailing Part 1; New Inflatable PFDs without Harnesses; Flir Thermal-imaging Camera Review; Aftermarket Bowsprit Kits; Baseball-cap Style Hat Test; Medical Kits for Coastal Cruisers; 12-volt Inflators; Chandlery: Natrapel bug spray, Freezer Safe fridge thermometer, West System G-Flex epoxy kit, power tools for restoring gelcoat
- **MAY 2008:** Weta multihull; Practically Green: 'Green' Maintenance products for boaters; Aussie Barbecue Grills; MOB alarms and direction-finding devices; Internal Holding Tank Sensors; Collinite vs. Meguiar's topsides wax; Headlamp Test; Chandlery: Norcross Hawkeye handheld depth sounder
- **APRIL 2008:** Beneteau 46; Forward-looking Sonar; Medical Kits for Small Boat Sailors; Updating Digital Charts; Exterior Wood Coatings Test: Teak Oils; 12-volt Cabin Fans; Paint Stripper Redux; Chandlery: Whirley Bird, FiveFingers, Steer-iT tiller tool
- **MARCH 2008:** Etap 28s; Furlers for Light-air Sails; Walker Bay Tubes on Rigid Dinghy; Bi-annual Bottom Paint Test; Teak Cleaners Test; Inflatable Boat Cleaners; Chandlery: Rydlyme vs. MaryKate On&Off
- **FEBRUARY 2008:** 30-foot Classics Under \$20,000 (Tartan 30, Pearson 30, Catalina 30); Mainsail Handling Systems; Men's Foul Weather Gear Test; Holding Tank Gauges; Hand-bearing Compasses; 'Master and Commander' Review; Chandlery: A METS Recap
- **JANUARY 2008:** Shannon 37 and 38; Special Report: Navigation Basics; Anchor Test Update; Raritan vs. Jabsco marine heads; VHF External Speakers; Trailer Jacks Test; Navigation Software; Chandlery: Xantrex battery products
- **DECEMBER 2007:** Gear of the Year 2007; Exterior Wood Coatings: Two-part varnishes; Flashlight Test; Special Report: Nylon Lines; Riding Sails; Winter Reads; Walker Bay Genesis Review; Chandlery: Port-o-Flush, boat show update, and Slam Waterproof Laptop Pack
- **NOVEMBER 2007:** Hanse 400; Remote VHF Mics; Torquedo Electric Outboard Review; Radar-reflective Tape Myth Buster; Hull Cleaners Test; Power Tools for Cruising; Bottom Paint and Wax Field Test Results; Chandlery: Multitools, LED lights, Dax OneTouch winch handle, and Bridgenorth Bailor
- **OCTOBER 2007:** TomCat 9.7; Semi-annual Bottom Paint test; Cheap Charting Software; Exterior Wood Coatings: Synthetics and Stains; Special Report: Core Materials; Flexible Water Tanks; Chandlery: Velocitek and Cruising Solutions headset
- **SEPTEMBER 2007:** Sydney 36CR; Outboard Brackets Test; Cruising Software: Offshore Essentials; High-tech Rigging Review; Standard Horizon CPV350 Evaluation; Dock Cart Test; Anti-corrosion Sprays; Chandlery: Solar Stik solar panel and mounts
- **AUGUST 2007:** Pearson 32; Cordage Review: Halyards; Snatch Block Test; The Dark Side of Fiberglass; Plotter/Sounder Update: Garmin 498C; Navigation Software: Nobeltec Admiral 9.1; Exterior Wood Coatings: One-part Varnishes; Chandlery: Fast-drying Wick-er Warmup Towel and Waterproof Ego iPod Case
- **JULY 2007:** Far Harbour 39; Wind Generators Part II; Survival Suits Test; Galley Range Bake-off; Mooring Chain Check-up; Women's Sailing Shoes; Chandlery: Sea Breathe snuba rig
- **JUNE 2007:** Balboa 26; 9.9 hp Outboards; Wind Generators Part I; Satellite Weather Services Test; Infant PFD Follow-up; Sunscreen Review; Men's Sailing Shoes; Chandlery: Hurricane Mooring Bridle Plate
- **MAY 2007:** Hallberg-Rassy 342; Life Raft Survival Packs; Fuel Tank Replacements; Ocean Tested: *Southern Cross* reports; Handheld Weather Instruments; Portable, 12-volt Fridges; Hull Restorer Finale; Chandlery: Barnacle Buster
- **APRIL 2007:** Six-man life rafts test; Throwable MOB Devices; Jacklines Evaluation; Ocean Tested: Raytech RNS 6.0; Thermoelectric Coolers; Corrosion Inhibitors; Chandlery: FilterBoss fuel filter and Bike Friday
- **MARCH 2007:** Morgan 41, Life Rafts Guide, VHF Antennas (big sticks); Ocean Tested: AIS Radar; Tool Tips; Maintenance Special: One-step Waxes, Freshwater Paints, Teak Caulks; Chandlery: Wonder Wash, Countertop Spin Dryer, Fish Bags
- **FEBRUARY 2007:** Ocean Tested: Drivetrain, KiwiProp; Bottom Paint Checkup; 3-dB VHF Antennas; Float Coats; Ralph's Rant: Marine Metals; Riprap: Shoaling concerns and the new EPIRB ban; Chandlery: OneTouch Winch Handle, SeaPak desal system
- **JANUARY 2007:** Ericon 41; Safety Tethers; Pet PFDs; New Anchors; Ocean Tested: Gear that Survived 85,000 Miles; Ethanol vs. Fuel Tanks; Bronze Cleaners/Polishes; Chandlery: Battery Desulfators, Jabsco Oil Changer
- **DECEMBER 2006:** Valiant 42; Gear of the Year; Small Outboards Test (2-2.5 hp); Safety Harnesses; IS Binoculars; Chandlery: Quickline, SeaFever gear, Shackle Dog, Key Buoy, Calendars

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