

THE GREAT UK ANTIFOULING SHOWDOWN

20 paints tested in 13 UK locations: which works best where you keep your boat?



Welcome to the biggest and most in-depth test of antifouling paints ever carried out by a magazine in the UK.

Previous tests have focused solely on one location, but as fouling conditions vary greatly between ports and harbours around the coast, we reasoned it would be of far more use to boat owners around the country if they could draw on some test results closer to home when choosing their antifouling paint from the

bewildering range of options out there. We spent two weeks painting our plywood test panels, in the process consuming 350m of masking tape, 15lt of primer and 40 (cheap) paintbrushes, not to mention the 20 antifouling paints themselves. And now, seven months and 4,400 miles of driving later, here are the results of our round-Britain antifouling test.

How we tested them

We primed our 26 test panels with International's Interprotect Epoxy Primer before using a tie-coat primer where required and

applying each of our antifouling with the recommended number of coats (two, in most cases). We applied the paints in strips, with an 11mm unpainted strip between each paint, acting as a control surface. We restricted the test to single-pot eroding paints in blue: these are the most popular antifouling for cruising boats. With the paint dry, we loaded the boards into a trailer and drove them round the country, installing them facing the sun where possible and aligned with a modest tidal flow to simulate their normal usage as much as

possible. We installed the boards in late March, returning in early October to remove them and inspect the results.

There were big differences between paints on the boards in terms of the amount of fouling they retained. What was telling was that even the worst-performing paints showed a massive improvement over the unprotected control surfaces – so even a cheap paint is better than nothing. However, the best performers were in a league of their own: read on to find out which paint you should choose.

Do you need antifouling?

We left the backs of our test boards as bare primer to act as a control. The good news is that without exception, every antifouling paint showed a marked improvement compared to the bare panels. Fouling differed in a big way between each of our 13 locations, from Dunstaffnage, which had minimal growth, to Hamble, which showed by far the worst. Lowestoft and Waldringfield, on the East Coast, were also bad. Whitby and Inverkip had very heavy slime, while Neyland and Caernarfon saw moderate shell and weed growth.

DUNSTAFFNAGE
Dunstaffnage, located near Oban, was our northernmost location, and had by far the lightest fouling. There were some small barnacles, minimal brown weed and very little slime. There was light green weed along the waterline.

PORT EDGAR The fouling at Port Edgar was moderate, with barnacle growth, weed and some sponges colonising the unprotected boards.

RHU The fouling at Rhu consisted of heavy shell growth, with barnacles and worm casings, and brown weed, sea squirts and mussels lower down. There were crabs and some baby eels living in the weed.

WHITBY The fouling at Whitby, a fast-flowing river, was mainly heavy, muddy slime. There was an even covering of small barnacles, with brown weed growth amid them. The bulk of the slime washed off relatively easily with movement.

INVERKIP Despite the yard manager saying that there would be little fouling, Inverkip – enclosed, with a small entrance to the Clyde and with a fresh water feed – had thick growth: mainly mussels, but also some barnacles and brown weed.

LOWESTOFT Lowestoft had probably the most unpleasant fouling of all the locations, consisting of barnacles, sea squirts, sponges and some red mantis shrimp.

CAERNARFON Caernarfon had moderate fouling, consisting of light shell growth, green waterline weed and moderate brown weed elsewhere. There were a few sea squirts present.

WALDRINGFIELD Waldringfield was among the worst-fouled places in this test. It had significant barnacle growth, covered in thick slime and brown, stringy weed. There was a heavy crop of mussels with a few sea squirts.

NEYLAND Neyland, situated at the mouth of a river with some freshwater flow, had a base layer of barnacles, with some sea squirts, sponges and heavy brown weed.

NORTH FAMBRIIDGE Fambriidge Yacht Haven, situated in a mud basin, had a few barnacles, but heavy muddy slime and some juicy sea squirts.

PLYMOUTH Plymouth had heavy shell fouling, overlaid by sponges and thick brown weed. On the front of the boards there was green weed, and some mussels along the bottom edge of the board.

HAMBLE The Hamble had the worst fouling of all the locations, despite the boards being located in fast-flowing water. There were fewer barnacles here, but sea squirts, brown weed, heavy slime and kelp had colonised the boards.

CHICHESTER Chichester had particularly heavy fouling, with an underlayer of shell growth and barnacles, overlaid with brown weed, sponges and sea squirts. A few mussels clung onto the edges of the boards. Green weed grew at the waterline.

Product	Caernarfon	Chichester	Dunstaffnage	Hamble	Inverkip	Lowestoft	Neyland	North Fambriidge	Plymouth	Port Edgar	Rhu	Waldringfield	Whitby
1. Hempel Cruising Performer £49.95/2.5lt 	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	Panel Damaged	[Image]	[Image]	[Image]
2. Precision Premium £95.09/2.5lt 	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	Panel Damaged	[Image]	[Image]	[Image]
3. Akzo Nobel Nautical Eroding Antifouling £44.99/2.5lt 	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]
4. Boero Mistral Nf Price: ???/2.5lt 	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]

5. Seajet 038 Taisho
(available 2016)
Price: TBA

6. Teamac new Antifouling 'D'
Price: £92.46/2.5lt

7. International Micron Extra
Price: £89.95/2.5lt

8. Nautix Antifouling Performer
Price: £70.32/2.5lt


9. Seajet 033 Shogun
Price: £79.95/2.5lt

10. Flag Performance Extra
Price: £57.99/2.5lt

11. Seajet 031 Samurai self polishing antifouling
Price: £51/2.5lt

12. Boero Scirocco 622
Price: ???/2.5lt

13. International Cruiser Uno
£69.95/3lt



Caernarfon	Chichester	Dunstaffnage	Hamble	Inverkip	Lowestoft	Neyland	North Farnbridge	Plymouth	Port Edgar	Rhu	Waldringfield	Whitby

14. Flag Cruising Antifouling
Price: £39.99/2.5lt




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15. Hempel Tiger Xtra
Price: £59.95/2.5lt




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16. Nautix A3 Antifouling
Price: £106.34/2.5lt




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17. Jotun Mare Nostrum Antifouling
Price: £59.99/2.5lt




Caernarfon	Chichester	Dunstaffnage	Hamble	Inverkip	Lowestoft	Neyland	North Farnbridge	Plymouth	Port Edgar	Rhu	Waldringfield	Whitby

18. Precision Performance Antifouling
Price: £49.95/2.5lt




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19. Seago High Performance Antifouling
Price: £59.95/3lt



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20. Jotun NonStop Antifouling
Price: £86.10/2.5lt



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NORTH WALES – CAERNARFON

Fouling: Moderate

In Caernarfon the better paints had only light slime, while the worst-performing had heavier slime and some brown weed growth. There was no shell growth on any of the paints.

TOP 5 PAINTS

1. Seajet 033
2. Micron Extra
3. Teamac 'D'
4. Cruiser Uno
5. Nautix A3



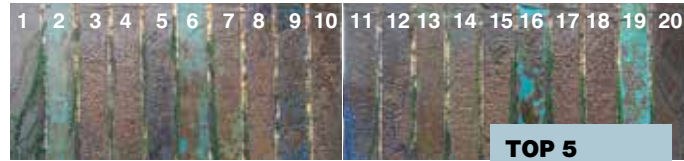
SOUTH WALES – NEYLAND

Fouling: Moderate

Neyland had some heavy slime which had been visited by some local mullet, leaving their distinctive smear marks – also a useful test of how well the fouling was attached.

TOP 5 PAINTS

1. Hempel C.P.
2. Seajet 033
3. Micron Extra
4. Teamac 'D'
5. Cruiser Uno



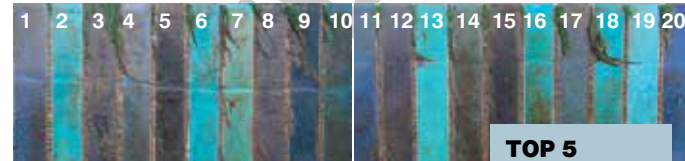
SCOTLAND – INVERKIP

Fouling: Moderate

Inverkip's boards showed thick slime, but none of the paints had green weed or shell growth, unlike the untreated surfaces. Some differences were evident, with Seago's High Performance best.

TOP 5 PAINTS

1. Seago H.P.
2. Nautix A3
3. Precision P.
4. Teamac 'D'
5. Nautix A.P.



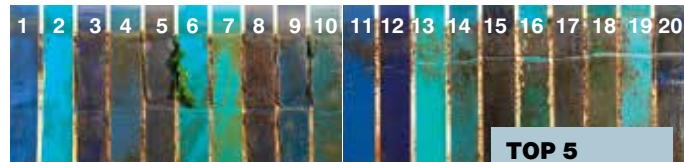
SCOTLAND – RHU

Fouling: Light-moderate

Growth in Rhu was relatively light on the better-performing paints. Seajet's 033 was best here, with International Cruiser Uno, Teamac's 'D' and Micron Extra also doing well.

TOP 5 PAINTS

1. Seajet 033
2. Int. Cruiser U
3. Teamac 'D'
4. Seajet 038
5. Micron Extra



SCOTLAND – DUNSTAFFNAGE

Fouling: Light

Dunstaffnage had the coldest water of all our locations and the least slime. There was no weed or shell growth on the painted panels, and some differences between most and least effective paints.

TOP 5 PAINTS

1. Hempel C.P.
2. Precision P.
3. Seajet 038
4. Seajet 033
5. Int. Cruiser Uno



SCOTLAND – PORT EDGAR

Fouling: Moderate

In Port Edgar, the boards were damaged by a tyre fender tied to the pontoon by a workboat crew, so four samples were rendered invalid, unfortunately, with paint and fouling wiped off.

TOP 5 PAINTS

1. Seajet 033
2. Micron Extra
3. Seajet 038
4. Jotun NonStop
5. Precision Prem



NORTHEAST ENGLAND – WHITBY

Fouling: Heavy slime

Fouling in Whitby consisted of heavy slime. Seajet's 033 and 038 were far and away the best, with the fouling washing off to leave a clean surface. Micron Extra was also effective, but not to the same degree.

TOP 5 PAINTS

1. Seajet 033
2. Seajet 038
3. Micron Extra
4. Cruiser Uno
5. Teamac 'D'



EAST ENGLAND – LOWESTOFT

Fouling: Moderate

The slime at Lowestoft was underpinned by some heavier growth in places. There were big differences in performance, with colonies of small shrimp inhabiting the heavier areas of slime.

TOP 5 PAINTS:

1. Seajet 038
2. Seajet 033
3. Seago H.P.
4. Hempel C.P.
5. Flag Perf. Extra



EAST ENGLAND – WALDRINGFIELD

Fouling: Moderate

As at Whitby, Seajet's 033 shed nearly all fouling as it was pulled out of the water, handing it best prize here. Hempel Cruising Performer, Nautix A3, and Seago's High Performance paints also did well.

TOP 5 PAINTS

1. Seajet 033
2. Seajet 038
3. Hempel C.P.
4. Nautix A3
5. Seago H.P.



EAST ENGLAND – FAMBRIDGE

Fouling: Moderate

In Fambridge, Seajet's 033 and 038 again shed most slime as the boards were removed. Micron Extra was fairly clean, with Flag Performance Extra and International Cruiser Uno doing well.

TOP 5 PAINTS

1. Seajet 033
2. Seajet 038
3. Micron Extra
4. Flag Perf. Extra
5. Int. Cruiser Uno



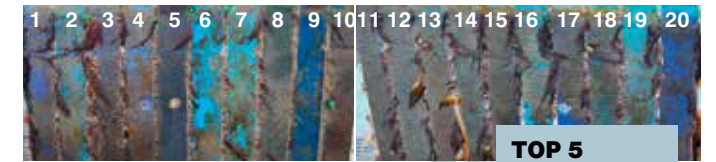
SOUTH COAST – CHICHESTER

Fouling: Moderate

In Chichester, Seajet's 033 was by far the cleanest, coming out almost slime-free. Micron Extra was a close second. Seajet 038 and Teamac 'D' were next best, with Precision Premium also doing well.

TOP 5 PAINTS

1. Seajet 033
2. Micron Extra
3. Seajet 038
4. Teamac 'D'
5. Precision Prem.



SOUTH COAST – HAMBLE

Fouling: Moderate

Seajet's 038 was best in the fast-flowing mouth of the Hamble, with their 033 product not far behind. Micron Extra was relatively clean, as was Teamac's D, with Jotun NonStop also moderately successful.

TOP 5 PAINTS

1. Seajet 038
2. Seajet 033
3. Micron Extra
4. Teamac 'D'
5. Jotun NonStop



SOUTH WEST – PLYMOUTH

Fouling: Moderate

Seajet's 033 performed best at Plymouth Yacht Haven, with 038 also doing well. Micron Extra was also a strong performer, with the same company's Cruiser Uno and Jotun's NonStop also doing well.

TOP 5 PAINTS

1. Seajet 033
2. Seajet 038
3. Teamac 'D'
4. Int. Cruiser Uno
5. Jotun NonStop



Boards were submerged during the summer months

PBO verdict

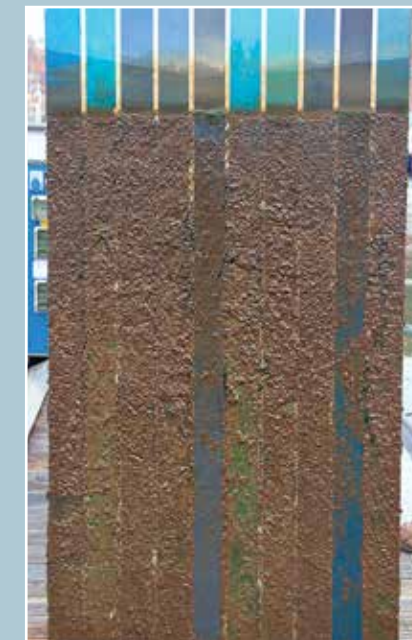
This is the biggest test we've ever carried out at PBO, with a significant investment of time, money and effort involved in buying, priming, painting, delivering and installing the test boards.

We were careful to install the panels as similarly in orientation, location and tidal characteristics as possible – facing the sun, and aligned to the tide to simulate a boat's mooring and occasional use. We were fortunate that only one set of panels suffered damage (in Port Edgar, where a tyre fender was tied on in front of the board, damaging the paint and removing the fouling from a few of the panels). Our host locations kindly monitored the boards and their growth throughout the year. When we took them out, in early October, the water was at its warmest and the fouling greatest. Any later and the fouling would have begun to drop off as the water cooled.

On that note, boat owners down south have reported high levels of fouling due to some hot weather, while further north we've had reports of lower levels of fouling than usual in a miserable summer.

Some interesting results

With the results in, the 26 panels, 20 paints and 13 locations have generated a lot of data. Sifting through has shown up some interesting results. The most telling of all is that every paint tested showed a big improvement in fouling when compared to the control areas, which had heavy weed, shell and kelp growth. None of the paints



A board from Whitby as removed, showing how the slime ran off the two Seajet products, 038 and 033

had any barnacles or other shell growth, or any long fronds of weed – except in some cases along the waterline.

While no single paint kept everything fouling-free in all areas, what particularly surprised us was the dominance of one paint – Seajet's 033 Shogun was best in eight of our areas, with the company's 038, due to be released in 2016, also doing well.

These paints shed slime and other fouling so effectively in many places that when pulled out of the water, they appeared clear.

Other paints also performed reasonably well. International's Micron Extra was a comfortable third around the country. Other good performers generally included Teamac 'D', from an old brand located in the north-east. Nautix's A3 also performed well in places, as did Seago's High Performance Antifouling and Precision Premium, which are both also made by Teamac. Hempel's Cruising Performer and Jotun's NonStop did well in some areas of the country.

Increased regulation

Of course, most boat owners won't be interested in which brand is best all around the country: most boats stay put in their home port for most of the season, which is why it's best to look at the results for your location, or the nearest port to your own.

It's reassuring that the better paints on test proved mostly effective in keeping fouling at bay, as manufacturers have had to deal with increased regulation – especially the EU's Biocidal Products Directive, which has led to tweaks and changes in antifouling products.

Cost is another interesting factor. Paints seem to split into two camps – around £40-50 per 2.5lit tin and around £100 per tin. Without fail, the circa £100 camp performed better than the circa £50 camp, which means that if you can afford it, the more expensive bracket, which often has greater concentrations of copper and other biocides, is likely to be more effective.

With thanks to: Southampton Solent University's Warsash Nautical College, Chichester Harbour Authority, Plymouth Yacht Haven, Neyland Yacht Haven, Victoria Dock (Gwynedd Council), Inverkip Marina, Rhu Marina, Dunstaffnage Marina, Port Edgar Marina, Whitby and Scarborough Harbours, Lowestoft Marina (ABP), Waldringfield Boatyard and Fambridge Yacht Haven for their assistance with this trial.