

Classnotes

The Windmill class

BY VANESSA BIRD

The name Clark Mills may not be instantly recognisable to everyone, but mention the name 'Optimist', and there are few people who haven't heard of it, or indeed sailed on one. It was Mills who designed the Optimist in 1947, and since then the 7ft 7in (2.3m) pram dinghy has become one of the most universally recognised dinghies in existence. The Windmill, in contrast, is probably not instantly recognisable outside the USA, and although the Optimist's bigger sibling, designed by Mills in 1953, has not gained international recognition to the same extent, or indeed come near to the number of boats built, it is unusual in being one of the only high-performance dinghies that has been designed specifically for home construction.

Mills's desire was to produce a boat that could be built with minimal boatbuilding skills. It was designed as the natural successor to the Optimist, one that required honed skills to sail, and which could be crewed by two in local races. Although not fitted with a spinnaker or trapeze, the hard-chined planing dinghy was still designed to be challenging, and to put on a similar performance with contemporary, professional-built designs.

It was a bold remit, but one that Mills soon achieved, quieting the doubters as it took to the podium at several major events. Ten years after it was conceived, in 1963, a Windmill was pitted against its contemporaries at the One of a Kind Regatta sponsored by *Yachting* magazine in Miami, and despite winds exceeding 26 knots during the racing, finished third in class, behind the Thistle and International Finn. Three years later, the design proved its success wasn't a one-off either, when it crossed the line in first place, leaving 32 boats in its wake. Remarkably, in 1967, the Windmill won the Heavy Weather One of a Kind Regatta on San



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Francisco Bay in 40-knot winds that left few boats upright – not bad for a 15ft (4.6m) foredeck-less dinghy!

To look at, you wouldn't think it was suitable for heavy weather sailing, but the Windmill is a capable little dinghy and fast, too. With its long run aft, sharp forebody and high-aspect ratio daggerboard, it will plane in just 10 knots, but its narrow beam of 4ft 9in (1.5m) means that it can be quite tender to sail, so crews need to be nimble-footed. Originally, Mills intended the design to be sailed by 14 to 16-year olds, but it soon became apparent that these boats needed a reasonable amount of crew ballast to prevent them being overpowered, and today the Windmills are mostly sailed by adults.

The Windmill was designed with ease of construction in mind, and wooden hulls can be built from four sheets of ¼in (6mm) ply. Unlike many of its contemporaries, the Windmill has no frames within the hull, relying entirely on stringers, or longerons, for stiffness, in addition to the transom and two thwarts. This means that the hull is relatively lightweight at 198lb (90kg) – an International 505, in comparison, which was designed in the same year and is just 1ft (30cm) longer, is nearly double that weight. Glassfibre has proved popular, too, as has composite wood/epoxy construction, and all methods are permitted by the class.

Celebrating its 60th anniversary in 2013, the Windmill is now popular in 42 states across America, and in Canada and Finland, too.

Above: despite its size, the Windmill is well suited to sailing in heavy weather



SPECIFICATIONS

LOA
15ft 6in
(4.75m)

LWL
13ft 8in
(4.2m)

BEAM
4ft 9in
(1.5m)

DRAUGHT
4ft 2in/6in
(1.2m/15cm)

SAIL AREA
119sqft
(11m²)

WEIGHT
198lb (90kg)

DESIGNER
Clark Mills

BUILD TIME

According to the class association, building a wooden Windmill takes c200 hours, excluding finishing work.

BUOYANCY

Full-length buoyancy tanks run from bow to stern. Ideal crew weight is 275lb-350lb (125kg-159kg).

ONE-DESIGN

The Windmill is a One Design so strict rules have to be adhered to, and the boats have to be officially measured before they can race.

ANOTHER WINDMILL?

Don't confuse this Windmill with the GRP simulated clinker Windmill built by JEP Marine. The latter was 12ft (3.7m) LOA with tan sails.

HOME BUILDING

Plans for the design are still available from the Windmill Class Association, and cost \$60 (£37.50).

COST

To build a wooden Windmill from scratch costs between \$3,500-\$5,000 (£2,190-£3,129), but kits and hulls for fitting out are also available. New GRP Windmills cost around \$8,000 (£5,000).

CONTACT

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Vanessa's book, *Classic Classes*, is a must-buy. For more details, go to www.classicboat.co.uk

