

# Skjold-class patrol boat

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**Skjold-class coastal corvettes** (skjold means "shield" in Norwegian) are a class of large, superfast, stealth missile craft in service with the Royal Norwegian Navy. The boats were formerly classed as MTBs (motor torpedo boats) but, from 2009, the Royal Norwegian Navy has described them as coastal corvettes (*kystkorvett*) because their seaworthiness is seen as comparable to corvettes. They were built at the Umoe Mandal yard. Although the Skjold class patrol boats remain the fastest armed craft in the world 60 knots (110 km/h), the unarmed Canadian Navy high speed patrol craft hydrofoil prototype HMCS Bras d'Or has attained speeds of over 63 knots (117 km/h).<sup>[1]</sup>

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## Development and production

The *Skjold* class vessels began with the development of the Royal Norwegian Navy's "Project SMP 6081", and the first preproduction version was ordered on 30 August 1996. The first ship of its class, P960, was launched on 22 September 1998 and commissioned 17 April 1999. A Norwegian Parliamentary White Paper of 2001 recommended building five additional boats, and this was agreed to in 2002. Six Skjold-Class MTBs have replaced the Royal Norwegian Navy's previous fourteen *Hauk* class MTBs.

## Design

The Skjold design is a surface effect craft, constructed of glass fibre/carbon composite materials. Buoyancy is augmented underway by a fan-blown skirted compartment between the two rigid catamaran-type



Four *Skjold*-class craft in harbour at Umoe Mandal shipyard, Norway

### Class overview

Name:	<i>Skjold</i> class
Operators:	<span><span></span></span> Royal Norwegian Navy
In commission:	1999–
Planned:	6
Active:	6

### General characteristics

Type:	coastal corvette
Displacement:	274 tonnes full load
Length:	155.83 <span> </span> ft (47.50 <span> </span> m) <div>46.8<span> </span>ft (14.3<span> </span>m) (Length on cushion)</div>
Beam:	44.29 <span> </span> ft (13.50 <span> </span> m)
Draught:	3.3 <span> </span> ft (1.0 <span> </span> m)
Propulsion:	2 × Twin gas turbines <div>→<u>12,170 kilowatts</u></div> <div>Twin diesel engines</div> <div>→<u>1,490 kilowatts</u></div>
Speed:	In rough sea: <div><u>45 knots</u></div> <div>In calm sea:</div> <div><u>60 knots</u></div>
Range:	800 nmi at 40 knots (74 km/h)
Complement:	15–16
Sensors and processing systems:	Thales MRR-3D-NG air/surface radar <div>Ceros 200 FC</div>

hulls. This provides an alternative solution to the planing hull/vee hull compromise: the air cushion reduces wave slam at high speeds while presenting a low-drag flat planing profile at the waterline.

To ensure stealth capabilities, anechoic coatings of radar absorbent materials (RAM) have been used in the load-bearing structures over large areas of the ship. This strategy leads to significant weight saving compared to the conventional construction technique of applying RAM cladding to the external surfaces. The ship's profile has a faceted appearance with no right angle structures and few orientations of reflective panels. Doors and hatches are flush with the surfaces and the windows are flush without visible coaming (edge of window aperture) and are fitted with radar reflective screens. The vessels are additionally protected by the Rheinmetall MASS sensor / decoy system.

The final design was changed compared to the prototype *Skjold*, which itself was rebuilt to the new specifications. Most notably, the vessels use 4 gas turbines, two large ones and two small ones, giving greater power. Two MTU 123 cruise diesel propulsion units used previously at loiter speeds were removed. The foredeck was strengthened to accommodate the addition of a 76 mm Otobreda Super Rapid gun.

The hull material was produced by a different method to improve strength and minimize vulnerability to fire. The bridge saw some changes, including an upgrade to six weapon systems control consoles.

## US Navy

The U.S. Navy and Coast Guard expressed interest in the design and leased the P960 for a period of one year, from 2001 until 2002. During that time it was operated by a 14-man Norwegian crew out of Naval Amphibious Base Little Creek.

## Vessels

### Armament:

CS-3701 electronic warfare suite  
Sagem Vigy 20 Electro-optical sensor  
8 Kongsberg Naval Strike Missile  
SSMs kept in an internal weapons bay  
76mm Otobreda Super Rapid multi-role cannon  
Mistral Surface to air missile  
12.7mm gun

### Notes:

Soft kill:  
TKWA/MASS (Multi Ammunition Softkill System)  
Other: Link 11 and Link 16



Royal Norwegian Navy patrol vessel *Storm*.



Royal Norwegian Navy patrol vessel *Skjold* on its American tour

### Skjold class – significant dates

#	Name	Laid down	Launched	Commissioned	Notes
P960	<i>Skjold</i>	4 August 1997	22 September 1998	17 April 1999	
P961	<i>Storm</i>	October 2005	1 November 2006	2008	
P962	<i>Skudd</i>	March 2006	30 April 2007	2008	
P963	<i>Steil</i>	October 2006	15 January 2008	2011	
P964	<i>Glimt</i>	May 2007		2011	
P965	<i>Gnist</i>	December 2007		2011	



Royal Norwegian Navy patrol vessel *Skjold* on its American tour, view from astern

## See also

- List of ships of the Norwegian Navy

## References

- <sup>^</sup> "Bras d'Or" (<http://www.hazegray.org/navhist/canada/postwar/brasdor/>). Haze Gray & Underway. Retrieved 2013-04-06.
- Saunders, Stephen "Jane's Fighting Ships 2003–2004" ISBN 0-7106-2546-4.

## External links

- Leo Lazauskas (2008) *Performance characteristics of a 260t displacement SES* (<http://www.cyberiad.net/library/pdf/giam260a0.pdf>). Dept. Applied Mathematics Report, The University of Adelaide, 19 Feb 2008.



### Royal Norwegian Navy patrol boat classes

HNoMS <i>Rap</i>	1873–1920
<i>Rapp</i>	1952–?
<i>Tjeld</i>	1959–1992
<i>Storm</i>	1965–2000
<i>Snøgg</i>	1970–1994
<i>Hauk</i>	1979–2009
<b><i>Skjold</i></b>	1999–Present

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