



Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

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The Q284, the first of the Suffren class, French nuclear-powered attack submarines based at Toulon



The Suffren submarine undergoing sea trials in 2020



MPE equipment filters of different amperages



MPE filters to protect French Navy supersub

On 6th November 2020, a major French defence contractor, the Naval Group in Toulon, delivered the Q284 Suffren, a Barracuda class, nuclear-powered attack submarine (SSN), to the French Armament Procurement Agency (Direction Générale de l'Armement). The Suffren is the first in a series of six multi-mission SSNs which will gradually replace Rubis class nuclear attack submarines in the French Navy, the Marine Nationale, over the next few years.

The Suffren is stated to be ten times quieter than the previous generation Rubis class. The new supersub has a displacement of 4765 tons when surfaced and 5300 tons when submerged. Its length is 99.5m, beam is 8.8m and draft is 7.3m. Unlike previous French submarines, the Suffren is not equipped with a periscope, but rather an optronic mast, which allows for a far longer range and outside visible spectrum detection of targets.

A first for the French Navy is the Suffren's ability to deploy a small underwater vehicle for special forces' use thanks to a dry deck shelter. Previously special forces utilised torpedo tubes and handheld propulsion systems.

The French Minister of the Armed Forces, Mrs Florence Parly, has announced that the historical French naval base of Toulon on the Mediterranean, where all of the new class of submarines will be based, is also designated for their principal overhauls and refits.

As part of this major project, following an intensive selection process, in the autumn of 2017 MPE was contracted to provide a suite of EMC protection filters in support of the build and trials for the Suffren.

MPE was selected because of its track record of excellence and its long history of being the first choice worldwide for high-performance EMC filtering on a host of surface and sub-surface naval platforms. Applications have ranged from Astute class submarines and the Queen Elizabeth class aircraft carriers to Royal Navy Type 26 frigates and Type 45 destroyers and Visby class stealth corvettes for the Swedish Navy.

Accordingly MPE provided two standard feedthrough variants, a 10A 130V DC and a 10A 250V AC in various quantities and also designed and supplied a custom three-phase AC equipment filter. The filter design element of this project was completed in conjunction with a UK marine defence company, and the manufactured filters were subsequently delivered to a naval equipment integrator in Singapore before onward supply to the naval base at Toulon.

The Suffren class will serve as the backbone of the French submarine force into the 2060s, making it one of the major maritime platforms of this century.