



Applications for SeaLine[®] cables in shipbuilding

› SHF1 · SHF2

LEONI offers a wide range of SeaLine[®] cables, most of them are designed for installation on ships and similar installations such as offshore platforms.

What should be considered, however, is that these SeaLine[®] cables are fitted with differing jacket materials and these decisively define their suitability for varying areas of application. The jacket material's classification according to the IEC 60092-360 standard (*Electrical installations in ships – Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables*) provides an initial guide.

The following material classes are available here at LEONI:

- **SHF1**
- **SHF2**
- **SHF2** with improved resistance to oil
- **SHF2** with mud resistance

- › **SHF1** is based on a non-crosslinked thermoplastic material.
- › **SHF2** is based on a crosslinked material. All SHF2 materials offered by LEONI have improved resistance to oil.
- › The characteristic of mud resistance is based on a special long-term test of resistance to agents typically encountered in offshore engineering – of calcium bromide brine, IRM 903 testing oil as well as the oil-based EDC 95-11 testing agent.



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It goes without saying that all the structural elements of the cables, such as

- Cores
- Data pairs
- Coaxial elements
- Electrical screens
- Armor elements

are matched to the areas of application of the sheath material and do not restrict them.

General Information on potential areas of application is contained in the IEC 60092-350 standard (*Electrical installations in ships - Part 350: General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications*). However, given that this standard cannot cover all areas for potentially using SeaLine cables, they are presented in greater detail below:

Jacket material	Main areas of maritime application
SHF1	<p>Installation ></p> <ul style="list-style-type: none"> ■ in ship interiors ■ on ship decks ■ in areas that can briefly come into contact with seawater¹ ■ in areas that can briefly come into contact with oil² (e. g. diesel or engine oil)
SHF2 SHF2 with improved resistance to oil	<p>Installation ></p> <ul style="list-style-type: none"> ■ in ship interiors ■ on ship decks ■ in the interior of offshore platforms ■ in and on offshore wind turbines ■ in and on converter stations of offshore wind farms ■ Installation in areas that can come into continuous³ contact with seawater ■ Installation in areas that can come into continuous⁴ contact with oil (e.g. diesel or engine oil)
SHF2 with mud resistance ⁶	<p>Installation ></p> <ul style="list-style-type: none"> ■ in the interior of offshore platforms ■ on deck of offshore drilling platforms ■ in areas that can come into continuous and long-term³ contact with seawater ■ in areas that can come into continuous and long-term⁵ contact with oil (e. g. crude oil or refinery derivatives)

1 Contact with seawater lasts only a few hours and the cable sheath can dry completely again > ambient temperature max. +30 °C
 2 Contact with oil only takes a few minutes and the cable sheath can dry completely again > ambient temperature max. +40 °C
 3 Contact with seawater can be permanent
 4 Contact with oil only lasts a few days and the cable sheathing can dry completely again > ambient temperature max. +40 °C
 5 Contact with oil can last for several years > ambient temperature max. +40 °C
 6 Cables with the 'SHF2 with mud resistance' characteristic can also be deployed for applications where the 'SHF2 and SHF2 with improved resistance to oil' material is recommended because this characteristic is higher-grade