



**Definition of terms**

**Flame retardance**

The cables shall withstand the test specified in IEC 60332-3-22.  
Single, earth and bonding wires shall withstand the test specified in IEC 60332-1.

**Fire resistance**

Fire resistant cables shall be tested in accordance with IEC 60331-21 and 31.

**Content of halogen**

To demonstrate that the cables are halogen-free they shall be tested to IEC 60754-1,2 maximum content of halogen = 5 mg/g.

**Smoke Emission**

During a cable fire the smoke emission is recommended to have a minimum value of 60% when tested in accordance with IEC 61034-2

**Oil resistance**

For cables with thermoplastic sheath material there are no requirements for oil resistance properties.

All thermoset sheathed cables shall be suitable for an oil production installation. The oil resistance properties shall be demonstrated by a test according to IEC 60092-359 SHF-2 with the cable immersed in IRM oil no. 902 at 100°C for 24 hours.

**Mud resistance**

In accordance with NEK 606 the mud resistant cables shall have a sheath (SHF Mud) that complies with the requirements in IEC 60092-359 for SHF2 and the below specified.

Mud resistant cables shall be designed with sheathing compounds suitable for installation and operation in contact with MUD unless otherwise specified.

The MUD resistance test requirements for sheathing compounds SHF Mud are as follows:

Test fluid	Temperature	Duration	Tensile strength variation	Elongation at break variation	Volume swell variation	Weight increase variation
Mineral oil type IRM 903	100°C	7 d	30%	30%	30%	30%
Calcium Bromide Brine (Waterbased)	70°C	56 d	25%	25%	20%	15%
Carbo Sea (Oil based)	70°C	56 d	25%	25%	20%	15%