

# Mabanol Therm M

## Heat Transfer Oils

### Application

There are three Mabanol heat transfer oils available for different temperature ranges.

**Mabanol Therm 10** allows operation of equipment in the range between -30°C and 270°C film-wall temperature.

Good cold flow characteristics provide for problem free start-ups, even at low ambient temperatures.

**Mabanol Therm 32** is recommended for plants with film wall temperature in the range between -10°C and 320°C.

**Mabanol Therm 46** is recommended for equipment operating at a film-wall temperature within the range of -10°C to 350°C.

As with all mineral heat transfer oils, care must be taken to avoid contact between oil and air as contact between oxygen and the heat transfer oil causes accelerated ageing.

### Properties

The high quality base oils used provide the foundation for the development of heat transfer oils in a favourable viscosity range with superb thermal stability and good oxidation resistance. Low viscosity combined with a high boiling range ensures flow turbulence and thus good thermal transfer performance, even at relatively low flow speeds. Specially adapted mineral oils have secured a leading role as heat transfer media.

### Standard

- DIN 51 502

### Data

	Test method	Unit	10	32	46
Density at 15°C	DIN 51 757	g/cm <sup>3</sup>	0,889	0,866	0,870
Kin. #Viscosity at 40°C	DIN EN ISO 3104	mm <sup>2</sup> /s	10,2	30	43,7
Flash point COC	DIN ISO 2592	°C	154	230	225
Pour point	DIN ISO 3016	°C	< -50	-15	-12
Carbon residue	DIN 51 551	wt%	< 0,01	0,01	0,01
Initial boiling point	ASTM D 1160	°C	> 280	350	390
Flow temperature		°C	to 250	to 300	to 320

Temperature °C	Viscosity mm <sup>2</sup> /s	Density g/cm <sup>3</sup>	Specific heat capacity kJ/kg K	Thermal conductivity W/m K	Prandtl number
<b>Mabanol Therm M 10</b>					
-20	298	0.912	1.718	0.134	3460
0	65	0.899	1.790	0.133	783
20	22.2	0.886	1.862	0.131	279
50	7.45	0.866	1.969	0.129	99
100	2.44	0.834	2.148	0.125	35
200	0.76	0.769	2.507	0.117	12.6
250	0.55	0.736	2.686	0.113	9.6
<b>Mabanol Therm M 32</b>					
0	297	0,876	1,812	0,136	3462
50	20,0	0,844	1,994	0,133	254
100	5,05	0,812	2,176	0,129	69
200	1,27	0,749	2,541	0,122	19
300	0,63	0,685	2,906	0,115	10
<b>Mabanol Therm M 46</b>					
0	535	0,879	1,864	0,134	6543
50	28,6	0,848	2,078	0,131	385
100	6,5	0,816	2,293	0,127	96
200	1,5	0,750	2,721	0,120	26
300	0,7	0,685	3,151	0,113	13,4
320	0,6	0,672	3,236	0,111	11,8

Updated in August 2016

The above values may vary within the commercial limits.

Customs Tariff No.: 2710 1999