

LUZAR SYNTHETIC THERMAL OIL

Description and Applications:

Luzar Synthetic Thermal Oil is developed for systems with high thermal load. It presents superior resistance against thermal cracking and low vapor pressure at high temperatures.

Temperatures:

The recommended temperature range for closed circuits is between -30°C and 310 °C.

In case of not-closed systems or insert of oxygen (e.g. via valves) the maximum temperature usage is lower. Depending on the system the recommended maximum temperature could be of about 220 °C.

Properties:

- Low Pour Point, extended temperature range of working.
- Superior Thermo-Oxidative and Hydrolytic Stability
- Low Viscosity.
- Non Toxic Product.
- Better heat transfer performance and service life than mineral oils.
- Does not corrode typical metals present in thermal circuits.
- Meets DIN 51.522, ISO 6743-12 Type Q

Technical Data:

Appearance	Clean bright liquid.
Density 15°C	0,88 g/ml
Viscosity 40°C	20 mm ² /s
Viscosity 100 °C	4,5 mm ² /s
Viscosity Index	80/90
Boiling Point (1 bar)	Min. 290 °C
Pour Point (°C)	-30
Cubic Expansion Coefficient	0,001
Flash Point	Min 160 °C
Distillation interval	335 – 415 °C



T° (°C)	DENSITY (Kg./m ³)
-30	916
-20	908
-10	900
0	892
10	884
20	876
30	868
40	860
50	852
60	844
70	836
80	828
90	820
100	812
110	804
120	796
130	788
140	780
150	772
160	764
170	756
180	748
190	740
200	732
210	724
220	716
230	708
240	700
250	692
260	684
270	676
280	668
290	660
300	652
310	644

T° (°C)	VISCOSITY (mm ² /s)
-30	146,94
-20	111,07
-10	83,96
0	63,46
10	47,97
20	36,26
30	27,41
40	20,72
50	15,66
60	11,84
70	8,95
80	6,76
90	5,11
100	3,86
110	2,92
120	2,21
130	1,67
140	1,26
150	0,95
160	0,72
170	0,54
180	0,41
190	0,31
200	0,24
210	0,18
220	0,13
230	0,10
240	0,08
250	0,06
260	0,04
270	0,03
280	0,03
290	0,02
300	0,01
310	0,01

T° (°C)	SPECIFIC HEAT CAPACITY (Kcal/Kg.K)
-30	0,371
-20	0,380
-10	0,388
0	0,397
10	0,406
20	0,415
30	0,424
40	0,433
50	0,442
60	0,451
70	0,460
80	0,468
90	0,477
100	0,486
110	0,495
120	0,504
130	0,513
140	0,522
150	0,531
160	0,540
170	0,548
180	0,557
190	0,566
200	0,575
210	0,584
220	0,593
230	0,602
240	0,611
250	0,620
260	0,628
270	0,637
280	0,646
290	0,655
300	0,664
310	0,673

T° (°C)	THERMAL COND. (W/mK)
-30	0,137
-20	0,136
-10	0,135
0	0,1343
10	0,1336
20	0,1329
30	0,1322
40	0,1314
50	0,1307
60	0,1300
70	0,1293
80	0,1285
90	0,1278
100	0,1271
110	0,1263
120	0,1256
130	0,1249
140	0,1242
150	0,1234
160	0,1227
170	0,1220
180	0,1213
190	0,1205
200	0,1198
210	0,1191
220	0,1183
230	0,1176
240	0,1169
250	0,1162
260	0,1154
270	0,1147
280	0,1140
290	0,1133
300	0,1125
310	0,1118



Tª (°C)	Nº Prandtl
-30	505,2
-20	397,5
-10	312,0
0	244,7
10	191,9
20	150,4
30	117,8
40	92,3
50	72,2
60	56,6
70	44,3
80	34,6
90	27,1
100	21,2
110	16,6
120	12,9
130	10,1
140	7,9
150	6,2
160	4,8
170	3,8
180	2,9
190	2,3
200	1,8
210	1,4
220	1,1
230	0,9
240	0,7
250	0,5
260	0,4
270	0,3
280	0,2
290	0,2
300	0,2
310	0,1

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