



HYTHERM S

SPECIAL FEATURES

Hytherm S is a premium quality Heat Transfer Oil specifically developed for heat transfer system where skin temperature go upto 345 °C and bulk temperatures upto 320 °C. This product is derived from synthetic base stocks and is fortified with high performance additives to enhance the performance at higher temperature.

The salient features are given below:

Ability to withstand higher bulk operating temperatures upto 320°C.

Reduced oxidation and improved thermal degradation, hence longer life.

Reduced tendency of thermal cracking and hence lower drop in flash point as compared to mineral oil.

APPLICATION AREAS

Hytherm S gives excellent performance in high temperature Heat Transfer. When provided with proper nitrogen blanketing this fluid can perform well and resist thermal cracking over a period of time leading to lower drop in flash point as compared to mineral oils. This is an excellent heat transfer fluid and finds a wide range of applications in Textile, Pharmaceutical, Chemical and processing units.

PHYSICO CHEMICAL PROPERTIES

| | |
|--------------------------------------|----------------|
| Appearance | Clear & bright |
| Max. Film temperature, °C | 345 |
| Pour point, °C | -45 |
| Flash point, °C | 204 |
| Fire point, °C | 224 |
| Autoignition temp; °C | 426 |
| Copper corrosion | 1 |
| Total acid no; mgKOH/g | 0.02 |
| Boiling range, °C Initial (IBP) | 350 |
| Final (FBP) | 400 |
| Ash, %wt | 0.005 |
| CCR, %wt | 0.07 |
| RBOT oxidation life in minutes | > 500 |



| Temp, °C → | 50 | 100 | 150 | 200 | 240 | 250 | 260 | 270 | 280 | 290 | 300 |
|--|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sp.Heat, Btu/Lb/ °F | 0.478 | 0.526 | 0.574 | 0.634 | 0.672 | 0.682 | 0.692 | 0.703 | 0.715 | 0.728 | 0.741 |
| Sp. Gravity | 0.858 | 0.825 | 0.792 | 0.758 | 0.741 | 0.724 | 0.717 | 0.711 | 0.704 | 0.698 | 0.691 |
| Kin. Viscosity, cSt | 25.52 | 4.34 | 1.96 | 1.52 | | | | | | | |
| Vapour pressure; mm Hg | 0.45 x 10 ⁻³ | 0.03 | 0.72 | 8 | | 50 | | | | | 240 |
| Thermal conductivity, Btu / Hr / ft °F | 0.089 | 0.083 | 0.079 | 0.073 | 0.069 | 0.068 | 0.067 | 0.066 | 0.065 | 0.065 | 0.064 |

PANEL COKER PERFORMANCE TEST

(For evaluation of Thermal Stability of Heat Transfer Fluids)

TEST CONDITIONS

| | | | | | |
|-------------------------------|---------|---------|---------|---------|---------|
| Panel Temperature, ° | 250 | 275 | 300 | 325 | 350 |
| Sump Temperature, ° | 121 | 121 | 121 | 121 | 121 |
| Duration, hrs | 4 | 4 | 4 | 4 | 4 |
| Run/Bake Cycle, min | 2.2/0.8 | 2.2/0.8 | 2.2/0.8 | 2.2/0.8 | 2.2/0.8 |
| Nitrogen flow rate, lt/min | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Sump Capacity, gms | 233 | 233 | 233 | 233 | 233 |

RESULTS

| | | | | | |
|-----------|------|------|-----|-----|------|
| Hytherm S | 0.00 | 0.00 | 1.3 | 2.7 | 18.9 |
|-----------|------|------|-----|-----|------|