

## Gazpromneft Heat Transfer Fluid 30

Ready-to-use low-freezing coolant based on carboxylic acids (OAT-technology), designed for use in heating systems, heat pumps, other heat exchangers and systems, as well as a coolant in industrial air conditioning and refrigeration systems. Provides reliable and long-term protection against corrosion of all metals of heat exchange systems. Compatible with equipment Buderus, Viessmann, Vaillant, Ferolli, York, Train, Carrier, Daikin. Contains: ethylene glycol. Freezing protection temperature: -30 °C. Boiling point +106 °C at atmospheric pressure. To preserve the unique properties of the coolant, pour it into a clean system, having previously flushed it.

### Application

- In autonomous heating systems with any types of boilers, except electrode boilers.
- In air conditioning systems of administrative and residential buildings, social facilities.
- In secondary circuits of refrigeration systems, including refrigeration systems of ice stadiums.
- In heat recovery systems, heat pumps and other heat-exchange apparatuses and systems.
- Service life of the coolant is determined in accordance with the recommendations of the equipment manufacturer. If the operating conditions are met and there is control over the characteristics of the coolant, the service life can be up to 10 years and more.

### The following recommendations should be observed when using Gazpromneft Heat Transfer Fluid 30

- In systems with heating boilers proper circulation of coolant should be provided, heating elements in the process of operation should be fully immersed in coolant to prevent their overheating and thermal decomposition ("sticking") of ethylene glycol.
- It is necessary, if possible, to exclude contact of Gazpromneft Heat Transfer Fluid 30 with atmospheric air, use hermetically sealed expansion tanks. Contact with air and high temperatures lead to oxidation of ethylene glycol and decrease the service life of the coolant.
- In the first days after filling Gazpromneft Heat Transfer Fluid 30 it is necessary to monitor the condition of the system connection units and, if necessary, tighten them or change seals. This is especially important when replacing water in the system with antifreeze, which has an increased ability to seep into loose connections due to reduced surface tension. The best protection against leaks is good gaskets and quality system assembly.
- It is not recommended to use elements containing zinc, in particular galvanized pipes, in heat exchange systems. If the zinc coating comes into contact with the heat transfer fluid, it will flake off and clog the heat exchangers, and the anti-corrosion properties of the heat transfer fluid will be significantly weakened.
- The heat transfer fluid can be operated at temperatures above the boiling point with a correspondingly higher system pressure. For temperatures above 110 °C a nitrogen cushion is mandatory.

### Benefits

- Improved heat transfer - optimal system temperature control
- Longer service life - OAT technology, slow consumption of additives
- No rupture effect - when coolant freezes in abnormal situations
- Reliability - high-temperature stability of additive package
- Stability in hard water - absence of silicates and phosphates in the coolant composition
- Ecological attractiveness - salts of carboxylic acids in the additive package do not affect the environment during utilization

## Standard physico-chemical properties

Indicators	Method	Gazpromneft Heat Transfer Fluid 30
Appearance	Visually	Homogeneous transparent liquid of red color
Density at 20 °C, g/cm <sup>3</sup>	ASTM D1122	1,059-1,063
pH	ASTM D1287	7,7 – 8,5
Alkalinity reserve	ASTM D1121	2,5 – 4,0
Crystallization temperature, °C	ASTM D1177	-30
Boiling point (1 atm), °C	ASTM D1120	108
Refractive index at 20°C	ASTM D1218	1,3820
Heat capacity at 20°C, kJ/kg°C	ASTM E1269	3,1
Expansion coefficient, %/°C: at 20 °C at 80 °C	ASTM D864	0,05 0,07
Thermal conductivity at 20°C, W/m°C	ASTM C177	0,43
Kinematic viscosity at 20°C, mm <sup>2</sup> /sec	DIN 51562	3,6
Surface tension, mN/m	DIN EN 14370	53

## Compliance with requirements

Clivet; DAB Pumps; Grundfos; KSB; Lavoro; WILO; Wirbel; КОНОРД

ASTM D1384. Corrosive effects on metals (corrosion in glass), 336 h, 88°C.

	Brass	Copper	Solder	Steel	Cast iron	Aluminum
	Average change in plate weight, mg <sup>1</sup>					
ASTM D3306 standard (max.)	10	10	30	10	10	30
Gazpromneft Heat Transfer Fluid (typical indicators)	-1,8 *	-1,7 *	3,2	-1,1 *	-1,2 *	2,0

\* Negative indicators mean an increase in plate weight

ASTM D4340. Hot surface corrosion, 25% vol, 168 hours, 135°C.

	Weight loss, mg/cm <sup>2</sup> /week
ASTM D3306 standard (max.)	1.0
Gazprom Neft Heat Transfer Fluid (typical value)	0,25

## The company's management system is certified in accordance with the international standards

ISO 9001



ISO 14001



ISO 45001

