

Gazpromneft Heat Transfer Fluid 65

Concentrated low-freezing heat transfer fluid based on carboxylic acids (OAT-technology), designed for use in heating systems, heat pumps and other heat-exchange apparatus and systems, as well as a coolant in industrial air conditioning and refrigeration systems. Provides reliable and long-term corrosion protection for all metals of heat exchange systems. Compatible with equipment Buderus, Viessmann, Vaillant, Ferolli, York, Train, Carrier, Daikin. Freezing protection temperature: -65 °C. Boiling point +106 °C at atmospheric pressure. To preserve the unique properties of the coolant, pour into a clean system, having previously flushed it. To obtain coolants with different freezing temperatures Gazpromneft Heat Transfer Fluid 65 should be diluted with water in proportions (see table).

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 apparatus and systems
- The 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

When operating Gazpromneft Heat Transfer Fluid 65, the following recommendations should be observed

- In systems with heating boilers, proper circulation of coolant must be ensured, heating elements must be fully immersed in heat transfer fluid during operation to prevent their overheating and thermal decomposition ("sticking") of ethylene glycol.
- It is necessary, if possible, to exclude contact of Gazpromneft Heat Transfer Fluid 65 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 65 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. A nitrogen cushion is mandatory for temperatures above 110 °C.

Advantages

- Improved heat transfer - optimum system temperature control
- Extended 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

Compliance with requirements

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

Typical physical and chemical characteristics

Parameters	Method	Gazpromneft Heat Transfer Fluid 65
Appearance	Visually	Homogeneous transparent liquid of red color
Density at 20 °C, g/cm ³	ASTM D 1122	1,081-1,085
pH	ASTM D 1287	7,7-8,5
Alkalinity reserve	ASTM D 1121	2,5-4,0
Crystallization temperature, °C	ASTM D 1177	-65
Boiling point (1 atm), °C	ASTM D 1120	116
Refractive index at 20°C	ASTM D 1218	1,4005
Heat capacity at 20°C, kJ/kg°C	ASTM E 1269	3,5
Expansion coefficient, %/°C: at 20 °C at 80 °C	ASTM D 864	0,05 0,07
Thermal conductivity at 20°C, W/m°C	ASTM C 177	0,38
Kinematic viscosity at 20°C, mm ² /sec	DIN 51562	7,2
Surface tension, mN/m	DIN EN 14370	56

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

	Brass	Copper	Solder	Steel	Cast iron	Aluminium
	Average change in plate weight, mg ¹					
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 ² /week
ASTM D3306 standard (max.)	1,0
Gazpromneft Heat Transfer Fluid (typical indicators)	0,25

Gazpromneft Heat Transfer Fluid 65 is a concentrated heat transfer fluid used to obtain working solutions with the required freeze protection temperature. Gazpromneft Heat Transfer Fluid 65 should be diluted with water in the concentrations given in the table:

Gazpromneft Heat Transfer Fluid 65, % vol.	Water, % vol.	Freeze protection temperature, °C
50	50	-22
60	40	-29
70	30	-37
80	20	-46
90	10	-55
100	0	-65

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

ISO 9001



ISO 14001



ISO 45001

