

TEHNICAL DATA SHEET

ANTIFREEZE FOR THERMAL INSTALLATIONS

TERMO PROTECT® T50

1. OVERVIEW

This technical sheet based on the technical specification, refers to the **ANTIFREEZE TERMO PROTECT® T50 (-36°C)** manufactured with monoethylene glycol, with the addition of a pH stabilizer and organic corrosion inhibitors.

2. FIELD OF USE

The product provides frost protection of thermal circuits up to -36°C. The product is suitable for use in any heating installation that operates at a maximum temperature of 102°C.

Don't use in installations made of galvanized pipe, or components made of zinc or magnesium.

It doesn't contain amines, nitrites, silicates, borates and phosphates, compounds prohibited by European environmental protection legislation.

Due to the chemical composition, the antifreeze ensures anti-corrosion protection of copper, brass, steel, aluminum parts, prevents electro-corrosion thanks to its low electrical conductivity and ensures good operation of the circulation pumps in the installation.

For the proper operation of the installation, chemical washing of the circuits is mandatory before introducing the antifreeze.

Way of usage: It is used as such, providing frost protection up to -36°C or mixed with demineralized water according to the table:

Concentration (% vol)	Dilution ratio with water (vol.)	Freezing point (°C)
100%	-	-36
67%	2 :1	-25
50%	1 :1	-15

3. INSTRUCTIONS FOR USE

- The installation must be cleaned before loading with antifreeze solutions to remove all impurities and water existing in the circuit. In the case of the existence of stone or stone deposits, use descaling agents from the CLEANEX range.
- Running in open systems exposed to the atmospheric air, potentiates the premature degradation of the additives in the product.
- Traces of the catalysts used in the welding operations of the installation elements must be removed before charging the system, their presence may generate circuit corrosion.
- It is preferable to use flexible steel connections, in order not to allow the diffusion of oxygen.
- From a chemical point of view, antifreeze can generally be considered inactive, but it is especially important to check that all system components can withstand the temperature and pressure conditions during operation.
- The installation must be secured against parasitic electrical voltages that can lead to corrosion of the circuit elements.
- The construction of the thermal system must not favor the appearance of areas with impurity deposits or air voids.
- When the installation is put into operation for the first time, it is recommended to test its tightness by filling it with water to avoid possible losses of solution from the circuit.
- Ensure the flow according to an optimal heat transfer for the application. A proper circulation gives you the efficient operation of the installation and avoids its operation at extreme temperatures that can damage the equipment. Exceeding a working temperature of 102°C leads to degradation of antifreeze properties.
- If pressure loss is detected during the operation of the system, it must be recharged only with TERMO PROTECT T50, and afterwards the parameters of the solution used (pH level, freezing point) must be checked. **Don't fill the required liquid level in the installation with water!**
- When there is a sharp change in the color of the thermal agent in the installation (the solution turns brown), check its pH. For values lower than 6.0, replace the solution used.
- Before each cold season, check the characteristics of the solution in the installation.

4. LABOR AND ENVIRONMENTAL PROTECTION MEASURES

The product contains monoethylene glycol classified as a harmful preparation if swallowed! In case of ingestion, consult a doctor.

The provisions regarding work and environmental safety provided in the product safety data sheet will be respected.

Do not use empty packaging for food storage

H302: Harmful if swallowed.

H373: Ingestion causes kidney damage.



**GHS07, GHS08
WARNING**

5. TECHNICAL QUALITY CONDITIONS

No.	CHARACTERISTICS	VERIFICATION METHOD	LIMITS
			ANTIFREEZE TERMO PROTECT T50
1	Appearance	visual	clear, blue liquid
2	Relative density at 20 °C	SR EN ISO 3675:2002	1,06-1,08
3	Freezing point, °C	SR 13552-2012	max. -36
4	Boiling point (atmospheric pressure), °C	ASTM D1120-11	min.102
5	Residue on calcination, max,%	ASTM D1119-05	max 1,5
6	pH	SR EN ISO 10523-12	7,5 – 9,0
7	Loss of metal through corrosion mg/cm ² ,max:	STAS 8671-78 pct.4.9	
	- copper 99,9 SRISO 431 :1995		0,10
	- brass CuZn30STAS 95-1990		0,10
	- steel OLC35 STAS 880-1988		0,10
	- aluminum 99,5SREN573-3/95		0,10
	- cast iron Fe 200 SR 12592 :1994		0,20

Packaging: The product is packed in 5 kg, 10 kg, 20 kg canisters, 220 kg barrels and 1000 kg container.

Warranty period – 3 years in storage.