G-ENERGY ANTIFREEZE PRO G12+

G-Energy Antifreeze PRO G12+ is a concentrate of the liquid coolant based on ethylene glycol and organic acid salts (OAT technology), for use in internal combustion engines. Contains no nitrites, amines, phosphates, borates and silicates. Protects the cooling system and the vehicle engine from freezing, boiling, together with corrosion and cavitation.

Application*:

- Light motor and load-carrying vehicles.
- Stationary diesel engines.
- Special vehicles, buses.
- Before use, the concentrate must be diluted with water from 40% to 60%.
- The concentrate is not used as an operating liquid coolant.
- The optimal liquid coolant concentration is 50%.
- Use distilled or demineralized (filtered) water for dilution.

Advantages:

- Meets the requirements of MAN 324 SNF and VW TL 774-F (G12+) specifications.
- The additive package is manufactured according to silicate-free technology based on organic acid salts.
- Can be used in both cast iron and aluminum engines.
- Does not form deposits and scale.
- Reliably and permanently protects against corrosion.
- Prevents cavitation.
- Has no tendency to foam formation.

Typical physical and chemical properties

Parameters	Method	G-Energy Antifreeze PRO G12+
Appearance	Visually	Transparent homogeneous red liquid without visible foreign inclusions
Density at 20 °C, g/cm^3	ASTM D1122	1.114
Refractive index at 20 °C	GOST 18995.2	1.430
Boiling point, ˚C	ASTM D1120	> 160
pH (50% dilution)	ASTM D1287	9.4
Alkalinity reserve (50% dilution), ml	ASTM D1121	7.3
Chilling point, 50% vol., °C	ASTM D1177	-37
Foamability, 33% vol.	ASTM D1881	max 50 ml / 3 s

Specifications:

- DAF MAT 74002, Deutz, Ford, MAN 324 Typ SNF, MB 325.3, MTU MTL 5048, Porsche, VW TL-774 F (G12+) Audi/ Seat/ Skoda, JIS K 2234, GM 6277M

Standards:

- Afnor NF R15-601, AS 2108-2004, ASTM D3306, ASTM D4985, BS 6580-2010, CUNA NC 956-16, ONORM V 5123, SAE J1034, SANS 1251:2005, SH 0521-1999

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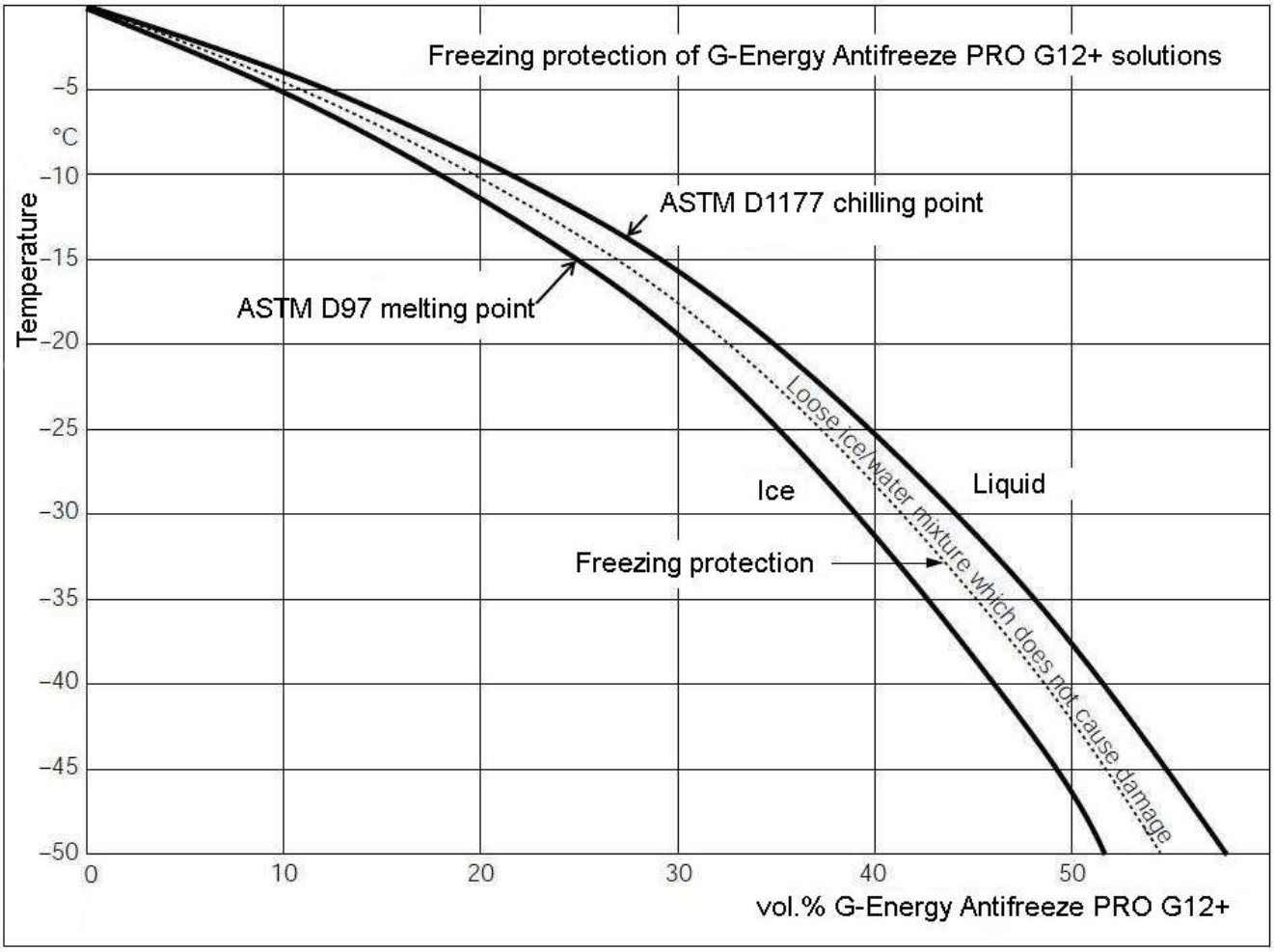
Graph of freezing protection temperature* depending on the volume concentration



*Freezing protection temperature is the arithmetic mean between chilling point (appearance of crystals) and melting point (loss of fluidity)

Corrosion in Glassware Test, ASTM D1384

	Brass	Copper	Solder	Steel	Cast iron	Aluminum
	Weight loss[1], mg/plate					
ASTM D3306 standard (max)	±10	±10	±30	±10	±10	±30
G-Energy Antifreeze PRO G12+	2,57	1.23	0.9	0.43	1.3	3.0

1 - negative values indicate weight gain

Hot Surface Corrosion Test, ASTM D4340

	Weight loss[1], mg/cm/week	ASTM D3306 standard
Aluminum	0.38	±1.0

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

ISO 9001 **ISO 14001** **ISO 45001**

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