

QUANTUM® Antifreeze Concentrate

Description and Application

QUANTUM® Antifreeze Concentrate is antifreeze concentrate for year-round use formulated from ethylene glycol and an appropriate selection of silicate-free additives based on organic (mono and dicarboxylic) acids.

QUANTUM® Antifreeze Concentrate is designated to provide protection against freezing, overheating and corrosion in combustion engines. It is fit for passenger cars, trucks, buses, off-road vehicles and stationary engines and etc. It should be used only after a proper dilution with water before use.

It is recommended to use a minimum 33%v/v solution of **QUANTUM® Antifreeze Concentrate** in distilled water in order to obtain a good and durable corrosion protection. The typical water dilution ratio is 1:1, which guarantees protection against freezing* at ambient temperatures down to minus 40°C and that will ensure optimum engine cooling. The use of mixtures with more than 70%v/v concentration is not recommended.

Specifications

BS	6580
ASTM	D 3306

The table below summarizes different dilutions of **QUANTUM® Antifreeze Long Life G12 Plus** in distilled water and the relevant "Freezing Protection" they will ensure:

QUANTUM® Antifreeze Concentrate, % v/v	Distilled or Soft Water, % v/v	Freezing Protection down to Temperature*, °C
33	67	-17
40	60	-25
50	50	-40
60	40	-55
70	30	-70

*Note - This temperature is the average value of the Initial Crystallization Temperature value and the Pour Point value. The exact value of the Freezing Temperature is determined in a laboratory. Approximate values can be obtained by refraction meters and hydrometers, calibrated for ethylene glycol based

Typical Characteristics

Parameter	Test Method	Typical Value
Appearance	Visual	Clear fluid
Colour	visual	Blue
Relative Density at 15.5°C	ASTM D 1122	1.12
Initial crystallization point **, °C	ASTM D 1177	minus 37
pH**	ASTM D 1287	8.5
Foaming properties**	ASTM D 1881	
- Foam Volume, ml		10
- Break Time, s		0
Alkalinity, cm ³	ASTM D 1121	4.5
Corrosion in Glassware***	ASTM D 1384	
- Weight Loss, mg/specimen		
- Copper		1
- Solder		5
- Brass		1
- Steel		1
- Cast Iron		1
- Aluminium		1

** measured on 50 %v/v of Antifreeze concentrate in distilled water

*** measured on 33% v/v of Antifreeze concentrate in distilled water

Important note: typical data values do not constitute a specification but are an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved.

Health, Safety and Handling

This product is classified as dangerous and requires special labeling. The use of this product should be in accordance with the guidelines for safe handling in the safety data sheet

For more information about product MSDS, terms and conditions for storage and shelf life please visit:

www.quantum-oils.com