



GLACELF G13

TOTAL

GLACELF G13 is very long life antifreeze based on high purity monoethylene glycol. It is a hybrid product, which means it is formulated with a backbone of organic inhibitors in combination with mineral inhibitors (silicate).

GLACELF G13 meets the requirements of VWTL774J (G13) and has successfully passed all stringent VW lab, fleet and performance test. To ensure a good corrosion protection, it is recommended to use at least 33% vol. % of **GLACELF G13** in the coolant solution.

GLACELF AUTO SUPRA contains a **bittering agent to give it a bitter taste** as a guarantee against accidental ingestion by children or users.

APPLICATION

Dilution in demineralised or softened water

GLACELF G13, diluted in demineralised water (<8°F) becomes a permanent coolant that can be used throughout the year.

It is essential to mix mechanically the antifreeze with water to obtain a coolant perfectly mixed.

Protection against freezing depends of proportions of **GLACELF G13** in water

% volume of GLACELF G13	36.6	45.8	53
Freezing point, °C (ASTM D1177)	-20°C	-30°C	-40°C

These are mean values provided for indicative purposes only

Minimum 33%

It is recommended to use at least 33% of **GLACELF G13** in the final solution. **Do not use in proportions above 33%.**

GLACELF G13 may be used with confidence in engines manufactured from cast iron, aluminum or combinations of the two metals, and in cooling systems made of aluminum or copper alloys.

CUSTOMER BENEFITS

Long-term protection

Long life protection against all types of corrosion thanks to a particular combination of organic inhibitors.

Metals protection

Long-term stability as a result of high performance silicate stabilizer which prevents gel-formation.

High-performance additives used allow to protect all metals including aluminum and ferrous alloys.

Environmentally friendly due to the absence of borate, nitrite, amines and phosphates.

SPECIFICATIONS

TOTAL LUBRIFIANTS
562 avenue du Parc de l'Île
F-92029 NANTERRE
1/2

Glacelf G13
Sheet updated 10/2012



GLACELF G13 meets the requirements of VW TL774J (G13) and it is approved by VW group.

CARACTERISTIQUES

Color	Visual	Light red/Violet
Density at 20°C	ASTM D5931	1,14 kg/l
Reserve Alkalinity	ASTM D1121	Minimum 5 ml HCl 0.1M
pH in water, 33% volume at 20°C	ASTM D1287	8,25
Freezing point, 40% volume	ASTM D1177	-22°C

The typical characteristics mentioned represent mean values

PERFORMANCES

VW modified ASTM D1384 glassware corrosion test (88°C)

	Weight loss (g/m ²)					
	Copper	Solder	Brass	Steel	Cast iron	Aluminium
TL774J(max.)	≤3	≤3	≤3	≤3	≤3	≤2
Glacelf G13	0.3	0.7	0.2	0.7	-0.1	0.1

VW modified ASTM D4340 aluminium heat rejection test, 40% FVV water

	Weight loss (g/m ²)	
	<i>Before chemical treatment</i>	<i>After chemical treatment</i>
Glacelf G13	-0,2	-0,2

VW modified Dynamic Heat Transfert Test, 40% tap water (20°dH)

	Weight gain (mg)	pH	
		<i>Before</i>	<i>After</i>
Glacelf G13	28	8.2	8.2