

# **A.Z. Meisterteile Kühlerfrostschutz KFS 12-72**

## **coolant concentrate**

### **Product benefits**

- can be used for all types of engines
- protects against cooling
- protects against corrosion
- protection against overheating
- protection against cavitations
- does not contain nitrite, amine and borate compounds

### **Applications**

A.Z. Meisterteile Kühlerfrostschutz KFS 12-72 is a ethylene glycol-based, pink colored coolant concentrate, produced with silicate and organic additive technology (OAT). It is free from nitrites, amines, and borates and is suitable for filling the cooling systems of internal combustion engines. It can be also used in Hybrids and indirect cooling systems of Battery Electric Vehicles (BEV).

A.Z. Meisterteile Kühlerfrostschutz KFS 12-72 is compatible with most ethylene-glycol based engine coolants, however exclusive use is recommended for optimum corrosion protection and inhibitor stability.

A.Z. Meisterteile Kühlerfrostschutz KFS 12-72 must be diluted with water prior to use. It is compatible with hard water, and can be mixed even with tap water\* with a suitable mixing ratio, so that the solution has a concentration of 35-50 % (V/V). It cannot be used without being diluted!

For optimal performance use of deionised or distilled water is recommended.

\* Use clean, not too hard water for preparing the coolant liquid. Do not use mining effluents, sea water, saline water, semi-saline water or industrial waste water.

Make sure that the water parameters do not exceed the following limit values:

Water hardness: 0-20°nK (0-3.6 mmol/l)

Chloride content: max. 100 ppm

Sulphate content: max. 100 ppm

If the water parameters exceed these values, then treat the water with an appropriate method, for example by adding clean distilled or deionised water to it, so that the chloride and/or sulphate levels are reduced to below the specified limit values.

Dilution data:

Conc.(%)	Water(%)	Freeze protection	Viscosity 0 °C	Viscosity 80 °C
33	67	-18		
40	60	-24		
50	50	-36		
67	33	-60		

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## ***Specifications and approvals***

BS 6580:2010  
ASTM D 3306  
AFNOR R-15-601  
VW/Audi/Seat/Skoda TL 774-G (VW code G12++)  
VW/Audi/Seat/Skoda TL 774-J (VW code G13)  
DTFR 29C120 (ex MB 325.5)  
Ford ESD-M97B49-A  
Chrysler MS-7170  
Fiat 9.55523  
BMW LC 87, LC 97, LC 18  
Opel-GM GME L1301  
Toyota 1WW/2WW Engines  
VW G12 EVO (TL 774-L)  
Volvo Cars 128 6083/002

## ***Product description***

A.Z. Meisterteile Kühlerfrostschutz KFS 12-72 antifreeze concentrate is an Si-OAT type high performance engine coolant. This is a ethylene glycol based pink fluid completed with anti-corrosion agent, which, when diluted properly in distilled water, can be used for filling up the cooling system of internal combustion engines.

It provides efficient protection against freezing or overheating of the cooling system, as well as against corrosion caused by chemical agents or cavitation. In addition it ensures reliable protection for spare parts made of rubber or other elastomer substances.

A.Z. Meisterteile Kühlerfrostschutz KFS 12-72 does not contain nitrites, amines and borates. It is completed with a special, bitter-tasting component that prevents incidental swallowing.

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**Typical properties**

Properties	Typical values
Appearance	clear to slightly hazy liquid
Colour	light red
Density at 15°C [g/cm <sup>3</sup> ]	1,120
Corrosion test in glassware [mg]	
- cast aluminium [mg]	0
- cast iron [mg]	1
- copper [mg]	0
- brass [mg]	0
- steel [mg]	0
- solder [mg]	0
pH value (1:2 distilled water)	
pH value	8.5
Density at 20 °C [g/cm <sup>3</sup> ]	1,119
Reserve alkalinity, M/10 HCl [ml]	9
Water content (Karl Fischer) [mass %]	max. 5
Refractive index at 20 °C	1,432
Boiling point [°C]	min. 163
Freezing point (1:1 distilled water) [°C]	max. -36
Hamutartalom (autochemic) [mass %]	max. 5

The characteristics in table are typical values of the product and do not constitute a specification.

**Storage and handling instructions**

Should be stored in its original packaging with airproof sealing, separately from foods, in a place protected against water and sunshine, locked away from children.

Shelf life in the original container under the recommended storage conditions: 48 months

Recommended storage temperature: -12°C - +30°C