



## MANNOL Antifreeze AF12+ Longlife 4112

A carboxylated (organic – OAT Organic Acid Technology) concentrated antifreeze intended for a year-round use in any modern cooling system for which the use of ethylene-glycol-based antifreeze is recommended. It ensures a reliable protection of any cooling system.

Product properties:

- It ensures a reliable protection of metals and alloys (brass, copper, alloy-treated steel, cast iron, aluminium) from all forms of corrosion, as well as prevents a high-temperature corrosion of aluminium surfaces of modern engines. It provides sufficient anti-corrosion properties from the concentration as low as 20%;
- It has an exceptional thermal stability. It protects from deposit formation;
- It has excellent heat conductivity properties and a resistance to foam formation;
- It is neutral to inserts and hoses, compatible with all types of rubber and plastic components of a cooling system;
- It has an excellent resistance to hard water and very low corrosion inhibitor depletion rates;
- The highly effective carboxylated additive package (OAT) ensures an exceptional stability of service qualities of the antifreeze throughout the entire service life;
- It does not contain silicates, nitrates, phosphates and amines (the NAP free technology);
- It has an extended service life in cooling systems: of passenger cars – up to 250 thousand km; of commercial vehicles – up to 500 thousand km; of stationary engines – up to 6 years.

It is recommended for engines requiring enhanced heat dissipation: highly accelerated engines, engines with a turbocharger and cooling systems of modern commercial vehicles.

Colour: red.

Service life: no less than 5 years.

Comply with the manufacturer's instructions provided in the user's manual!

Pour point, °C	Mix ratio, %	
20	35	65
-29	45	55

## Specifications

### Approval

### Recommendation

SAE J1034  
 JASO M325  
 AFNOR FRANCE NF R15-601 (except for RA)  
 ASTM USA D3306  
 ASTM USA D4656  
 ASTM USA D4985  
 ASTM USA D6210  
 BSI GB BS 6580:2010  
 FVW GERMANY Heft R443  
 KSM SOUTH KOREA 2142  
 MIL BELGIUM BT-PS-606-A  
 MIL FRANCE DCSEA 615/C  
 MIL ITALY E/L-1415b  
 MIL SWEDEN FSD 8704  
 NATO S-759  
 OENORM AUSTRIA V5123  
 UNE SPAIN 26-361-88/1  
 ADE  
 ASTON MARTIN  
 VOLKSWAGEN TL 774 D  
 VOLKSWAGEN TL 774 F  
 BEHR  
 BERGEN ENGINES 2.13.01  
 BMW GS 94000  
 BRB BR 637  
 CASE NEW HOLLAND MAT 3624  
 CATERPILLAR MAK A4.05.09.01  
 CHEVROLET  
 CLAAS  
 CUMMINS CES 14439  
 CUMMINS CES 14603  
 CUMMINS IS series N14  
 DACIA 41-01-001 / 41-01-001-T  
 DAF 74002  
 DETROIT DIESEL DFS 93K217  
 FENDT  
 FORD WSS-M97B44-D  
 GREAT WALL  
 HITACHI  
 ISUZU

JAGUAR CMR 8229  
 JAGUAR STJLR.651.5003  
 JENBACHER TA 1000-0201  
 JOHN DEERE JDM H5  
 KAROSA  
 KOBELCO  
 KOMATSU 07.892 (2009)  
 LAND ROVER STJLR.651.5003  
 LEYLAND TRUCKS DW03245403  
 LIEBHERR MD1-36-130  
 MACK 014 GS 17009  
 MAN 324 Typ SNF  
 MAN B W A S  
 MAN B W DIESEL AG D36 5600  
 MAZDA MEZ MN 121 D  
 MB 325.3  
 MITSUBISHI MHI  
 MTU MTL 5048  
 MWM 0199-99-2091/11

## PACKAGING

5L	MN4112-5	Plastic	
1000L	MN4112-IBC	Pallet tank	
208L	MN4112-DR	Drum	
60L	MN4112-60	Drum	
20L	MN4112-20	Plastic	
10L	MN4112-10	Plastic	
1L	MN4112-1	Plastic	20 pcs/box