



TECHNICAL DATA SHEET (TDS)

Product name: SHELL PREMIUM ANTIFREEZE LONGLIFE CONCENTRATE 774 D-F
Product code: CRX511

Supplier: Kemetyl Polska, Sp. z o.o.,
Al. Jerozolimskie 146, 02-305 Warszawa,
Ph. +48 22 822 5390

Products Shell Premium Antifreeze Longlife 774 D-F, GlycoShell Longlife and GlycoCool G Longlife Premium Antifreeze are the same coolant technology type and completely mixable under all conditions without showing any antagonistic effects during operation with guarantee of the highest level of cooling system protection.

1. Composition/information on ingredients

Shell Premium Antifreeze Longlife 774 D-F are a nitrite-, amine-, phosphate free (NAP free) and also silicate-, borate- free engine coolant based on mono ethylene glycol, which must be diluted before use with water. Shell Premium Antifreeze Longlife 774 D-F contains corrosion inhibitor package with organic acids (OAT).

Shell Premium Antifreeze Longlife 774 D-F meet the requirements of the standards PN-C-40007; ASTM D3306; ASTM D4656; ASTM D4985; ASTM D6210, BS 6580; NFR 15-601¹; FVV Heft R443; JIS K2234, KS M 2142; BT-PS-606 A; DCSEA 615/C; E/L-1415b; FSD 8704¹; NATO S-759; Önorm V5123¹; SAE J1034¹; UNE 26-361-88/1.

Shell Premium Antifreeze Longlife 774 D-F meets or exceeds requirements from most of the car manufacturers.

¹ - meets its specifications with the exception of reserve alkalinity

2. Application

In all modern engines of car, truck and bus Shell Premium Antifreeze Longlife 774 D-F gives outstanding protection against frost, corrosion and overheating. It effectively protects against corrosion in the cooling system in engines of both ferrous and aluminium construction. It gives high degree of corrosion protection of vital parts, the coolant channels in the block and cylinder head, the radiator, the water pump and the heater.

Because of used technology Shell Premium Antifreeze Longlife 774 D-F remains effective over a long period of time. Shell Premium Antifreeze Longlife 774 D-F inhibitor package offers excellent cavitation protection even without using supplemental coolant additives (SCA). During extensive fleet testing has proven to provide protection for at least **650,000 km** (ca. 8,000 hours) in truck & bus application or **250,000 km** (ca. 2,000 hours) for passenger cars or **32,000 hours (or 6 years)** for stationary engines. For coolant change intervals follow the vehicle manufacturer recommendations. Safe for all car parts, in which has contact.

Shell Premium Antifreeze Longlife 774 D-F meets OEM requirements us follow:

ADE
AGCO -Fendt (w silnikach MAN i Deutz)
AGCO -Valtra
Aston Martin
BAIC Group -Foton Q-FPT 2313005-2013
CNH Industrial - MAT3624



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Caterpillar -GCM34
Caterpillar -MAK
Caterpillar -MWM 0199-99-2091/11
Claas
Cummins IS series u N14 (silniki w Leyland i DAF trucks)
Cummins CES 14603
Cummins CES 14439
Daimler -MB 325.3 - approval
Daimler - MB 326.3
Daimler -Detroit DFS93K217 (Detroit Diesel - silniki seria 50 i 60)
Deutz DQC CB-14
DRB-HICOM -Proton
Frendt
Fiat -9.55523
Lancia – Fiat9.55523
Ford WSS-M97B44-D
GM -Chevrolet
GM –Opel GMW 3420
GM -Saab B 040 1065
GM –Saturn
Great Wall Motor Co Ltd. -Great Wall
Hitachi
Innio Jenbacher TA 1000-0200
Innio Waukesha
Isuzu
Irisbus -Karosa (silniki Renault)
John Deere JDM H5
Kobelco
Komatsu 07.892 (2009)
Liebherr MD1-36-130
Mahle Behr
Mazda MEZ MN 121 D (model 121ZQ)
Mitsubishi Heavy Industry (MHI)
Paccar -DAF 74002 - approval
Paccar -Leyland Trucks DW03245403 (DAF trucks F54 i F55)
PSA Opel GM GMW 3420
PSA Vauxhall GMW 3420
Renault-Nissan -Renault RNUR 41-01-001/--S Type D
Rolls Royce Power Systems AG -MTU MTL 5048
Rolls Royce Power Systems AG -Bergen Engines 2.13.01
Suzuki -Santana Motors
Tata Motors -Jaguar CMR 8229
Tata Motors -Jaguar STJLR 651.5003
Tata Motors -Land Rover
Tata Motors -Land Rover STJLR 651.5003
Tedom
Thermo King
Van Hool
Volvo AB -Mack 014 GS 17009
Volvo AB –Penta
Volvo AB –Renault Trucks 41-01-001/--S Type D
Volvo AB -Volvo Construction
Volvo AB -Volvo Trucks
VW -Audi TL-774D i 774 F
VW -MAN 324 Type SNF - approval
VW MAN Energy Solutions
VW -MAN B&W AG D36 5600
VW -MAN B&W A/S
VW -Seat TL-774D i 774F



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VW -Semt Pielstick
VW -Skoda TL-774D i 774F
VW -Skoda 61-0-0257
VW - VW TL-774D i 774F - approval
Wärtsilä - SACM Diesel DLP799861
Wärtsilä – Wärtsilä 32-9011
Yanmar

3. How to use

Shell Premium Antifreeze Longlife 774 D-F solution must be diluted with water in a ratio of 1:1 before filling the cooling system. Recommended final fluid concentration is between 33% and 68% by volume. In max recommended fluid concentration point (68% vol) in the same time is max frost protection (about -69°C).

Table dilutions

Number of parts Shell Premium Antifreeze Longlife concentrate 774 D-F	1	1	1
Number of parts Water	1	1,5	2
Freezing protection °C	-38°C	-25°C	-18°C

To ensure maximum protection of the cooling system is recommended to completely drain the system, rinsed, then filled with liquid Shell Premium Antifreeze Longlife 774 D-F concentrate and water in a ratio from the table above. Start the engine and warm it with the heater turned on, then fill to the end with the prepared mixture. Always follow the advice of your vehicle manufacturer.

4. Miscibility

Shell Premium Antifreeze Longlife 774 D-F can be mixed with other silicate containing engine coolants based on mono ethylene glycol, but always it is recommended to follow the instruction of car manufacturer and in longer term replace mixture fluid on the homogeneous coolant. Particular advantages of cooling fluid such as better protection for aluminum radiators and longer drain intervals can only be achieved with pure Premium Antifreeze Longlife 774 D-F.

Product is compatible with hard water and can be mixed with tap water*.

** For preparation of the coolant use clean, not overly hard water. Waste water from mining, sea water, brackish water, brine, industrial waste water are all unsuitable.*

The analysis of the water should not exceed the following limits:

Water hardness 0 to 20°dH (0 – 3.6 mmol/l)

Chloride content max. 500 ppm

Sulphate content max. 500 ppm

Should the analysis of the water exceed the approved limits, then it has to be suitably treated, for example by mixing with pure, distilled or deionised water. Excessive chloride or sulphate levels can be corrected in this way.



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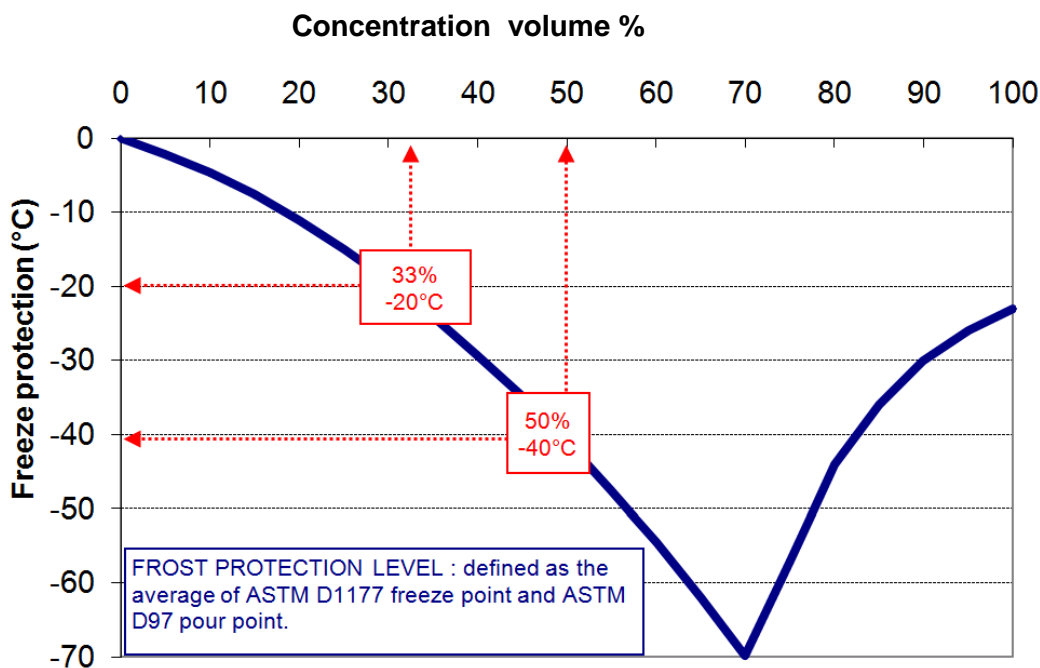
5. Physical and chemical properties

Chemical nature Monoethylene glycol with inhibitors
Physical state liquid
Colour magenta

Properties	Density at 20°C (g/cm ³)	1.113 typ	ASTM D5931
	Viscosity at 20°C (mm ² /s)	20,5 typ	
	Refractive index, at 20°C	1.430 typ	ASTM D1218
	Boiling point	180°C typ	ASTM D1120
	Flash point (°C)	122°C typ	
	pH value	8.6 typ	ASTM D1287
	Reserve alkalinity (pH 5.5, ml)	6.2 ml typ	ASTM D1121
	Ash content (w/w)	1,1% typ	ASTM D1119
	Water content (w/w)	max 5%	ASTM D1123
	Inhibitor content (w/w)	5%	
	Nitrite, amine, phosphate		
	Borate, silicate content	nil	
Solubility	Miscibility with water	in all proportions	

Technical data to the mix fluid Shell Premium Antifreeze Longlife 774 D-F with water

Frost protection Shell Premium Antifreeze Longlife 774 D-F





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Freezing point - Initial crystallization point		ASTM D 1177
	50% vol in water	-37,1°C typ
	33% vol in water	-19,3°C typ
Freezing protection	50% vol in water	-40,5°C typ
	33% vol in water	-21,8°C typ
Pour point	50% vol in water	-44,9°C typ
	33% vol in water	-24,9°C typ
Kinematic viscosity		
at 0°C,	50 vol. % in water	9.5 mm ² /s typ
	33 vol. % in water	5.2 mm ² /s typ
at 20°C	50 vol. % in water	4.3 mm ² /s typ
	33 vol. % in water	2.6 mm ² /s typ
at 80°C,	50 vol. % in water	1.0 mm ² /s typ
	33 vol.% in water	0.7 mm ² /s typ
Electrical conductivity	2499,03 µS/cm, at 23°C	
	50 vol.% in water	
Foaming characteristics	max. 50 ml/ 5s typ	ASTM D1881
Corrosion Tests		
Glassware Test		ASTM D1384
	typical weight loss in	limit
Metal	mg per coupon	ASTM D3306
or alloy		
copper	+ 1.9	max. 10
solder	+ 0.1	max. 30
brass	+ 1.6	max. 10
steel	- 0.5	max. 10
cast iron	- 1.4	max. 10
cast aluminium	+ 4.6	max. 30
Heat Transfer Corrosion Test		ASTM D4340
	typical weight change	limit
	in mg/cm ² /week	ASTM D3306
G AISi6Cu4:	< 0.2	max. 1.0

6. Storage

Shell Premium Antifreeze Longlife 774 D-F is stable for at least 8 years if stored in airtight containers at maximum temperature of 30°C.

Keep container tightly closed. Do not keep in galvanised containers, because this can give rise to corrosion problems. Storage temperatures: ambient.



7. HSE information.

The product is classified as harmful. No UN number.

For details, see Safety Data Sheet. A safety data sheet according to current regulations is available.

Date of issue: 04.10.2019

The information contained in this specification is based on the present state of our knowledge and experience. Taking into account the diversity of factors that may affect the product during its use, these data do not relieve users of responsibility for carrying out their own tests and experiments; not also mean any legally binding assurances, or suitability for a particular purpose. The responsibility lies with the users of our product that all property rights and legal provisions are respected.