

106C Antifreeze (in metric units)

When compressor washing a gas turbine at low temperatures, antifreeze needs to be added to the fluid to prevent the formation of ice which can cause blade damage. It is necessary to add antifreeze as soon as the ambient temperature drops below +5° C, because of air pressure drop at the intake lowering the air temperature.

Some compressor wash fluids are incompatible with certain antifreeze agents and the mixture can split. If it does, there is a risk that pure antifreeze is injected into a running engine and ignited. ZOK 27 is compatible with all antifreeze agents ([see Product Data Sheet](#)), but we recommend Methanol. It is cheap and very efficient, but it does have the disadvantages of being Toxic and Highly Flammable so great care must be taken when handling.

We also recommend Iso Propyl Alcohol (IPA) which is not Toxic but it is Highly Flammable and is less efficient and more expensive than Methanol. We do not recommend the use of Ethylene Glycol as it can leave sticky deposits on blades and after thermal degradation may form glycollic acid, which can attack turbine materials. However, both ZOK 27 and ZOK *mx* are compatible with this material and it may be used if the engine manufacturer recommends the use of Ethylene Glycol as an antifreeze.

Recommended Dilutions for ZOK 27 or ZOK *mx* Concentrate (to make 100 litres total mix)

Outside air temp (° C)	ZOK 27 or ZOK <i>mx</i> (litres)	Add Water / Methanol (litres)	or Add Water / IPA (litres)	or add Water / Propylene Glycol
Above +5	20	80/0	80/0	80/0
+5 to -5	20	60/20	60/20	60/20
-5 to -20	20	50/30	30/50	40/40
-20 to -30	20	40/40	10/70	30/50
-30 to -40	20	30/50	not suitable	20/60

ZOK 27RTU Ready-To-Use Wash Fluid

ZOK 27RTU is a ready-mixed product made up of 20% volume ZOK 27 and 80% volume demineralised water. When using ZOK 27RTU at temperatures below +5° C it is necessary to add antifreeze since the volume of water in ZOK 27RTU cannot be decreased as the antifreeze is added.

Recommended Additions of Antifreeze for ZOK 27RTU (starting with 100 litres of ZOK 27RTU)

Outside air temp	ZOK 27RTU	Add Methanol	or Add IPA
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(°C)	(litres)	(litres)	(litres)
Above +5	100	0	0
+5 to -5	100	25	25
-5 to -20	100	43	100
-20 to -30	100	67	not suitable
-30 to -40	100	100	not suitable