

Refrigerants and lubricants approved for use in Copeland™ compressors

	Refrigerants	Similar to	Application		Lubricant choices			Comments		
			Retrofit	New	Preferred	Alternate #1	Alternate #2			
Ozone depleting	CFC R-12		L,M		MIN	AB & MIN		Phased out in 1996		
	CFC R-502		L,M		MIN	AB & MIN	POE-32	Phased out in 1996		
	HCFC R-22		L,M,H		MIN	AB & MIN	POE-32	No new equipment 2010		
Interims	HCFC R401A	R-12	M,H		AB & MIN	POE-32 & MIN	POE-32	Service only Suva™ MP39		
	HCFC R-401B	R-12	L,M		AB & MIN	POE-32 & MIN	POE-32	Service only Suva MP66		
	HCFC R-402A	R-502	L,M		AB & MIN	POE-32 & MIN	POE-32	Service only Suva HP80		
	HCFC R-402B	R-502	L,M		AB & MIN	POE-32 & MIN	POE-32	Service only Suva HP81		
	HCFC R-408A	R-502	L,M		AB & MIN	POE-32 & MIN	POE-32	Service only FX10		
	HCFC R-409A	R-12	L,M		AB & MIN	POE-32 & MIN	POE-32	Service only FX56		
Non-ozone depleting	HFC R-134a	R-12	M,H	M,H	POE-32					
	HFC R-404A	R-502	L,M	L,M	POE-32			Suva HP62, Forane™ FX70		
	HFC R-507	R-502	L,M	L,M	POE-32			Genetron™ AZ50		
	HFC R-407A	R-22	L,M	L,M	POE-32					
	HFC R-407C	R-22	L,M,H	L,M,H	POE-32			Suva 9000/KLEA 66		
	HFC R-407F	R-22	L,M		POE			Discus™ only Performax LT		
	HFC R-410A			M,H	POE-32			ZP & ZB KCP Copeland Scroll™ models only		
	HFC R-422A/D	R-22	L,M		MIN			POE-32	AB	Discus supermarket racks only
	HFC R-438A	R-22	L,M		MIN			POE-32	AB	Discus supermarket racks only; ISCEON™ MO99
	R-704 helium			Cryogenic	PAG					ZC Copeland Scroll models only
	R-744 CO ₂			Sub-critical	POE*					ZO Copeland Scroll models only
	R-290 propane			L,M	POE					For use with specific Copeland compressors designed for R-290

Legend:

- MIN: Mineral Oil (Copeland 46BWMO, Sonneborn Suniso 3GS), Chevron/Texaco Capella WF32) Mineral oils are interchangeable for 'top off' purposes
- AB: Alkyl Benzene Oil (Copeland Ultra 200, Shrieve Zerol 200 TD, Sonneborn Suniso AKB200A, Shell 2212)
- POE 32: Polyolester Oil (Copeland Ultra 32-3MAF, Lubrizol Emkarate RL32-3MAF, Parker EMKARATE RL32-3MAF/ (Virginia) LE323MAF, Nu Calgon 4314-66 (EMKARATE RL32-3MAF)
- Hatcol 22 CC, Copeland Ultra 22 CC & Mobil Arctic 22 CC (last three for 'top off' only)
- POE*: Contact Application Engineer for oil details
- PAG: Polyalkylene Glycol Oil (Lubrizol RPAG 62, UCON LB300X)
- POE-32 & MIN: Minimum 50% POE
- AB & MIN: Minimum 50% Alkyl Benzene
- L: Low Temperature Application (Refrigeration) For R-407A, R-407C, R-407F, R-422A/D, R-438A, Demand Cooling™ is required for low temperature application - See AE guidelines for details
- M: Medium Temperature Application (Refrigeration)
- H: High Temperature Application (Air-Conditioning, Heat Pump, Refrigeration)

Spectronics AR-GLO 4/E Fluorescent Leak Detection Dye is approved for HFC/POE and HCFC/Mineral Oil usage at the manufacturer's recommended concentrations.

CAUTION: POE must be handled carefully and the proper protective equipment (gloves, eye protection, etc.) must be used when handling POE lubricant. POE must not come into contact with any surface or material that might be harmed by POE, including without limitation, certain polymers (e.g. PVC/CPVC and polycarbonate).

For specific product availability and performance data refer to Emerson Climate Technologies, Inc. sales literature
Refer To Application Engineering bulletins, change-over guidelines And MSDS sheets for additional information at EmersonClimate.com

