Regal® EP

Steam, hydraulic and gas turbine oil

Product description

Regal EP is a steam, hydraulic and gas turbine oil formulated with highly refined paraffinic base oils and an ashless additive package, offering good oxidation stability, corrosion resistance and anti-wear performance.

Regal EP is designed to offer robust water separation properties, along with reliable foam suppression and air release characteristics and good low temperature performance.

Customer benefits

- Offers good oxidation stability, helping ensure long service life under high thermal and mechanical stress
- Reliable resistance to acidic oxidation and sludge formation, helping protect bearings and avoid sticking valves
- Formulated for robust water separation characteristics and foam resistance with good air-release properties

Product highlights

- **Promotes good oxidation stability**
- **Designed for valve stick and bearing protection**
- **Offers water separation, foam resistance and air-release**

Selected specification standards include:

Alstom	ASTM
BS	DIN
GEK	ISO
JIS	Siemens
Solar	

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

Applications

- Regal EP 32-150 is recommended for use in the lubrication systems of mineral oil lubricated steam and hydraulic turbines operating under many service conditions, particularly in modern turbo-sets where the turbine oil is used for gearbox lubrication

  Regal EP 32-150 is also recommended for gas turbines in moderate service where high ambient temperatures are not present in the bearing housings. The wide ranging properties of Regal EP also make it suitable for the lubrication of certain equipment associated with turbines for which it is recommended.

- Typical applications include air compressors, bath and circulating systems supplying bearings of many types, lightly to moderately loaded gear sets, pumps, electric motors and low to moderate pressure hydraulic systems

- Regal EP is NOT recommended for aviation gas turbines in either aircraft or non-aviation service

- Other applications for the higher viscosity grades include machine tools, speed reducers, roller chains, cone drivers, helical gear reducers, large motor bearings, sleeve bearings and lower speed ball and roller bearings

Approvals, performance and recommendations

Performance

• Regal EP 32/46	DIN 51 515/T1 L-TD, DIN 51 515/T2 L-TG
• Regal EP 32/46/68	ISO 8068 Type AR and B
• Regal EP	ISO 6743/5 (L-TSA, L-TSE, L-TGA)
• Regal EP 32/46/68/100	BS 489
• Regal EP 32/46/68/100	ASTM D4304/T1 & T2
• Regal EP 32/46	Alstom HTGD 90117
• Regal EP 32/46	GEK 28143B
• Regal EP 32/46	ISO 8068-2006 (L-TGE, L-TSE)
• Regal EP 32/46	JIS K2213 Type 2
• Regal EP 32/46	Siemens MAT 812102
• Regal EP 32/46	Siemens MAT 812109
• Regal EP 32/46	Siemens TLV 9013-04
• Regal EP 32/46	Siemens TLV 9013-05
• Regal EP 32/46	Solar ES9-224 Class II

Typical test data

Test	Test Methods	Results		
Viscosity Grade		**32**	**46**	**68**
Shelf Life: 60 months from date of filling indicated on the product label				
Appearance	Visual	Br&Cl	Br&Cl	Br&Cl
ASTM Color	ASTM D1500	L0.5	L0.5	L0.5
Kinematic Viscosity at 40°C, mm²/s	ASTM D445	32.07	45.11	66.66
Kinematic Viscosity at 100°C, mm²/s	ASTM D445	5.54	6.97	9.03
VI	ASTM D2270	110	112	110
Density at 15°C, kg/l	ASTM D 1298	0.8595	0.862	0.8654
Flash Point, COC, °C	ASTM D92	220	232	250
Pour Point, °C, max	ASTM D5950	-36	-33	-33
Demulsibility at 54°C, min	ASTM D1401	<20(9)	<20(8)	<20(10)
Air release at 50°C, min	ASTM D3427	1	<4	7
Foam Seq I, ml	ASTM D892	50/0	50/0	50/0
Foam Seq II, ml	ASTM D892	50/0	50/0	50/0
Foam Seq III, ml	ASTM D892	50/0	50/0	50/0
Rust Test B	ASTM D665/B	Pass	Pass	Pass
Copper corrosion, 3h/100°C	ASTM D130	1A	1A	1A
Oxidation stability				
RPVOT,min	ASTM D2272	1326	1354	1386
TOST,h	ASTM D943	>10000	>10000	>10000
FZG, A/8.3/90	ASTM D5182	>12	>12	>12

Typical test data

Test	Test Methods	Results			
Viscosity Grade		**100**	**150**	**220**	**320**
Shelf Life: 60 months from date of filling indicated on the product label					
Appearance	Visual	Br&Cl	Br&Cl	Br&Cl	Br&Cl
ASTM Color	ASTM D1500	0.5	<2.5	L3.5	<3.5
Kinematic Viscosity at 40°C, mm²/s	ASTM D445	96.83	150	210.4	320
Kinematic Viscosity at 100°C, mm²/s	ASTM D445	11.63	14.6	18.78	23.4
VI	ASTM D2270	109	95	99	95
Density at 15°C, kg/l	ASTM D 1298	0.8683	0.8860	0.8864	0.890
Flash Point, COC, °C	ASTM D92	250	260	284	270
Pour Point, °C, max	ASTM D5950	-36	-12	-12	-12
Demulsibility at 54°C, min	ASTM D1401	<20(6)	<20	<60(15)	<60
Air release at 50°C, min	ASTM D3427	>10	<25	<20	<20
Foam Seq I, ml	ASTM D892	50/0	50/0	50/0	50/0
Foam Seq II, ml	ASTM D892	50/0	50/0	50/0	50/0
Foam Seq III, ml	ASTM D892	50/0	50/0	50/0	50/0
Rust Test B	ASTM D665/B	Pass	Pass	Pass	Pass
Copper corrosion, 3h/100°C	ASTM D130	1A	1A	1A	1A
Oxidation stability					
RPVOT,min	ASTM D2272	1413	>500	644	>500
TOST,h	ASTM D943	>1000	>1000	>1000	>1000
FZG, A/8.3/90	ASTM D5182	>12	>12	>12	>12

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.