

## **Interlube Steam Cylinder Oils SR**

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**Overview:** Interlube Steam Cylinder Oils SR are specially formulated for use in severe duty steam cylinders, often in the Rail Industry. Blended with select base oils and additives, these products operate effectively in the hot, heavily loaded conditions found in super-heated steam engines used to generate power.

Interlube's Steam Cylinder Oils SR are available in 11 formulations classified by viscosity and specific operating requirements. Selection is based on the operating temperature of the steam cylinders and the severity of the service. The key performance requirement is to ensure there is a sufficient oil film (thickness) at the working temperature and with the formula compounded to work effectively in the presence of high moisture content. The additive package provides a consistent oil film, even in the high temperature moist conditions of a steam cylinder. As such, each product is formulated with varying viscosities and additive content to maximize performance. To ensure maximum service, we recommend that when seeking a steam cylinder oil, you contact Interlube's Technical Service Team so as to receive the product best suited for your operation and equipment.

**Operational Benefits:** These products offer these competitive advantages to enhance your reliability:

• **Superior thermal stability** • **Outstanding oxidation stability** • **Very low volatility – reduced oil make-up** • **High Viscosity Index** • **Completely shear stable** • **Excellent AW performance** • **Exceptional hydrolytic stability**

**Application:** These products can be used in the following (though not exhaustive) list of applications:

• **Steam Cylinders** • **Worm Gear Reducers (SR 140T, SR 148T, SR 160, and SR 168T)**  
• **Farming Equipment**

**Typical Industries:** These products are commonly used (but not exclusively) in the following industries:

• **Antique / Historic Railroads** • **Amusement Parks** • **Agriculture**

**Technical Considerations:** No single steam cylinder oil is suited for all-purpose use. The following guide is provided to help in selecting the correct product for your use. Please contact the Interlube Technical Service Team for the best recommendation for your application.

### **Interlube Corporation**

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<b>Product</b>	<b>Steam Pressure (PSI) <sup>Note 1</sup></b>	<b>Steam Use Conditions <sup>Note 2</sup></b>
SCO SR 111	Less than 100	Very set / saturated steam
SCO SR 140 <sup>Note 3</sup>	100 – 150	Wet / saturated steam
SCO SR 148	100 – 150	Very wet / saturated steam – Heavier compounding for super-saturation
SCO SR 148T	180 – 320	Super-saturated / high pressure steam at superheat temperatures up to 200°F.
SCO SR 160	150 – 190	Wet / saturated steam
SCO SR 168	150 – 190	Very wet / saturated steam – Heavier compounding for super-saturation
SCO SR 168T	190 – 350	Super-saturated / high pressure steam at superheat temperatures up to 200°F.
SCO SR 200T	190 – 500	Super-saturated / high pressure steam at superheat temperatures up to 200°F
SCO SR 208T	190 – 500	Super-saturated / super pressure conditions. Heavier compounding for wetter steam.
SCO SR 250T	190 – 500	Super-saturated / super pressure conditions. Heavier compounding for wetter steam.
SCO SR 322T <sup>Note 4</sup>	>500 at temperatures up to 650°F	Wet / saturated / super- heated steam engines.

**NOTES:**

- 1: For pressures greater than 500 psi and/or superheat conditions greater than 200°F, please contact Interlube Technical Service Team.
- 2: In applications where the condensate is returned to the boiler, it may be necessary to use a non-compounded oil. Consult the Interlube Technical Service Team for advice.
- 3: The SCO SR 140 is also blended for use in heavily-loaded worm gear reducers.
- 4: Interlube Steam Cylinder Oil 322T is formulated specifically for high pressure, high temperature, condensing steam engines with dry, superheated steam in the exhaust. It is designed for pressures which exceed 500 psi and temperatures up to 650°F. Interlube Steam Cylinder Oil SR 322 is not designed for very wet / super-saturated steam or for lower pressures (<200 psi)

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**International Manufacturer & Distributor of the World's Finest Lubricants & Cleaning Compounds**

## Interlube Steam Cylinder Oils (SCO) SR

### Technical Properties

Property	Method	SCO SR 111	SCO SR 140	SCO SR 148	SCO SR 148T	SCO SR 160	SCO SR 168
<b>Appearance</b>	Visual	Clear Liquid	Opaque Black Liquid				
<b>Color</b>	ASTM D-1800	<2.5	>7.5	>7.5	>7.5	>7.5	>7.5
<b>Viscosity ISO Grade</b>	ASTM D-445	220	460	460	460	460-680	680
<b>cSt @ 40°C</b>		243	484.7	404.3	405.5	595.6	642
<b>SUS @ 210°F</b>		99.6	151.2	135.6	138	167.7	179.5
<b>Viscosity Index</b>	ASTM D-2270	99	96	85	85	95	95
<b>Pour Point (°F)</b>	ASTM D-97	<-40	-33	-29	-29	<-22	-17
<b>Flash Point (°F)</b>	ASTM D-92	>500	>550	>500	>500	>450	>500
<b>Density, lbs/gal</b>	ASTM D-5002	7.46	7.44	7.48	7.48	7.50	7.52
<b>Specific Gravity</b>	ASTM D-1298	0.894	0.891	0.896	0.896	0.899	0.901
<b>Timken OK Load (lbs.)</b>	ASTM D-2509	45+	45+	45+	45+	50+	50+
<b>Four Ball Wear (mm)</b>	ASTM D-2783	0.4	0.3	0.3	0.3	0.3	0.3
<b>Rust Test</b>	ASTM D-665	PASS	PASS	PASS	PASS	PASS	PASS
<b>Copper Corrosion</b>	ASTM D-	1a	1a	1a	1a	1a	1a

*The values shown are typical of current production. All of them may vary within tolerable ranges*

## Interlube Steam Cylinder Oils (SCO) SR

### Technical Properties

Property	Method	SCO SR 168T	SCO SR 200T	SCO SR 208T	SCO SR 250T	SCO SR 322T
Appearance	Visual	Opaque Black Liquid	Opaque Black Liquid	Opaque Black Liquid	Opaque Black Liquid	Opaque Black Liquid
Color	ASTM D-1800	>7.5	>7.5	>7.5	>7.5	>7.5
Viscosity ISO Grade cSt @ 40°C SUS @ 210°F	ASTM D-445	460-680 596.5 173.9	~680 751.6 200.9	680 690.0 192.5	1000 1039.5 258	1500 1714 337.1
Viscosity Index	ASTM D-2270	97	95	98	97	94
Pour Point (°F)	ASTM D-97	-17	-11	-5	0	10
Flash Point (°F)	ASTM D-92	>500	>500	>500	>500	>500
Density, lbs/gal	ASTM D-5002	7.49	7.48	7.52	7.59	7.66
Specific Gravity	ASTM D-1298	0.898	0.896	0.901	.911	0.918
Timken OK Load (lbs.)	ASTM D-2509	50+	50+	50+	50+	50+
Four Ball Wear (mm)	ASTM D-2783	0.3	0.3	0.3	0.3	0.3
Rust Test	ASTM D-665	Pass	PASS	PASS	PASS	PASS
Copper Corrosion	ASTM D-	1a	1a	1a	1a	1a