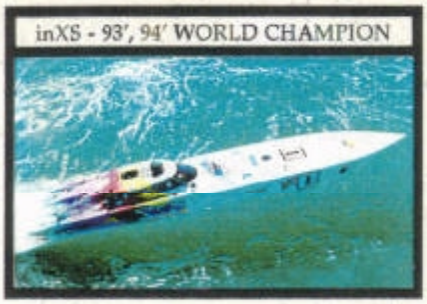
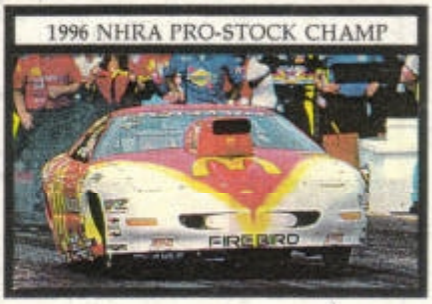
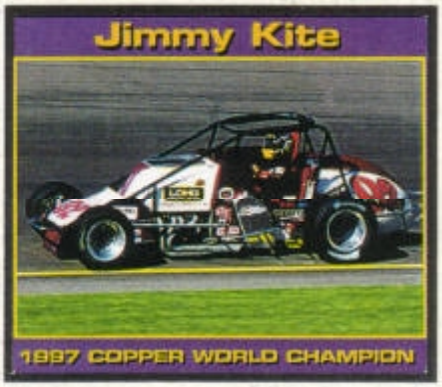
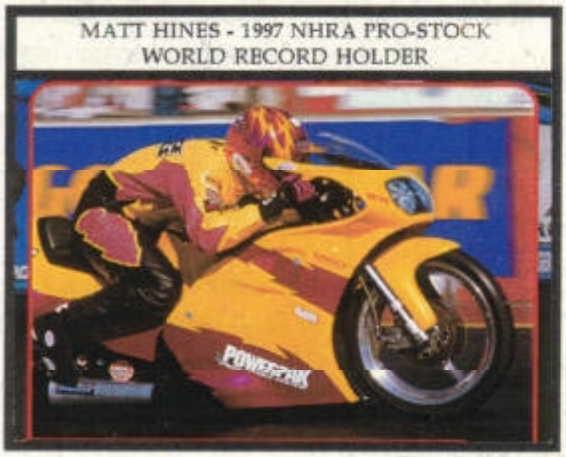


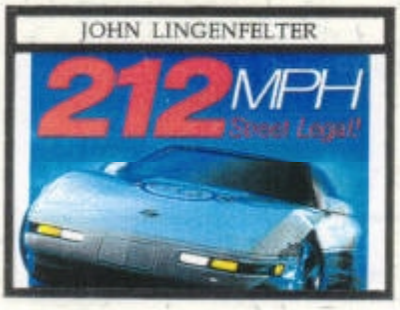


ROYAL PURPLE

SYNTHETIC LUBRICANTS
Industrial
Motorsports Racing
Automotive & Trucking





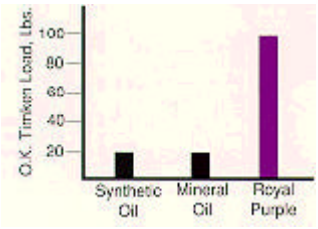


Se hjemmesidene på: www.royalpurple.com og les om brukere fra skip, industri, NASCAR og de som setter verdensrekorder. De bruker alle ROYAL PURPLE. Oljen som kan forlenge oljeskiftintervallene med opp til 10 ganger og likevel være best!

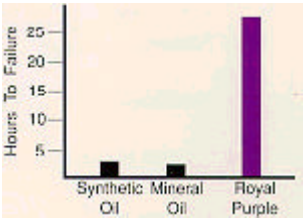
Sjekk oljeegenskaper som gir deg optimal uttelling for ditt smørolje budsjett:

- Maksimal styrke på oljefilm
- Stabil for høye temperaturer
- Lav friksjonskoeffisient
- Separerer hurtig ut vannet
- Miljøvennlig (Inneh. ikke korrosive stoffer)
- Gir korrosjons og rustbeskyttelse
- Reduserer vibrasjoner
- Mye lengre oljeskift intervaller
- Reduserer energiforbruk
- Er flytende selv i lave temperaturer
- Sterk rensene effekt. Holder utstyret rent
- Nedsetter slitasjen dramatisk.

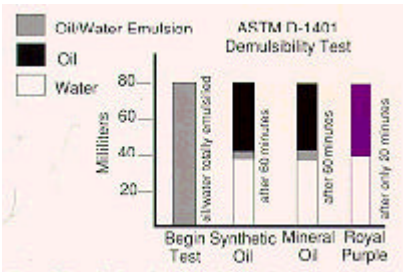
Kun Royal Purple oppfyller alle disse fordelene i en olje. De fleste oljer har maksimalt 5 slike fordeler..... og Royal Purple kommer best ut i alle 12 !!!.
Er det viktig?..... ***ABSOLUTT !!!***



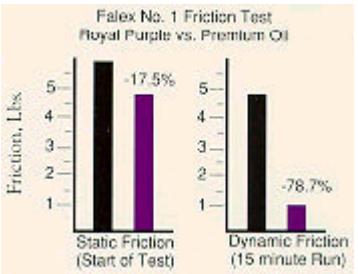
1. Sterkere oljefilm: Royal Purple Syntetisk Olje med Synerlec reduserer slitasje ved å bære belastninger 5 ganger større enn andre gode syntetiske og mineral oljer. Alt utstyr kjører på en veldig tynn oljefilm... det vedheng og styrke på vår Synerlec film, reduserer kraftig på slitasjen og forlenger utstyrets brukstid betraktelig.



3. Oljen holder lengre. Royal Purp er 10 ganger mere stabil m oksidasjon i denne testen. I U.S. Stee ASTM D- 2893 lab test, er resultat sammenligningsbar med et 20 å oljebytte intervall (271 testdager me 0% viskositet økning). Uten foru rensninger i oljen, er oksidasjon d eneste mål på oljens holdbarhet bruk.



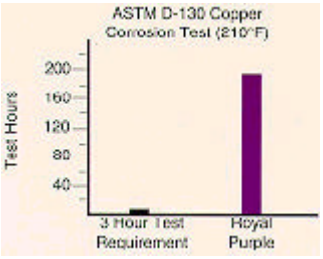
2. Overlegen vannutskilling: Royal Purple Syntetisk olje med Synerlec separerer ut vannet hurtig og forblir tørr. Tørr olje forlenger brukstiden på lagere betydelig. Vann kan med letthet tappes fra bunn av olje reservoaret.



4. Sparer energi: Royal Purpl Syntetisk olje med Synerle senker friksjonen med opp ti 78.7%. Energi spares og de betyr sparte utgifter. Energi besparelser alene, kan være størr enn innkjøpsprisen på oljen.

brasjoner før Royal Purple ***Vibrasjoner etter 2 dager*** ***Vibrasjoner etter 3 mnd***

6. Reduserer vibrasjoner i utstyr: Royal Purple Syntetisk Olje med Synerlec har bevist at den reduserer vibrasjoner i både roterende og annet utstyr.



5.Overlegenkorrosjons beskyttels Royal Purple Syntetiske olje m Synerlec tilbyr en "dobbel margin" korrosjon beskyttelse. Den beskytt under bruk og virker som rustbeskytter når utstyret ikke er i bruk

Performance Under Pressure!

Scorcher

Reggie Fountain heats up a cold winter day with a blistering 130.246-mph world speed record.

By PETER A. JANSSEN Photos by MARK SPENCER

THE WINNERS ARE: The new world-record holder, *Ohio Steel* (opening spread), with stablemates (above). Fountain himself (below).

BELLY OF THE BEAST: Three Merc 1,000s provide the horsepower for Fountain's new records.

It was a cold, very cold, January morning and even at dawn the thin sliver of the moon was still hanging over the horizon as we left the hotel in Washington, N.C., to head for the Fountain Powerboats factory a short distance away. A single star hung next to the tip of the moon, keeping it company. Half an hour later as the orange sun started to come up over the golden Carolina marshland, we could hear the thin layer of surface ice breaking as the first boats idled out from the factory dock to the Pamlico River. The river's surface was perfectly flat, not a single ripple to break the surface; no wind at all, just the cold. It was, as it turned out, perfect weather for Reggie Fountain. This was what he had hoped for. Reggie weather; record-breaking weather.

The weather might have been cold, but Reggie was hot, very hot. Before the sun had climbed halfway in the sky that day, Reggie had driven two of his boats to new world records and he watched from the sidelines as another of his boats set a third. Not a bad day's work.

This was an official event, sanctioned by the American Power Boat Association, with all the appropriate APBA officials and timers and safety personnel on the scene, but it wasn't a race. Reggie likes to race; in fact, he started when he was 14, and he now holds three world and seven national championships. Almost 20 years ago, when he was racing tunnel boats (which is not an occupation that adds to one's life expectancy), Reggie finished first in 15 of the 23 races he entered. That was his best year, but there have been scores of races since then—offshore races—and Reggie has achieved a record (and the trophies that go with it) to demonstrate that he can win far more than his share of boat races. But this event was to prove something else—that Fountains, with their Positive Lift, notched transoms and pad keels, go fast. This was a race against the clock. This was to reclaim a world speed record that he wanted to hold as his own.

That's an idea that turns Reggie on. "It's fun to win races," he says, "but people tend to remember who has the fastest boat of them all. Most people won't remember who won the race at Key West or wherever, but they do remember which boat holds the world's record. That sticks in their minds."

But today was about more than that. Today was something of a grudge match. In the super-competitive world of high-performance boating, Reggie was trying to prove that his boats, the boats that bear his name, were not just the fastest V-bottom boats in the world, but, more specifically, that they were faster than arch-rival Wellcraft Scarab's.

The Fountain-Scarab rivalry is so intense that it could be forged in stone. The problem is that until two years ago, Reggie held the world's speed record; in fact, Reggie set it with Eric Rebhan at 123.91 mph in a 42-foot Fountain called *Ohio Steel*. Rebhan, then 24, was the president of the Ohio Steel company in Warren, Ohio, and he and his father had been racing, and winning, on the APBA offshore circuit, and they thought it would be a fun idea to set the world's speed record as well. (The actual record is measured on two consecutive runs, in

Continued on second page following

TOO FAST: *Dragon Lady II* broke its own existing 82.13-mph world record in Class B with a screaming 101.31 mph on the cold Pamlico River.

Royal Purple

The Performance Oil that Outperforms™

Berättelsen om Royal Purple ©

Början

Royal Purple bildades 1986, när John Williams kallades in som konsult angående kroniska problem med sviktande stödlager på stora skruvkompressorer, som användes i samband med oljeproduktion. Vid den här tiden var egentligen Williams officiellt pensionerad efter 40 år i olje- och smjörjningsbranchen. Han insåg snabbt att kundens problem var orsakade av att kompressorerna kördes långt över deras nominella kapacitet, och därigenom så överbelastades stödlagren. Williams ansträngningar att lösa problemet ledde till utvecklandet av en olja vars like aldrig skådats..

Föreställ dig en energibesparande olja med hög oljefilmsstyrka, som kan arbeta i åratal under höga belastningar i varma och fuktiga miljöer utan att det bildas avlagringar eller oxidanter, som är kapabel att beskydda tungt belastade maskinkomponenter, som separerar fukten ur oljan snabbt och fullständigt och som skyddar mot rost och korrosion. Williams gjorde mer än att föreställa sig en sådan olja, han skapade den...och den heter Synfilm®.

Ett helt sortiment av Royal Purple högpresterande industri-, motor- och racingoljor baserat på den egenskapsförbättrande Synerlec® teknoligin skapades, där Synfilm® är en viktig hörnsten..

Hur Royal Purple fick sitt namn

När projektledaren vid oljeproduktionen insåg att hans kompressorproblem var borta för alltid så var han euforisk, han hade egentligen bara ett huvudbry: Eftersom han tyckte att oljan var så överlägsen alla andra produkter han tidigare sett, så tyckte han att den inte borde se ut som vanlig olja. Williams föreslog att man kunde göra oljan röd, grön eller blå, varpå kunden svarade att han hade sett dessa färger på oljor förut. Så Williams frågade -vilken färg vill du ha då? Och kunden svarade:"Well you know, John, I've never seen a purple oil before." Och eftersom en sådan här bra olja inte kunde vara vilken lila som helst, så bestämde de för att kalla den Royal Purple (vilket är namnet på en blomma).

Sedan dess har namnet förknippats med kvalitet och avkastning världen över.

Royal Purple

The Performance Oil that Outperforms™

Royal Purple med Synerlec® teknologin äntligen i Sverige!

Synerlec teknologin fungerar

Synerlec® teknologin är grundstenen i Royal Purple's syntetiska hög presterande smörjmedel. Synerlec® teknologin har bevisat sin prestanda, både inom industrin och racingen, genom att få maskinerier att gå mjukare, kallare, tystare, längre och mer effektivt. Synerlec® teknologin gör att både oljan och utrustningen håller många gånger längre.

För att tillverka bästa tänkbara olja, så kombinerar Royal Purple högkvalitativa syntetiska basoljor med dess egenskapsförbättrande Synerlec® tillsättning. Resultatet är en pålitlig, bestående olja som innehar alla de egenskaper som krävs för att uppnå maximal livslängd och prestanda.

Längre livslängd på oljan

Royal Purple oljor med Synerlec® teknologin varar många gånger längre än andra mineral- och syntetoljor. Synerlec® teknologin skyddar oljan från oxidering, vilket annars kan få oljan att brytas ner, tjockna och bilda frätande syror, slam eller koks. Detta skydd reducerar mängden olja som förbrukas och kastas. Utrustningen hålls också renare och varar längre.

Hög oljefilmstyrka

Synerlec® teknologin bildar en glatt, superstark, syntetisk film på metallytor, vilket skyddar lagerytor långt över förmågan hos vanliga oljor. Royal Purple oljorna tål upp till 700 % högre belastningar än andra mineral- och syntetoljor. Denna extraordinära oljefilmstyrka ger ett extra skydd hos lager som är utsatta för mekaniska påfrestningar såsom olinjäritet, axelflex, obalans, vattenkontamination eller förhöjd oljetemperatur, vilket tunnar ut oljan.

QMI SCANDINAVIA 3050 Mjøndalen Telf.: 32877077 Fax 32877644

Reducerar lagervibrationer

Royal Purple oljor med Synerlec® teknologin "mikro-polerar" friktionsytorna. Slätare lagerytor förbättrar oljefilmens tjocklek och främjar fullständiga elastohydrodynamiska arbetsförhållanden, detta sänker vibrationerna i lagrena och arbetstemperaturen, vilket förbättrar lagrens livslängd betydligt. Lager som i vanliga fall skulle haverera på grund av otillräcklig oljefilmtjocklek kan hålla i flera år om de smörjs med Royal Purple oljor med Synerlec® teknologin.

Snabb separering av vatten

Vatten i oljan är rena döden för lagren. Många oljor bildar mjölkiga olja/vatten lösningar vilket förkortar livslängden på både oljan och lagren avsevärt. Royal Purples syntetiska smörjmedel separerar vattnet snabbt och fullständigt så att man lätt kan dränera vattnet från botten av behållaren/tråget. Synerlec® teknologin bildar ett starkt joniskt band med metalliska ytor, så att fukt effektivt avvisas från lagerytorna. Därigenom minimeras risken av lagerskador orsakade av fuktpartiklar.

Energibesparande

Energikostnaderna är den enskilt största kostnaden vid utnyttjade av roterande maskinerier. Vanligtvis så är energikostnaden 20-25 gånger högre än underhållskostnaderna. Därför kan en energibesparing på bara 0,1 % betala 100 % av oljekostnaderna. Royal Purple oljor med Synerlec® teknologin har en extremt låg friktionskoefficient, som bevisats vara energibesparande jämfört med vanliga oljor. Royal Purple tillför oftast från 1 till 3 procents (eller högre) energibesparingar, hos roterande maskinerier. Dessa besparingar överskrider den totala oljekostnaden inom några månader, så vad som initialt var en oljeutgift blir snabbt en vinstgenerator.

Utmärkt korrosionsbeskydd

Royal Purples ùthålliga Synerlec® teknologi bildar ett jonisk band med metalliska ytor, därigenom förträngs korrossionsbildande fukt. Denna starka film skyddar såväl under drift som under stillestånd. Samma film ger omedelbar smörjning under uppstart tills normalt oljetryck hinner bildas.

Royal Purple

The Performance Oil that Outperforms™

Extremt rent

De flesta oljor är inte rena. Det är den smutsiga sanningen som oljebolagen inte vill prata om. Ren olja är livsviktig för tillförlitligheten hos maskindelarna. Royal Purple är den enda smörjmedelsfabrikanten som rutinmässigt levererar olja med ISO4406 renlighetsgrad 14/13/11 verifierat med laser partikelräkning. Enbart en sådan renlighetsnivå kan öka livslängden på maskinerier med 300 – 700 %.
Alla Royal Purples produkter levereras i plastbehållare, även 200-liters . Detta för att bibehålla renheten

Syntetisk lösning

Royal Purple's syntetiska smörjmedel har en naturlig syntetisk lösning som rengör smutsig utrustning och håller det rent. Ren utrustning fungerar bättre, precis som ny utrustning.

Vänlig mot packningarna

Royal Purple's smörjmedel har utmärkt kompabilitet med packningar och kan tillämpas överallt där traditionella mineraloljor används.

Kompatibel med andra oljor

Royal Purple's smörjmedel är kompatibla med, och kan blandas med alla andra mineraloljor och de flesta syntetoljor (Icke kompatibel med syntetiskt glykol eller silikon).

Miljöansvar

Alla Royal Purple's smörjmedel är uppbyggda av komponenter som är TSCA listade och klarar EPA-, RCRA- och OSHA- kraven. Några produkter är dessutom biologiskt nerbrytbara. Royal Purple hjälper också till att bevara miljön genom ge längre intervall mellan oljebyten, därigenom mindre spilloljeavfall och genom att minska energi konsumtionen hos maskineriet som de smörjer.

QMI SCANDINAVIA 3050 Mjøndalen Telf.: 32877077 Fax 32877644

ROYAL PURPLE®
SYNTHETIC OIL

Multi-Grade Motor Oils

Beyond Synthetic™

Royal Purple® Motor Oil is recommended for use in all four-cycle gasoline engines and both two-cycle and four-cycle diesel applications including automotive, commercial fleet and stationary industrial diesel engines.

Royal Purple® Motor Oil is a tough, long life, high performance oil that delivers superior protection and enhanced performance to gasoline and diesel engines. It gains its performance advantages from a blend of synthetic oils plus Royal Purple's proprietary, synthetic Synerlec® additive technology.

Synerlec® additive technology greatly reduces engine wear, including ring, cylinder and bearing wear. It is extremely tenacious, adheres to engine surfaces and remains after shutdown, which provides protection upon initial startup.

Multi-Grade Oils:
5W20, 5W30, 10W30, 10W40, 15W40, 20W50

Exclusive Performance Advantages:

- Greater Wear Protection
  Synerlec® additive technology forms a tough, tenacious film on all metal surfaces virtually eliminating engine wear.
- Greatly Extends Oil Drain Intervals
  Royal Purple® Motor Oil is extremely oxidation stable and stands up to the heat that causes oils to thicken, to form lacquer and varnish deposits, to lose its lubricity and to shorten the life of both the oil and the engine.
- Superior Corrosion Protection
  Synerlec® additive technology protects during normal and severe operation and acts as a preservative oil during shutdown.
- Saves Fuel
  Royal Purple® Motor Oil's low coefficient of friction produces meaningful improvements in fuel economy.
- Reduces Exhaust Emissions
  Royal Purple® Motor Oil provides a superior seal between the piston ring and cylinder wall, which reduces blow-by, improves combustion efficiency and measurably reduces harmful emissions.
- Increases Horsepower
  Royal Purple® Motor Oil increases horsepower and torque over other oils.
- Keeps Engines Clean
  Royal Purple® Motor Oil's natural solvency cleans deposits left by old oils and keeps engines clean.
- Mates Engine Parts
  Synerlec® additive technology allows engine parts to perfectly mate. Mated parts allow engines to run smoother with increased efficiency for maximum performance.
- API Warranty Approved
  Royal Purple's SAE grade motor oils are API licensed and will not void new car warranties. They are compatible with other mineral and synthetic motor oils. Switching is easy. Drain old oil. Change the filter. Add Royal Purple® Motor Oil. Follow manufacturer's recommended drain intervals during warranty.
- Will Not Harm Seals
  Royal Purple® Motor Oil has the same excellent seal compatibility as mineral engine oils.
- Environmentally Responsible
  Royal Purple® Motor Oil components are TSCA listed and meet EPA, RCRA and OSHA requirements. Royal Purple® Motor Oil extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.

Royal Purple, Ltd. • One Royal Purple Lane • Porter, Texas 77365 • 281-354-8600 • Fax 281-354-7600 • www.royalpurple.com

ROYAL PURPLE® SYNTHETIC OIL

Motor Oils

Multi-Grade Oils

ROYAL PURPLE® MOTOR OIL Part Numbers

Grade	1-Qt. Bottle	Case	5-Gal. Pail	55-Gal. Drum
5W20	01520	12520	05520	55520
5W30	01530	12530	05530	55530
10W30	01130	12130	05130	55130
10W40	01140	12140	05140	55140
15W40	01154	12154	05154	55154
20W50	01250	12250	05250	55250

Case = 12 / 1-quart bottles

Typical Properties*

ASTM TESTS		SAE GRADE / API SERVICE					
		5W20** SL/GF-3	5W30** SL/GF-3	10W30** SL/GF-3	10W40 CF, CF-2/SJ	15W40*** CH-4/SJ	20W50 CF,CF-4/SJ
D-445	Viscosity						
	cSt @ 40˚C	49.5	65.3	70.3	94.0	110.1	170.0
	cSt @ 100˚C	8.7	11.0	10.7	13.8	14.9	20.2
	SSU @100˚F	253	332	360	482	567	880
	SSU @ 210˚F	56	64	63	75	79	102
D-2270	Viscosity Index	156	161	141	149	140	138
D-4684	Pumping Viscosities						
	cP @ -35˚C	22200	34800	—	—	—	—
	cP @ -30˚C	—	—	18200	—	—	—
	cP @ -25˚C	—	—	—	—	21100	—
	cP @ -20˚C	—	—	—	—	—	18800
D-92	Flash Point ˚F	455	455	455	400	435	435
D-92	Fire Point ˚F	480	480	480	435	470	470

*Properties are typical and may vary.
**API energy conserving.
***For use in both gasoline and diesel engines.

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ROYAL PURPLE®
SYNTHETIC OIL

Straight-Grade Motor Oils

Beyond Synthetic™

Royal Purple® Motor Oil is recommended for use in all four-cycle gasoline engines and both two-cycle and four-cycle diesel applications including automotive, commercial fleet and stationary industrial diesel engines.

Royal Purple® Motor Oil is a tough, long life, high performance oil that delivers superior protection and enhanced performance to gasoline and diesel engines. It gains its performance advantages from a blend of synthetic oils plus Royal Purple's proprietary, synthetic Synerlec® additive technology.

Synerlec® additive technology greatly reduces engine wear, including ring, cylinder and bearing wear. It is extremely tenacious, adheres to engine surfaces and remains after shutdown, which provides protection upon initial startup.

Straight-Grade Oils:
SAE 30, SAE 40, SAE 50

Exclusive Performance Advantages:

- Greater Wear Protection
  Synerlec® additive technology forms a tough, tenacious film on all metal surfaces virtually eliminating engine wear.
- Greatly Extends Oil Drain Intervals
  Royal Purple® Motor Oil is extremely oxidation stable and stands up to the heat that causes oils to thicken, to form lacquer and varnish deposits, to lose its lubricity and to shorten the life of both the oil and the engine.
- Superior Corrosion Protection
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- Saves Fuel
  Royal Purple® Motor Oil's low coefficient of friction produces meaningful improvements in fuel economy.
- Reduces Exhaust Emissions
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ROYAL PURPLE®
SYNTHETIC OIL

Motor Oils

Straight-Grade Oils

Typical Properties*

ASTM TESTS		SAE GRADE / API SERVICE 30 CF,CF-2/SJ	40 CF,CF-2/SJ	50 CF,CF-2/SJ
D-445	Viscosity			
	cSt @ 40˚C	79.0	121.0	182.0
	cSt @ 100˚C	10.6	13.6	17.9
	SSU @100˚F	408	631	955
	SSU @ 210˚F	63	74	92
D-2270	Viscosity Index	119	113	108
D-92	Flash Point ˚F	460	460	460
D-92	Fire Point ˚F	515	515	515

*Properties are typical and may vary.

ROYAL PURPLE® MOTOR OIL Part Numbers

Grade	1-Qt. Bottle	Case	5-Gal. Pail	55-Gal. Drum
SAE 30	01030	12030	05030	55030
SAE 40	01040	12040	05040	55040
SAE 50	01050	12050	05050	55050

Case = 12 / 1-quart bottles

BK Meyers — NMRA Street Renegade

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ROYAL PURPLE®
SYNTHETIC OIL

Maxfilm®
Penetrating Lubricant

Beyond Synthetic™

Maxfilm® is a high film strength, multipurpose, synthetic lubricant / penetrant that excels in a wide array of applications. Maxfilm® deeply penetrates, cleans and loosens rusted parts. Once applied, its solvent carrier evaporates and leaves a tenacious, thixotrophic lubricating film on all metal surfaces, which provides long-lasting protection against wear, rust and corrosion.

Maxfilm® contains Royal Purple's proprietary Synerlec® additive technology, which is proven to make equipment run smoother, cooler, quieter, longer and more efficiently.

Maxfilm® is Recommended For:

- Loosening stuck parts such as nuts, bolts, locks, hinges, etc.
- Lubrication of power tools, hinges, chains, rollers, open gears, guns, fishing tackle, lawn equipment, etc.
- Preserving and protecting parts in storage, disassembled machinery parts, wire ropes, etc., against rust and corrosion.
- Use as a manual cutting fluid to facilitate the ease of hand drilling, tapping, metal cutting, etc., of both steel and aluminum.

Exclusive Performance Advantages:

- **Deep Penetration**
  Maxfilm® deeply penetrates to clean, lubricate and protect mechanisms or free rusted parts.
- **Superior Lubrication**
  Maxfilm® forms a strong, long lasting, non-tacky, synthetic lubricating film on all metal surfaces.
- **Loosens Stuck Parts**
  Maxfilm® loosens stuck nuts, bolts, valves, locks, etc.
- **Reduces Product Usage**
  The effective and long lasting protection of Maxfilm® reduces the need for frequent reapplication.
- **Outstanding Rust / Corrosion Protection**
  In ASTM's severe salt-fog corrosion test, the 100+ hour test results for Royal Purple's Maxfilm® far exceeded those of the leading brands.
- **Environmentally Responsible**
  Maxfilm® uses a CO_2 propellant. All components are TSCA listed. In the event that some of the film falls to the ground after the solvent carrier has evaporated, Maxfilm® biodegrades to leave only small quantities of Calcium Carbonate and Calcium Sulfate, both of which are naturally occurring minerals.

Typical Properties*

Viscosity	
cSt @ 40˚C	3.0
cSt @ 100˚C	1.25
SSU @ 100˚F	37.0
SSU @ 210˚F	30.0
Flash ˚F	150.0

*All properties are typical and may vary.

Royal Purple® MAXFILM® Part Numbers

11-oz. Can	Case
05000	15000

Case = 12 / 11-ounce cans

Royal Purple, Ltd. • One Royal Purple Lane • Porter, Texas 77365 • 281-354-8600 • Fax 281-354-7600 • www.royalpurple.com

ROYAL PURPLE™
SYNTHETIC MOTOR OIL
Products

PURPLE ICE

LOWERS ENGINE TEMPERATURES

PURPLE ICE RADIATOR SUPER COOLANT

Use Only One 16 oz. Bottle To Treat Most Cooling Systems!

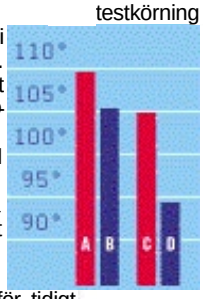
- **Minskar kylvätskans temperatu**
- **Skyddar kylare av aluminium**
- **Smörjer tätningarna i vattenpumpen**
- **Ger korrosionsskydd även utan glyk (enligt ASTM D-2570 specifikationerna)**
- **Både för diesel och bensinmotorer**

Purple Ice™ är sammansatt för att reducera kylvätskans yttemperatur, vilket gör att den lättare kan tränga in i de porösa metallytorna vid de viktiga områdena i kylaren där värmeavledningen sker. Dessutom så innehåller den en unik ingrediens, Molybdate, som lägger sig på aluminium som ett skyddande skikt. På så sätt så skyddas aluminiumet mot korrosion och bortnötning.

Detta gör Purple Ice™ idealiskt för bruk i racingmotorer, där glykol (frostvätska) inte används. För övrigt så är Purple Ice™ den enda tillsatsmedlet för kylvätskor på marknaden som klarar ASTM D-2570 simulerade korrosionstest med endast vatten (alltså utan hjälp av de korrosionsdämpande medel som glykol annars innehåller).

Purple Ice™ skyddar också mot kalk och andra avlagringar (som kan bildas när man använder hårt eller otillräckligt renat vatten), vilket hjälper till att hålla ett optimalt flöde i kylsystemet. Purple Ice™ smörjer tätningarna i vattenpumpen (skyddar mot för tidigt utmattning), och om kylvätskan skulle hamna i vevhuset så bildas ingen gelé i oljan (viket skyddar mot lagerskador). Purple Ice™ kan användas i både diesel- och bensinmotorer.

Vad som är viktigt att notera är att Purple Ice™ sänker temperaturen på kylvätskan också på kylsystem som använder den typiska 50/50 blandningen med frostvätska. bättre än någon annan jämförbar produkt, och tillför högre nivåer av beskydd. T.ex. så är den genomsnittliga arbetstemperaturen på en Chevrolet 350 V8 motor (med en 70 graders termostat) vid testkörning i bromsbänk med olika kylvätskor följande:



A: Standardmix av vatten och glykol 109 °

B: Glykol/vattenmix med Purple Ice™ 105,5°

C: Enbart vatten (inget korrosionsskydd) 104,5°

D: Vatten med Purple Ice™ 93,5°

Värt att notera är att minskad arbetstemperatur leder både högre effekt och ökad tillförlitlighet. Därför är Purple Ice™ en viktig tillgång vid trimning av motorer.

ROYAL PURPLE®
SYNTHETIC OIL

Snow 2-C™

2-Cycle Gasoline Engine Oil for Snowmobiles

TYPICAL PROPERTIES*

Viscosity	
cSt @ 40˚C	55.4
cSt @ 100˚C	9.4
SUS @ 100˚F	282
SUS @ 210˚F	58
cP @ 0˚F	1922
cP @ -30˚F	12114
Viscosity Index	152
Flash ˚F	250
Fire ˚F	295
Total Base Number	10.0 min.
Density	
Sp. Gr. @ 60/60˚F	0.867
Lb./gal.	7.22
Foam Sequence II	0/0

*All properties are typical and may vary.

SNOW 2-C™ Part Numbers

1-Gal. Bottle	Case	5-Gal. Pail	5-Gal. Drum
04511	44511	05511	55511

Case = 4 / 1-gallon bottles

Beyond Synthetic™

Royal Purple® Snow 2-C™ is a high performance engine oil that improves performance and reduces wear in both standard and high performance 2-cycle snowmobile gasoline engines. The synthetic solvency of Royal Purple® Snow 2-C™ keeps spark plugs and exhaust ports clean for maximum engine efficiency. This engine cleanliness, combined with Snow 2-C's low coefficient of friction promotes increased horsepower and engine speed.

Snow 2-C™ is formulated with Royal Purple's proprietary, synthetic Synerlec® additive technology, which protects rings, bearings and cylinder walls from metal-to-metal contact and guards against scuffing, galling and welding, which can occur in severe conditions. Snow 2-C™ is ideally suited for snowmobile applications due to its low temperature fluidity and pumpability for cold weather service.

Exclusive Performance Advantages:

- Greater Wear Protection
  Synerlec® additive technology forms a tough, tenacious film on all metal surfaces virtually eliminating engine wear.
- Superior Corrosion Protection
  Synerlec® additive technology protects during normal and severe operation and acts as a preservative oil during shutdown.
- Saves Fuel
  Snow 2-C's low coefficient of friction routinely produces meaningful improvements in fuel economy.
- Reduces Exhaust Emissions
  Snow 2-C™ provides a superior seal between the piston ring and cylinder wall, which reduces blow-by, improves combustion efficiency and measurably reduces harmful emissions.
- Ashless
  Snow 2-C™ minimizes exhaust deposits.
- Increases Performance
  Snow 2-C™ increases performance over other oils.
- Keeps Engines Clean
  Snow 2-C's natural solvency cleans deposits left by old oils and keeps engines, spark plugs, exhaust ports and piston rings clean.

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From: Hans Borch <han-bor@online.no>
To: thorjoh@online.no <thorjoh@online.no>
Date: 1. juli 2001 22:18
Subject: Royal Purple

Hei Igjen!

Er veldig godt fornøyd med 10W40 RP-oljen som ble fylt på Forden for ca 2000km siden. Motoren er jo ny, med kun ca 107000km på speedometeret, men jeg merker at den er noe kvikkere, samt at ulydene som alltid irriterte ved start av kald motor er forsvunnet. Tror dette skyldes at de hydrauliske ventilløfterne fungerer momentant etter start. Dessuten må jeg nevne at motoren generelt vibrerer mindre enn før.
Tidligere har denne motoren gått på Mobil SHC 5W40, men jeg tror jeg vil satse på RP i fremtiden. Når det gjelder oljeforbruket tviler jeg på noen merkbar forskjell, da denne motoren jo aldri har brukt olje.

Skal bytte olje på automatkasse og bakaksel om noen uker, og ønsker pris på MAX ATF og 75W90 MAX-GEAR. Trenger ca 15liter ATF, og ca 5liter girolje.

Med hilsen HANS BORCH

David Canitz

From: Info [info@renox.com]
Sent: Tuesday, July 18, 2000 6:05 AM
To: dcanitz@royalpurple.com
Subject: LAMBORGHINI VICTORY

DAVID,

A QUICK NOTE TO TELL YOU THAT THE "SPIRIT OF NORWAY" BOAT TOOK 1ST PLACE LAST SUNDAY IN NORWAY. THE BOAT IS OFFICIAL LAMBORGHINI AND IS ALL ROYAL PURPLE EVEN UPG GREASE IN THE PROPELLERS.

THE UNI-TEMP IN THE OLVAY PLANT IS PERFORMING MAGNIFICANTLY WELL IN FACT AFTER THE REVISION PERIOD IN AUGUST WE WILL BE GETTING OTHER REFRIDGERATION COMPRESSORS (YORK).

I GOT IN TOUCH WITH BOB PEPPER LAST NIGHT AND HE HAD GOEFF JACKSON CALL ME. WE HAD A GOOD CONVERSATION AND WE WILL BE WORKING TOGETHER IN ORDER TO FURTHER PUSH RP IN EUROPE. WE MIGHT GET TOGETHER IN SEPTEMBER AT THE FRANKFURT AUTOMECANIKA SHOW. THIS SHOW IS THE MOST IMPORTSNT SHOW IN THE AUTO SECTOR THAT CONCERNS AFTERMARKET PRODUCTS AND CHEMICALS.

OUR PUBBLICITY AD WILL BE COMING OUT IN SEPTEMBER IN THE MAGAZINE MANUTENZIONE. WE WILL HAVE 2 ARTICLES IN THE MAGAZINE ALSO DISCUSSING APPLICATIONS AT THE SOLVAY PLANT AND THE ENICHEM PLANT.

I HOPE ALL IS GREAT ON YOUR SIDE.

CIAO FOR NOW,

ALEX PRIORI

Test og prøve med QMI

For en tid tilbake hadde vi besøk av Ralph Petterson fra QMI Norge i klubben. Salget av produktene gikk unna som bare det. Jeg har jo i et tidligere nummer av Motorhistorikeren testet teflonbehandling på min gamle FIAT 132. Denne gangen skulle hele prosessen testes ut med innvendig motorvask, teflonbehandling på motor og med Royal Purpel Motor Olje til slutt.
Bilen jeg skulle bruke dette på var min ny innkjøpte Dogde 350 LE Van. Bilen er utstyrt med en 5,3 liter V8 med 160 HK. Den hadde ruslet 190000 KM og hadde ikke hatt all verdens ettersyn av motor. Det tikket litt fra ventilene (Hydrauliske) og bensinforbruket var noe høyt. Det var ny olje og filter på bilen som kun hadde gått 20 mil. Jeg startet med innvendig motorvask, bilen ble kjørt god og varm og vasken ble påført motoren etter bruksandvisningen. Denne skulle påføres igjennom peilepinnehullet og renne sakte ned. Brukerveiledningen var på norsk og meget god. Motoren skulle gå på tomgang i 20 minutter. Dette var en utrolig og spennende prosses. Ville motoren bli renere ? Ville den forandre gange som reklamen for QMI påberopte seg? Tro det eller ei, men gjett om den gjorde. Den gikk roligere og roligere etter hvert som minuttene tikket av sted og etter 20 minutter gikk den helt silkemykt. Utrolig men sant. Oljen skulle tappes av mens den var god og varm, samt fjerning av filter noe jeg gjorde. Mens motoren kjølnet byttet jeg plugger, filter, rengjordet diverse vakuum regulatorer. Etter et par timer var motoren sånn passe nedkjølt og jeg satte inn nytt oljefilter og inn med bunnpluggen, helte på Royal Purpel Olje samt teflonbehandlingen. På nytt fulgte jeg bruksanvisningen og la ut på en kjøretur på en times tid for å blande det hele til.
Maken til effekt på motoren skal man lete lenge etter, Den går nå helt silke mykt, ikke noe tikking fra ventilløfterne og trykket kommer momentant. Fantastisk olje !!.Jeg valgte å bruke 15-40 olje, men den finnes også med andre typer tykkelser. Da jeg dagen etter skulle rydde i verkstedet og helle den gamle motor oljen over på et fat, fikk jeg min andre overraskelse. Motoroljen jeg tappet av som varm, var nesten som vann men meget svart, dagen etter var den like svart, men nå tykk som bek. Ved en rask titt ned igjennom et inspeksjonshull i toppdekslet kunne jeg konstantere at motoren er i ferd med å bli som ny innvendig. Jeg har nå bestemt meg for å bruke Royal Purpel Oil også på mine gamle veteranbiler. Dette må dere prøve, dere vil helt klart bli meget overasket og fornøyd. Jeg har også anskaffet meg QMI tilsetning til automatkassa, men jeg har ikke fått tatt den i bruk enda. Men jeg lover å komme tilbake med en tilbakemelding på hvordan det hele funker.
Etter vinterdvalen fikk jeg omsider FORD'n ut fra låven, forholdsvis nyboret og trang motor ga en del startproblemer. Etter en tur bak traktoren til Kjell startet den omsider. Da jeg kom hjem bestemte jeg meg for å ta i bruk QMI produktene også på denne bilen. Jeg tappet av oljen, påførte teflonbehandling og Royal Purpel motor olje og la ut på en passende tur.
Det var nesten ikke til å tru, men motoren som var så treg å dra rundt, sveiver nå lett og greit rundt og starter mye lettere. Oljetrykket er helt enormt bra, 50 pund mot tideligere 40 pund. Det er også betydelig bedre på varm motor på tomgang. Motoren går heller ikke like varm som før og virker "piggere". Dette høres jo helt utrolig ut, ja nesten for godt til å være sant. Men sant er det. Du tror det nesten ikke før du har prøvd. Dette anser jeg å ha været en god og fornuftig investering til mine biler.

Steinar Ludvigsen
Bilentusiast

Olij rozen

Olij rozen v.o.f.
Achterweg 73
1424 PP De Kwakel - Holland
Tel. (31)297-562929
Fax (31)297-341340
E-mail: info@olijrozen.nl
ING-Bank Hoofddorp reknr. 65.55.42.841
Postbank reknr. 50.06.987
BTW nr. NL 806046971 B01
K.v.K. nr. 33294012 te Amsterdam

Fax

To :	Can import AS	**From :**	Ruud Olij
Fax:	00 47 32877 644	**Page's :**	1. (inclusive this page)
Attn.:	Thor Johansen, manager	**Date :**	26-07-2001

☐ **Urgent** **For Your information** ☐ **Your comment please** **Your answer please**

Dear Mr. Johansen,

We would like to order the following:

2 x 5 liters cans ATF Oil Royal Purple

4 x 5 liters cans 10W40 Oil Royal Purple

4 x 5 liters cans Racing-21

Delivery A.S.A.P.

Please let us know when you can deliver.

Kind regards,

Olij Rozen

June 5, 2002

GRANTPRIDECO

Mr. Chris Green
Greson Technical Sales
8040 Eastex Freeway
Beaumont, TX 7704

Dear Chris,

We operate three Giddings Lewis Boring machines with the capability to bore 20 to 60 inch pipe. Greson Technical Sales convinced us that we could achieve energy savings and improved performance by changing the hydraulic oil in these machines to Royal Purple Syndraulic 68. Each machine has an oil reservoir capacity of 35 gallons. We selected the most heavily loaded machine for testing and took amp readings of the Allen Bradley103AB, 230 volt / 10 hp. motor before and after the oil change and achieved the following results:

Before	After
with Exxon Nuto 68	with Syndraulic 68
12 Amps	6 Amps

For an oil investment of $340 we were able to achieve electrical savings on this unit of over $1990 / yr. and a ROI of just 62 days. Not only did we achieve a significant power savings but the system also ran much cooler and no longer felt like a furnace when standing next to the oil cooler.

Based on the success of this test, we have converted the other two boring machines as well as the engine oil and hydraulic oil in all of our Taylor 360 fork trucks to Royal Purple lubricants. These trucks now handle large pipe loads with greater precision, less power fade and at lower operating temperatures.

We are extremely pleased with the performance and cost savings attained through the use of Royal Purple lubricants.

Sincerely,

Troy M. Grant
Maintenance Supervisor

Todd B VanSlyke
1616 Judson Avenue
Evanston • IL • 60201
1-847-328-2970

March 15, 1996

Mr. John Williams
President
Royal Purple Inc.
2006 Wilson Road
Humble TX 77396

Dear Mr. Williams:
I recently purchased your Royal Purple oils for my season-starting fluid change regimen on my '88 Harley Davidson® FLTC.

What a difference an oil makes! And what makes it even better is that I used synthetics (Golden Spectro) oils in all three applications – crankcase, primary, transmission – on my bike last year... your Royal Purple seems to outdo this "leading brand!"

It's still too cold here in the Chicago area to see if the engine runs cooler with Royal Purple 20W50 in the crankcase. But, I did notice that oil pressure stays up around a touch compared to Golden Spectro. I'm no oiling expert, but I imagine that a little more pressure is always a good thing, particularly in an air cooled big twin.

In the primary, Royal Purple 5W30 seems to tame chain whine and rattle. The primary did require more oil than the previous fluid fills, but that may be because I let the primary case drain longer.

(I must say, though, it's disconcerting to pour motor oil into the primary, after all these years of using either Harley Primary Fluid or Golden Spectro. A suggestion: put a new label on some of your 5W30 production and call it primary drive fluid or primary drive oil; that'd make a lot of Harley purists a lot happier.)

It's in the transmission, though, that I found Royal Purple to outshine the others. The transmission on my machine always clattered; shifts were positive but very hard. Last year, I changed to Golden Spectro synthetic and that made a big difference in. This year, I switched to Royal Purple 75W90. Even with the limited riding I've done this year (we're still digging out from winter), the difference is noticeable. Shifts

remain positive, but there's little notchiness and gears seem to snick nito place instead of banging into engagement. The transmission runs quieter at speed, too, with much less gear whine.

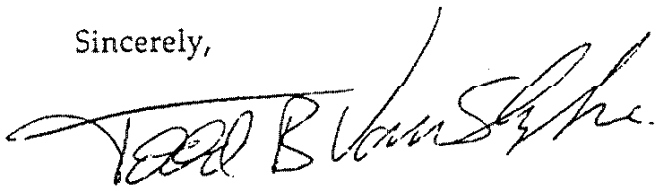
Oh, and by the way, I purchased my Royal Purple oils from a very nice young man from Performance Syn-Lube in Wauconda, Illinois. His name is Dave Ward and he's a fine representative of your company. He sold me on trying Royal Purple lubricants at a recent motorcycle swap meet in Chicago. Good man, knowledgeable and helpful. And most enthusiastic about Royal Purple.

All told, you've got a satisfied customer here! However.., all is not terrific with Royal Purple, Mr. Williams.

Your brochure is, well, not in keeping with the quality of your products. I'm a professional freelance writer and I took the liberty to rewrite and slightly reorganize your brochure - *gratis.* I think you'll find it an improvement over your current brochure in both order and presentation that will better promote your fine product line. Use what I did with my blessings if you care to.

In return for this, if you have any other kinds of communications you do - from ads to videos to trade show exhibits and presentations or whatever - please give me a call at 1-847-328-2970 (my home and office) and we can see if we can do something together.

Sincerely,



Todd B. VanSlyke

CAP™

Cylinder and Packing Gland Lubricant for Compressors

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

CAP™ is recommended for use in reciprocating compressors that compress inert gasses such as natural gas, hydrogen, nitrogen, carbon dioxide, methane, ethane, butane, propane, helium, etc. CAP™ is commonly used in gas reinjection compressors.

CAP™ is a multi-synthetic lubricant that excels in lubricating cylinders and packing glands in gas compressors. CAP™ forms a tacky, tenacious, synthetic oil film on both metal and ceramic surfaces. It is extremely shear stable, impermeable to water vapor and hydrocarbon gasses, and has excellent elastohydrodynamic properties to prevent wear in high pressure compressors.

CAP™ is specially formulated to prevent corrosion of compressors by hydrogen sulfide, wet carbon dioxide and other acids. The dense, closely packed molecular structures in CAP™ greatly resist dilution from high pressure gasses, therefore maintaining its viscosity to prevent oil carry-over normally experienced with other oils. Its superior ability to adhere to metallic parts, including compressor cylinder walls, allows piston rings to ride on a film of oil even when they're subjected to high pressures. This tough film provides smoother, cleaner operations and extended compressor life.

In reinjection compressors, CAP™ has significantly reduced wear and greatly extended the life of packing glands and cylinders compared to competing oils. Due to the unique properties of CAP™, injection feed rates to cylinders can be reduced, which improves downstream cleanliness while minimizing potential problems with fouling of equipment and formations.

CAP™ also is an excellent lubricant for nonmetallic materials such as teflon, glass, etc. It forms an effective physical barrier between parts to minimize oil carry-over, to prevent gas blowby and to greatly extend compressor life.

Synerlec® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec® additive technology that gives it's lubricants their amazing performance advantages. Synerlec® additive technology truly is *beyond synthetic.*™

Synerlec® additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing the oil film's thickness, and second, by increasing the oil film's toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Typical Properties*	CAP460	CAP680	CAP3X
Viscosity			
cSt @ 40˚C	460	680	255
cSt @ 100˚C	25.0	32.5	21.5
SSU @100˚F	2503	3723	1349
SSU @ 210˚F	125	160	108
Viscosity Index	66	72	70
Flash ˚F	475	475	475
Fire ˚F	535	535	535
Pour Point ˚F	-20	-20	-20
Density, Lbs./Gal.	7.32	7.32	7.235
Demulsibility	Pass	Pass	Pass
Foam Test, Sequence II	Pass	Pass	Pass

*Properties are typical and may vary
Available in other viscosity grades.

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PS0212 08/01

COUPLING GREASE

Synthetic Coupling Grease

Beyond Synthetic™

Beyond Synthetic™

Royal Purple® Coupling Grease is a lithium complex, high film strength grease that provides superior resistance to oil separation from the high centrifugal forces generated by couplings. It is formulated with high viscosity synthetic oils and tacky, synthetic polomers, plus Royal Purple's proprietary Synslide additive technology to provide the tenacity and film strength necessary to protect against heavy loads and high centrifugal forces.

Synslide® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synslide® additive technology that gives Royal Purple's EP lubricants their amazing performance advantages. Synslide® additive technology truly is *beyond synthetic*.™

Synslide® additive technology is Royal Purple's toughest EP lubricating film. It provides maximum protection under boundary lubrication conditions typically caused by heavily loaded, slow speed and / or shock-load conditions.

This tough, proprietary, slippery film significantly improves lubrication and reduces wear by increasing both oil film thickness and oil film toughness, which helps to prevent metal-to-metal contact.

Synslide® additive technology is noncorrosive, displaces water from metal surfaces and excels in protecting equipment in wet environments. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Exclusive Performance Advantages:

- High Film Strength
- Extremely Tacky
- Outstanding Oxidation Stability
- Excellent Corrosion Protection
- Superior Shock Load Protection

Typical Properties*

NLGI Grade	0
Thickener Type (soap base)	Lithium Complex
Color	Purple
Consistency	Sticky Grease
Viscosity	
cSt @ 40˚C	295.5
cSt @ 100˚C	112
Drop Point ˚C	>200
Specific Gravity, lbs/gal.	0.88
Cone Penetration, mm	355-385
4-Ball EP Test	
Weld Load, kg.	400
Copper Corrosion	Pass

*All properties are typical and may vary.

Royal Purple, Ltd. • 1 Royal Purple Lane • Porter, Texas 77365
Phone: 281-354-8600 • Fax: 281-354-7600 • www.royalpurple.com

SYNDRAULIC®

High Performance Hydraulic Oil

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

Syndraulic® is a clean, long life, energy efficient, minimum leak, hydraulic oil possessing exceptional film strength and wear protection properties. It is formulated to greatly increase both the life of the oil and the seals, filters and pumps of hydraulic systems. Syndraulic® is formulated with Royal Purple's proprietary Synerlec® additive technology. It can lower operating temperatures and restore normal operation to erratically operating hydraulic systems.

Syndraulic® Meets or Exceeds the Requirements of these Manufacturers:

- Cincinnati Milacron P-68, 69, & 70
- Denison P-46; T-5D; HF-0, 1, & 2
- Vickers 104C vane; 35VQ-25
- Sperry Vickers I-286-S; M-2950-S
- Racine Model S, Variable Volume
- Din 51524, Part 2
- Lee Norse 100-1
- Jeffery No. 87
- Ford M-6C32
- U.S. Steel 127, 136
- B.F. Goodrich 0152
- General Motors LH-04-1, 06-1, 15-1
- Commercial Hydraulics (except PM-500 silver)
- AFNORE E 48-603

Exclusive Performance Advantages:

- **High Film Strength**
  Syndraulic® protects hydraulic components beyond the ability of other hydraulic oils.
- **Longer Oil Life**
  Syndraulic® has exceptional oxidation stability that greatly extends oil change intervals while keeping systems clean.
- **Extremely Clean**
  Clean oil is critical to the life and reliability of hydraulic systems. Syndraulic® is packaged in new, clean poly containers and filtered to a typical ISO 4406 Cleanliness Level of 14/13/11. (Currently for ISO viscosity grades 32, 46, and 68 only.) This is up to 250 times cleaner than other hydraulic oils delivered in steel drums or by bulk delivery.
- **Improved System Performance**
  Syndraulic® frequently lowers operating temperatures and restores smooth, consistent performance to erratically operating hydraulic systems.
- **Excellent Corrosion Protection**
  Syndraulic's tough oil film forms an ionic bond on metal surfaces. This tough film not only protects during operation and acts as a preservative oil during shutdown, but also provides instant lubrication on startup to prevent wear.
- **Separates Rapidly from Water**
  Syndraulic® separates rapidly and completely from water.
- **Compatible with Seals**
  Syndraulic® has excellent seal compatibility.
- **Environmentally Responsible**
  Syndraulic® extends oil drain intervals due to longer oil service life, eliminates premature oil changes due to oil / water emulsions, greatly reduces oil purchase and disposal costs, and conserves energy.

Synerlec® additive technology Makes the Difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec® additive technology that gives Royal Purple's lubricants their amazing performance advantages. Synerlec® additive technology truly is *beyond synthetic.*™

Synerlec® additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing oil film thickness and second, by increasing oil film toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

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PS0007 07/01

ROYAL FLUSH™

Oil Circulation System Cleaner

Beyond Synthetic™

Flushes and Cleans Oil Circulation Systems Safely and Effectively

Royal Flush™ is a safe, effective and inexpensive product for cleaning sludge and varnish from equipment while in service. Royal Purple's Royal Flush™ can be used in two ways: first, as a temporary oil fill to clean varnish and sludge from equipment before refilling with new Royal Purple oil and second, as a temporary oil fill for cleaning and flushing a Poly-Glycol oil that is incompatible with the new oil to be used. (i.e. when changing from a Poly-Glycol oil to a Royal Purple PAO or para-synthetic oil).

Flushing Instructions

1. Since Poly-Glycols are not soluble in other oils, they must be drained from the reservoir while it is still warm. It is impossible to drain the reservoir dry. but most of the glycol can be eliminated by draining from as many low drain points as possible. After the oil is drained, use clean, dry rags to swab out as much of the remaining oil as possible. Before refilling with a new lubricant, be sure to close all drain points.

2. To remove the Poly-Glycol remaining in the reservoir, fill the oil reservoir approximately 80 to 100 percent of its capacity with Royal Flush™. Circulate the flush oil for approximately 12 to 24 hours. Since Royal Flush™ is formulated with a solvent, it will break loose the sludge, varnish, etc. Therefore, it is imparative to check the filters and / or strainers every two to four hours to verify that the deposits are not clogging the oil lines.

3. Since Glycol oils are heavier than Royal Purple's synthetics, the Glycol will settle at the bottom of the reservoir when the equipment is idle. Before restarting, drain the Glycol from the lowest drain point. Repeat this step during each shut down period until all Glycol is removed.

Undesirable Characteristics of Poly-Glycol Oils

Poly-Glycols are very different from any other synthetic or mineral oils. They are not compatible with any other lubricant, whether it be a synthetic or mineral oil. Poly-Glycol oils are unsuitable lubricants for many applications because:

1. Poly-Glycols are extremely hydroscopic and can form gels with water.

2. Water gelling is bad because it can clog filters. Gels can also block the flow of the lubricant to bearings and other critical components.

3. Water entrapped in gel particles destroys bearings because it is carried by the glycol to the bearing load zone where it causes a micro-pitting effect on the bearing.

4. Once glycols start to oxidize, the oxidation rate rapidly accelerates, which produces highly corrosive acids. Visual evidence is often seen as dark brown staining of metal components.

5. Poly-Glycol lubricants are not easily soluble in water nor are they soluble in petroleum oils. The proper disposal of used Poly-Glycol lubricants can be a problem. A used Poly-Glycol lubricant does not fit the EPA's definition of a used oil.

Typical Properties*

Viscosity	
cSt @ 40˚C	46
cSt @ 100˚C	6.3
SSU @ 100˚F	238
SSU @ 210˚F	47.4
Viscosity Index	79
Specific Gravity.	0.944
Pounds/Gallon	7.86
Flash ˚F	445˚F
Fire ˚F	510˚F
Pour Point ˚F	-40˚F

*All properties are typical and may vary.

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PS0215 08/01

SYNERGY®

High Performance Gear Oil

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

Synergy® is an ultra-tough, long life, EP industrial gear oil proven to make gears run smoother, quieter, cooler and longer without overhauls. Synergy® gains its performance advantage over competing mineral and synthetic oils through its superior blend of synthetic base oils plus Synslide® additive technology, Royal Purple's unique, proprietary, noncorrosive, EP technology.

Synergy® protects gears in severe service applications where other EP oils fail. Synergy® is recommended for users looking for longer oil life and significantly improved gear box reliability and performance.

For more information, please request Royal Purple's "Gear Lubrication Manual."

Synslide® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synslide® additive technology that gives Royal Purple's EP lubricants their amazing performance advantages. Synslide® additive technology truly is *beyond synthetic*.™

Synslide® additive technology, Royal Purple's tough, EP lubricating film, provides maximum protection under boundary lubrication conditions typically caused by heavily loaded, slow speed and / or shock load conditions. This tenacious, slippery film significantly improves lubrication and reduces wear by increasing the oil film thickness and toughness, which helps to prevent metal-to-metal contact in gears and bearings.

Synslide® additive technology is noncorrosive to gears and bearings, including case-hardened gears that are easily pitted by conventional sulfur-phosphorus EP oils. Synslide® additive technology displaces water from metal surfaces and excels in protecting equipment in wet environments. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Note: For Worm Gears, Royal Purple® recommends Synergy® Worm Gear Oil or Thermyl-Glyde® Worm Gear Oil.

Exclusive Performance Advantages:

- **High Film Strength**
  Synergy® protects gears and bearings beyond the ability of conventional EP gear oils.
- **Shock Load Protection**
  Synergy® protects against fatigue failure in gears subjected to sudden shock loads.
- **Rapidly Separates from Water**
  Synergy® rapidly and completely separates from water, which is easily drained from the bottom of the oil reservoir.
- **Longer Oil Life**
  Synergy® has outstanding oxidation stability that greatly extends oil change intervals while keeping gear boxes clean.
- **Reduces Bearing Vibrations**
  The tough oil film of Synergy® coupled with its ability to micro-polish contacting bearing elements provides superior bearing lubrication.
- **Saves Energy**
  The tough oil film of Synergy® and low coefficient of friction save energy in gear boxes operating under load.
- **Synthetic Solvency**
  The natural solvency of Synergy® cleans up dirty gear boxes and keeps them clean.
- **Compatible with Seals**
  Synergy® has excellent compatibility with most seals.
- **Compatible with Other Oils**
  Synergy® is compatible with most elastomers and can be mixed with other mineral oils and most synthetic oils. (It is not compatible with silicone or glycol based synthetics.)
- **Environmentally Responsible**
  Synergy® components are TSCA listed and meet EPA, RCRA and OSHA requirements. Synergy® extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.

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SYNFILM® GT

Multi-Purpose Industrial Oil

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

Synfilm® GT is recommended for use in gas and steam turbines, pumps, bearings, gears, air tools, etc. Synfilm® GT should be considered instead of Synfilm® when oil reservoir temperatures exceed 200˚F, improved low temperature fluidity is desired or when a viscosity grade is not available in Synfilm®.

Synfilm® GT is a long life, high film strength, energy efficient, synthetic lubricant that significantly increases bearing life and equipment reliability. Synfilm® GT gains its performance advantages over competing mineral and synthetic oils through its superior blend of synthetic base oils plus Royal Purple's proprietary Synerlec® additive technology. This unique additive technology is proven to make equipment run smoother, cooler, quieter, longer and more efficiently.

Synfilm® GT typically replaces conventional, low film strength, R&O (rust and oxidation inhibited) oils that rely solely on their viscosity to protect equipment against wear.

Synerlec® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec® additive technology that gives Royal Purple's lubricants their amazing performance advantages. Synerlec® additive technology truly is *beyond synthetic*.™

Synerlec® additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing the oil's film thickness, and second, by increasing the oil film's toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Exclusive Performance Advantages:

- **High Film Strength**
  Synfilm® GT protects bearings far beyond the ability of other turbine oils, carrying up to 700 percent greater loads.
- **Rapidly Separates from Water**
  Synfilm® GT rapidly and completely separates from water, which is easily drained from the bottom of the oil reservoir.
- **Saves Energy**
  Synfilm® GT has an extremely low coefficient of friction that is proven to save energy over conventional oils. In rotating equipment these savings frequently exceed the total cost of the oil within several months, making what was once an oil expense a profit.
- **Extremely Clean**
  Synfilm® GT is packaged in new poly containers, has a typical ISO 4406 Cleanliness Level of 14/13/11 (ISO 32, 46 and 68 only) and is verified by a laser particle counter. This is up to 250 times cleaner than other new oils delivered in steel drums or by bulk delivery.
- **Reduces Bearing Vibrations**
  The tough oil film of Synfilm® GT coupled with its ability to micro-polish contacting bearing elements provides superior bearing lubrication.
- **Longer Oil Life**
  Synfilm® GT has outstanding oxidation stability that greatly extends oil change intervals while keeping equipment clean.
- **Excellent Corrosion Protection**
  Synfilm® GT's tough oil film forms an ionic bond on metal surfaces, which acts as a preservative oil during shutdown and provides instant lubrication at startup.
- **Synthetic Solvency**
  Synfilm® GT's natural solvency cleans up dirty equipment and keeps it clean.
- **Compatible with Seals**
  Synfilm® GT has excellent seal compatibility.
- **Compatible with Other Oils**
  Synfilm® GT is can be mixed with other mineral oils and most synthetic oils. (It is not compatible with silicone or glycol synthetics.)
- **Environmentally Responsible**
  Synfilm® GT components are TSCA listed and meet EPA, RCRA and OSHA requirements. Synfilm® GT extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.

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PS0003 09/01

SYNFILM® RECIP.

Reciprocating Air Compressor Oil

Beyond Synthetic™

Beyond Synthetic™

Synfilm® Recip. is recommended for lubricating reciprocating air compressors.

Synfilm® Recip. is a long life, high film strength, energy efficient, synthetic lubricant that significantly increases the reliability and efficiency of reciprocating air compressors. It excels at reducing wear and keeping discharge valves free of harmful carbon deposits. Synfilm® Recip. forms a better seal and reduces friction between the cylinder wall and piston rings for greater compressor efficiency. It is formulated with Royal Purple's unique, proprietary Synerlec® additive technology that is proven to make equipment run smoother, cooler, quieter, longer and more efficiently.

Synerlec® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec® additive technology that gives Royal Purple's lubricants their amazing performance advantages. Synerlec® additive technology truly is *beyond synthetic*.™

Synerlec® additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing oil film thickness and second, by increasing oil film toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Exclusive Performance Advantages:

- **High Film Strength**
  Synfilm® Recip. protects bearings far beyond the ability of other compressor oils, carrying up to 700 percent greater loads.
- **Rapidly Separatesfrom Water**
  Synfilm® Recip. rapidly separates from water, which is easily drained from the bottom of the oil reservoir.
- **Saves Energy**
  Synfilm® Recip. has an extremely low coefficient of friction that is proven to save energy over conventional oils. In reciprocating compressors, these savings typically exceed the total cost of the oil within several months, making what was once an oil expense a profit.
- **Longer Oil Life**
  Synfilm® Recip. has outstanding oxidation stability that greatly extends oil change intervals while keeping equipment clean.
- **Excellent Corrosion Protection**
  Synfilm® Recip.'s tough oil film forms an ionic bond on metal surfaces, which acts as a preservative oil during shutdown and provides instant lubrication at startup.
- **Synthetic Solvency**
  Synfilm® Recip.'s natural solvency excels at preventing the formation of carbon deposits on discharge valves, a common problem in high-pressure reciprocating air compressors. It also cleans up dirty compressors and keeps them clean.
- **Compatible with Other Oils**
  Synfilm® Recip. is compatible and can be mixed with other mineral oils and most synthetic oils. (Synfilm® Recip. is not compatible with silicone or glycol synthetics).
- **Environmentally Responsible**
  Synfilm® Recip. components are TSCA listed and meet EPA, RCRA and OSHA requirements. Synfilm® Recip. extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.

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PS0017 07/01

COPPER-GLYDE™

High Temperature Anti-Seize & Gasket Compound

Beyond Synthetic™

Beyond Synthetic™

Copper-Glyde™ is recommended for production and maintenance jobs where speed in assembling or dismantling of threaded and other mated surfaces is essential.

Copper-Glyde™ is a low friction, anti-seize lubricant that provides a shield against metal-to-metal contact, seizing and corrosion between mated surfaces. Copper-Glyde™ combines microscopic copper flakes and graphite with superior EP additives, corrosion inhibitors and antioxidants into an aluminum complex grease. It has outstanding water wash-out resistance; is unaffected by contraction or expansion of mated surfaces; resists welding, hardening or setting; reduces friction and provides good shock load protection.

Exclusive Performance Advantages:

- Lowers Friction; Reduces Wrench Torque
- Protects Threads and Fittings against Corrosion
- Service Rating of -65˚F (-54˚C) to 1800˚F (982˚C)
- Provides Superior EP Wear Protection
- Protects Against Shock Loads
- Easily Applied over a Wide Temperature Range
- Will Not Run, Drip or Settle
- Permits Reuse of Fitting; Saves Stud, Bolt and Nut Replacement
- Does Not Contain Lead or Zinc
- Conforms to MIL-PRF-907E

Typical Properties*

Thickener	Aluminum Complex
Fluid Type	Petroleum
Drop Point ˚F	450
Flash ˚F	>430
Density (lb/gal)	9.6
Specific Gravity	1.15
Oil Separation	
Wt. % loss @ 212˚F	<3.0
Coefficient of Friction	0.11
Penetration @ 77˚F	310-330
Copper Strip Corrosion	1A
4-Ball	
Weld Point, kgf	800
Load Wear Index	125

*All properties are typical and may vary.

Standard Packaging:

- 1/2-pound and 1-pound brush-top cans

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PS 0420 08/02

SYNWAY®

Slide and Way Lubricant

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

Synway® is an ultra-tough, tenacious lubricant designed to effectively lubricate machine tool slides and ways. Synway® allows for smooth, uniform, chatter-free motion and precision control — even at low table speeds. Its excellent demulsibility properties plus its tacky, adhesive nature make it highly resistant to wash-off or dilution by water or coolants.

Synway® is formulated with Royal Purple's proprietary EP Synslide® additive technology, which provides a super-tough film on all metal surfaces. This film greatly resists being squeezed from pressure areas, virtually eliminating metal-to-metal contact under even the most severe loads. Synslide® additive technology displaces water on metal surfaces while providing excellent corrosion protection.

Synslide® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synslide® additive technology that gives Royal Purple's EP lubricants their amazing performance advantages. Synslide® additive technology truly is *beyond synthetic.*™

Synslide® additive technology, Royal Purple's tough, EP lubricating film, provides maximum protection under boundary lubrication conditions typically caused by heavily loaded, slow speed, and / or shock load conditions. This tenacious, slippery film significantly improves lubrication and reduces wear by increasing the oil film thickness and toughness, which helps to prevent metal-to-metal contact in gears and bearings.

Synslide® additive technology is noncorrosive to gears and bearings, including case-hardened gears that are easily pitted by conventional sulfur-phosphorus EP oils. Synslide® additive technology displaces water from metal surfaces and excels in protecting equipment in wet environments. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

	ISO Grade			
Typical Properties*	32	68	100	220
Viscosity				
cSt @ 40˚C	32	68	100	220
cSt @ 100˚C	5.5	9.4	11.1	18.2
SSU @ 100˚F	165	351	522	1167
SSU @ 210˚F	45	58	64	93
Viscosity Index	106	117	95	91
Flash ˚F	400	415	370	370
Specific Gravity @ 60˚F	0.866	0.870	0.883	0.883
Corrosion Test				
Copper	Pass	Pass	Pass	Pass
Bronze	Pass	Pass	Pass	Pass
Rust Test				
Fresh Water	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass
Foam Test	Pass	Pass	Pass	Pass
Timken OK Load, lbs.	100+	100+	100+	100+
4-Ball E.P. Test				
Weld Load, kg.	400	400	400	400

*Properties are typical and may vary

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PS0210 08/01

THERMASIL™ T-100

Maximum Load Silica Gel Grease

Beyond Synthetic™

Beyond Synthetic™

Thermasil™ T-100 is a viscous, water resistant, tacky grease designed to protect extremely heavily loaded, low speed bearings or sliding surfaces (such as open gears, skid-rails, gear couplings, etc.) that operate in wet or hot environments. Thermasil™ T-100 is extremely resistant to water wash out and provides excellent corrosion protection. It is especially suited for lubricating very low speed, heavily loaded bearings, bushings, pinions, gears, sliding surfaces, etc.

Thermasil™ T-100 is formulated with advanced, synthetic base oils plus Royal Purple's proprietary, extreme pressure Synslide® additive technology, which adheres tanacously to metal surfaces. Thermasil™ T-100 lubricates under severe loads that "squeeze out" other oils and greases. Thermasil™ T-100 provides superior protection in wet and / or corrosive environments. Any low speed, heavily loaded bearing, bushing, pinion, gear, sliding surface, etc., can be lubricated with Thermasil™ T-100.

Synslide® additive technology makes the difference!

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Synslide® additive technology, Royal Purple's tough, EP lubricating film, provides maximum protection under boundary lubrication conditions typically caused by heavily loaded, slow speed, and / or shock load conditions. This tenacious, slippery film significantly improves lubrication and reduces wear by increasing the oil film thickness and toughness, which helps to prevent metal-to-metal contact in gears and bearings.

Synslide® additive technology is noncorrosive to gears and bearings, including case-hardened gears that are easily pitted by conventional sulfur-phosphorus EP oils. Synslide® additive technology displaces water from metal surfaces and excels in protecting equipment in wet environments. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Typical Properties*

Consistency	Viscous
NLGI Grade	0
Color	Amber
Fluid Type	Multi-Synthetic
Base Oil Viscosity	
cSt @ 40˚C	4,866
SUS @ 100˚F	35,000
SUS @ 210˚F	1,000
Viscosity Index	110
Flash ˚F	450
Drop Point	None
Water Solubility	Insoluble
Penetration @ 77˚F	
Cone Unworked, mm x 10^{-1}	355
60 Strokes, mm x 10^{-1}	357
Worked Stability	
1,000 strokes, % change	<10
Timken E.P. Test	100
Corrosion Test	1
Oxidation Resistance	
PSI Drop, 100 hrs.	<5.0

*All properties are typical and may vary.

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THERMYL-GLYDE®

Severe Service Gear and Bearing Oil

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

Thermyl-Glyde® is an ultra-tough, long life, industrial EP synthetic gear oil proven to make gears run smoother, quieter, cooler and longer without overhauls.

Thermyl-Glyde® gains its performance advantage over competing mineral and synthetic oils through its superior blend of synthetic base oils plus Synslide® additive technology, Royal Purple's unique, proprietary, noncorrosive, EP additive technology. Thermyl-Glyde® protects gears in severe service applications where other EP oils fail.

Thermyl-Glyde® is recommended for users looking for much longer oil life and significantly improved gear box reliability and performance.

Synslide® additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synslide® additive technology that gives Royal Purple's EP lubricants their amazing performance advantages. Synslide® additive technology truly is *beyond synthetic*.™

Synslide® additive technology, Royal Purple's tough, EP lubricating film provides maximum protection under boundary lubrication conditions typically caused by heavily loaded, slow speed and/or shock load conditions. This tenacious, slippery film significantly improves lubrication and reduces wear by increasing the oil film thickness and toughness, which helps to prevent metal-to-metal contact in gears and bearings.

Synslide® additive technology is noncorrosive to gears and bearings, including case-hardened gears that are easily pitted by conventional sulfur-phosphorus EP oils. Synslide® additive technology displaces water from metal surfaces and excels in protecting equipment in wet environments. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Exclusive Performance Advantages:

- **High Film Strength**
  Thermyl-Glyde® has greater film strength and protects gears and bearings far beyond the ability of conventional EP gear oils.

- **Compatible with Seals**
  Thermyl-Glyde® has excellent seal compatibility.

Performance Advantages Continued:

- **Shock Load Protection**
  Thermyl-Glyde® employs a dense, high molecular weight, synthetic cushioning additive to protect against fatigue failure in gears subjected to sudden shock loads.

- **Rapidly Separates from Water**
  Water contaminated oil is the number one cause of bearing failures. Thermyl-Glyde® rapidly and completely separates from water. This helps to prevent sludge and wear commonly found in wet gear boxes. Water is easily drained from the bottom of the oil reservoir.

- **Longer Oil Life**
  Thermyl-Glyde® has outstanding oxidation stability, which greatly extends oil change intervals while keeping gear boxes clean.

- **Reduces Bearing Vibrations**
  The tough oil film of Thermyl-Glyde® coupled with its ability to micro-polish contacting bearing elements provides superior bearing lubrication.

- **Excellent Corrosion Protection**
  Synslide® additive technology forms an ionic chemical film on metal surfaces, which protects during operation and acts as a preservative oil during shutdown.

- **Saves Energy**
  The tough oil film of Thermyl-Glyde® and its low coefficient of friction save energy in gear boxes operating under load.

- **Synthetic Solvency**
  The natural solvency of Thermyl-Glyde® cleans up dirty gear boxes and keeps them clean.

- **Compatible with Other Oils**
  Thermyl-Glyde® is compatible and can be mixed with other mineral oils and most synthetic oils. (It is not compatible with silicone or glycol synthetics.)

- **Environmentally Responsible**
  Thermyl-Glyde® components are TSCA listed and meet EPA, RCRA and OSHA requirements. Thermyl-Glyde® extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.

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PS0302 09/01

SYNTHETIC TRANSFORMER OIL™

For Cooler Transformers

ROYAL PURPLE®

Beyond Synthetic™

Beyond Synthetic™

Royal Purple's Synthetic Transformer Oil™ is a premium, long-life fluid that is extremely efficient at removing heat to keep transformers cool. A transformer oil removes heat by convection and to be done efficiently, it must remain very fluid to facilitate convection (even in winter), readily absorb heat and conduct the heat away from the transformer.

Royal Purple's Synthetic Transformer Oil™ provides long service life, excellent fluidity, high specific heat (30 percent more than mineral oils) and excellent thermal conductivity. Synthetic Transformer Oil™ is 55 percent more efficient at absorbing and removing heat than mineral oils.

Exclusive Performance Advantages:

- **Long Service Life**

  Synthetic Transformer Oil™ is extremely oxidation stable to provide a very long service life. It prevents the oil from thickening and forming varnishes and sludge, which keeps the oil fluid. Sludge free transformers will perform at peak efficiency for many years.

- **Excellent Fluidity**

  Synthetic Transformer Oil™ facilitates proper convection over a wide range of temperatures.

- **High Specific Heat**

  Specific Heat is a measure of a liquid's ability to remove heat. Water, being the perfect heat remover, has a specific heat value of one. Mineral transformer oils typically have a specific heat value of 0.43. This means that mineral oils are only 43 percent efficient as water in removing heat. Royal Purple's Synthetic Transformer Oil™ typically has a specific heat value of 0.56 which is 56 percent as efficient as water and 30 percent more efficient than mineral transformer oils.

- **Excellent Thermal Conductivity**

  Even if an oil can carry more heat, as evidenced by a high specific heat value, to be efficient it still must absorb and give up the heat rapidly. Thermal conductivity is a measure of how fast a fluid absorbs heat and how fast the fluid can get rid of that heat by transferring it to the surrounding atmosphere. Mineral transformer oils typically have a thermal conductivity value of only 0.077, compared with 0.12 for Royal Purple, making Royal Purple's Synthetic Transformer Oil™ 55 percent more efficient at absorbing and removing heat.

- **Excellent Low Temperature Fluidity**

  Royal Purple's Synthetic Transformer Oil™ is wax free, has a very high viscosity index (V.I.) and a pour point of -65°F, making it much more fluid than mineral transformer oils, which have viscosities that increase rapidly with low winter temperatures. Greater fluidity in winter means much greater convection and thus cooler and more efficient transformers.

Typical Properties*

Oxidation Inhibitor, %	0.3
Corrosive Sulfur, %	Non-Corrosive
Neutralization No.	0.18
Oxidation Stability	
72 hrs.	
Sludge	0.01
TAN	0.27
164 hrs.	
Sludge	0.02
TAN	0.28
Aniline Point, ˚C	110
Color	Less than 0.5
Viscosity	
cSt @ 40˚F	9.4
cSt @ 100˚F	2.6
SUS @ 100˚C	59
SUS @ 210 ˚C	35
Viscosity Index	110
Flash Point ˚F	340
Pour Point ˚F	-45
Specific Gravity, 15.6/15.6˚C	0.8090
Visual Appearance	Clear
Water Content, ppm	19
Dielectric Constant	
23˚C @ 1 and 1000 KHz	2.08
Dielectric Breakdown volts,	
kilovolts	48,000
Specific Heat, Calories/Gram/˚C	
@ 75˚C	0.56
@ 100˚C	0.59
@ 150˚C	0.1158
Thermal Conductivity,	
Btu/h/ft^2 and ˚F/in.	
@ 50˚C	0.1209
@ 75˚C	0.1196
@ 100˚C	0.1184
@ 150˚C	0.1158
PCB Content, pp,	0

*All properties are typical and may vary.

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PS0411 08/01

VP Preservative Oil 10

Vapor Phase Corrosion Inhibitor

Beyond Synthetic™

Beyond Synthetic™

VP Preservative Oil 10 is recommended for use to prevent rust and corrosion in engines, gear boxes and other closed systems that will be stored for periods up to one year or more.

VP Preservative Oil 10 is a rust preventive oil that prevents the rust and corrosion of all metal surfaces to which it is applied. In addition, it fills any closed spaces with vapors to prevent rust and corrosion of surfaces not contacted by the oil.

The vapors from VP Preservative Oil 10 form a monomolecular layer on all metal surfaces. This layer passifies the metal surface to prevent rust and corrosion. Since VP Preservative Oil 10 is used in closed systems the protective layer is constantly maintained. The length of time the protection continues depends upon how well sealed the closed system is and how much temperature-induced "breathing" of the system occurs.

VP Preservative Oil is available in five gallon pails and 55 gallon drums.

Typical Properties*

Viscosity	
cSt @ 40˚F	19.5
Flash Point ˚F	400
Fire Point ˚F	420
Density, lb./gal.	7.22
Odor	Pungent

*All properties are typical and may vary.

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THERMYL-GLYDE®

Severe Service Gear and Bearing Oil

ROYAL PURPLE

Beyond Synthetic™

	ISO Grade										
Typical Properties*	32	46	68	100	150	220	320	460	680	1000	1500
AGMA Grade	—	1EP	2EP	3EP	4EP	5EP	6EP	7EP	8EP	8AEP	—
Viscosity											
cSt @ 40˚C	32	6	68	100	150	220	320	460	680	1000	1500
cSt @ 100˚C	5.5	7.0	9.1	11.9	15.5	19.8	25.2	32.6	44.0	54.0	73.0
SSU @100˚F	165	237	352	520	785	1160	1699	2454	3641	5409	8151
SSU @ 210˚F	45	50	57	68	82	100	125	159	214	262	355
VI	107	108	110	109	105	103	101	104	109	104	108
Flash ˚F	350	385	395	425	435	425	430	430	425	415	420
Pour Point ˚F	-40	-40	-40	-20	-20	-20	-20	-20	-20	-20	-20
Specific Gravity @ 60˚F	0.847	0.851	0.856	0.857	0.866	0.866	0.876	0.876	0.880	0.885	0.889
Lb./Gal.	7.05	7.09	7.13	7.14	7.21	7.21	7.27	7.29	7.32	7.37	7.41
Corrosion Test											
Iron	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Bronze	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust Test											
Fresh Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-1401 Demulsibility 180˚F	40/40/0/10	40/40/0/10	40/40/0/10	40/40/0/10	40/40/0/10	40/40/0/15	40/40/0/15	40/40/0/20	40/40/0/20	40/40/0/30	40/40/0/30
Timken OK Load, Lbs.	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
FZG Test	12	12	12	12	12	12	12	12	12	12	12
Four Ball EP Test											
Weld Load, kgf	400	400	400	400	400	400	400	400	400	400	400

*Properties are typical and may vary

Note: When changing to Thermyl-Glyde®, its solvency cleans wear metals and deposits left behind by previos oils. These wear metals and deposits can cause abnormally high values on used oil anyalysis until equipment is clean.

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SYNFILM® RECIP.

Reciprocating Air Compressor Oil

Beyond Synthetic™

	ISO Grade			
Typical Properties*	68	100	100 Multi-Vis.	150
Viscosity				
cSt @ 40˚C	68	100	100	150
cSt @ 100˚C	7.9	10.1	13.3	14.5
SSU @ 100˚F	355	526	516	789
SSU @ 210˚F	53	61	73	78
Flash ˚F	495	495	505	495
Viscosity Index	77	75	131	95
Pour Point ˚F	-30	-30	-30	-30
Specific Gravity @ 60/60˚F	0.945	0.945	0.945	0.945
D-664 Acid Number	0.23	0.23	0.23	0.23
ASTM D-1401 Demulsibility	40/40/0/30	40/40/0/30	40/40/0/30	40/40/0/30
D-892 Foam Tests				
Sequence I, II, & III	Pass	Pass	Pass	Pass
D-130 Copper Corrosion				
3 hrs. @ 210˚F	1a	1a	1a	1a
250 hrs. @ 210˚F	1a	1a	1a	1a
Cincinnati Millicron “A”				
Corrosion / Oxidation	Pass	Pass	Pass	Pass
D-665 Rust Test				
Fresh Water	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass
D-2893 Dry Air Oxidation				
312 hrs. @ 203˚F,				
% Viscosity Increase	0	0	0	0
Precip. No. (% Solids)	0	0	0	0

*Properties are typical and may vary

Note: Synfilm® Recip.’s solvency cleans wear metals and deposits left behind by previous oils. These wear metals and deposits can become soluble in the new oil, causing abnormally high values on used oil analysis until equipment is clean.

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SYNFILM® GT
Multi-Purpose Industrial Oil

Beyond Synthetic™

	ISO Grade / AGMA Grade										
Typical Properties*	10	22	32	46	68	100	150	220	320	460	680
AGMA Grade	—	—	—	1	2	3	4	5	6	7	8
Viscosity											
cSt @ 40˚C	10	22	32	46	68	100	150	220	320	460	680
cSt @ 100˚C	2.6	4.5	5.8	7.4	9.9	12.6	16.8	21.9	28.2	34.1	45.7
SSU @ 100˚F	61	115	165	236	350	518	780	1151	1685	2446	3632
SSU @ 210˚F	35	41	46	51	60	70	87	110	139	166	222
Viscosity Index	105	118	126	126	128	120	120	120	119	110	114
Flash ˚F	375	440	480	520	495	490	490	500	500	500	500
Pour Point ˚F	-70	-80	-80	-75	-65	-45	-45	-35	-30	-30	-30
ISO Cleanliness Level	**	**	14/13/11	14/13/11	14/13/11	N/A	N/A	N/A	N/A	N/A	N/A
ASTM D-1401 Demulsibility											
(from 40/40/0/6 to 40/40/0/30)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-892 Foam Tests											
Sequence I, II, & III	—	—	—	—	—	—	—	—	—	—	—
D-130 Copper Corrosion											
3 hrs. @ 210˚F	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
250 hrs. @ 210˚F	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
Cincinnati Millicron “A”											
72 hrs. @ 275˚F	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-665 Rust Test											
Fresh Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-2893 Dry Air Oxidation											
312 hrs. @ 203˚F,											
% Viscosity Increase	0	0	0	0	0	0	0	0	0	0	0
Precip. No. (% Solids)	0	0	0	0	0	0	0	0	0	0	0

*All properties are typical and may vary.

**Check with manufacturer regarding availability with 14/13/11 cleanliness.

Note: Synfilm® GT’s solvency cleans wear metals and deposits left behind by previous oils. These wear metals and deposits can become soluble in the new oil, causing abnormally high values on used oil analysis until equipment is clean.

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SYNERGY®

High Performance Gear Oil

ROYAL PURPLE

Beyond Synthetic™

	ISO Grade									
Typical Properties*	68	100	100	150	220	320	320	460	680	1000
SAE Grade	85W	75W-90	85W	90	90	85W/140	140	140	140	250
AGMA Grade	2 EP	3 EP	3 EP	4 EP	5 EP	6 EP	6 EP	7 EP	8 EP	8A EP
Viscosity										
cSt @ 40˚C	68	90	100	150	220	320	320	460	680	1000
cSt @ 100˚C	9.5	17.3	12.5	16.6	21.0	27.5	27.7	35.0	46.0	59.0
SSU @100˚F	351	453	518	781	1155	1688	1687	2440	3630	5376
SSU @ 210˚F	58	88	70	87	106	136	136	172	224	286
CP @ -12˚C	—	—	4,000	—	—	28,000	—	—	—	—
CP @ -40˚C	—	17,000	—	—	—	—	—	—	—	—
Viscosity Index	119	210	112	118	113	115	112	114	115	114
Flash ˚F	420	425	425	425	445	445	445	430	450	450
Fire ˚F	450	455	455	455	475	495	475	475	485	485
Pour Point ˚F	-40	-40	-40	-35	-30	-30	-30	-30	-30	-25
Specific Gravity @ 60˚F	0.8846	0.875	0.884	0.893	0.897	0.897	0.894	0.893	0.896	0.901
Corrosion Test										
Copper	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Bronze	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Cincinatti Milacron “B”	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust Test										
Fresh Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-1401 Demulsibility 180˚F	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
ASTM 2893 Oxidation										
203˚F										
Viscosity % Change	0	0	0	0	0	0	0	0	0	0
Precip. No. % Change	0	0	0	0	0	0	0	0	0	0
250˚F										
Viscosity % Change	3.2	3.2	3.5	3.5	3.7	3.6	3.8	3.8	3.9	3.9
Precip. No. % Change	0	0	0	0	0	0	0	0	0	0
Timken OK Load, Lbs.	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
FZG Test	12	12	12	12	12	12	12	12	12	12
Four Ball EP Test										
Weld Load, kgf	400	400	400	400	400	400	400	400	400	400
Load Wear Index, kgf	60.2	60.2	60.2	60.4	60.7	60.9	61	61	61.2	61.2
Falex Coefficient of Friction	.048	.048	.051	.049	.051	.050	.055	.055	.056	.057

*Properties are typical and may vary

*Note: When changing to Synergy®, its solvency cleans wear metals and deposits left behind by previous oils. These wear metals and deposits can cause abnormally high values on used oil analysis until equipment is clean.

SYNDRAULIC®

High Performace Hydraulic Oil

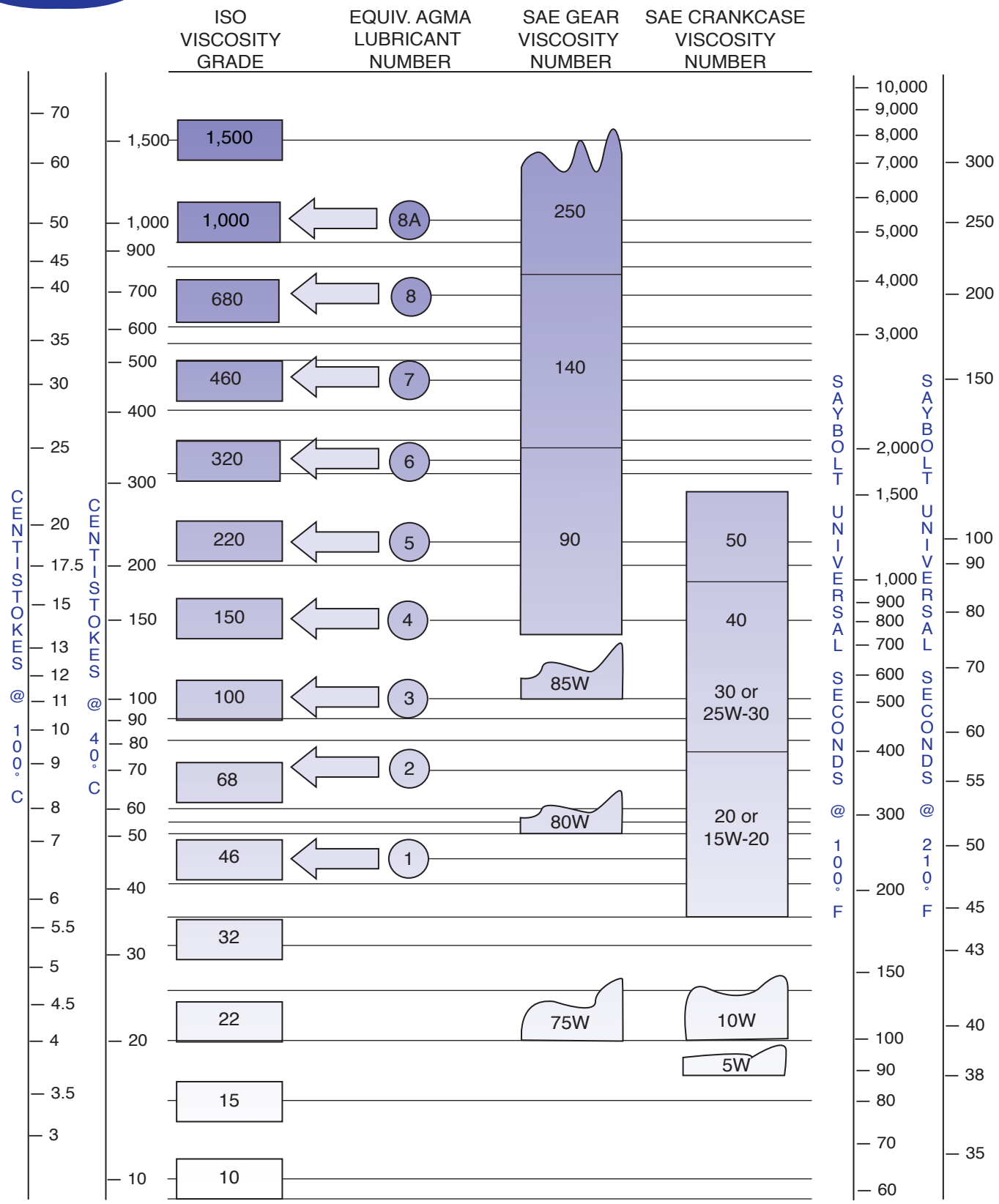
Beyond Synthetic™

Typical Properties*	ISO Grade 10	15	32	46	68	100	150
Viscosity							
cSt @ 40˚C	10	15	32	46	68	100	150
cSt @ 100˚C	2.8	3.7	5.7	7.1	9.3	11.6	15.1
SSU @ 100˚F	61	82	165	237	351	521	787
SSU @ 210˚F	36	39	45	50	58	66	80
Viscosity Index	102	125	116	112	113	104	101
Specific Gravity @60˚F	0.8347	0.8424	0.8741	0.8808	0.8818	0.8852	0.8863
Flash ˚F	380	380	410	440	430	450	450
Pour Point ˚F	-40	-40	-40	-40	-35	-35	-35
ISO Cleanliness Level	**	**	14/13/11	14/13/11	14/13/11	—	—
D-1401 Demulsibility	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-892 Foam Tendency	Nil	Nil	Nil	Nil	Nil	Nil	Nil
D-130 Copper Corrosion							
3 hrs. @ 210˚F	1A	1A	1A	1A	1A	1A	1A
24 hrs. @ 210˚F	1A	1A	1A	1A	1A	1A	1A
Cincinnati Millicron “A”							
Corrosion / Oxidation	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-665 Rust Test							
Fresh Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass

*All properties are typical and may vary.

**Check with manufacturer regarding availability with 14/13/11 cleanliness.

Note: When changing to Syndraulic®, its solvency cleans wear metals and deposits left by previous oils. These wear metals and deposits may cause abnormally high values based on used oil analysis until equipment is clean.



VISCOSITIES AT VARIOUS TEMPERATURES ASSUME 95 VI OILS

Note: Viscosities at various temperatures are related horizontally.
SAE gear and crankcase specifications are at 100˚C only.

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