



Product	Key Benefits	Key Applications	Fluid Technology	Viscosity Grade	FZG Stages Passed	Pour Point °C	Performance Levels
<b>Industrial enclosed spur / helical / bevel / planetary gears / worm gears</b>							
<b>PETRONAS Gear Syn PAG</b>	<ul style="list-style-type: none"> <li>Excellent micropitting, extreme pressure and anti-wear protection</li> <li>Up to 5x longer oil life**</li> <li>High VI</li> <li>Excellent performance incl. energy saving</li> </ul>	Industrial Spur / Bevel / Helical / Planetary gears. Industrial Worm gears optional	Synthetic PAG	150, 220, 320, 460, 680	>12	-45 to -33	David Brown Type G lubricant; DIN 51517 Part III; Flender BA T 7300 A+B.
<b>PETRONAS Gear Syn PAO</b>	<ul style="list-style-type: none"> <li>Excellent extreme pressure and anti-wear protection</li> <li>Up to 3x longer oil life**</li> <li>High VI</li> <li>Excellent performance incl. energy saving</li> </ul>	Industrial Spur / Bevel / Helical / Planetary gears	Synthetic PAO	150, 220, 320, 460, 680	>12	-48 to -39	AGMA 9005-E02 Cincinnati Machine P-74 David Brown S1.53.106 DIN 51517 Part III GE approval: GED50E35 Siemens MD Revision 15 T 7300 Table A-c U.S. Steel 224
<b>PETRONAS Gear Syn</b>	<ul style="list-style-type: none"> <li>Excellent Micropitting resistance</li> <li>Excellent extreme pressure protection</li> <li>Up to 2x longer oil life**</li> <li>High VI</li> <li>Excellent resistance to sludging</li> </ul>	Wind turbine gear drives Mining – gear drives requiring additional protection such as conveyer belts, shaft winder gear drives, mills, crushers, separators and other processing units Steel and cement heavy duty industrial gear drives Power generation gear drives such as mills and heavily loaded gear drives	Synthetic	150, 220, 320, 460, 680	>12	-39 to -33	David Brown Type G lubricant DIN 51517 Part III SIEMENS MD (Revision 15) Table T 7300 A – HANSEN (HP1, HP2, HPP, P4 and M4ACC) Siemens MD Revision 15 T 7300 Table A-g
<b>PETRONAS Gear FL</b>	<ul style="list-style-type: none"> <li>Excellent micropitting, extreme pressure and anti-wear protection</li> <li>Up to 1.6x longer oil life*</li> <li>Excellent performance</li> </ul>	Industrial Spur / Bevel / Helical / Planetary gears	Mineral	150, 220, 320, 460, 680	>12	-27 to -21	AGMA 9005-E02 David Brown S1.53.101 DIN 51517 Part III Fives Cincinnati Machine Gear GM LS 2 EP Gear Oil ISO 12925-1 CKC/CKD U.S. Steel 224 Siemens MD Revision 15 T 7300 Table A-a
<b>PETRONAS Gear MEP</b>	<ul style="list-style-type: none"> <li>Excellent extreme pressure and anti-wear protection</li> <li>Up to 1.5x longer oil life*</li> <li>High performance</li> </ul>	Industrial Spur / Bevel / Helical / Planetary gears	Mineral	68, 100, 150, 220, 320, 460, 680, 1000	>12	-30 to -21	AGMA 9005-E02; David Brown S1.53.101; DIN 51517 Part III; Fives Cincinnati Machine Gear; GM LS 2 EP Gear Oil; ISO 12925-1 CKC/CKD; US Steel 224.
<b>Industrial open gears</b>							
<b>PETRONAS Gear Syn OG</b>	<ul style="list-style-type: none"> <li>Lubricants light color prevents the need for gear cleaning prior to inspections, helping to reduce maintenance time and costs</li> <li>Excellent extreme pressure performance</li> <li>Excellent anti-wear protection</li> <li>Excellent oxidation stability</li> </ul>	Sugar mill bearings Highly loaded slow speed roller bearing applications Open gear applications where there are slush pans to accommodate open gear lubricants Gear drives subjected to extreme heavy loads, low speeds and shock loading Open gears which are operated under a wide range of different environmental conditions where water and solid contamination occurs	Synthetic	3200, 4000, 6800, 8000, 12000, 18000, 24000	>12	-21 to -9	



**PROVEN EXPERTS, ALWAYS READY TO HELP!**

At the heart of our services, our experts strive to give you the peace-of-mind you're looking for. Partner with us and take your business to the next level.

For more information, please contact:

PLI1040 Global Gear Master EN\_18

**PETRONAS**  
Fluid Technology  
Solutions™

**TAKING YOU TO THE NEXT LEVEL  
IN EFFECTIVENESS  
INDUSTRIAL GEAR OILS**

**PETRONAS**  
Fluid Technology  
Solutions™

**YOUR PARTNER FOR PROGRESS**

PETRONAS Lubricants International (PLI) is the global lubricant division of PETRONAS, one of the most successful petrochemical companies in the world.

Our mission is to deliver proven product technology and related services benefitting from our 100 years of experience. We believe in maximising your productivity with value-added products and services that are global, yet personal – our presence in 128 countries ensures our technical expertise reaches you wherever you are.

PLI's differentiator is product excellence, developed by world-class Technology Centres and brought to your market with local expertise. Our passion for performance improvement makes us an obvious choice for key OEMs and delivers success in Formula One Motorsport. Now, it has translated into a comprehensive industrial product range and tailor-made services for you.



Together, let's take your gear drive's effectiveness to the next level.

**YOUR CHALLENGES, OUR EXPERTISE**

Today is the age of smaller, faster, and stronger. OEMs are offering increasingly compact and higher output geared drives. These have to perform at increased speeds, under higher loads as well as being constructed from new materials in order to significantly improve output and performance. Additionally the competitive market forces equipment owners to pursue more reliable and durable solutions to maintain profitability of their business.

These improvements in gearbox design along with end-user expectations demand more robust innovations in gear oils. Reduced oil reservoir capacities and higher power output generate much greater oil stress, causing low-quality lubricants to fail

prematurely thus compromising system performance. This potentially leads to increased maintenance costs and, in extreme situations, can have a dramatic impact on the continuity of a production process.

At PLI, we understand that maximising uptime is your key challenge. That's why we have developed **Fluid Technology Solutions™**, an intelligent approach to your fluid requirements that maximises your business performance through tailor-made product offerings and expert services. Our superior solutions for industrial gearbox lubrication meet the most severe industry and OEM specifications in order to deliver you products you can rely on.



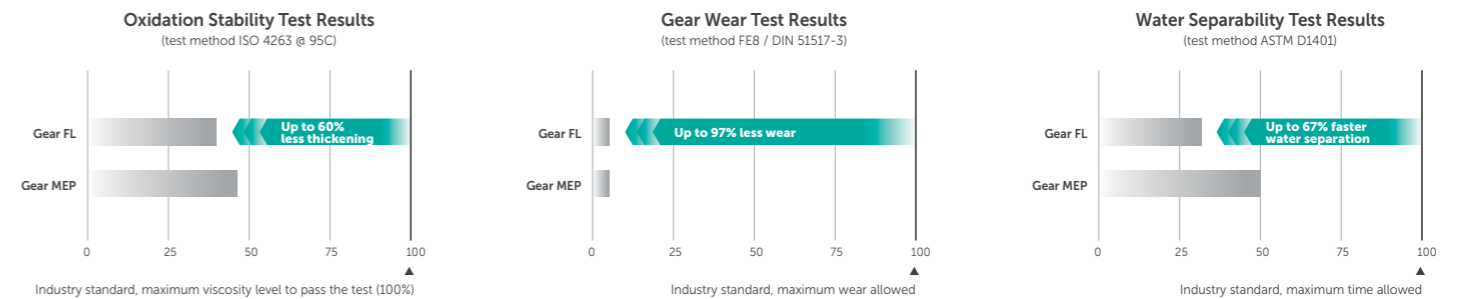
Increasing performance and protection  
Improving uptime and lowering maintenance costs

**YOUR KEY TO MAXIMISING PERFORMANCE**

Focusing our expertise, we've developed a comprehensive portfolio of industrial gear oils that serves every type of industrial gearbox application. Choose the right product for your application need and take the effectiveness of your industrial gears to the next level.

	Industrial enclosed spur / helical / bevel / planetary gears / worm gears	Industrial open gears
<b>SUPREME</b>	<p><b>PETRONAS Gear Syn PAG</b></p> <ul style="list-style-type: none"> <li>Excellent micropitting, extreme pressure and anti-wear protection</li> <li>Up to 5x longer oil life**</li> <li>High VI</li> <li>Excellent performance incl. energy saving</li> </ul>	<p><b>PETRONAS Gear Syn OG</b></p> <ul style="list-style-type: none"> <li>Lubricants light color prevents the need for gear cleaning prior to inspections, helping to reduce maintenance time and costs</li> <li>Excellent extreme pressure performance</li> <li>Excellent anti-wear protection</li> <li>Excellent oxidation stability</li> </ul>
<b>PREMIUM</b>	<p><b>PETRONAS Gear Syn PAO</b></p> <ul style="list-style-type: none"> <li>Excellent extreme pressure and anti-wear protection</li> <li>Up to 3x longer oil life**</li> <li>High VI</li> <li>Excellent performance incl. energy saving</li> </ul>	
	<p><b>PETRONAS Gear Syn</b></p> <ul style="list-style-type: none"> <li>Excellent Micropitting resistance</li> <li>Excellent extreme pressure protection</li> <li>Up to 2x longer oil life*</li> <li>High VI</li> <li>Excellent resistance to sludging</li> </ul>	
	<p><b>PETRONAS Gear FL</b></p> <ul style="list-style-type: none"> <li>Excellent micropitting, extreme pressure and anti-wear protection</li> <li>Up to 1.6x longer oil life*</li> <li>Excellent performance</li> </ul>	
	<p><b>PETRONAS Gear MEP</b></p> <ul style="list-style-type: none"> <li>Excellent extreme pressure and anti-wear protection</li> <li>Up to 1.5x longer oil life*</li> <li>High performance</li> </ul>	
<b>BASIC</b>	First price gear oils	

\* vs. minimum requirements of industrial gear oils to pass the viscosity increase test (ISO 4263-4 @95°C)  
\*\* vs. conventional mineral gear oils



**FTS SERVICE PROGRAM – TAILOR-MADE FOR YOU**

At PETRONAS, we believe success is made by close partnerships. It is that very belief that drives us to work together with you in overcoming the challenges you face – from demands of higher productivity to operating under intense, severe conditions.

That's why we present to you our **Fluid Technology Solutions™** Service Program – a tailor-made range of services designed to maximise your business performance. From specialised on-site analysis to emergency support for operational recovery, we are committed to assisting you in every possible situation.

Partner with us and take your business to the next level.