



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.

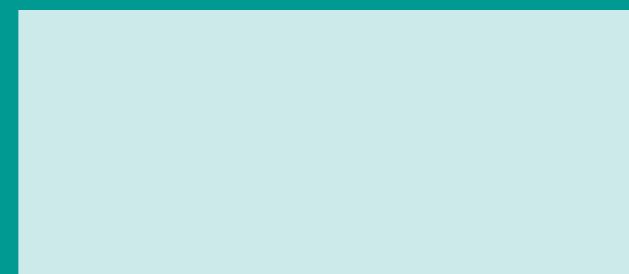


PROVEN EXPERTS, ALWAYS READY TO HELP!

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:



PETRONAS
Fluid Technology
Soluti>ns™

**TAKING YOU TO THE NEXT LEVEL
IN OPERATIONAL PERFORMANCE
PULP AND PAPER INDUSTRY**

global.pli-petronas.com



PETRONAS Fluid Technology Soluti>ns™

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 operational performance to the next level.

YOUR CHALLENGES, OUR EXPERTISE

Today, the pulp and paper industry faces numerous major challenges, such as increasing global competition, decreasing demand for certain paper types as a result of the spread of electronic communication, new environmental and health legislation, the rising cost of labour, raw materials, energy and the maintenance of ageing machinery.

To maintain competitiveness through improved productivity and reduced operating costs, the effective maintenance of all production equipment is crucial. As a result, in the multi-stage paper production process that employs large and varied equipment, working at full capacity in harsh conditions, high quality lubricants are essential.

As the preferred strategic partner and provider of lubrication solutions to major pulp and paper producers worldwide, we have gained a thorough understanding of the lubrication requirements and challenges facing your business.

With a holistic approach in mind, 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. It is designed to help your business reach new levels in productivity and profitability by enabling improved efficiency and quality.

With PETRONAS on board, you can be assured of a reliable partner for progress.

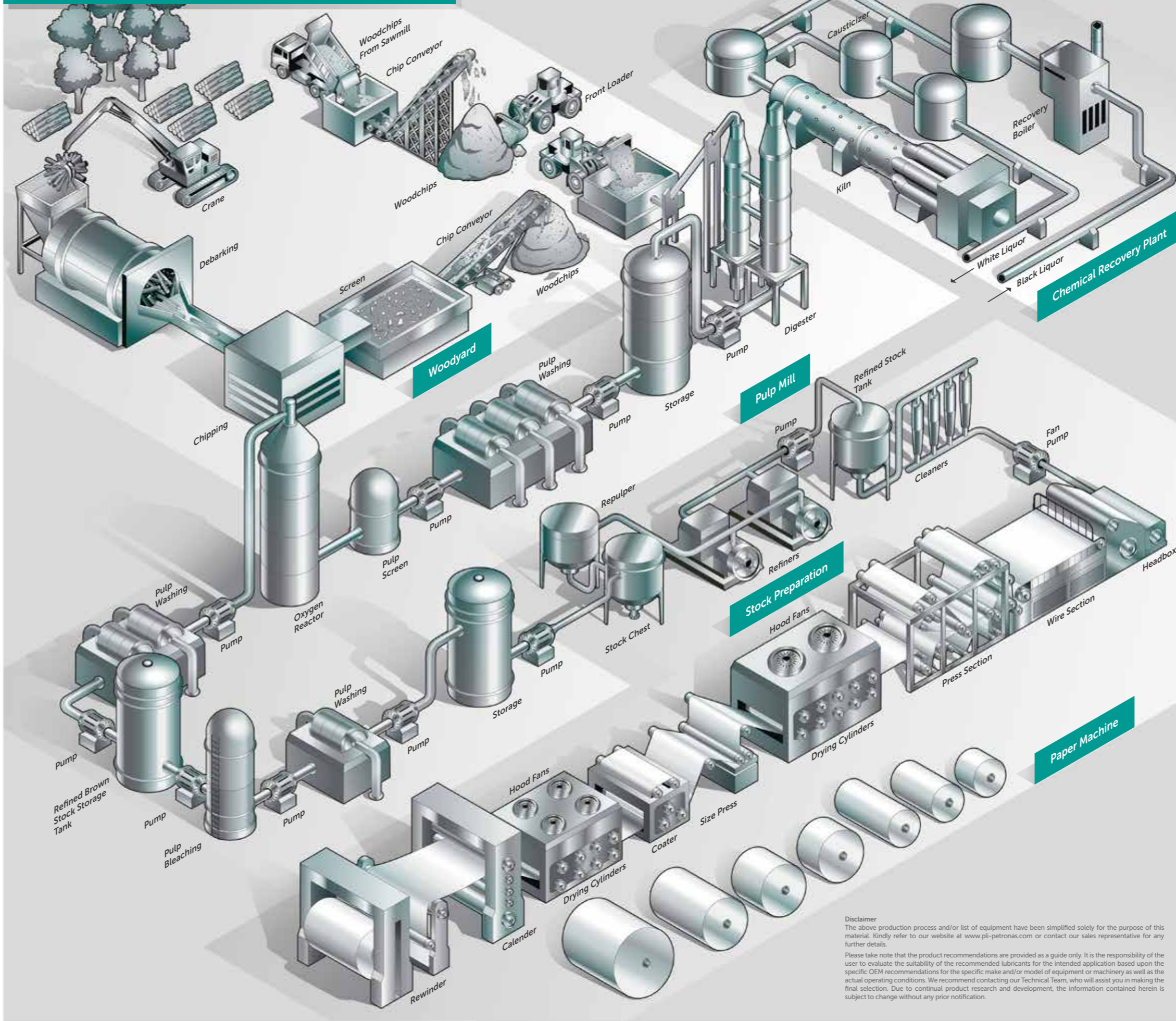


YOUR KEY TO MAXIMISING PERFORMANCE

By focusing our expertise and utilising the latest advances in lubrication technology, we have developed a comprehensive range of state-of-the-art lubricants that meets the needs of all paper production equipment. Choose the correct lubricant for equipment requirements and watch your productivity accelerate to the next level.



Simplified Pulp and Paper Production Process



Disclaimer
The above production process and/or list of equipment have been simplified solely for the purpose of this material. Kindly refer to our website at www.ppi-petronas.com or contact our sales representative for any further details.
Please take note that the product recommendations are provided as a guide only. It is the responsibility of the user to evaluate the suitability of the recommended lubricants for the intended application based upon the specific OEM recommendations for the specific make and/or model of equipment or machinery as well as the actual operating conditions. We recommend contacting our Technical Team, who will assist you in making the final selection. Due to continual product research and development, the information contained herein is subject to change without any prior notification.

PRIMARY PROCESS	EQUIPMENT	LUBRICATION PARTS	LUBRICANT	STANDARD	PREMIUM	SUPREME
Woodyard	Crane & Lifting Equipment	Bearings	Grease	PETRONAS Grease LIX EP 2/380	PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/460
		Cables / Wire Ropes	Grease	PETRONAS Grease LiCa GEP 2.5		
		Cooling System	Coolant Fluid	PETRONAS Parafllu 11	PETRONAS Parafllu Up Ready	
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Engine	Engine Oil	PETRONAS Urania LD 7	PETRONAS Urania 5000E 15W40	PETRONAS Urania 7000E 10W40
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Hydraulic System	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF
		Hydraulic System (Mobile)	Transmission Fluid	PETRONAS Powertrans T4		
		Open Gears	Grease		PETRONAS Grease LiCa TMG	
		Cooling System	Coolant Fluid	PETRONAS Parafllu 11	PETRONAS Parafllu Up Ready	
	Converter	Transmission Fluid	PETRONAS Powertrans T4			
	Dump Trucks, Wheel Loaders, Front End Loaders	Engine	Engine Oil	PETRONAS Urania LD 7	PETRONAS Urania 5000E 15W40	PETRONAS Urania 7000E 10W40
		Final Drive	Transmission Fluid	PETRONAS Powertrans T4		
		Grease Points	Grease	PETRONAS Grease LIX MEP	PETRONAS Grease LiCa MG HL	PETRONAS Grease LiCa MG XHL
		Hydraulics / Steering	Transmission Fluid	PETRONAS Powertrans T4		
Transmission		Transmission Fluid	PETRONAS Powertrans T4			
Debarking Drum	Crane & Lifting Equipment	Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Chain Drive	Slideway Oil	PETRONAS Slideway		
		Couplings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
		Couplings (Oil)	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
	Wood Chipper	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Hydraulic System	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF
		Open Gears	Grease		PETRONAS Grease LiCa TMG	
		Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Couplings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
Chip Conveyors	Crane & Lifting Equipment	Couplings (Oil)	Turbine Oil	PETRONAS Jenteram	PETRONAS Jenteram G	PETRONAS Jenteram Syn
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Grease Points	Grease	PETRONAS Grease Li EP 2		PETRONAS Grease LIX Syn 2/220
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Hydraulic System	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF
Screens	Crane & Lifting Equipment	Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Couplings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
		Conveyor Back Stop	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO

PRIMARY PROCESS	EQUIPMENT	LUBRICATION PARTS	LUBRICANT	STANDARD	PREMIUM	SUPREME
Pulp Mill	Digester	Bearings	Grease			PETRONAS Grease LIX Syn 1/500
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Grease Points	Grease	PETRONAS Grease Li EP 2		PETRONAS Grease LIX Syn 2/220
		Hydraulic System	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF
	Pulp Washer	Bearings (Oil)	Circulating Oil	PETRONAS Circula	PETRONAS Circula PM	PETRONAS Circula Syn
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Repulper and General Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
Pulp Bleaching Towers	Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU		
	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO	
Stock Preparation	Pulp storage (Pumps and Agitators)	Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
	Repulper	Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Couplings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
	Mixing and Machine Chest	Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
	Refiners	Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Bearings (Oil)	Circulating Oil	PETRONAS Circula		PETRONAS Circula Syn
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
	Refined Stock Chest	Geared Coupling	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
Gearbox / Reducer		Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAG	
Paper Machine	Paper Machine	Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Calendar Roll Bearings (Oil)	Circulating Oil	PETRONAS Circula	PETRONAS Circula PM	PETRONAS Circula Syn
		Dryer Bearings	Circulating Oil	PETRONAS Circula	PETRONAS Circula PM	PETRONAS Circula Syn
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Fans (Oil)	Circulating Oil	PETRONAS Circula	PETRONAS Circula PM	PETRONAS Circula Syn
		Fans - Hood	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/220
		Fans - Trim	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Hydraulic System	Hydraulic Fluid	PETRONAS Hydraulic	PETRONAS Hydraulic HV	PETRONAS Hydraulic ESF
		Press Roll Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
	Chemical Recovery Plant	Roll Drive Gearbox	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Rope Pulley Bearing	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/220
		Steam Rotary Joints	Grease	PETRONAS Grease LIX MEP		
		Vacuum Pumps	Grease	PETRONAS Grease Li EP 2	PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/220
		Wire Roll Bearings	Grease	PETRONAS Grease LIX EP 2/380		PETRONAS Grease LIX Syn 2/460
Kiln	Kiln	Auxiliary Diesel Engine	Engine Oil	PETRONAS Urania LD 7	PETRONAS Urania 5000E 15W40	PETRONAS Urania 7000E 10W40
		Auxiliary Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Couplings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PE HS	
		Cooling System	Coolant Fluid	PETRONAS Parafllu 11	PETRONAS Parafllu Up Ready	
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
		Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Girth Gear	Grease		PETRONAS LiCa TMG	
		Kiln Support Roller Bearings	Circulating Oil			PETRONAS Circula Syn
		Thrust Bearings	Circulating Oil			PETRONAS Circula Syn
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	
Recovery Boiler	Recovery Boiler	Forced and Induced Draft Fan Bearings	Grease		PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/220
		Forced and Induced Draft Fan Bearings (Oil)	Circulating Oil	PETRONAS Circula	PETRONAS Circula PM	PETRONAS Circula Syn
		Precipitator Gearbox / Reducer	Gear Oil	PETRONAS Gear MEP ¹⁰	PETRONAS Gear FL	PETRONAS Gear Syn PAO
		Precipitator Support Bearings	Grease		PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/220
		Primary Air Fan Bearings	Grease		PETRONAS Grease CaSx	PETRONAS Grease LIX Syn 2/220
		Secondary Air Fan Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	PETRONAS Grease LIX Syn 2/100
		Soot Blower Gearbox / Reducer	Gear Oil			PETRONAS Gear Syn PAG
		Electric Motor Bearings	Grease	PETRONAS Grease Li 2	PETRONAS Grease PU	

¹⁰ Premium Product