

# PETRONAS JENTERAM SYN SERIES

## Supreme Performance Ashless Industrial Turbine Oil

PETRONAS Jenteram SYN Series are supreme performance synthetic turbine oils specially developed for use in modern steam, light and heavy duty gas turbines, combined cycle turbines with or without associated gear drives.

Formulated with high viscosity index selected synthetic base oils enhanced with advanced zinc-free anti-wear, anti-oxidant, anti-rust and anti-foam additives, PETRONAS Jenteram SYN oils provide high anti-wear protection, very good varnish control and excellent thermal and oxidation stability for up to 4x longer lasting performance\*.

PETRONAS Jenteram SYN Series meets or exceeds key industrial specifications and OEM requirements.

\*vs. minimum requirements of DIN 51515 Part II for industrial turbine fluids based on TOST results (ASTM D943)

### Applications

PETRONAS Jenteram SYN Series are recommended for use in:

- modern steam, light and heavy duty gas turbines, combined cycle turbines with or without associated gear drives. It may also be used on auxiliary turbine equipment such as generators, compressors etc.
- plain and rolling element bearings, slides, journals and lightly loaded gear drives where circulation oil is required
- turbine systems that require varnish control performance

### Features and Benefits

Features	Benefits
High anti-wear protection	Protects equipment components from excessive wear and provides longer equipment life
Excellent filterability	Maintains excellent filter efficiency without giving rise to undue pressure drop, thus increasing oil cleanliness
Excellent thermal and oxidation stability	Maintains performance levels under high temperatures and pressure, enabling long oil drain intervals
Very good varnish control	Protects equipment components, especially turbine control valves, extending equipment life
Excellent rust & corrosion protection	Inhibits the corrosion process that occurs in presence of water, improving equipment life
Excellent air release and foam stability	Maintains excellent efficiency in turbine systems and ensures smooth operation of the system due to rapid air release. Protects the system from air degenerative effects reducing maintenance costs

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Features	Benefits
Excellent water separability	Due to excellent water separability the system is protected from water degenerative effects, maintaining turbine efficiency at required level and reducing maintenance costs
High multi metal compatibility	Compatible with most metal alloys ensuring trouble free performance of the system
Excellent compatibility with most seal and elastomers	Compatible with most seals and elastomers, which prevents oil leaks and contamination due to seal erosion

### Typical Properties

Characteristic	Method	Specification	32	46	68
Specific Gravity @15°C	ASTM D 4052	(1)	0,842	0,845	0,850
Kinematic Viscosity at 40°C, cSt	ASTM D 445	±10%	32	46	68
Kinematic Viscosity at 100°C, cSt	ASTM D 445	(1)	5,9	7,6	10,0
Viscosity Index	ASTM D 2270	Min. 90	130	132	131
Flash Point, °C	ASTM D 92	**	230	240	240
Pour Point, °C	ASTM D 97	Max. -6	-33	-33	-30
TAN, mgKOH/g	ASTM D 664	Report	0,05	0,05	0,05
FZG, Failure Load Stage	ISO 14635-1	Min. 10	11	12	12
Water Separability, 40/37/3 - mins	ASTM D 1401	(1)	10	10	10
Copper Strip Corrosion	ASTM D 130	Max. 2	1b	1b	1b
Foam Sequence I, mL	ASTM D 892	Max. 450/0	0/0	0/0	0/0
Foam Sequence II, mL		Max. 50/0	0/0	0/0	0/0
Foam Sequence III, mL		Max. 450/0	0/0	0/0	0/0
Air Release @50°C, mins.	ASTM D 3427	Max. 5	1,8	2,1	2,9
RPVOT, mins.	ASTM D 2272	Min. 1000	2950	2950	2950
TOST life, hrs.	ASTM D 943	Min. 3500	14000	14000	14000
Cleanliness Level	ISO 4406	Max. -/17/14	18/16/13	18/16/13	18/16/13
Cleanliness Level	NAS 1638	Max. 8	7	7	7

All technical data are provided for reference only and all specification based on DIN 51515 Part II

\*\*Individual limits accordingly with each viscosity grade / (1): not required in specification / SS is available upon request including quality control limits

Note: The requirements for the cleanliness of the turbine oil are system specific. The values given in the table correspond to the SIEMENS ENERGY FLUIDS SPECIFICATION REPORT 65/0027 Rev. 8. These values can be agreed upon between PETRONAS LUBRICANTS INTERNATIONAL and consumer. It should be noted that oil is exposed to a variety of influences during transport and storage. In any case, the purity required for the system must be ensured by carefully filtering the turbine oil during filling

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### Performance Levels

- ALSTOM HTGD 90117
- ASTM D-4304 Type I, II and III
- BRITISH STANDARD BS 489
- DIN 51515 Part I and II
- DIN 51524 Part I
- FIVES CINCINNATI P-38
- GENERAL ELECTRIC GEK-101941A
- GENERAL ELECTRIC GEK-32568J
- ISO 8068 L-TGE and L-TSE
- ISO 8068 L-TSA and L-TGA
- ISO 11158 HH and HL
- SIEMENS AG TLV 9013 04
- SIEMENS AG TLV 9013 05
- SIEMENS Std 65/0027 Issue 7 (2016)

### Health, Safety and Environment

This product is unlikely to present any significant health and safety hazards when used in the recommended application. Avoid contact with skin. Wash immediately with soap and water after skin contact. Do not discharge into drains, soil or water.

For further detail regarding storage, safe handling, and disposal of product, please refer to product SDS or contact us at: [www.pli-petronas.com](http://www.pli-petronas.com).

### Important Note

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