

# PETRONAS CIRCULA SYN SERIES

## Supreme Performance Anti-wear Circulating Oils

PETRONAS Circula SYN Series are supreme performance anti-wear circulating oils specially developed for circulating systems operating under normal to extremely heavy duty conditions. Formulated with synthetic base oils enhanced with advanced anti-oxidant, anti-wear, anti-rust and anti-foam additives, PETRONAS Circula SYN oils provide excellent anti-wear protection under toughest operating conditions, excellent water separability, excellent resistance to sludge formation, high thermal and oxidation stability for more than 4x longer lasting performance\*.

\*vs. minimum requirements of ISO 11158 HV fluids based on TOST (ASTM D943)

### Applications

PETRONAS Circula SYN Series are recommended for use in:

- circulating systems for paper machine dryer bearings, calendars, winders, enclosed gear drives, large anti-friction and journal bearings
- light to moderately loaded gear systems, such as spur, helical, herringbone and bevel gear applications

Note: PETRONAS Circula SYN cannot be used in spiral bevel, hypoid or worm gear applications.

### Features and Benefits

Features	Benefits
Excellent thermal and oxidation stability	Maintains performance levels under high temperatures and pressure, enabling long oil drain intervals
Excellent anti-wear protection	Protects equipment components from excessive wear and provides longer equipment life
Excellent resistance to sludging	Excellent cleanliness for sludge free circulating systems
Excellent water separability	Due to excellent water separability the system is protected from water degenerative effects, maintaining circulating system efficiency at required level and reducing maintenance costs
Excellent rust & corrosion protection	Inhibits the corrosion process that occurs in presence of water, improving equipment life
Low temperature protection	Ensures proper protection of equipment components during cold starts
Excellent 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

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### Typical Properties

Characteristic	Method	Specification	150	220	320	460	680
Specific Gravity @15°C	ASTM D 4052	(1)	0,853	0,857	0,857	0,859	0,862
Kinematic Viscosity at 40°C, cSt	ASTM D 445	±10%	150	220	320	460	680
Kinematic Viscosity at 100°C, cSt	ASTM D 445	(1)	19,4	26,0	36,0	47,6	63,8
Viscosity Index	ASTM D 2270	Report	148	151	159	162	164
Flash Point, °C	ASTM D 92	**	244	246	262	270	270
Pour Point, °C	ASTM D 97	**	-45	-45	-39	-39	-39
TAN, mgKOH/g	ASTM D 664	(1)	0,40	0,40	0,40	0,40	0,40
Water Separability, 40/37/3 - mins	ASTM D 1401	**	10	10	10	15	20
Copper Strip Corrosion	ASTM D 130	Max. 2	1a	1a	1a	1a	1a
TOST life, hours	ASTM D 943	Min. 1000	4100	4100	4100	4100	4100
Foam Sequence I, mL	ASTM D 892	Max. 150/0	0/0	0/0	0/0	0/0	0/0
Foam Sequence II, mL		Max. 75/0	0/0	0/0	0/0	0/0	0/0
Foam Sequence III, mL		Max. 150/0	0/0	0/0	0/0	0/0	0/0
FZG, Stages Passed	ISO 14635-1	Min. 10	12	12	12	12	12

All technical data is provided for reference only and all specification based on ISO 11158 HM

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

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### 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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