Technical Data Sheet

Previous Name: **Shell Corena AS**

Shell Corena *S4 R 46*

- *Extra Long Life*
- *Improved Efficiency*
- *Severe Applications*

Advanced Synthetic Rotary Air Compressor Oil

Shell Corena S4 R is an advanced synthetic air compressor oil incorporating a unique high performance additive system. It is designed to deliver the highest performance lubrication of rotary sliding vane and screw air compressors. It uses an advanced additive system to provide excellent protection and performance for compressors running at pressures over 25 bar and in excess of 100°C discharge temperatures with oil maintenance intervals of up to 12,000 hours.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Long oil life – Maintenance saving**

  Shell Corena S4 R is capable of providing oil maintenance intervals of up to 12,000 hours (where allowed by manufacturers) even when operating at maximum discharge temperatures in excess of 100°C.

  The advanced formulation of Shell Corena S4 R helps deliver exceptional oil life through:

- Exceptional resistance to thermal and chemical breakdown.
- Resist formation of deposits on rotating components in screw compressors and in sliding vane slots for continuous efficient operation.
- Exceptionally low levels of deposit formation to help maintain excellent internal surface cleanliness particularly in oil/air separator and coalescer systems.
  Exact oil maintenance interval will depend on intake air quality, duty cycle and ambient conditions. For hot and humid type climates as found in the Asian and Pacific regions, a reduced oil drain period is recommended (consult OEM recommendations).

- **Outstanding wear protection**

  Shell Corena S4 R helps provide exceptional protection and protection of internal metal surfaces from corrosion and wear.

  It contains an advanced ashless anti-wear system to help prolong the life of critical parts such as bearings and gears.

- **Maintaining system efficiency**

  Shell Corena S4 R is designed to provide rapid air release without excessive foaming to give trouble-free operation even under cycling conditions helping to ensure reliable start-up and continuous compressed air availability.

  Shell Corena S4 R has low volatility and oil carryover to provide reduced oil top-up requirements in combination with increased air quality.

  In addition, Shell Corena S4 R has excellent water separation properties to help ensure continuous efficient operation of the compressor even in the presence of water.

Main Applications



- **Rotary sliding vane and screw air compressors**

  Shell Corena S4 R is suitable for oil-flooded/oil injected, single or two-stage compressors, operating at pressures of in excess of 25 bar and with air discharge temperatures of over 100°C (including intermittent operation under these conditions).

- **Severe service conditions**

  May also be used where exceptionally high ambient temperatures are found, when the oil temperature cannot be reduced to normal levels.

- **ABB Turbochargers**

  The product is recommended for use in ABB turbochargers fitted to low and medium speed diesel engines used in marine and power generation applications.

- **Bearing & Circulating oil**

  Perfectly suitable to cover applications where a synthetic bearing & circulating oil or R&O oil (ISO VG 32-68) is required and will provide benefits due to increased resistance to deposit formation, improved low temperature fluidity, and lowering equipment operating temperatures.

- When a higher viscosity grade synthetic oil is required we recommend to use Shell Morlina S4 B grades for such applications.

Specifications, Approvals & Recommendations

- ISO 6743-3A-DAJ.

  For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or the OEM Approvals website.

Compatibility & Miscibility

- **miscibility**

  Shell Corena S4 R oils are fully miscible with mineral oils, although dilution with mineral lubricants will markedly reduce its performance. Care must be taken to avoid mixing Shell Corena S4 R with certain other types of synthetic fluids. Contact your Shell representative for further information.

- **Seal Compatibility**

  Shell Corena S4 R oils are compatible with seal materials specified for use with mineral oils.

Typical physical characteristics

Properties			Method	S4 R 46
ISO Viscosity Grade			ISO 3448	46
Kinematic Viscosity	@40°C	mm^2/s	ASTM D 445	46
Kinematic Viscosity	@100°C	mm^2/s	ASTM D 445	7.7
Viscosity Index (VI)			DIN ISO 2909	135
Density	@15°C	kg/m^3	ASTM D 1298	843
Flash Point		°C	ASTM D 92 (COC)	230
Pour Point		°C	ASTM D 97	-45
Air Release		mins		2
Rust Prevention - Synthetic Sea Water			ASTM D 665B	Pass
Water Separability		mins	ASTM D 1401	10
Rotating Pressure Vessel Oxidation		mins	ASTM D 2272	2200
FZG Load Carrying Test		failure load stage	CEC-L-07-A-95	>12

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Health, Safety & Environment

- **Health and Safety**

  Shell Corena S4 R Oil is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from http://www.epc.shell.com/

- **Protect the Environment**

  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**

Advice on applications not covered here may be obtained from your shell representative.

