Technical Data Sheet

- Extra Long Life
- Improved Efficiency
- Severe Applications

Shell Corena *S4 R 46*

Advanced Synthetic Rotary Air Compressor Oil

Shell Corena S4 R is primarily an advanced synthetic air compressor oil designed to deliver the highest performance lubrication of rotary sliding vane and screw air compressors. It uses a unique advanced additive system to provide excellent protection and performance for compressors running with oil maintenance intervals of 10,000 hours and up to 12,000 hours under certain conditions. Shell Corena S4 R is also perfectly suitable to cover applications where a synthetic bearing & circulating oil or R&O oil (ISO VG 32-68) is required.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Long oil life – Maintenance saving**

  Shell Corena S4 R is capable of providing oil maintenance intervals of 10,000 hours (where allowed by manufacturers) even when operating at maximum discharge temperatures in excess of 100^{0}C. This may be extended up to 12,000 hours under certain conditions.

  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.

  The 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, the lower oil drain period of 10,000hrs is recommended (also consult OEM recommendations).

- **Outstanding wear protection**

  Shell Corena S4 R helps provide exceptional 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.

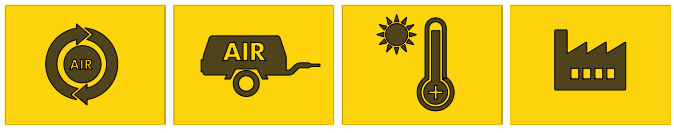
- **Maintaining system efficiency**

  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 also has low volatility which can result in lower evaporation and oil carryover in the compressor, providing 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 use in oil-flooded/ oil injected single or two-stage rotary vane or screw air compressors.

- **Severe service conditions**

  May be used where exceptionally high ambient temperatures or humidity are found.

- **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 deposits formation, improved low temperature fluidity and lowering of equipment operating temperatures.

Specifications, Approvals & Recommendations

- ISO 6743-3 L-DAJ

  For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Compatibility & Miscibility

- **Miscibility**

  Shell Corena S4 R is 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	Shell Corena S4 R 46
ISO Viscosity Grade			ISO 3448	46
Kinematic Viscosity	@40°C	mm^2/s	ASTM D445	46
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	7.5
Viscosity Index			ISO 2909	135
Density	@15°C	kg/m^3	ASTM D1298	843
Flash Point (COC)		°C	ASTM D92	230
Air Release		minutes	ASTM D3427	2
FZG Test		LS Fail	CEC-L-07-A-95	12
Pour Point		°C	ASTM D97	-48
Water Separability	@54°C	minutes	ASTM D1401	10

These characteristics are typical of current production.

Health, Safety & Environment

- **Health and Safety**

  Shell Corena S4 R 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 Safety Data Sheet, which can be obtained from https://www.epc.shell.com

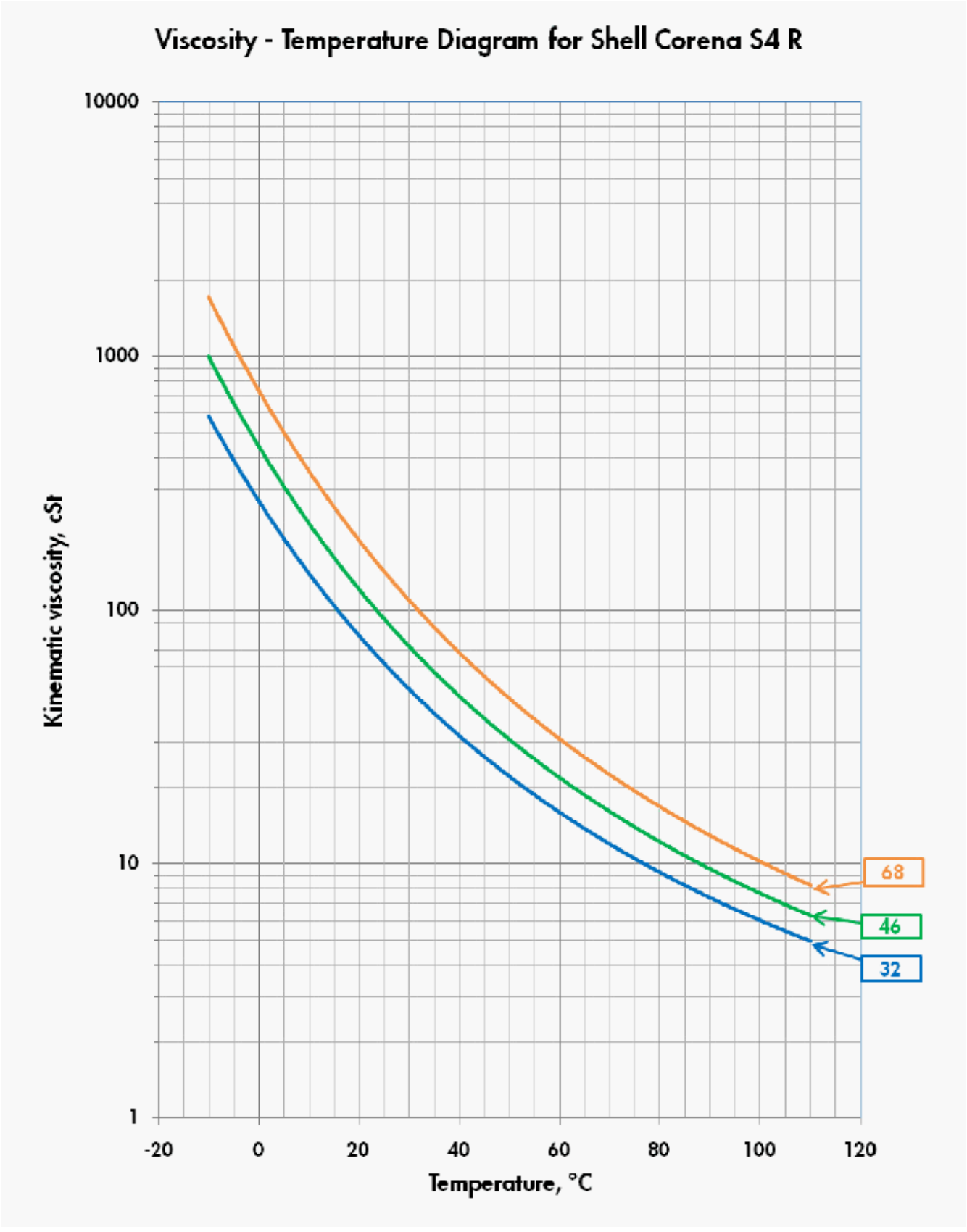
- **Protect the Environment**

  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.


Viscosity - Temperature Diagram for Shell Corena S4 R
Kinematic viscosity, cSt
10000
1000
100
10
1
-20
0
20
40
60
80
100
120
Temperature, °C
68
46
32

Viscosity - Temperature Diagram for Shell Corena S4 R

