



SHELL DIALA S4 ZX-IG^{ASTM}

Greater reliability and superior performance from a new transformer oil-based on Shell gas-to-liquids (GTL) technology

www.shell.com/lubricants

**SHELL
LUBRICANT
SOLUTIONS**



SETTING A NEW STANDARD

Shell Diala S4 ZX-IG is the latest offering in the Shell Diala range of transformer oils. These oils have been supplied to the power industry for more than 50 years. Shell Diala S4 ZX-IG has been engineered to cope with the severe dielectric stresses imposed by the higher voltages and optimized dimensions of the latest transformers while contributing with longer operational lifetimes thanks to enhanced protection, increased reliability and greater efficiency.¹

APPLICATIONS

Shell Diala S4 ZX-IG is suitable for all types of power, transmission and distribution transformers. It is particularly well suited for specialist equipment such as high-voltage instrument transformers, bushings and X-ray equipment, where gas absorbing properties can enhance safe operation.



Transformer Applications



Power Station Applications

SPECIFICATIONS & APPROVALS

Shell Diala S4 ZX-IG meets ASTM D3487 Type II and exceeds IEC 60296: Edition 5 (2020); Type A, fully inhibited high grade oils. It meets the requirements of most major equipment manufacturers and utility companies.



ENHANCED PROTECTION

ZERO SULFUR CONTENT

Effectively zero, below usual detection limits.
Corrosion avoidance to extend life of transformer components



INCREASED RELIABILITY

OUTSTANDING OXIDATION STABILITY

Increased asset life thanks to longer fluid life, lower sludge and overall dielectric dissipation factor



GREATER EFFICIENCY

LOW TEMPERATURE PERFORMANCE

Lower viscosity than typical naphtenic based products at temperatures as low as -40°C

SUPERIOR PERFORMANCE

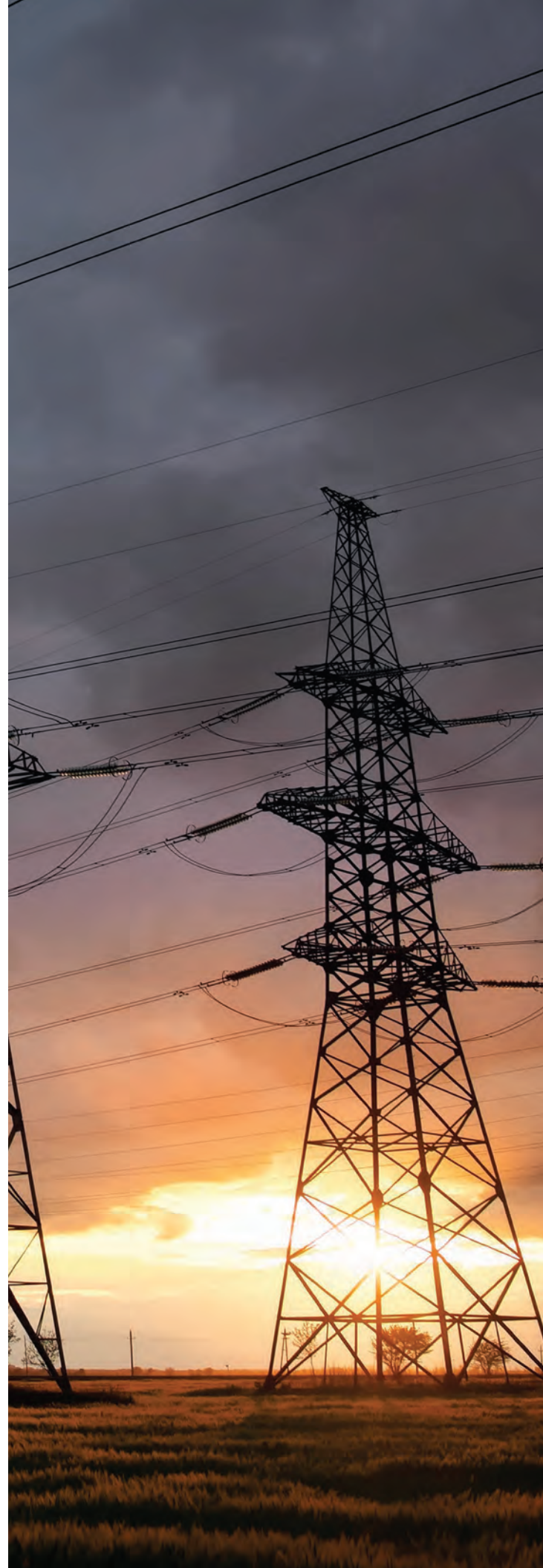
Shell Diala S4 ZX-IG helps to keep your transformer working more efficiently and for longer than conventional oils do. It offers improved transformer reliability owing to its resistance to degradation and effectively zero sulfur level², which removes the risk of oil-related copper corrosion.

Its oxidation stability is significantly better than the industry highest oxidation stability standard requirements.

Its good low temperature viscometric properties ensure proper heat transfer inside the transformer, even from very low starting temperatures.

Its gas-absorbing characteristics makes it an ideal choice for applications with severe dielectric stress where enhanced safe operation is desired.

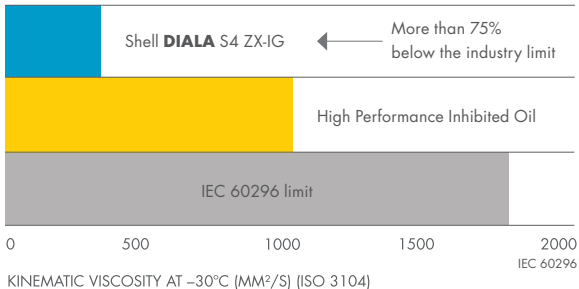
¹ Based on tests compared with Shell and competitors' products.
² Sulfur content below 1 ppm detection limit of ASTM D5185.



SUPERIOR TRANSFORMER PERFORMANCE

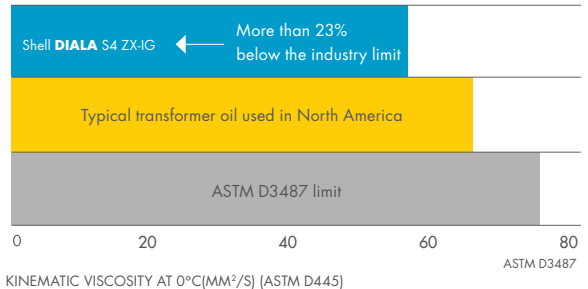
Shell Diala S4 ZX-IG has excellent resistance to degradation. Compared with conventional oils, its improved thermal properties help to reduce the ageing rate of both the oil and insulating paper to extend the lifetime of your transformers. It offers excellent performance across a wide range of temperatures and has especially outstanding low-temperature flow properties.

KINEMATIC VISCOSITY



Source: Shell

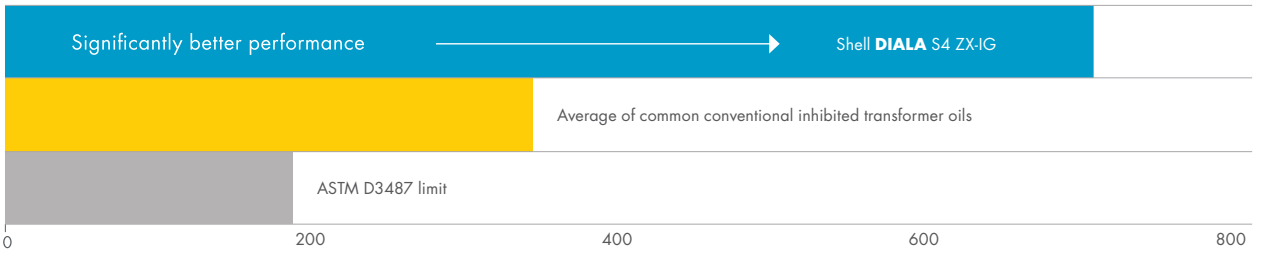
KINEMATIC VISCOSITY



Source: Shell and public available data

Shell Diala S4 ZX-IG performs up to five times better than the highest industry standard for oxidation stability, thereby ensuring better efficiency and a longer operational life.

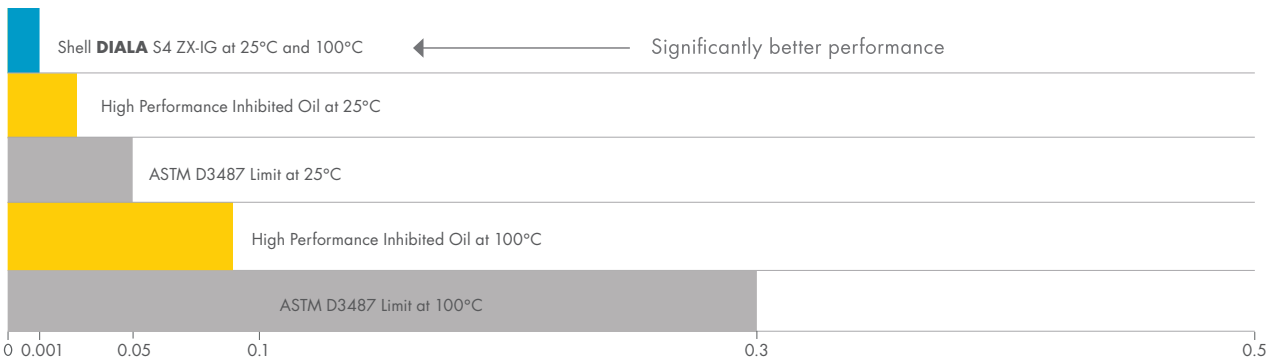
OXIDATION STABILITY (pressure vessel test), min



Source: Shell and public available data

(ASTM D2112) as part of ASTM D3487

DIELECTRIC DISSIPATION FACTOR (power factor) at 60 Hz, %



Source: Shell and public available data

(ASTM D924) as part of ASTM D3487

Data values shown are typical of current production. While future production will conform to Shell's specification, variations in these characteristics may occur

A GLOBALLY CONSISTENT PRODUCT

Shell Diala S4 ZX-IG is derived from purified natural gas which is used to produce a tightly specified hydrocarbon chemical structure. This defined chemistry delivers consistent and reliable performance, unlike crude-based oils which can vary significantly depending on the source and refining process.

The quality of Shell Diala S4 ZX-IG is neither crude oil nor location dependent.

Long term availability is assured, given that Shell anticipates supplies of natural gas will last several hundred years.

OPERATIONAL SIMPLICITY

Shell Diala S4 ZX-IG is simple and easy to use. It is fully miscible with traditional oils. In fact, adding it to some conventional naphthenic grades can improve their performance. It displays lower density, excellent air release and low foaming tendency thanks to its GTL technology. Additionally, these characteristics help improve transportation cost, lower overall product weight for installation efficiency and facilitate transformer oil filling procedures.

Shell Diala S4 ZX-IG is inherently biodegradable, free from polychlorinated biphenyls, dibenzyl disulphide and other additives.

BENEFITS FOR TRANSFORMER



PROTECTION

Virtually zero sulfur
Intrinsically non-corrosive
High flash point



RELIABILITY

Outstanding oxidation stability
Extended oil life
Robust Insulation



EFFICIENCY

Excellent thermodynamics
Good low temperature
viscometrics



CONSISTENCY

Narrow molecular variation
More stable base oil
Low stray gassing



COST SAVINGS

Lower density, reduced
weight
Lower foaming tendency







SUSTAINABILITY

Inherently Biodegradable
Lower operating cost, less
intervention maintenance



FULL PRODUCT & SERVICE PORTFOLIO



Whatever your needs or application, we can provide a full range of oils and greases, including synthetic, high-performance products and additional services

ADVANCED TIER 4	Shell Diala S4 ZX-IG^{ASTM}
	<ul style="list-style-type: none"> Effectively zero sulfur Gas absorbency Exceeds ASTM D3487 Type II high oxidation stability and low sulfur content <div style="text-align: right;">   </div>
MAIN LINE TIER 2	Shell Diala S2 ZX-A
	<ul style="list-style-type: none"> Reliable performance Meets ASTM D3487 Type II <div style="text-align: right;">   </div>

PRODUCT-NAME SUFFIX KEY

- A** = Meets relevant ASTM specifications
- G** = Gas Absorbing
- I** = Conforms to IEC specifications
- X** = Fully inhibited
- Z** = Insulating oil

APPLICATION ICON KEY

-  Transformer applications
-  Power station applications

INDUSTRY-LEADING SERVICES

Shell offers a comprehensive range of services to support or customers operations

SERVICE	DESCRIPTION	BENEFIT
Shell LubeAnalyst Oil Analysis	Laboratory based oil condition monitoring	Equipment condition monitoring, optimized oil life, reduced downtime
Shell LubeOptimizer Fluid Handling	A network of on-site partners services such as tank flushing, live-system filtration, varnish removal, equipment cleaning, and more	Maximized uptime, lowered operational costs, equipment protecting
Shell LubeAdvisor Technical Advisors	Technical support including live surveys and site audits	Optimized lubrication, efficient cost
Shell LubeExpert Technical Experts	Specialized support including detailed audits and engineering support of critical applications	Reduced operating costs and downtime, increased equipment life
Shell LubeChat Virtual Assistant	Instant access to lubricant expertise, including lubrication recommendations	Easy, convenient, 24/7 service
Shell Remote Sense Sensor-Based Oil Analysis	Real-time Condition Monitoring; Intelligent lubricant-condition monitoring service that combines technical expertise with advanced analytics	Reduced unplanned downtime, extended equipment life, optimized maintenance

CONTACT

Talk to us about the benefits that GTL-based Shell Diala oils could have for your business

Find out more by visiting

www.shell.com/lubricants



SHELL LUBRICANT SOLUTIONS

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