SUPER GRADE

NYTRO® 10XN

Maximum performance insulating oil

Nytro 10XN is an inhibited super grade that conforms to IEC 60296:2020 edition 5.0 and is Type A, classified as TVAI. Developed and formulated to deliver maximum resistance to oil degradation, Nytro 10XN provides outstanding oxidation stability for a longer transformer life with less maintenance. This makes it a popular choice worldwide.

Designed for heavy duty

This product has been specially developed for use in oil-filled electrical equipment – including power and distribution transformers, rectifiers, circuit breakers and switchgears.

Performance and benefits

Extremely good heat transfer. Thanks to low viscosity and viscosity index, this super grade offers extremely good heat transfer characteristics, ensuring heat is efficiently removed from core and windings.

Very good low temperature properties. Naphthenic characteristics allow the transformer to start at the lowest possible temperature – without using pour point depressants.

Outstanding oxidation stability. Developed and formulated to deliver maximum resistance to oil degradation, this grade provides outstanding oxidation stability for enhanced transformer life and minimum maintenance.

High dielectric strength. This insulating oil both meets and exceeds the toughest demands on dielectric strength – when stored and handled correctly.

Product description

Nytro 10XN is classified as a Nynas Super Grade and has been specially developed for use in oil filled electrical equipment, including power and distribution transformers, rectifiers, circuit breakers and switchgear. Meets IEC 60296:2020 edition 5.0.

Product highlights:
Viscosity at -30°C max 800 cSt
Viscosity at -35°C max 1800 cSt
LCSET -35°C
Pour point max -51°C

Solutions for the transition to a sustainable society

Nynas offers bitumen and naphthenic specialty products for applications that touch people's lives every day, for example in electrification and road infrastructure. Our core competence is to upgrade heavy molecules into high performance, long-lasting specialty products. We operate in an international market with a strong focus on Europe, working closely with customers to create solutions to meet challenges and capture opportunities in the transition to a sustainable society.

Find out more at www.nynas.com

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PRODUCT DATA SHEET

NYTRO® 10XN

PROPERTY	Unit	Test Method	Specification Limits		Typical Data
			Min	Max	
1 - Function					
Viscosity, 40°C	mm^2/s (cSt)	ISO 3104		8	7.5
Viscosity, -30°C	mm^2/s (cSt)	ISO 3104		800	610
Viscosity, -35°C	mm^2/s (cSt)	ISO 3104		1800	1100
Pour point	°C	ISO 3016		-51	-66
Water content	mg/kg	IEC 60814		30	< 20
Breakdown voltage	kV	IEC 60156			
- Before treatment	kV	IEC 60156	30		40-60
- After treatment	kV	IEC 60296	70		> 70
Density, 20°C	kg/dm^3	ISO 12185		0.895	0.875
DDF at 90°C		IEC 60247		0.005	< 0.001
2 - Refining/stability					
Colour		ISO 2049		< 0.5	< 0.5
Appearance at 15°C		IEC 60296	Clear and bright		Clear and bright
Acidity	mg KOH/g	IEC 62021		0.01	< 0.01
Interfacial tension at 25°C	mN/m	IEC 62961	43		48
Total sulphur content	%	ISO 14596		0.05	< 0.001
Corrosive sulphur		DIN 51353	Non-Corrosive		Non-Corrosive
Potentially corrosive sulphur		IEC 62535	Non-Corrosive		Non-Corrosive
Corrosive sulphur		ASTM D1275	Non-Corrosive		Non-Corrosive
DBDS	mg/kg	IEC 62697-1	Not Detectable		Not Detectable
Antioxidants	wt %	IEC 60666	0.08	0.40	0.28
Metal passivator additives	mg/kg	IEC 60666	Not Detectable		Not Detectable
Other additives *			None		None
2-Furfural and related compounds content	mg/kg	IEC 61198		< 0.05	< 0.05
Aromatic content	%	IEC 60590			5
Stray gassing under thermo-oxidative stress		IEC 60296			
- Hydrogen	µl/l	clause A.4		< 50	< 5
- Methane	µl/l	clause A.4		< 50	< 1
- Ethane	µl/l	clause A.4		< 50	< 1
3 - Performance					
Oxidation stability at 120°C, 500 h		IEC 61125			
- Total acidity	mg KOH/g	IEC 61125		0.3	0.06
- Sludge	wt %	IEC 61125		0.05	< 0.01
- DDF at 90°C		IEC 61125		0.050	0.007
4 - Health, safety and environment (HSE)					
Flash Point, PM	°C	ISO 2719	140		142
PCA	wt %	IP 346		< 3.0	< 3.0
PCB	mg/kg	IEC 61619	Not Detectable		Not Detectable

*this product contains no undeclared additives

NYTRO 10XN is a Super Grade inhibited insulating oil meeting IEC 60296:2020 edition 5.0 and is Type A, TVAI and it is 100% recyclable. Breakdown voltage after treatment as per definition in IEC 60296, section 6,4. It also meets ASTM D3487-16 type II (excluding gassing tendency).

Severely hydrotreated insulating oil

Issuing date: 19-09-2025