Nytro I0XN

Maximum performance insulating oil

Nytro 10XN is an inhibited super grade that conforms to both ASTM D3487 and IEC 60296 Edition 4.0, including the fulfilment of specific requirements for special applications. 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.

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.

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

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 fulfils the requirements for IEC 60296 Edition 4.0 fully inhibited oil. Nynas classify this product as a super grade.

Nytro 10XN is rigorously analysed and passes the following corrosion tests:

- ASTM D1275 method B
- IEC 62535
- DIN 51353

In accordance with IEC 60296 Edition 4.0, all additives are declared.

There's more to us than this

We're delighted you chose one of our transformer oils. If you have any questions about other products and services, get in touch with your local Nynas contact. Besides top quality oils, we offer a wide range of services, including rapid delivery worldwide, sample analysis, training, seminars and much more. All you have to do is ask. Find out more at www.nynas.com



PRODUCT DATA SHEET

Nytro I0XN

No. No.	PROPERTY	UNIT	TEST METHOD	SPECIFICATION LIMITS		TYPICAL DATA
Viscosity, 40°C mm²/s ISO 3104 8.0 7.6 Viscosity, -30°C mm²/s ISO 3104 800 730 Pour point °C ISO 3016 -45 -63 Water content mg/kg IEC 60814 30 -20 Breakdown voltage - - - - - Before treatment kV IEC 60156 30 40-60 - After treatment kV IEC 60296 70 >70 Density, 20°C kg/dm² ISO 12185 0.895 0.877 DDF at 90°C IEC 60247 0.005 <0.001 2 - Refining/stability - IEC 60296 Clear, free from sediment complies Acidity mg KOH/g IEC 62291 0.01 <0.01 Interfacial tension mN/m EN 14210 40 50 Total sulphur content % ISO 14596 0.05 <0.01 Corrosive sulphur IEC 62535 non-corrosive non-corrosive Corrosive sulphur <th></th> <th></th> <th></th> <th>MIN</th> <th>MAX</th> <th></th>				MIN	MAX	
Viscosity, -30°C mm³/s ISO 3104 800 730 Pour point	1 - Function					
Pour point	Viscosity, 40°C	mm²/s	ISO 3104		8.0	7.6
Water content mg/kg IEC 60814 30 <20 Breakdown voltage - Before treatment KV IEC 60156 30 40-60 - After treatment kV IEC 60296 70 >70 Density, 20°C kg/dm³ ISO 12185 0.895 0.877 DDF at 90°C IEC 60247 0.005 <0.001	Viscosity, -30°C	mm²/s	ISO 3104		800	730
Breakdown voltage - Before treatment	Pour point	°C	ISO 3016		-45	-63
- Before treatment	Water content	mg/kg	IEC 60814		30	<20
- After treatment	Breakdown voltage					
Density, 20°C kg/dm³ ISO 12185 0.895 0.877 DDF at 90°C IEC 60247 0.005 <0.001 2 - Refining/stability Appearance IEC 60296 Clear, free from sediment complies Acidity mg KOH/g IEC 62021 0.01 <0.01 Interfacial tension mN/m EN 14210 40 50 Total sulphur content % ISO 14596 0.05 <0.01 Corrosive sulphur IEC 62535 non-corrosive non-corrosive Potentially corrosive sulphur IEC 62535 non-corrosive non-corrosive DBDS mg/kg IEC 62697-1 not detectable not detectable Antioxidant wt % IEC 60666 0.4 0.3 Metal passivator additives mg/kg IEC 61198 0.05 <0.05 Aromatic content % IEC 60590 6 3 - Performance Oxidation stability at 120°C,500 h IEC 61125 C 0.05 <0.02 DDF at 90°C Mt % IP 346 3 <3 TOUR STAND PROVINCE PA36 P	- Before treatment	kV	IEC 60156	30		40-60
DDF at 90°C IEC 60247 0.005 <0.001	- After treatment	kV	IEC 60296	70		>70
Section Sect	Density, 20°C	kg/dm ³	ISO 12185		0.895	0.877
Appearance IEC 60296 Clear, free from setment complies Acidity mg KOH/g IEC 62021 0.01 <0.01	DDF at 90°C		IEC 60247		0.005	<0.001
Acidity mg KOH/g IEC 62021 0.01 <0.01 Interfacial tension mN/m EN 14210 40 50 Total sulphur content % ISO 14596 0.05 <0.01	2 - Refining/stability					
Interfacial tension	Appearance		IEC 60296	Clear, free from s	sediment	complies
Total sulphur content	Acidity	mg KOH/g	IEC 62021		0.01	<0.01
Corrosive sulphur DIN 51353 non-corrosive non-corrosive Potentially corrosive sulphur IEC 62535 non-corrosive non-corrosive Corrosive sulphur ASTM D 1275 B non-corrosive non-corrosive DBDS mg/kg IEC 62697-1 not detectable not detectable Antioxidant wt % IEC 60666 0.4 0.3 Metal passivator additives mg/kg IEC 60666 not detectable not detectable 2-Furfural and related compounds content mg/kg IEC 61198 0.05 <0.05	Interfacial tension	mN/m	EN 14210	40		50
Potentially corrosive sulphur	Total sulphur content	%	ISO 14596		0.05	<0.01
Corrosive sulphur ASTM D 1275 B non-corrosive non-corrosive DBDS mg/kg IEC 62697-1 not detectable not detectable Antioxidant wt % IEC 60666 0.4 0.3 Metal passivator additives mg/kg IEC 60666 not detectable not detectable 2-Furfural and related compounds content mg/kg IEC 61198 0.05 <0.05	Corrosive sulphur		DIN 51353	non-corrosive		non-corrosive
DBDS mg/kg IEC 62697-1 not detectable not detectable Antioxidant wt % IEC 60666 0.4 0.3 Metal passivator additives mg/kg IEC 60666 not detectable not detectable 2-Furfural and related compounds content mg/kg IEC 61198 0.05 <0.05	Potentially corrosive sulphur		IEC 62535	non-corrosive		non-corrosive
Antioxidant wt % IEC 60666 0.4 0.4 0.3 Metal passivator additives mg/kg IEC 60666 not detectable not detectable 2-Furfural and related compounds content mg/kg IEC 61198 0.05 <0.05 Aromatic content % IEC 60590 6 3 - Performance Oxidation stability at 120°C,500 h Total acidity mg KOH/g Sludge wt % 0.05 <0.02 DDF at 90°C 0.050 0.03 4 - Health, safety and environment (HSE) Flash point, PM °C ISO 2719 140 144 PCA wt % IP 346 3 3 <3	Corrosive sulphur		ASTM D 1275 B	non-corrosive		non-corrosive
Metal passivator additives mg/kg IEC 60666 not detectable not detectable 2-Furfural and related compounds content mg/kg IEC 61198 0.05 <0.05	DBDS	mg/kg	IEC 62697-1		not detectable	not detectable
2-Furfural and related compounds content mg/kg IEC 61198 0.05 <0.05 Aromatic content % IEC 60590 6 3 - Performance Oxidation stability at 120°C,500 h IEC 61125 C Total acidity mg KOH/g 0.30 0.04 Sludge wt % 0.05 <0.02 DDF at 90°C 0.050 0.03 4 - Health, safety and environment (HSE) Flash point, PM °C ISO 2719 140 144 PCA wt % IP 346 3 3 <3	Antioxidant	wt %	IEC 60666		0.4	0.3
content Impright IEC 61198 0.03 <0.03 Aromatic content % IEC 60590 6 3 - Performance Oxidation stability at 120°C,500 h Total acidity mg KOH/g 0.30 0.04 Sludge wt % 0.05 <0.02	Metal passivator additives	mg/kg	IEC 60666		not detectable	not detectable
3 - Performance Oxidation stability at 120°C,500 h IEC 61125 C Total acidity mg KOH/g 0.30 0.04 Sludge wt % 0.05 <0.02		mg/kg	IEC 61198		0.05	<0.05
Oxidation stability at 120°C,500 h IEC 61125 C Total acidity mg KOH/g 0.30 0.04 Sludge wt % 0.05 <0.02	Aromatic content	%	IEC 60590			6
Total acidity mg KOH/g 0.30 0.04 Sludge wt % 0.05 <0.02 DDF at 90°C 0.050 0.03 4 - Health, safety and environment (HSE) Flash point, PM °C ISO 2719 140 144 PCA wt % IP 346 3 <3	3 - Performance					
Sludge wt % 0.05 <0.02	Oxidation stability at 120°C,500 h		IEC 61125 C			
DDF at 90°C 0.050 0.03 4 - Health, safety and environment (HSE) Flash point, PM °C ISO 2719 140 144 PCA wt % IP 346 3 <3	Total acidity	mg KOH/g			0.30	0.04
4 - Health, safety and environment (HSE) Flash point, PM °C ISO 2719 140 144 PCA wt % IP 346 3 <3	Sludge	wt %			0.05	<0.02
Flash point, PM °C ISO 2719 140 144 PCA wt % IP 346 3 <3	DDF at 90°C				0.050	0.03
PCA wt % IP 346 3 <3	4 - Health, safety and environm	ent (HSE)				
150 01010	Flash point, PM	°C	ISO 2719	140		144
PCB IEC 61619 not detectable not detectable	PCA	wt %	IP 346		3	<3
The detectable	PCB		IEC 61619	not detectable		not detectable

Nytro 10XN is an inhibited insulating oil with extremely good electrical and low temperature properties and excellent ageing properties. This product meets IEC 60296 Ed.4 (2012), special applications and ASTM D3487 type II (excluding gassing tendency).

Severely Hydrotreated Insulating Oil Issuing date: 2012-04-01

