



**DIVYOL Uninhibited Transformer Oil meeting BS 148 Class I & Class II:1984 Standards**

Sr. No.	Characteristics	Unit	Test Method	DIVYOL BS 148 Class I Uninhibited	DIVYOLBS 148 Class II Uninhibited
1.	Appearance		Representative sample of the oil shall be examined in transmitted light under an oil depth of 100 mm at ambient temperature	Clear free from sediment and suspended matter	Clear free from sediment and suspended matter
2.	Density at 20° C (Max)	kg / dm <sup>3</sup>	BS 4714	0.895	0.895
3.	Kinematic Viscosity	mm <sup>2</sup> / sec	BS 2000 Part 71		
	a) at 40° C (Max)			16.5	11
	b) at -30° C (Max)			No General Requirement	1800
	c) at -15° C (Max)			800	No General Requirement
4.	Flash Point, PMCC (Min)	°C	BS 2000 Part 34	140	130
5.	Electric Strength Breakdown Voltage (BDV)		BS 5874		
	a) As Delivered (Min)	kV		30	30
6.	Dielectric Dissipation Factor (Max) Tan Delta at 90° C & 40 to 62 Hz		BS 573	0.005	0.005
7.	Corrosive Sulphur Copper Strip, at 140° C, for 19 Hrs Copper Strip, at 150° C, for 48 Hrs		BS 5680 : 1979 ASTM D 1275 B	Non Corrosive No General Requirement	Non Corrosive Non Corrosive
8.	Anti Oxidant Additives	%	BS 5984 : 1980	Not Detectable	Not Detectable
9.	Oxidation Stability at 120° C, for 164 Hrs		BS 148 : 1984 Appendix A		
	a) Total Acidity (Max)	mg KOH/gm		1.5	1.5
	b) Sludge (Max)	%		1.0	1.0
10.	Gassing Tendency at 50 Hz after 120 minutes (Max)	mm <sup>3</sup> / min	BS 5797 Method A	+5	+5
11.	Pour Point (Max)	°C	BS 2000 Part 15	- 30	- 45
12.	Neutralization Value (Max)	mg KOH/gm	BS 2000 Part 1	0.03	0.03
13.	Water Content	ppm	BS 6470		
	a) Bulk (Max)			30	30
	b) Drum (Max)			40	40

\* Inhibited Oil is available as per Specific requirement of the Customer.



### DIVYOL Uninhibited Transformer Oil meeting IEC 296 Class I & II:1982 Standards

Sr. No.	Characteristics	Unit	Test Method	DIVYOL IEC 296 Class I Uninhibited	DIVYOL IEC 296 Class II Uninhibited
1.	Appearance		Representative sample of the oil shall be examined in transmitted light under a thickness of 10 cm at ambient temperature	Clear free from sediment and suspended matter	Clear free from sediment and suspended matter
2.	Density at 20° C (Max)	kg / dm <sup>3</sup>	ISO 3675	0.895	0.895
3.	Kinematic Viscosity	mm <sup>2</sup> / sec	ISO 3104		
	a) at 40° C (Max)			16.5	11
	b) at -30° C (Max)			No General Requirement	1800
	c) at -15° C (Max)			800	No General Requirement
4.	Flash Point, PMCC (Min)	°C	ISO 2719	140	130
5.	Inter Facial Tension at 25° C (Min)	N / m	ISO 6275	0.04	0.04
6.	Electric Strength Breakdown Voltage (BDV)		IEC 156		
	a) As Delivered (Min)	kV		30	30
	b) After Treatment (Min)	kV		50	50
7.	Dielectric Dissipation Factor (Max) Tan Delta at 90° C & 40 to 62 Hz		IEC 247	0.005	0.005
8.	Corrosive Sulphur Copper Strip, at 140° C, for 19 Hrs Copper Strip, at 150° C, for 48 Hrs		ISO 5662 ASTM D 1275 B	Non Corrosive No General Requirement	Non Corrosive Non Corrosive
9.	Anti Oxidant Additives	%	IEC 666	Not Detectable	Not Detectable
10.	Oxidation Stability at 100° C, for 164 Hrs		IEC 74		
	a) Neutralization Value (Max)	mg KOH/gm		0.4	0.4
	b) Sludge (Max)	%		0.1	0.1
11.	Pour Point (Max)	°C	ISO 3016	- 30	- 45
12.	Neutralization Value (Max)	mg KOH/gm	7.7 of IEC 296	0.03	0.03
13.	Water Content	ppm	IEC 733		
	a) Bulk (Max)			30	30
	b) Drum (Max)			40	40

\* Inhibited Oil is available as per Specific requirement of the Customer.



**DIVYOL Uninhibited Transformer Oil IEC 60296 meeting IEC 60296:2012 – 02 Edition 4.0 Standards. It also meets the ASTM D 1275 B Test requirement for Corrosive Sulphur**

Sr. No	Characteristics	Uni	Test Method	DIVYOL IEC 60296 Uninhibited
1.	Appearance		Visual inspection of oil sample in transmitted light under a thickness of 10 cm at ambient temperature	Clear free from sediment and suspended matter
2.	Density at 20° C (Max)	g /ml	ISO 3675 or IEC 12185	0.895
3.	Kinematic Viscosity	mm <sup>2</sup> / sec	ISO	
	a) at 40° C (Max)			12
	b) at -30° C (Max)			180
4.	Flash Point, PMCC (Min)	°C	ISO	135
5.	Inter Facial Tension at 25° C (Min)	mN / m	EN 14210 or ASTM D 971 (Where it is used as general	No General Requirement
6.	Electric Strength Breakdown Voltage		IEC 60156	
	a) As Delivered (Min)	k		30
	b) After Treatment (Min)	k		70
7.	Dielectric Dissipation Factor (Max) Tan Delta at 90° C & 40 to 60 Hz		IEC 60247 or IEC 61620	0.005
8.	Corrosive Sulphur Silver Strip, at 100° C, for 18 Hrs Copper Strip, at 150° C, for 48 Hrs	°C	DIN 51353 ASTM D 1275 B	Not Corrosive
9.	Potentially Corrosive Sulphur		IEC 62535	Not Corrosive
10.	DBDS	mg / kg	IEC 62697-1(in preparation)	Not Detectable (< 5 mg/kg)
11.	Total Sulphur Content	%	IP 373 or ISO 14596	No General Requirement
12.	Inhibitors of IEC 60666 (Anti Oxidant	%	IEC 60666	( U ) Uninhibited Oil Not Detectable (< 0.01 %
13.	Metal Passivator additives of IEC 60666	mg / kg	IEC 60666	Not Detectable (< 5 mg/kg)
14.	Other Additives			Does not contain any additives
15.	Oxidation Stability at 120° C, for 164		IEC 61125 Method C	
	a) Total Acidity (Max)	mg KOH /gm	1.9.4 of IEC 61125 : 1992	1.
	b) Sludge (Max)	%	1.9.1 of IEC 61125 : 1992	0.
	c) Dielectric Dissipation Factor Tan Delta at 90° C (Max)		1.9.6 of IEC 61125 Amendment 1 ( 2004 )	0.500
16.	Gassing Tendency	3 // PLQ	IEC 60628 : 1985 Method A	No General Requirement
17.	PCA Content (Max)	%	IP 346	3
18.	PCB Content	mg / kg	IEC 61619	Not Detectable (< 2mg/kg)
19.	2 – Furfural and related compounds content	mg / kg	IEC 61198	Not Detectable (< 0.05 mg/ kg ) for each individual compound
20.	Stray Gassing		See 6.22 of IEC 60296	No General Requirement
21.	ECT		See 6.14 of IEC 60296	No General Requirement
22.	Particle Content		IEC 60970	No General Requirement
23.	Pour Point (Max)	°C	ISO 3016	- 40
24.	Acidity (Max)	mg KOH/ gm	IEC 62021-1or IEC 62021-2	0.01
25.	Water Content	mg / kg	IEC 60814	
	a) Bulk (Max)			3
	b) Drum (Max)			4

\* Inhibited Oil is available as per Specific requirement of the Customer.