How To Use An UL Approved Electrical Insulation System

- Decide if your electrical product needs an EIS. You then have to determine which "class" of systems recognition your product requires. EIS system classes are based on the maxmum : " hot spot " in the system: Class B (130°C), Class F (155 °C), Class H (180 °C), class N (200 °C), Class R (220 °C), Class S (240 °C) and above.

Maximum temperature at hottest spot	UL 1446 temperature classes	IEC85 temperature classses	Maximum temperature at hottest spot
--	--	Y	90 °C
--	--	A	105 °C
--	--	E	120 °C (248 ° F)
130 °C (266 ° F)	B	B	130 °C
155 °C (311 ° F)	F	F	155 °C
180 °C (356 ° F)	H	H	180 °C
200 °C (392 ° F)	N	200	200 °C
220 °C (428 ° F)	R	220	220 °C
240 °C (464 ° F)	S	250	250 °C
over 240 °C (over 464 ° F)	>240 °C	*	*
*Above 250, each class is a temperature of 25 °C higher than the preceding one:ie. 275, 300, etc.			

- Turn to the appropriate UL Recognized Electrical Insulation Systems as for example: Du Pont; Schenectady; Ripley Resin; 600 Volt Class Electrical Insulation System Based On Nomex® as designed for Dry Type Transformer; Encapsulated ("Open") systems for application such as transformers, motors or solenoids under 600V.
- Next, check on the varnish, if any, you would like to use.
- Note the magnet wire recognized in the systems shown. The chart in the following lists possible wire substitutions.

Allowable Magnet Wire Substitutions	
Magnet Wire	**Can be substituted with**
MW28	MW75 , MW79 , MW80 , MW82 , MW83
MW24	MW5, MW30, MW35 , MW37 , MW73 , MW74
MW26	MW27, MW77, MW78
MW76	MW30, MW35 , MW37 , MW73, MW73, MW 74
MW35	MW37 , MW74
To change suppliers of the same magnet wire in an EIS, you must notify UL. To use a completely new type of manget wire requires full EIS testing.	

- For assistance, call or write to our P. Leo office, we will :
  a) write a letter to both you and UL authorizing you to use the system chosen, free of charge. We need your information including your company name, address and the person in charged, the manufacture name, address as well as the person in charged of your manufacturer. After receiving the information, P. Leo will request the system

provider (such as Du Pont, Schenectady, Ripley Resin, etc.) to issue an authorization letter to you to use the system.
b) P. Leo then supply you with a complete list of the minor ingredients (sleeving, tapes, etc.) in the system(s) you selected;
c) P. Leo is one of the UL Recognized Molder (QMMY2), we are supply bobbins molded from polymeric materials which comply with the Starndard for Polymeric Materials - Fabricated Parts, UL746D, we will supply you the bobbin catalogue for your reference upon request.
d) P. Leo OBJS2 system provide different type of ground insulation materials.
e.g., P.LEO tapes® , Rynite ®, Zytel ®, Mylar ®, Nomex ®, Kapton ®, etc.

If you are having any question about the UL Electrical Insulation Systems e-mail at sales@pleo.com