

YOUNG CHANG SILICONE CO LIMITED

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System Component
STW-F-xx, STW-F-SB-xxSystem Designation
YCI-155System Class
155(F)

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alternate constructions: [Table II](#) ▼**Construction Details (Table II)**

The use of this insulation system is limited to the combination of materials specified below. Where more than one item is designated under insulation function, they may be used together, indicated, or they may be used as alternates to one another. Functions designated "optional" are not necessarily required for every design. Insulation thicknesses and/or layers below minimum.

Note: Insulated winding wires designated STW-F-xx, STW-F-SB-xx are suitable for use in this insulation system without additional ground or interwinding insulation

Filament Wire

Additional Ground & Interwinding insulation **is not** required to separate this winding from other windings or between this winding and grounded/dead metal

Recognized Component Single and Multi-Layer Insulated Winding Wire (OBJT2) listed below

Recognized Component Appliance Wiring Material (AVLV2) listed below

Unless otherwise noted, winding wire types listed below may be used in combination within a single product

YOUNG CHANG SILICONE CO LIMITED [E242198] - Recognized Component
STW-F-xx, STW-F-SB-xx 3.9 (0.1)

Enameled Wire

Recognized Component - Magnet wire (OBMW2), single build or greater, round or rectangular, copper or aluminum unless stated otherwise for the types listed below

Ground Insulation is required to separate this winding from grounded/dead metal

Interwinding Insulation **is** required to separate this winding from other enameled wire

Unless otherwise noted, Winding Wire types listed below may be used in combination within a single product

ANSI Type	Temp(°C)	Basecoat(Topcoat)
MW 30	or 180°C	Polyester-amide-imide
MW 35	or 200°C	Polyester-amide-imide (Polyamide-imide)
MW 36	or 200°C	Polyester-amide-imide (Polyamide-imide)
MW 37	or 220°C	Polyester (Polyamide-imide)
MW 38	or 220°C	Polyester (Polyamide-imide)
MW 73	or 200°C	Polyester-amide-imide (Polyamide-imide)
MW 74	or 200°C	Polyester-amide-imide
MW 76	or 180°C	Polyester-amide-imide (Polyamide)
MW 79	or 155°C	Polyurethane
MW 80	or 155°C	Polyurethane (Polyamide)
MW 82	or 180°C	Polyurethane
MW 83	or 180°C	Polyurethane (Polyamide)

Ground and Interwinding Insulations

Designation	mils(mm)	comments
CELANESE INTERNATIONAL CORP [E344082] - Recognized Component		
ZENITE 7130	11.8 (0.3)	
ZENITE 9140HT(f1)	11.8 (0.3)	
ZENITE 9140HT(f2)	11.8 (0.3)	
E I DUPONT DE NEMOURS & CO INC [E41938] - Recognized Component		
Rynite FR530(I)(+)(f1), FR530L(I)(+)(f1)	15 (0.38)	
Zytel HTNFR52G30LX	15 (0.38)	
Zytel HTNFR52G30NH(r6)	15 (0.38)	
E. I. Dupont de Nemours & Co.		
Kapton CR	1 (0.03)	
Kapton HN	1 (0.03)	
P LEO & CO LTD [E126174] - Recognized Component		
1K063	1 [layers]	
1K063CR	1 [layers]	
1K1CR	1 [layers]	
1K7177 *** this product is no longer Recognized ***	1 [layers]	
1K7178	1 [layers]	
1K7200	1 [layers]	
1K7220	1 [layers]	
1KPST	1 [layers]	
1PEN2	1 [layers]	
1PEN3	1 [layers]	
1PN2R	1 [layers]	
1PS25	1 [layers]	
P. Leo		
1K717	1 [layers]	
SUMITOMO BAKELITE CO LTD [E41429] - Recognized Component		
SUMIKON PM-9630	11.8 (0.3)	
SUMIKON PM-9820, PM-9825	11.8 (0.3)	
SUMITOMO CHEMICAL CO LTD [E249884] - Recognized Component		
SUMIKASUPER E4008(c4)(c2)(c3)(j)(f2)		
TOYOBO FILM SOLUTIONS LIMITED [E206562] - Recognized Component		
Teonex Film Q(I)(m), NQ(I)(m), K(I)(m) *** this product is no longer Recognized ***	1 (0.03)	

Lead Wires

lead wires are optional for this system

Temp	Insulation
125°C	XLPE - crosslinked polyethylene +
150°C	SR - silicone rubber(with or without braid)
150°C	XLPE - crosslinked polyethylene

150°C	Perfluoro-alkyl vinyl ether/Al/PET/EVA
200°C	SR - silicone rubber(with or without braid)
200°C	FEP - fluorinated ethylene propylene
200°C	ETFE - ethylene tetrafluoroethylene

+ To be isolated from direct contact with windings (magnet wire) by any insulating material (tape, layer insulation, sleeving,etc.) listed in this table - unless specifically exclude requirement by a special note at the beginning of this table.

Minor Sheet Materials

(layer, outer, wrap etc.) minor sheet is optional for this system

Designation	comments
<u>Dupont -Teijin Films</u> Teonex Q51	
<u>DuPont Specialty Products USA, LLC [E34739] - employing Recognized materials</u> Nomex® 410 Nomex® 411 Nomex® 414 Nomex® 416, 416 LAM Nomex® 418, 818, 864LAM Nomex® 464, 464 LAM	
<u>P_Leo</u> PB-2	

any sheet insulation or tape described in this table with no minimum thickness requirement may be used as a minor sheet material

Tapes

tapes are optional for this system

Designation	comments
<u>3M COMPANY [E17385] - Listed or Recognized Component</u> 10 (a) 1350Y-1 (b) 1350Y-2 (c) Super 10 (a)	
<u>P_Leo & Co.(B.C) Ltd</u> 1E075	Additionally requires use of suitable Ground insulation in this sys foil and windings silicone adhesive, polyimide film acrylic adhesive, polyester film
1K7172 1P830 1P9FR 1PETS 1PG888	
<u>P_LEO & CO LTD [E126174] - Listed or Recognized Component</u> 1A025 1A570 *** this product is no longer Recognized *** 1C821 1C822 *** this product is no longer Recognized *** 1CC02 *** this product is no longer Recognized *** 1G006 1G180 1G200 1G20B 1G22A 1H818 (m) 1H850 Black (q) 1H850 Natural (o) 1H866 (g) 1H86A (o) 1H86R (g) 1K063 1K063CR 1K06A 1K125 1K1CR 1K220 1K7170 1K7177 *** this product is no longer Recognized *** 1K7178 1K7200 1K7270 1KLMN 1KPST 1N012 1N155 1P350 (e) 1P700 (b) 1P701 (b) 1P702 (b) 1P703 1P705 1P756 (h) 1P801 1P802 1P802 (k) 1P802B 1P833 xx (@) 1PEN2 1PEN3 1PG880 (o) 1PG887 (o) 1PN2R 1PN3R 1PN820 (o) 1PN828 (o) 1PS25	

1TT02**Core tubes and Bobbins**

(for mechanical support only) cores are optional for this system

Designation	comments
<u>CHANG CHUN PLASTICS CO LTD [E59481] - employing Recognized materials</u> LONGLITE 4130	
<u>DSM Engineering Plastics</u> Akulon IG-S250F6	
<u>E I DUPONT DE NEMOURS & CO INC [E41938] - employing Recognized materials</u> Rynite FR330 Rynite FR515(f1) Rynite FR530(l)(+)(f1), FR530L(l)(+)(f1) Zytel 70G30L Zytel 70G33HS1L(+) Zytel 70G33HSL(+) Zytel 70G33L(+) Zytel FR50(+)(f1)	

Spacer and Wedges

spacer and wedges are optional for this system

Designation	comments
<u>E. I. Dupont de Nemours & Co.</u> Nomex Board	

any material described in this table with no thickness requirement may be used as a spacer or a wedge

Tubing and Sleeving

tubing and sleeving are optional for this system

Designation	comments
<u>P LEO & CO LTD [E176865] - Recognized Component</u> 2S1yy-xx.x (a) 2S2yy-xx.x (a) 2T-TFL-xx.x (a) 2T-TFS-xx.x (a) 2T-TFT-xx.x (a)	
<u>P LEO & CO LTD [E195829] - Recognized Component</u> 2R-SG# *** this product is no longer Recognized *** 2R-SG-1# *** this product is no longer Recognized *** 2R-SG-2# *** this product is no longer Recognized *** 2R-SG-3# *** this product is no longer Recognized ***	
<u>P. Leo & Co Ltd</u> 2R300	
<u>SUMITOMO ELECTRIC FINE POLYMER INC [E48762] - Recognized Component</u> 811 or Sumitube F2 *** this product is no longer Recognized *** SUMITUBE F32	

Potting Compounds

potting compounds are optional for this system

Designation	comments
<u>SHIN-ETSU CHEMICAL CO LTD [E48923] - employing Recognized materials</u> KE-402(s) *** materials are no longer Recognized ***	

Varnishes

varnishes are optional for this system

Designation	comments
<u>ELANTAS PDG, Inc. [E75225] - Recognized Component</u> 468-2 (d), 468-2FC (d), 468-2-7-xxF (d), 468-2-7FC-xxF (d) 87V-456, 77X-010, 77X-010F Isonel 31-398, Isonel 32RF, Isonel 31-863, Isonel 31-863X, Isonel 30 V1630, V1630FS, V1630FS50, V1630FS Black, 80361, 80361FS Y-210, Y-210BLK, Y-210 BLACK, Y-210 Grey, Y-210PS Thermodur, EB 920	Not suitable for use with Polyurethane basecoat magnet wire Tyj MW82, MW83

Miscellaneous Minor Insulations

miscellaneous minor insulations are optional for this system

Designation	comments
<u>GUANGDON SHENGYI SCI TECH CO LTD</u> S6015(b)	FR-4 Core with Epoxy (EP) dielectric, High density interconnect
<u>Various Manufacturers</u> Recognized Component (QMTS2) Epoxy resin coated copper foil for use in multilayer printed in combination with ANSI Grade FR-4 wiring boards	